

CITY OF KENMORE
STORMWATER MANAGEMENT PROGRAM PLAN

Permit # WAR 04-5519

City of Kenmore, WA



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INTRODUCTION

This document is the City of Kenmore's (City) Stormwater Management Program (SWMP) Plan. Preparation and maintenance of this SWMP Plan is required by the Washington State Department of Ecology (Ecology) as a condition of Section S5.A.2 of the Western Washington Phase II Municipal Stormwater Permit (Permit). The Permit covers discharges from regulated municipal separate stormwater sewer systems (MS4). Based on criteria outlined in the Permit, Ecology considers the City to be an operator of a MS4 and therefore required to obtain permit coverage.

The Permit authorizes the City to discharge stormwater to surface and ground waters of the state pursuant to conditions set forth in the Permit. A component of these conditions requires the City to produce and implement a SWMP as described in section S5 of the Permit. The SWMP Plan is a "living" document and requires annual updates throughout the Permit. Implementation dates of requirements contained within S5 have been staggered throughout the Permit cycle in order to promote compliance during the transition for municipalities. The SWMP Plan is included with each Annual Report due March 31st following each Permit year and is also available on the City's website. The reported year covers January 1st through December 31st.

REGULATORY BACKGROUND

The National Pollutant Discharge Elimination System (NPDES) permit program is a requirement of the federal Clean Water Act of 1972 (as amended in 1977 & 1987), which is intended to protect and restore waters for "beneficial uses" such as fishing and swimming. The federal Environmental Protection Agency (EPA) has delegated permit authority to state environmental agencies and these agencies can set permit conditions in accordance with and in addition to the minimum federal requirements. In Washington State, the NPDES-delegated authority is Ecology.

NPDES permits have been written for discharges from construction sites, concentrated animal feeding operations, industrial activities, publicly-owned wastewater treatment plants and municipal stormwater systems. While there are several types of NPDES permits, the municipal permit is intended to reduce the impacts from both point source (i.e. construction site run-off) and non-point source pollution carried by stormwater.

Ecology defined two types of municipal permits based upon census populations. Phase I permits were issued to municipalities with populations greater than 100,000 and Phase II permits were issued to municipalities with populations less than 100,000. Ecology issued the City its first Phase II Permit on January 17, 2007, which went into effect on February 16, 2007. The Permit was modified on June 17, 2009 and expired on February 15, 2012. The City was issued its second Phase II Permit on August 1, 2012, which went into effect on September 1, 2012 and expired on July 31, 2013. The City was issued its third (and current) Phase II Permit on August 1, 2012, which went into effect on August 1, 2013. This Permit was modified on January 16, 2014 and will expire on July 31, 2018.

DOCUMENT ORGANIZATION

This report comprises written documentation of the City's SWMP that is required to be submitted with the Annual Report. In accordance with the Permit terms, the SWMP has been designed to reduce the discharge of pollutants to the maximum extent practicable (MEP), meet state AKART

requirements and protect water quality. The following sections describe the actions that the City has taken, or will take to comply with the requirements of the Permit.

To aid in tracking Permit requirements, this document has been organized into sections that correspond with the Special Conditions and are outlined in the Permit as follows:

- Section 1 - Public Education and Outreach (as required by S5.C.1),
- Section 2 - Public Involvement and Participation (as required by S5.C.2),
- Section 3 - Illicit Discharge Detection and Elimination (as required by S5.C.3),
- Section 4 - Controlling Runoff from New Development, Redevelopment and Construction Sites (as required by S5.C.4),
- Section 5 - Municipal Operations and Maintenance (as required by S5.C.5), and
- Section 6 - Swamp Creek TMDL (as required by S7.A).

For ease of reading, each section is organized into four subsections:

Subsection 1 “Permit Requirements” begins with an overview of Permit requirements and includes a table that outlines specific section requirements and their associated date of compliance.

Subsection 2 “Current Activities” describes activities that the City has accomplished in meeting compliance deadlines in the Permit year being reported.

Subsection 3 “Previous Activities” describes activities that the City accomplished in meeting compliance deadlines in previous Permit years.

Subsection 4 “Planned Activities” describes activities that the City plans to accomplish in order to meet upcoming compliance deadlines. Discussion of the activities in this section do not obligate the City to conduct them and are subject to change, as needed. This section provides the public with information on upcoming Permit activities in an effort to receive comments and questions.

Special Conditions S1 through S4 and General Conditions G1 through G20 apply to permit holders, though they do not result in specific program activities, nor is the SWMP required to document compliance with these activities. These conditions cover topics such as Permit coverage, what discharges are authorized under the Permit and legal guidelines for transferring, revoking and appealing the Permit. Penalties for non-compliance are also included in these conditions.

Special Condition S7 *Compliance with Total Maximum Daily Load Requirements* is not a required section of the SWMP Plan. However, the City is required to document TMDL actions and submit to Ecology on an annual basis so it is logical to utilize the SWMP Plan as the mechanism for documenting compliance. TMDL documentation is included as Section 6 of the SWMP Plan.

SECTION 1 - PUBLIC EDUCATION AND OUTREACH

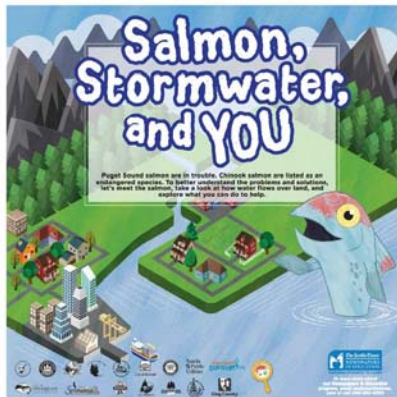
1.1 PERMIT REQUIREMENTS

The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the City. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. An education program may be developed locally or regionally. Table 1-1 outlines specific Permit requirements.

Minimum Performance Measure	Permit Section	Compliance Date	Compliance
Education and outreach program	S5.C.1.a	8/1/2013	YES
Stewardships & Partnerships	S5.C.1.b	8/1/2013	YES
Measure Behaviors	S5.C.1.c	2/2/2016	YES

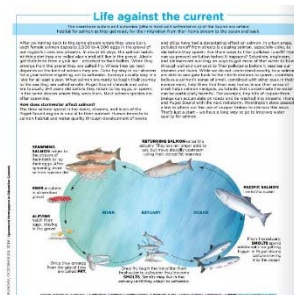
1.2 CURRENT ACTIVITIES

Seattle Times - Newspapers in Education 2016 Edition



Kenmore continued partnering with its local Stormwater Outreach Group (SOGgies) to put together another outreach campaign with the Seattle Time's Newspapers in Education program. The eight page insert (title page shown to the left) was published on October 30, 2016. The Puget Sound Starts Here inspired message focused on stormwater and its impact on salmon.

The insert was provided in the print edition of the Seattle Times, on their webpage and thousands of copies were provided around the region to hundreds of participating schools all over Puget Sound, including Kenmore. A survey of participating educators showed that the stormwater insert was the second most used insert of the program. Teachers found the insert helpful for lesson planning, using as a reference for watershed studies, water quality/pollution education and connecting students with their local waterways. In addition to the printed copies of the insert, the online edition of the insert had over 200,000 page views. A sample of the insert is shown below.



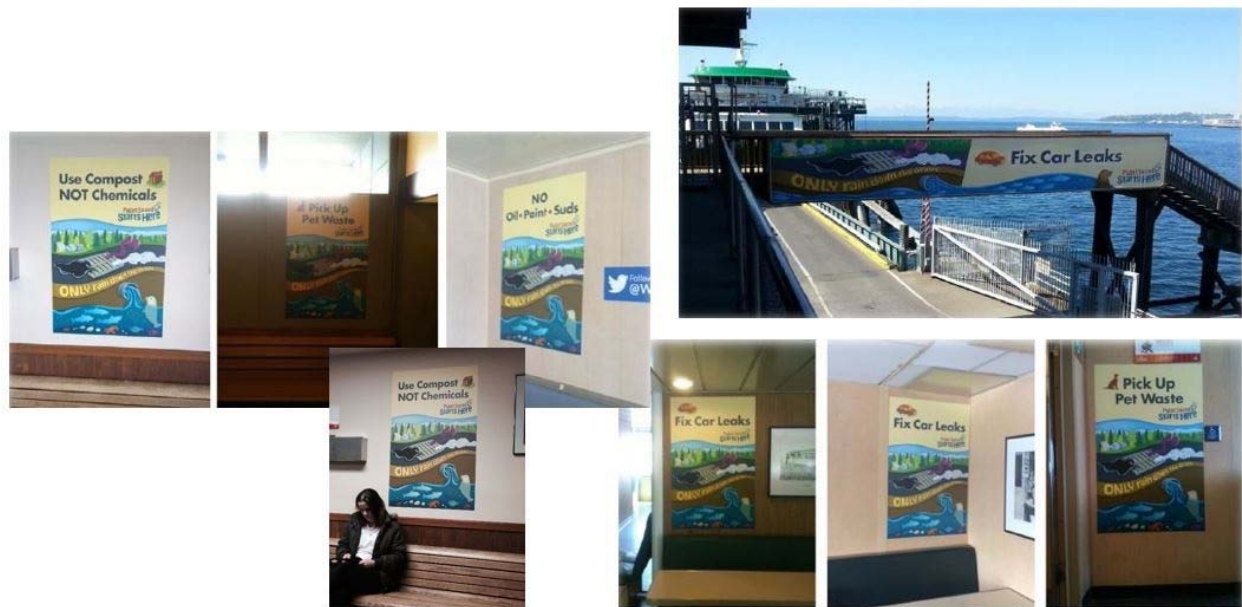
2016 Puget Sound Starts Here Spring Campaign

Kenmore participates with the regional group STormwater Outreach for Regional Municipalities (STORM), which ran a spring campaign aimed at building general awareness of the Puget Sound Starts Here brand and best management practices for pet waste management, natural yard care practices, fixing car leaks and using commercial car washes. The campaign targeted adults and homeowners living in the Puget Sound region during mid-April through mid-June. The campaign utilized a variety of media outlets, including Facebook, internet radio (such as Pandora), bus ads, and ferries.

Banners placed on bus routes throughout the Puget Sound area. Many traveled along SR 522 through Kenmore.



Banners and posters placed at ferry terminals and on ferries crossing Puget Sound.



Measurement and Understanding of Behavior

In an effort to measure the understanding and adoption of targeted behaviors, the City periodically conducts surveys to ask Kenmore residents about certain activities they may do and gauge their general understanding of stormwater management. The City conducted its first survey in 2009 and followed up in 2012 and 2015. The City is only required to report on the measurement and adoption for one target audience in one subject area, but several are reported here. Surveys conducted in 2012 and 2015 were refined to get more specific answers, therefore 2009 results may not always be available or comparable.

General public education & outreach regarding impacts of stormwater on surface waters

Two primary goals of stormwater education and outreach include 1) informing the public that stormwater is a source of pollution and 2) stormwater goes to local streams and wetlands, and eventually Lake Washington and Sammamish River. The understanding that stormwater has a harmful impact on the environment clearly improved in Kenmore (63% understood that it was harmful in 2012 and 90% in 2015). Kenmore residents were provided a list of specific items and asked if they were a significant source of pollution to streams, rivers and lakes. A summary of the responses are as follows:

Are the following items that can get washed into streams, rivers and lakes a significant source of pollution?				
	2015	2012	2009	RESULT
Soapy water from washing cars on pavement				
YES	58%	37%		IMPROVEMENT
KIND OF	35%	44%		
NO	7%	17%		
Pesticides and fertilizers from yards				
YES	90%	69%		IMPROVEMENT
KIND OF	8%	24%		
NO	2%	5%		
Pet waste left on the ground				
YES	57%	32%		IMPROVEMENT
KIND OF	27%	38%		
NO	15%	25%		
Soil erosion from exposed soil				
YES	40%	28%		IMPROVEMENT
KIND OF	37%	41%		
NO	23%	23%	56%	
Oil leaks from cars and trucks				
YES	83%	69%		IMPROVEMENT
KIND OF	13%	25%		
NO	3%	5%		
Cleaning fluids and other household chemicals that are improperly stored or disposed of				
YES	80%	57%		IMPROVEMENT
KIND OF	16%	31%		
NO	4%	8%		
Runoff water from pressure washing				
YES	39%	25%		IMPROVEMENT
KIND OF	43%	49%		
NO	18%	22%		

Results indicate that Kenmore residents understand that the items identified above are a significant pollutant if washed into local waterways, but when asked if they were aware of water pollution problems in local streams, rivers or lakes, a majority of residents (approximately 60%) responded no in both 2012 and 2015. This indicates that they understand what pollutants are, but do not think the pollutants make it to local waterways. When asked where stormwater goes, 45%-47% of residents responded that it goes directly to local waterways and Puget Sound. When the other respondents were asked where stormwater eventually goes (i.e. those that responded sewer, drains, catch basins, etc...), 94% replied that it went to local waterways and Puget Sound in 2012 and 56% had the same response in 2015. These results indicate a decline in the public's understanding that stormwater runoff goes to local waterways from 2012 to 2015 and, in general, there is still a portion of the public that do not understand the connection. Despite the public's increased awareness of what pollutes stormwater, continued education and outreach is needed to inform the public that stormwater goes to local waterways, including pollutants.

In addition to other BMP specific outreach, Kenmore will continue to focus on the simple message that stormwater flows to local waterways and can have a negative impact. Understanding this is the foundation for all other stormwater education. When the public connects stormwater runoff with the natural environment around them they will become more aware of the daily activities and behaviors that impact stormwater runoff.

Resident (home owner) education & outreach regarding yard care techniques

Kenmore residents were asked a series of questions designed to understand how they manage their yard care. A majority of residents surveyed had a yard and maintained it themselves. From 2012 to 2015, the percentage of residents that regularly used weed killers decreased from 15% to 6% and the percentage of residents that never use it increased from 25% to 55%. The same pattern was observed in regards to organic and slow release fertilizers. When asked about pesticide and fungicide use, residents who regularly use them remained steady at 3%, but residents who claimed they never use them increased from 62% to 76%.

Residents were asked what influences their decision when purchasing yard/garden care products. Cost was the least important factor and toxicity was the most important factor (for 49% of residents in 2012 and 64% in 2015). These results indicate that Kenmore residents have a better understanding that minimizing toxic chemical use is beneficial and modified their behavior accordingly. Kenmore will continue participating in regional yard care education and outreach programs.

Pet owning resident education & outreach regarding pet waste management

Kenmore residents (pet owning) were asked a series of questions designed to understand how they manage pet waste. 40% responded they owned a pet in 2012 and 55% in 2015. When pet owners were asked if they pick up their pet waste on walks every time, they responded yes 85%, 76% and 83% in 2009, 2012, and 2015 respectively. It is unclear why there was a drop in 2012. A small percentage (1.5%) responded in 2015 that they never pick up their pet waste.

Pet owners were also asked how often they pick up pet waste at home. 50% responded that they pick up pet waste daily in 2012 and 55% in 2015. 33% responded that they pick up pet waste weekly in 2012 and 27% in 2015. A small percentage (4.5%) rarely to never pick up pet waste at home.

Pet owners were also asked how they dispose of their pet waste. 79% responded that they put their pet waste in the trash in 2012 and 88% in 2015. 11% responded that they composted pet waste in 2012 and 3% in 2015. A small percentage (1.5%) never pick up pet waste to dispose of.

The results indicate a trend, however slight, of improved pet waste management. The City's programs promote picking up pet waste and proper disposal in the trash. The City will continue participating in local and regional pet waste management education and outreach programs.

Business Source Control and Pollution Prevention Outreach

The City contracted with Environmental Coalition of South Seattle (ECOSS) to conduct business source control outreach, which provided 68 local businesses with free spill kits and IDDE training. ECOSS provided the same program to 42 Kenmore businesses in 2013. When ECOSS first meets with a business, they establish a baseline understanding of the business's knowledge regarding stormwater management, spill response and spill kit usage. Once trained, ECOSS provides the business a free spill response kit, site stormwater map and instructional materials to display. ECOSS follows up with a subset of businesses later in the year to measure adoption of practices and retainage of knowledge. During follow up visits, ECOSS found that more businesses knew where their stormwater went, more businesses trained their staff for spill response and more businesses took responsibility for outdoor spill cleanup.

Mobile Watershed Model Events

City staff conducted watershed demonstrations using a mobile watershed model at several public events. Staff utilized the model to educate the public about the general impacts of stormwater on surface water, impacts from impervious surfaces, impacts of illicit discharges and how to report them and low impact development practices (and how they compare to conventional practices). Staff also educated residents on water quality issues such as how pet waste, vehicle maintenance and landscaping activities can affect stormwater runoff by utilizing dyes and props with the watershed model. The following photo shows the model being used at a summer concert series event in July 2016 alongside an educational pet waste management game.



Public Participation

The City continues to fund a Volunteer Coordinator staff position in order to accommodate Kenmore residents' desire to volunteer their time and effort for City events. Events have included riparian/wetland restorations and plantings and youth projects to construct information stations at Lake Washington and Sammamish River, which have been used for surface water outreach.

The City continued talks with Kenmore citizens interested in forming a stewardship group for a local watershed, Swamp Creek. Initial discussions have explored ideas on what roles the group and City would have, the scope of activities that the group could accomplish and how the relationship can most benefit Swamp Creek. The City plans to partner for the first meeting in early 2017.

The City received a grant request from the Sno-King Watershed Council and awarded funds to this non-profit watershed group that works to improve the health of streams and watersheds in north King and south Snohomish Counties. This group is very active in the Swamp Creek Watershed and their activities provide a beneficial services to the citizens of Kenmore.

Catch Basin Marking

The City continues to provide highly visible plastic markers for placement next to catch basins within the City. The markers state "Only Rain Down The Drain" and present the logo for Puget Sound Starts Here. Markers were provided for both public and private use. A photo of the catch basin marker is shown below.



1.3 PREVIOUS ACTIVITIES

STORM (STormwater Outreach for Regional Municipalities)

Kenmore has been (and continues to be) an active participant in the regional STORM (STormwater Outreach for Regional Municipalities) for many years. This group meets regularly and develops and implements regional outreach programs around Puget Sound. Puget Sound Starts Here, Don't Drip and Drive and Drain Rangers and are all programs that originated from this group.

The City also continues to participate in a sub-group of STORM, which is limited to north and central Lake Washington municipalities. This group is referred to as the 'SOGgies' (Stormwater Outreach Group). This group meets more frequently than STORM and partners for short term projects that maximize cost and resource sharing aimed at Lake Washington communities.

Seattle Times – Newspapers in Education 2015



Kenmore partnered with its local Stormwater Outreach Group (SOGgies) to put together an outreach campaign with the Seattle Times' Newspapers in Education program. The full page insert shown to the left was published on September 16, 2015. The Puget Sound Starts Here inspired message focused on the issue of discharging contaminated runoff from car washing. Surveys from 2009, 2012 and 2015 have shown that this is still a behavior that needs attention in Kenmore.

An 8-page insert was published in the Seattle Times on October 1, 2015. This insert was provided in the print edition of the Seattle Times, on their webpage and 10,000 copies were provided around the region to 491 participating schools all over Puget Sound, including Kenmore. It provided a broad range of information covering general stormwater information, low impact development, and specific behaviors such as car washing, pet waste, vehicle leaks and yard care.

Newspaper and Metro Bus Ad Campaigns

The City has run numerous bus and newspaper stormwater education ads in recent years. The advertisements have typically been done in partnership with several other municipalities in the north Lake Washington area. The following photo shows an example of the advertisement used for both bus and newspaper ads.



1.4 PLANNED ACTIVITIES

The City will continue implementing many of the activities described above and will continue participating regionally with the multi-jurisdictional outreach group "STORM" and the local Stormwater Outreach Group, "SOGgies". The City will also continue working with the regional campaign "Puget Sound Starts Here".

SECTION 2 - PUBLIC INVOLVEMENT AND PARTICIPATION

2.1 PERMIT REQUIREMENTS

The SWMP shall include ongoing opportunities for public involvement through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities or other similar activities. The City shall comply with applicable State and local public notice requirements when developing their SWMP.

Table 2-1			
Minimum Performance Measure	Permit Section	Compliance Date	Compliance
SWMP public input	S5.C.2.a	Annually	YES
SWMP availability	S5.C.2.b	Annually	YES

2.2 CURRENT ACTIVITIES

The annual report and Surface Water Management Program (SWMP) Plan is available online and comments are encouraged and accepted throughout the year. Contact information is provided for providing comment.

Low Impact Development Code Integration and Surface Water Manual Adoption

Ordinance 16-0428, effective on December 31, 2016, updated several chapters of Kenmore Municipal Code and adopted the 2016 King County Surface Water Design Manual. This process was required to integrate low impact development principles and standards into the City's existing development processes. Several Council and public meetings were held through the process.

2.3 PREVIOUS ACTIVITIES

Surface Water Master Plan and Comprehensive Plan Updates

In 2015 and 2016, the City updated the Surface Water Element of the City's Comprehensive Plan and the City's Surface Water Master Plan, which included public, planning commission, and council meetings. The plan updates included changes to address low impact development requirements in the Permit. These plans are available on the City's website.

2.4 PLANNED ACTIVITIES

Each year, the city will update the SWMP and Annual Report and post it online. Citizens are encouraged to provide comment at any time throughout the year.

SECTION 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION

3.1 PERMIT REQUIREMENTS

The SWMP shall include an ongoing program to detect and remove illicit connections and discharges as defined in 40 CFR 122.26(b)(2), including any spills not under the purview of another responding authority, into the MS4 owned or operated by the City.

Table 3-1			
Minimum Performance Measure	Permit Section	Compliance Date	Compliance
MS4 Mapping	S5.C.3.a.i-ix	8/1/2013	YES
Water Quality Ordinance	S5.C.3.b.i-iv	8/1/2013	YES
Water Quality Ordinance Compliance Strategy – Updated Standards	S5.C.3.b.v-vi	2/2/2018	NA
Field Screening – 40%	S5.C.3.c.i	12/31/2017	NA
Field Screening – 12% Annually	S5.C.3.c.i	12/31/2018	NA
Publicly listed IDDE Hotline	S5.C.3.c.ii	8/1/2013	YES
Field Staff Training	S5.C.3.c.iii	8/1/2013	YES
IDDE Public Outreach	S5.C.3.c.iv	8/1/2013	YES
IDDE Program Implementation	S5.C.3.d.i-iv	8/1/2013	YES
IDDE Staff Training	S5.C.3.e	8/1/2013	YES
Recordkeeping	S5.C.3.f	8/1/2013	YES

3.2 CURRENT ACTIVITIES

Mapping/Inspections

The City continues to update MS4 maps and inspects the entire MS4 each year. The City also maps and inspects non-MS4 components of the surface and storm water system. The City’s MS4 is currently comprised of approximately; 4,200 catch basins, 74 miles of enclosed conveyance, 15 miles of open conveyance and 173 public stormwater facilities. The City also inspects over a hundred private stormwater facilities each year which discharge into the City’s MS4 or directly into Waters of the State. Current stormwater maps are available on the City’s webpage or upon request.

Field Screening

City staff conducted IDDE field screening activities during annual catch basin inspections. Inspection staff were trained to conduct visual inspections to identify potential illicit discharges or illicit connections per the City’s IDDE Manual and Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.

3.3 PREVIOUS ACTIVITIES

2011 Kenmore IDDE Program Manual

The City developed a manual that outlines all IDDE program elements required by the Permit. The manual is comparable to the Center for Watershed Protection's 2004 *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*.

Illicit Discharge Telephone Number "Hotline"

During business hours, illicit discharges and spills are reported to the City's main phone line (425-398-8900). The City contracts with King County to receive phone calls after business hours (206-296-8100). These phone numbers are listed on the "Contact Information" page of the City's webpage and are advertised in City newsletters. The City maintains records of illicit discharges and connections, response actions taken and enforcement actions.

Water Quality Ordinance

The City was required to develop and implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into Kenmore's municipal separate storm sewer system to the maximum extent allowable under State and Federal law.

On November 2, 2009 Kenmore City Council passed ordinance 09-0299 amending Kenmore Municipal Code, Chapter 13.45 "*Water Quality*". KMC 13.45 also adopted the Kenmore Stormwater Pollution Prevention Manual. Kenmore Municipal Code and the Stormwater Pollution Prevention Manual are available online.

Receiving Water Visual Inspections - Outfall Reconnaissance Inventory (ORI)

Outfall Reconnaissance Inventories (ORI) were conducted on Swamp Creek, Muck Creek, Little Swamp Creek, Sammamish River, Lake Washington and Tributary 0057 during previous Permit cycles. The ORI consisted of dry weather outfall screening in an effort to identify potential illicit discharges from the MS4.

Training

City staff responsible for identification, investigation, termination, cleanup and reporting of illicit discharges, including spills and illicit connections were trained to conduct these activities.

3.4 PLANNED ACTIVITIES

The City will continue to implement the Kenmore IDDE Manual and update as needed.

The City will continue to conduct annual field screening of the MS4. Field screening is conducted in conjunction with annual maintenance inspections.

SECTION 4 - CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

4.1 PERMIT REQUIREMENTS

The City shall develop, implement and enforce a program to reduce pollutants in stormwater runoff to the MS4 from new development, redevelopment and construction site activities.

Table 4-1			
Minimum Performance Measure	Permit Section	Compliance Date	Compliance
Ordinance	S5.C.4.a	12/31/2016	NA
Ordinance shall include equivalent language to Appendix 1 of the Permit	S5.C.4.a.i	12/31/2016	YES
Ordinance shall include a site planning process and BMP selection/design criteria	S5.C.4.a.ii	12/31/2016	YES
Ordinance shall provide legal authority to inspect	S5.C.4.a.iii	12/31/2016	YES
Review all applicable site plans	S5.C.4.b.i	12/31/2016	YES
Pre-inspect high sediment transport sites	S5.C.4.b.ii	12/31/2016	YES
Inspect and enforce ESC	S5.C.4.b.iii	12/31/2016	YES
Permanent Stormwater Facilities	S5.C.4.b.iv	12/31/2016	YES
Achieve at least 80% inspections	S5.C.4.b.v	12/31/2016	YES
Developed enforcement strategy	S5.C.4.b.vi	12/31/2016	YES
Ordinance requires O&M	S5.C.4.c.i	12/31/2016	YES
Establish maintenance standards equivalent to Ecology Manual	S5.C.4.c.ii	12/31/2016	YES
Annual inspections of flow control and stormwater treatment facilities	S5.C.4.c.iii	12/31/2016	YES
Inspections of facilities and catch basins in residential developments until 90%	S5.C.4.c.iv	12/31/2016	YES
Achieve at least 80% inspections	S5.C.4.c.v	12/31/2016	YES
Conduct maintenance when standard is exceeded	S5.C.4.c.vi	12/31/2016	YES
Recordkeeping	S5.C.4.c.vii	12/31/2016	YES
NOIs for construction and industrial activity are available	S5.C.4.d	8/1/2013	YES
Applicable staff are trained	S5.C.4.e	8/1/2013	YES
LID Codes/Standards Update	S5.C.4.f.i	12/31/2016	YES
LID Code/Standards Update Report	S5.C.4.f.ii	3/31/2017	YES
Watershed-scale stormwater planning Not applicable for the City of Kenmore	S5.C.4.g	NA	NA

4.2 CURRENT ACTIVITIES

The City continues to implement all Permit, code and development requirements for development, redevelopment and construction sites in the City. In 2016, the City had 12 active projects over 1-acre applied for and approved on or after February 16, 2010 (the City's reporting threshold through 12/30/2016).

SITE	TYPE	STATUS (2016)	APPROVAL
Spencer 68	Multi-Family	Site Construction Completed Building Construction Phase	2013
522 West A	Road Improvement	Construction Completed	2014
Simonds Court Plat	Residential	Site Construction Completed Home Construction Phase	2014
Oasis 8	Residential	Site Construction Completed Home Construction Phase	2014
Northshore Ridge	Residential	Site Under Construction Construction Inspection Phase	2014
Glenmoor Plat	Residential	Site Construction Completed Home Construction Phase	2015
Spencer Square (The Linq)	Multi-Family Mixed-Use	Site Under Construction Construction Inspection Phase	2015
Redhawk Plat	Residential	Site Construction Completed Home Construction Phase	2015
Inglemoor Baseball Field Renovation	Athletic Field	Construction Completed	2016
PSE Moorlands Line Rebuild	Utility	Construction Completed	2016
Meridian Terrace	Residential	Construction Not Started Site Plan Review	2016
Zuberman Plat	Residential	Construction Not Started Site Plan Review	2016

LID Integration and Surface Water Design Manual Adoption

Beginning in 2014, the City reviewed and updated long range plans relevant to integrating LID into the City's development programs, including the Comprehensive Plan and the Surface Water Master Plan. In late 2015, the City hired a consultant (AHBL, Inc.) to assist the City with the review and update of codes and standards. AHBL was the consultant used by the Puget Sound Partnership to prepare the region's primary LID integration guidebook referenced in the Permit (Integrating LID into Local Codes: A Guidebook for Local Governments) and they are a trusted expert in this field. In late 2016, the City Council passed Ordinance 16-0428, which made changes to several sections of Kenmore's Municipal Code and adopted the 2016 King County Surface Water Design Manual, which is deemed equivalent to Ecology's Surface Water Design Manual, as required by the Permit. A copy of Ordinance 16-0428 can be found on the City's website and both Ecology and King County design manuals are available on their respective websites.

4.3 PREVIOUS ACTIVITIES

Surface Water Runoff Ordinance

The City council passed Ordinance 10-0305 on January 11, 2010 amending Kenmore Municipal Code 13.35 *Surface Water Runoff Policy*. The ordinance also adopted the King County 2009 Surface Water Design Manual.

The City conducted plan review, inspection and enforcement on applicable projects. Post project inspections for long term operations and maintenance were conducted.

Prior to 2010, the City utilized the 1998 King County Surface Water Design Manual.

4.4 PLANNED ACTIVITIES

The City will continue implementing the 2016 King County Surface Water Design Manual and all other relevant standards required by the 2013 Western Washington Phase II Municipal Stormwater Permit.

SECTION 5 - POLLUTION PREVENTION AND OPERATIONS AND MAINTENANCE FOR MUNICIPAL OPERATIONS

5.1 PERMIT REQUIREMENTS

The City shall develop and implement an operations and maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Table 5-1			
Minimum Performance Measure	Permit Section	Compliance Date	Compliance
Adoption of maintenance standards as protective of SMMWW	S5.A.4	8/1/2013	YES
	S5.C.5.a	12/31/2016	NA
Annual inspection of flow control and WQ treatment facilities	S5.A.4	8/1/2013	YES
	S5.C.5.b	12/31/2016	NA
Spot check facilities after major storms	S5.A.4	8/1/2013	YES
	S5.C.5.c	12/31/2016	NA
Inspect and clean all applicable catch basins	S5.A.4	8/1/2013	YES
	S5.C.5.d	12/31/2016	NA
Achieve 95% inspection rate	S5.A.4	8/1/2013	YES
	S5.C.5.e	12/31/2016	NA
Practices and policies to reduce stormwater impacts	S5.A.4	8/1/2013	YES
	S5.C.5.f	12/31/2016	NA
Develop an ongoing training program	S5.A.4	8/1/2013	YES
	S5.C.5.g	12/31/2016	NA
Develop a SWPPP for applicable sites	S5.A.4	8/1/2013	YES
	S5.C.5.h	12/31/2016	NA
Records of inspections and maintenance	S5.A.4	8/1/2013	YES
	S5.C.5.i	12/31/2016	NA

5.2 CURRENT ACTIVITIES

The City continues to implement the Operations & Maintenance Practices and Policies Manual. The City inspected all publically operated catch basins within the City and cleaned them, if needed. The City inspected and conducted applicable maintenance on all publically maintained surface water flow control and water quality facilities within the City.

Adoption of Maintenance Standards

The City council passed Ordinance 16-0428 on December 31, 2016 amending Kenmore Municipal Code 13.35 *Surface Water Runoff Policy*. The ordinance also adopted the 2016 King County Surface Water Design Manual, which contains the City’s maintenance standards (Appendix A). The manual can be found on King County’s website and the City’s Addendum can be found on the City’s website.

5.3 PREVIOUS ACTIVITIES

Operations & Maintenance Practices and Policies Manual

In order to comply with many of the O&M requirements set forth in the Permit, the City developed the Operations & Maintenance Practices and Policies Manual (OMPPM). The OMPPM contains inspection program details, O&M practices, O&M policies, SWPPPs, maintenance standards, nutrient management plan, integrated pest management plan and current O&M contracts. The OMPPM can be found on the City's website.

5.4 PLANNED ACTIVITIES

The City will continue to implement the practices and policies outlined in the Operations & Maintenance Practices and Policies Manual (OMPPM). The City adopted new O&M standards as required by the Permit on December 31, 2016 and will integrate the new standards into the City's O&M programs. An updated OMPPM will be produced in 2017.

SECTION 6 – SWAMP CREEK TMDL

6.1 PERMIT REQUIREMENTS

The City has an applicable TMDL as described under Special Condition S7 (TMDL) of the Permit. The *Swamp Creek Fecal Coliform Bacteria TMDL Water Quality Improvement Report and Implementation Plan*, dated May 2006, identified Swamp Creek as a TMDL for fecal coliform. The Permit requires that TMDL implementation activities be annually reported by the City. Implementation activities are described in Appendix 2 of the Permit.

Table 6-1			
Minimum Performance Measure	Permit Section	Compliance Date	Compliance
Business Inspections	Appendix 2	8/1/2016	YES
Public Education and Outreach	Appendix 2	8/1/2013	YES
Operations and Maintenance	Appendix 2	8/1/2013	YES
IDDE	Appendix 2	12/31/2017	NA
Targeted Source Control & Elimination	Appendix 2	2/2/2014	YES
Surface Water Monitoring	Appendix 2	8/1/2015	YES

6.2 CURRENT ACTIVITIES

2016 Sampling Results

The City was required to start collecting water samples from five locations in August 2015 per the City's Swamp Creek Fecal Coliform Bacteria TMDL Quality Assurance Project Plan (QAPP), which was approved by Ecology on March 26, 2015. This section provides sampling data for the reporting year at those locations. All Swamp Creek TMDL participants informally agreed to collect samples on the third Wednesday of each month if possible.

The City identified Muck Creek (a small tributary to Swamp Creek) as a high priority area. Four additional sampling sites were informally added in an effort to better understand bacteria concentrations in this area. The Muck Creek site (SWAMP 3) has had high bacterial concentrations from samples collected in the past, particularly during "dry" months. Sample collection began in December 2016 and limited results are available for this reporting period. Results from the first round of sampling in Muck Creek had very low bacteria concentrations (SWAMP 3 also had a low value).

The table on the following page summarizes bacterial concentrations for both Swamp Creek and Muck Creek.

DATE	SWAMP 1		SWAMP 2		SWAMP 3		SWAMP 4		SWAMP 5	
	MAIN CHANNEL @ 522 BRIDGE		MAIN CHANNEL @ 73RD BRIDGE		MUCK CREEK		TRIB @ 192ND ST		LITTLE SWAMP CREEK @ 192ND	
	Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)	
	Sample	Sample Replicate	Sample	Sample Replicate	Sample	Sample Replicate	Sample	Sample Replicate	Sample	Sample Replicate
7/15/2015	190	NC	220	NC	1300	NC	NF	NF	480	NC
8/19/2015	160	170	190	210	250	290	NF	NF	350	200
9/16/2015	160	150	170	120	120	150	NF	NF	210	230
10/21/2015	500	350	56	66	110	90	NF	NF	90	150
11/18/2015	55	NC	110	NC	30	NC	95	NC	45	NC
12/16/2015	28	NC	35	NC	33	NC	46	NC	1100	NC
1/20/2016	34	52	44	94	10	20	100	110	120	68
2/17/2016	45	NC	65	55	50	10	55	45	50	60
3/16/2016	40	NC	48	30	94	100	38	52	64	60
5/18/2016	120	NC	160	160	280	150	810	810	220	200
6/15/2016	1400	1600	1900	NC	1700	NC	2000	NC	1500	NC
7/20/2016	420	NC	250	NC	370	NC	NF	NC	330	NC
8/17/2016	210	170	260	220	500	350	NF	NC	590	560
9/21/2016	270	NC	280	NC	190	NC	NF	NC	170	NC
10/19/2016	100	NC	85	NC	140	NC	240	NC	90	NC
11/16/2016	490	660	760	710	260	260	200	120	940	1000
12/21/2016	65	NC	55	NC	120	NC	50	NC	160	NC
12/28/2016	42	NC	28	NC	12	NC	62	NC	130	NC
GEOMEAN	141		140		137		156		240	
90th %	491		328		580		762		956	

DATE	MUCK 1		MUCK 2		MUCK 3		MUCK 4	
	71 ST AVE NE & NE 187 TH ST (WEST SIDE)		68 TH AVE NE DITCH WEST SIDE NUD		68 TH AVE NE DITCH NORTH SIDE NUD		68 TH AVE NE NORTH OF 190 TH WEST SIDE	
	Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)		Fecal Coliform (CFU/100mL)	
	Sample	Sample Replicate	Sample	Sample Replicate	Sample	Sample Replicate	Sample	Sample Replicate
12/28/2016	8	NC	2	NC	2	NC	1	NC

NC – Not Collected
 NF – No Flow

Water quality criteria for bacteria in Washington State for waters that have “extraordinary primary contact” (including Swamp Creek) state that the geometric mean value of samples should be less than 50 cfu per 100mL and the 90TH percentile value should be less than 100 cfu per 100mL. All five Swamp Creek sites exceeded water quality standards during this reporting period, as shown in the table above.

Public Education and Outreach

The parks maintenance program promotes pet waste removal. Visible signs and pet waste bags are provided in City parks.

The City provides stormwater education materials in the City Newsletter and at City events regarding domestic pet waste. The City’s mobile watershed model (used at public events) is also used to demonstrate how pet waste is introduced into the watershed and to educate citizens on pet waste BMPs. Staff provide a “poop toss” game to educate children and parents on proper pet waste management. The following photo shows children and parents enjoying the game at a public event.



Operations and Maintenance

Municipal parks and other City owned and operated lands that are reasonably expected to have substantial domestic animal (dog and horse) have waste collection stations. Waste collection stations provide plastic bags to the public for collecting the pet waste.

Targeted Source Control and Elimination

The City identified the Muck Creek sub-basin as the high priority area that will be the focus of source identification and elimination efforts during this permit cycle. This sub-basin had some of the highest concentrations of bacterial pollution measured during the previous monitoring project.

Four additional Muck Creek sampling sites were added in 2016 to identify sources of bacterial pollution in Swamp Creek. Initial results have been below State water quality standard thresholds and not indicative of pollution sources. Additional sampling will continue in 2017 and analyzed for potential sources of bacterial pollution.

Field screening efforts have not identified potential bacterial pollution sources during this reporting period. The sub-basin is served by sewer and is predominantly residential with no commercial composting or animal handling facilities identified. Continued field screening efforts will continue in 2017.

Code Updates

Ordinance 16-0428, amending KMC Chapter 13.45 “*Water Quality*”, continues prohibiting non-stormwater, illegal discharges from commercial animal handling areas and commercial composting facilities. The ordinance also updated the 2009 Stormwater Pollution Prevention Manual by adopting the 2016 version which contains BMPs addressing commercial composting and animal handling areas.

6.3 PREVIOUS ACTIVITIES

The City conducted monitoring for bacterial pollution in Swamp Creek during previous Permit cycles. This information was used to update the City’s QAPP in 2015, which is effective through the remainder of this Permit.

In 2010, Ordinance 09-0299 amended KMC Chapter 13.45 “*Water Quality*” to prohibit non-stormwater, illegal discharges from commercial animal handling areas and commercial composting facilities. The ordinance also adopted the 2009 Kenmore Stormwater Pollution Prevention Manual which contained BMPs addressing commercial composting and animal handling areas.

6.4 PLANNED ACTIVITIES

The City will continue monitoring Swamp Creek bacterial concentrations, including four additional sites in Muck Creek. Muck Creek was identified as a high priority area to identify and eliminate bacterial pollution sources.

The City will continue with education and outreach efforts in regards to bacterial pollution, particularly regarding proper pet waste management and illicit sewer discharge/connection prevention.