



2018

Stormwater Management Program Plan (SWMP Plan)



*Compliance with NPDES Western
Washington Phase II Municipal
Stormwater Permit #WAR04-5531*

**City of Mountlake Terrace
Prepared March 2018**

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Introduction

This document is the City of Mountlake Terrace's Stormwater Management Program (SWMP) Plan. It has been created to comply with requirements found in the Western Washington Phase II Municipal Stormwater Permit (NPDES Permit), which is part of the Federal Clean Water Act. The NPDES Permit requires that the City of Mountlake Terrace produce a Stormwater Management Program Plan (SWMP Plan), and update it regularly to reflect Mountlake Terrace's actions and planned actions in meeting permit requirements. Section S5.2.A requires that the City detail "activities for the upcoming calendar year" in order to meet the NPDES permit requirements. In many cases, requirements in the 2013-2018 NPDES permit do not take effect immediately. The City will meet new requirements as they take effect.

The SWMP Plan is intended to meet the requirements of S5.A.2 of the Permit, by informing the public of planned SWMP activities for the upcoming calendar year. The City's Stormwater Management Program (SWMP) includes numerous actions and activities with the overall goal of reducing the discharge of pollutants from its municipal separate storm sewer system (MS4) to the maximum extent practicable (MEP). MEP is the federal statutory standard that establishes the level of pollutant reductions that jurisdictions must achieve. The Clean Water Act requires NPDES municipal permit holders to "require controls to reduce the discharge of pollutants [from their MS4s] to the maximum extent practicable, including management practices, control techniques and system design and engineering methods." All Known, Available, And Reasonable methods of prevention, control and Treatment (AKART) is understood to mean a technology-based approach to limiting pollutants from state wastewater.

The NPDES Program

The National Pollutant Discharge Elimination System (NPDES) is a program created under the Federal Clean Water Act, with authority over the program given to the Washington State Department of Ecology (Ecology). The intent of the NPDES Program is to protect and restore water quality in waters of the State so that they can support "beneficial uses," such as fishing and swimming. Governmental and private entities must obtain an NPDES Permit, and comply with conditions set forth in the Permit, before discharging stormwater or wastewater to waters regulated by Federal and State governments.

Document Organization

This document is organized by program component according to the following sections:

Introduction

Section S5.A SWMP Program Management and Administration

Section S5.C.1 Public Education and Outreach

Section S5.C.2 Public Involvement and Participation

Section S5.C.3 Illicit Discharge Detection and Elimination

Section S5.C.4 Controlling Runoff from New Development, Redevelopment, and Construction Sites

Section S5.C.5 Pollution Prevention and Operation and Maintenance

Section S8.A Monitoring and Assessment

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The narrative for each section contains a brief summary of the goal of that section. The purpose of the NPDES Permit may be quickly understood by reading through the goal statement in each section. Following the goal statement is an overview of the phase II program requirements. Next is a description of programs the City has implemented to meet the requirements of the Phase II Permit. Finally, planned future actions and ongoing activities the City intends to accomplish are summarized in the section, “ongoing activities”.

What Is Required

Stormwater Management Program management and administrative activities are addressed in Section S5.A of the Phase II Permit which requires the City to:

- Develop and implement a SWMP according to the schedules outlined in the permit. (See Table 1, page 8).
- Prepare a written documentation of the SWMP (this document) that is to be updated at least annually for submittal with the City’s annual reports to Ecology no later than 03/31 of each year.
- Include an ongoing program for gathering, tracking, maintaining, and using the information to evaluate development and implementation of the SWMP, permit compliance, and to help the City set priorities.

This should include:

- Tracking the cost or estimated cost of developing and implementing each SWMP component.
- Tracking the number of inspections, enforcement actions, and public education activities stipulated in each SWMP component.
- When necessary, include coordination mechanisms among entities covered under municipal stormwater NPDES permits to encourage coordinated stormwater-related activities within adjoining or shared areas.
- Include coordination mechanisms among departments within each jurisdiction to eliminate barriers in complying with the terms of the Phase II Permit.

To review the permit language in comparison to what Mountlake Terrace has designed in response, view the permit at the following Washington Department of Ecology website:

<https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater>

Permit Section	Requirements	Deadline	2013		2014				2015				2016				2017				2018			
			Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
S5.A.	Stormwater Management Program (SWMP) Plan																							
	Update SWMP Plan Annually	March 31				✓					✓						✓						✓	
	Continue to track SWMP costs	ongoing																						
S5.C.1.	Public Education and Outreach																							
	Continue education and outreach program	ongoing																						
	Create or partner with existing organizations to create stewardship.	2014																						
	Use resulting measurements to make changes to improve program.	2/2/2016															✓							
S5.C.2.	Public Involvement																							
	Public participation in SWMP development, post annual report and SWMP on Qty of MLT website (May 31st)	ongoing				✓					✓						✓						✓	
S5.C.3.	Illicit Discharge Detection and Elimination (IDDE)																							
	Continue implementing the enforceable mechanism to prohibit illicit discharges, update ordinance if needed.	2/2/2018																					✓	
	Continue municipal staff training, IDDE response, and citizen hotline.	ongoing																						
	Respond to spills and illicit connections into the MS4	ongoing																						
S5.C.4.	Control Runoff from new Development, Redevelopment, and Construction Sites																							
	Continue program addressing construction and post construction runoff controls.	ongoing																						
	Continue plan review, inspection, and enforcement of standards for new and redevelopment.	ongoing																						
	Adopt and implement revised stormwater codes.	12/31/2016																						✓
	Implement development code revisions to reduce impervious surface, protect vegetation, and minimize stormwater runoff.	12/31/2016																						✓
S5.C.5.	Municipal Pollution Prevention, Operation & Maintenance																							
	Continue to annually inspect all municipal SW treatment and flow control BMPs/facilities.	ongoing																						
	Update maintenance standards to meet the new adopted SW Manual.	12/31/2016																						✓
S8.	Monitoring																							
	Participate in Regional Status and Trends monitoring.	ongoing																						
	Participate in Regional Effectiveness monitoring.	ongoing																						
	Participate in Regional Source ID and Diagnostic monitoring.	ongoing																						
S9.	Reporting																							
	Submit 2014 Annual Report	3/31/2015									✓													
	Submit 2015 Annual Report	3/31/2016															✓							
	Submit 2016 Annual Report	3/31/2017																						✓
	Submit 2017 Annual Report	3/31/2018																						✓

Table 1: Stormwater Management Program Implementation Timeline

Permit S5.A – SWMP Management and Administration

What Is Required

Stormwater Management Program management and administrative activities are addressed in Section S5.A (see Table 1) of the Phase II Permit which requires the City to:

- Develop and implement a SWMP according to the schedules outlined in the permit.
- Prepare a written documentation of the SWMP (this document) that is to be updated at least annually for submittal with the City's annual reports to Ecology no later than 03/31 of each year.
- Include an ongoing program for gathering, tracking, maintaining, and using the information to evaluate development and implementation of the SWMP, permit compliance, and to help the City set priorities.
- Track the cost or estimated cost of developing and implementing each SWMP component.
- Track the number of inspections, enforcement actions, and public education activities stipulated in each SWMP component.
- When necessary, include coordination mechanisms among entities covered under municipal stormwater NPDES permits to encourage coordinated stormwater-related activities within adjoining or shared areas.
- Include coordination mechanisms among departments within each jurisdiction to eliminate barriers in complying with the terms of the Phase II Permit.
- Continue to implement existing programs.

Ongoing Activities

In addition to the above administrative activities, the City will pursue the following activity in 2018:

Update the 2008 Six Year Stormwater Comprehensive Plan. In 2017 the City started development on a new Stormwater Comprehensive Plan. The plan will provide a needed update and strategic guidance for the Stormwater Utility and its programs. It should be noted that while the Stormwater Comprehensive Plan will discuss and evaluate many of the programs included within the City's 2012 SWMP, it is not being developed for NPDES compliance. Instead, it is the plan for the future of the Stormwater Utility. The plan will primarily evaluate existing programs and identify programs and services which may need to be expanded to meet community needs and regulatory demands. The plan will also include a section where stormwater issues will be identified, evaluated and ranked to develop a Stormwater Capital Improvement list. The City is providing opportunities for public involvement in the development of this plan through a public meeting, Planning Commission public hearing, and City Council public hearing.

Permit S5.C.1 - Public Education and Outreach

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 and encourage the public to participate in stewardship activities.

What Is Required

Section S5.C.1 of the Phase II Permit requires the City to provide an education and outreach program for the area served by its MS4.

The program may target the following audiences:

- General public
- Businesses including home-based and mobile businesses
- Homeowners, landscapers, and property managers
- Engineers, contractors, developers, review staff, and land use planners

The Phase II Permit also requires the City to measure the understanding and adoption of a targeted behavior among a target audience once within the permit cycle. The resulting measurements are to be used to direct education and outreach efforts most effectively and evaluate changes in targeted behaviors.

This section of the Phase II Permit also requires the City to track and maintain records of public education and outreach activities.

Program Description

The City of Mountlake Terrace Stormwater Pollution Prevention Education Program is oriented to reach persons and entities with the potential to affect surface water quality within the City limits. Attendance at activities and programs is tracked and staff requests feedback from attendees as to what programs and services would be most beneficial in the future. The City monitors activity levels on the stormwater web page and receives and reviews comments regarding stormwater issues submitted through the web site's interactive forms. Through consideration of costs vs. benefits, the City of Mountlake Terrace will continue to refine the public education and outreach program.

Table 2 below summarizes existing Public Education and Outreach activities:

Program	Target Audience	Goal and/or Behaviors Promoted
Puget Sound Spill Kit Program (by ECOSS)	Businesses	Builds awareness about how to prevent illicit discharges through use of BMPs and how to clean them up if they occur.
Low Impact Development (LID) outreach	Engineers, contractors, developers, homeowners	Increases implementation of Low Impact Development (LID) principles and BMPs through plan review and LID education and support.
Collaboration with Snohomish Health Department business inspections	Businesses	Educates and provides technical assistance on proper storage and disposal of hazardous wastes, including prevention of illicit discharges and good external housekeeping
Newsletters and press releases	General public	Informs of opportunities to become involved in stewardship activities, how to prevent illicit discharges, and proper disposal of pet waste. Alerts citizens that they have the opportunity to provide input and feedback on the update of the stormwater comprehensive plan and the LID code update.
City web pages	General public, contractors, developers, planners, and businesses	Provides a current and quickly updateable way to share public education and outreach on a range of stormwater issues.

Table 2: Existing Public Education and Outreach Activities

Ongoing Activities

In addition to maintaining all existing programs and activities, in 2018, the City will participate as a regional partner in STORM (Stormwater Outreach for Regional Municipalities) and “Don’t Drip and Drive.” The Don’t Drip and Drive program’s target audience is residents, and aims to prevent illicit discharges to the storm system through encouraging proper vehicle maintenance. The City will continue to provide stewardship opportunities and partner with other organizations to encourage residents to participate in activities such as the storm drain curb marker program, litter pickups, and riparian invasive removal events as per permit Section S5.C.1.b. A contract with Snohomish Conservation District to deliver and support their stormwater curriculum in Mountlake Terrace schools is in being finalized.

Program Evaluation (S5.C.1.c)

After evaluating which target audience could have the most positive impact on overall water quality in the City of Mountlake Terrace, businesses were selected. A program evaluation strategy was established to measure the understanding and adoption of specific

behaviors in this population. The desired behaviors for businesses to protect stormwater were:

- Proper use and storage of automotive chemicals, cleaning supplies, carwash soaps; and other hazardous materials
- Appropriate equipment maintenance to protect stormwater from spills and drips
- Prevention of illicit discharges.

Public education and outreach to businesses for the above best management practices was accomplished through a contract between the City of Mountlake Terrace and ECOSS, a local nonprofit organization dedicated to educating and empowering businesses and diverse communities to implement environmentally sustainable practices. ECOSS conducted outreach education and training on best management practices and provided spill kits to 18 Mountlake Terrace businesses in 2017.

As part of their regional survey results on the level of awareness, ECOSS staff conducted initial baseline interviews with business owners or staff as an initial baseline. The interviewees were asked questions to gauge their level of understanding of the targeted behaviors. Here are the questions they were asked:

- Do you know where the runoff from your site goes?
- Do you have spill cleanup materials?
- Is it your responsibility to cleanup outdoor spills?
- Have you trained your staff on spill response?
- Have you used a spill kit?
- What type of spills have you had?
- Has your business adopted spill prevention practices?
- How confident is your business in cleaning up a spill?

Following the survey, businesses were provided with stormwater protection education customized to the specific needs of their business, including applicable BMPs.

Within 2 years, the businesses were revisited by ECOSS and asked the same questions during a follow-up survey, to measure change in understanding and behavior. The differences in understanding and adoption of targeted behaviors between the baseline and follow-up survey (assessed as a regional group) provided information currently being used to direct education and outreach for the Mountlake Terrace stormwater program. Based on these results, the Stormwater Program will increase public outreach and education on prevention and cleanup of vehicle fluid spills in 2018.

Permit S5.C.2 - Public Involvement and Participation

Goal

The City's goal for public involvement and participation is to actively engage all residents, business owners, property owners, and contractors in all of the aspects of stormwater pollution prevention. Public involvement is of particular importance to a city with a small staff such as Mountlake Terrace, because the City depends on support from volunteers to augment the efforts of staff.

What Is Required

Section S5.C.2 of the Phase II permit requires the City to 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 is also required to make its SWMP document, annual report, and all other submittals required under the Phase II Permit, available to the public and posted on the City's website.

Program Description

Lake Ballinger Forum Activities

The City maintains an Interlocal Agreement (ILA) with several surrounding jurisdictions for management of the Lake Ballinger watershed. In 2017 and prior, public involvement and participation efforts centered around efforts to preserve and maintain water quality in Lake Ballinger through participation and leadership in the Lake Ballinger / McAleer Creek Watershed Forum¹. In 2017 staff applied for a grant from Ecology to address invasive aquatic weeds (including Eurasian milfoil) through an integrated plan. In February 2018, the City received notice from Ecology that the Integrated Aquatic Management Plan had been selected for funding. Writing the plan with a citizen steering committee and consultant technical assistance is a 2018 priority. The goal is to have an Ecology accepted plan that will enable the Forum to apply for an invasive vegetation control grant in fall/winter 2018.

Low Impact Development (LID) Code Integration

Another major component of the public involvement and participation in the City's SWMP development and implementation was carried out as a part of the update of development codes, standards and policies, and enforceable documents to integrate Low Impact Development. This public involvement process, started in 2016 and continuing into 2018 has involved through multiple public meetings including stakeholders group meetings, Planning Commission meetings and public hearings, and City Council public hearings, as

¹ The legal name of this Forum is the Hall Lake, Hall Creek, Echo Lake, Lake Ballinger/McAleer Creek Forum.

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well as through City newsletter articles, press releases, and other public notification mechanisms.

Ongoing Activities

S5.C.2.a and S5.C.2.b Involving the Public in the SWMP

In addition to continuing to implement and refine codes and standards related to Low Impact Development (LID), the City invites the public to review and comment on the City's Stormwater Management Program Plan (SWMP Plan) via an advertisement on the City's web home page. The City welcomes comments from the public at any time throughout the year, and the city's stormwater program manager's phone number and email are posted on the link below for residents to call with questions or to provide input throughout the year.

Link to the stormwater public involvement and education section of the city website:

<http://wa-mountlaketerrace.civicplus.com/369/Public-Involvement-Education>

Staff will continue to provide multiple opportunities for public involvement and participation to city residents, including public outreach on stormwater BMPs during community events such as the Third of July and National Night Out. Other stormwater opportunities during the year will be posted in the City Happenings newsletter and on the city website.

Permit S5.C.3 - Illicit Discharge Detection and Elimination

Goal

Only rain is allowed down storm drains. The goal of the illicit discharge detection and elimination (IDDE) program is to detect, remove, and eliminate illicit discharges and connections found in the municipal stormwater system. This goal is achieved through inspections, education, regulations, and enforcement.

What Is Required

The City is required by Section S5.C.3 of the Phase II Permit to develop, implement, and enforce a program to detect and remove illicit connections, discharges, and spills into the City's MS4. This program is required to include:

- A municipal storm sewer system map that shows the location of all known outfalls, receiving waters, and structural best management practices (BMPs). For all outfalls with a nominal diameter of more than 24 inches (or an equivalent cross-sectional area for non-pipe systems), the City should document the tributary conveyance structures, the associated drainage areas, and the land use. The City also needs to develop a mechanism for updating the map.
- A regulatory mechanism to prohibit non-stormwater discharges into the MS4 that includes escalating enforcement procedures and actions.

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- An IDDE plan to detect and address non-stormwater discharges and illegal dumping into the City's MS4. This plan should include procedures to screen for illicit discharges; trace, characterize, and remove the discharges; educate the community on the hazards associated with illicit discharges; and assess the effectiveness of the City's IDDE program.
- A hotline for the public to report spills and other illicit discharges including a record of all calls received and follow-up actions.
- Training for municipal field staff on the identification and reporting of illicit discharges into MS4s. This needs to ensure that all field staff that are currently responsible for illicit discharges are trained to conduct these activities and should also include an ongoing training program.
- Documentation of reported illicit discharges, responses, and enforcement actions, as well as documentation of training and staff trained.

Program Description

Investigations and responses to illicit discharges are designed to detect, remove, and prevent illicit discharges. Upon notification of a spill, Public Works employees are notified (or after hours call placed to the on-call individual) and respond to the site. The spill response trailer is also available 24 hours for to respond to spills. Training and support of city staff who may observe or respond to spills is ongoing.

S5.C.3.a Municipal Stormwater Drainage System Map

In 2008, the City converted its storm system map from an AutoCAD format to an ArcGIS format. The system map includes line and structures, and data has been attached to the attributes beginning at this transition time. The City will continue to maintain an up-to date stormwater conveyance map in an enterprise geospatial database. Updating and managing geospatial data is done according to documented procedures and quality control standards. Global information system (GIS) data includes attributes that describe ownership, water quality facility design details, flow control facility design details, conveyance design information, and spatial data. GIS data is managed with ESRI software and database management system solutions. Both private and public stormwater system data sets are managed geospatially.

S5.C.3.b Water Pollution Prevention Ordinance/Municipal Code 16.21

The City of Mountlake Terrace Municipal Code 16.21 Illicit Discharge Detection and Elimination and Operation, Maintenance, and Inspection of Storm Drain Facilities authorizes the IDDE program and meets the regulatory requirements specified in the NPDES.

In the majority of cases, the City works to enforce this code by using education and technical assistance to seek voluntary compliance. The procedure for voluntary correction is outlined in *MTMC Section 16.21.110.B.1*, which specifies the required components of a

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voluntary correction agreement between the City and the responsible person. This includes a description of the violation, including location, and the necessary corrective action which must take place by a certain date or time and consequences for non-action. If the responsible person fails to meet the terms of this agreement, then the City will escalate its response as necessary to ensure compliance; first by supplying violators with a warning letter that clearly details what is needed to comply with MTMC 16.21.110 and the consequences of refusal to comply. If voluntary compliance is unsuccessful, enforcement procedures escalate to a notice of Civil Violation under the terms outlined in MTMC Section 16.21.110.B.2 appealable to the Hearing Examiner.

The City will escalate its response as necessary to ensure compliance; first by supplying violators with a warning letter that clearly details what is needed to comply with Municipal Code 16.21 and the consequences of refusal to comply. If further actions are needed, the City has the power to bring violators before the City's hearing examiner.

S5.C.3.c Ongoing IDDE Program to detect non-stormwater discharges and Illicit Connections
The City was required to screen 40% of the City's stormwater system for illicit connections by December 31, 2017, and has met that requirement through field screening of outfalls and connected upstream structures in the Hall, Lyons, and Scriber creek basins. For this screening and any required source tracing, City follows the procedures described in the *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual* (Herrera Environmental Consultants, Inc., 2013). Additionally, in 2017 stormwater catch basin and manhole visual inspection sheets were modified to record additional detail on any illicit connections found during routine cleaning by the operations and maintenance crews. Training on IDDE notification and reporting has been delivered to all staff who may observe spills in the field.

S.5.C.3.d Implement an ongoing program designed to address illicit discharges
The City responds to and investigates calls regarding environmental concerns such as illegal dumping, spills, illicit discharges, and illicit connections.

The City operates a telephone hotline that allows citizens to report illicit discharges or illicit dumping within city limits: (425) 670-8264 7 AM – 3:30 PM Monday through Friday. Outside of these hours, spills may be called into 911, and are managed by Mountlake Terrace's police dispatch and standby operations and maintenance crew. The hotline is listed on the City's website. All IDDE hotline calls are tracked and source-traced.

S.5.C.3.e Training Program

In early 2017, Stormwater Staff attended IDDE training by ECOSS to comply with Section S5.C.3.f.i of the Phase II Municipal Stormwater Permit. In 2018, in-house training on IDDE identification, response, recordkeeping, and reporting was provided by the City's Stormwater Program Manager, who will provide training on IDDE annually and as needed to train new employees and transfer updated information.

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S.5.C.3.f Program Recordkeeping

The City currently maintains a copy of each ERTS report and maintains records of visual inspections and field screening in order to meet the 40% screening requirement. A spreadsheet tracks “near misses” (spills that are contained and cleaned up before they can reach the MS4) and ERTS events that occur during the year.

Ongoing Activities

The City will maintain ongoing IDDE programs and update municipal stormwater system mapping, as well as investigate and remove illicit discharges and connections to the City storm system.

In addition, in 2018 the City will:

1. Add the spill hotline phone number to outreach materials created by the City. A “refrigerator magnet” with the spill hotline number is being developed for distribution.
2. Train municipal field staff on the identification and reporting of illicit discharges and connections. The stormwater program manager will provide training on IDDE annually and as needed to train new employees and to provide updates on new information.
3. Continue to field screen the MS4 (S5.C.3.c) during the dry season in the summer. (50% completed as of December 31, 2017.)
4. Make updates to the stormwater map, adding LID treatment and flow control facilities (S5.C.3.a).
5. Make improvements to the spreadsheet that tracks G3 and S4f reporting. Records will include a copy of the incident report, ERTS or letter, the City’s response to the incident, and the timing of the response.

Permit Element S5.C.4 - Control Runoff from New Development, Redevelopment and Construction Sites

Goal

Controlling pollutant loads and reducing peak flows from developed sites is a long term goal of Section 5C.4 of the Permit and for the City. The program applies to private and public development, including roads.

What Is Required

Section S5.C.4 of the Phase II Permit requires the City to develop, implement, and enforce a program to reduce pollutants in stormwater runoff to its MS4 from new development, redevelopment, and construction site activities. This program must apply to both public and private projects, including roads, and address all site-related pollutant sources. The program should include:

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- A regulatory mechanism to implement the program according to the technical thresholds, minimum requirements, and definitions in Appendix 1 of the Phase II Permit (or an equivalent approved by Ecology).
- A permitting process with plan review, inspection and enforcement capability to meet the above referenced standards required by the Phase II Permit.
- Legal authority to inspect private stormwater facilities that discharge to the City's MS4.
- Provisions to allow for Low Impact Development (LID) techniques.
- A regulatory mechanism to verify adequate long-term operation and maintenance of post-construction stormwater facilities and BMPs.
- A mechanism to make available all copies of the notice of intent (NOI) for both construction and industrial activities.
- Training for 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.
- Procedures for tracking plan reviews, inspections, responses, enforcements, maintenance activities, and staff training.

Program Description

Development and redevelopment activities within the City of Mountlake Terrace can have a significant positive or negative impact on the health of regional lakes, waterways, and Puget Sound. The City reviews development plans, inspects development sites during construction, and monitors private stormwater system infrastructure to ensure facilities are maintained and functional. In addition, the City has incorporated new alternative stormwater management practices, including Low Impact Development (LID) into its code and operating procedures as required by the NPDES permit.

S5.C.4.a Apply Stormwater Management Standards to Development, Redevelopment, and Construction Sites

The Mountlake Terrace Municipal Code (MTMC) Chapter 16.20 codifies stormwater management in Mountlake Terrace. MTMC 16.20 was updated in 2010 and again in 2016 to include all minimum requirements and language required by this section of the permit and the permit's Appendix 1, and again in January, 2017 to incorporate and require LID principles and BMPs. A further update to the LID code will be completed in June 2018. The City uses the *2012 Department of Ecology Stormwater Management Manual of Western Washington as updated in 2014 (Stormwater Manual)* as its' adopted stormwater technical manual when approving new development or redevelopment projects.

S5.C.4.b Review and Inspect Development/Redevelopment Projects

MTMC 16.21.100, Post-construction inspection authorizes the Director to administer an inspection program for public and private stormwater facilities in the City and references the minimum maintenance standards in the Stormwater Manual. This chapter authorizes

the City to inspect stormwater drainage to determine compliance with the provisions of this chapter. Procedures are in place to allow access to the facility for inspection in the event the owner is not available, and allows entry for inspection with a search warrant under certain unusual conditions (if the owner does not consent to entry.)

If the facilities are not being maintained in accordance with the minimum standards in the City's adopted stormwater manual, then the City may require that the "current holder(s) of right title or interest in the property where said facilities are located shall restore them to where they again function and operate in accordance with the approved drainage plan or the Stormwater Manual." The timeline to provide corrective action is found in S.5.C.4.c.vi. and codified in this chapter.

The City has a permitting process with civil/site plan review and approval process, inspection, and enforcement to meet standards established by S5.C.4b for all new and redeveloped sites that meet the thresholds details in Appendix 1 of the NPDES permit (see Figures 3.2 and 3.3. on pages 9 and 10 of Appendix 1). This oversight occurs in phases: prior to construction during the plan acceptance process, before the site is cleared during an initial site construction best management practices (BMP) implementation inspection, during construction via construction site inspections, and post construction as part of the stormwater infrastructure acceptance inspection.

Development plans are reviewed for compliance with Mountlake Terrace's standards. Public projects do not typically trigger local permits; however, public projects are subject to Mountlake Terrace's development/redevelopment stormwater management standards.

The City's engineers review projects that trigger temporary erosion and sediment control (TESC) plans, wet weather plans, or stormwater pollution prevention plans (SWPPP). Once the City has accepted a plan to control erosion, runoff and other potential construction impacts, and prior to extensive clearing and construction, City staff inspects the site to ensure that the proper TESC measures have been selected, properly placed, and installed correctly.

During construction, the City conducts frequent inspections at the worksite--typically more than once a week when utilities are being constructed, and after major rain events--to ensure proper implementation and maintenance of TESC best management practices. Mountlake Terrace inspectors have the authority to enforce Mountlake Terrace Municipal Code (MTMC) 16.20 and MTMC 16.21, using corrective action notices and stop work orders, to insure the protection of receiving waters from construction impacts.

After construction, the City again inspects stormwater structures at a project site. If the maintenance thresholds have been triggered, the City requires that the needed maintenance take place. If the maintenance thresholds have not been reached, or once maintenance has been completed, the City then accepts the project.

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Drainage easements are required between private systems and the approved point of discharge (MTMC 16.20.170). These required easements “shall provide for the perpetual access of the City for maintenance, alteration, repair, and replacement of drainage-related facilities.” MTMC 16.20.180.B requires a maintenance guarantee whereas after the completion of construction the developer will guarantee satisfactory maintenance of the facility for two years.

All stormwater infrastructure, including runoff treatment and flow control facilities, are inspected post construction one year after acceptance, to release warranty bonds. Once this occurs, sites are added to the long-term private system inspection program and are inspected annually.

The City’s construction inspector inspects permanent stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every six months until 90% of the lots are constructed (or when construction is stopped and the site is fully stabilized.) If any maintenance needs are identified, the developer is required to comply with the maintenance standards established for the site.

S5.C.4.d Notice of Intent (NOI)

The City provides application for NOIs for coverage under the NPDES Construction Stormwater General Permit and the NPDES General Industrial Stormwater Permit to developers. Copies of the application are also available at Mountlake Terrace City Hall.

S5.C.4.e Staff Training

Follow-up training is provided as needed to address changes in standards, procedures, techniques, and staffing. City staff members responsible for inspection of stormwater infrastructure are adequately trained to do so. All staff responsible for managing construction TESC measures and the stormwater program manager are Certified Erosion and Sediment Control Lead (CESCL) trained. Additional Public Works construction staff and maintenance technicians may receive CESCL certification if necessary to meet permit requirements. The City will continue to document and maintain training records.

S5.C.4.f Low Impact development (LID) code-related requirements

Due to the partial adoption of ordinances to implement LID in the City in late 2016/early 2017, there are several “dead links” and inconsistencies in City code. In September 2017, Ecology requested a formal compliance schedule for LID code adoption. A G20 letter on LID code compliance was negotiated between the City and Ecology, and a final adoption deadline of June 29, 2018 has been established.

The first step taken to update the existing LID code was to pinpoint LID-related code inconsistencies or “holes” through a comprehensive gap analysis. The gap analysis compared relevant City code against the guidance document recommended by Ecology, the *Low Impact Development Code Update and Integration Toolkit (July 2014)*. Staff prepared a spreadsheet mapping each of the recommended subject areas of the Toolkit

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against existing code and other City documents, to determine where existing code was sufficient, and where code changes would be required.

Staff from Community and Economic Development, Engineering and Public Works were interviewed individually about specific code sections, and also met in small groups to provide feedback and input. Additional lessons learned from other municipalities was collected.

Stakeholders from the community, including development professionals were also consulted. An LID stakeholder meeting was held November 30, 2017 to review the proposed changes and receive comments. Based on this input, staff developed a draft list of proposed code changes. Two additional stakeholder meetings were held on February 1 and February 14, 2018 with members of the development community and with Puget Soundkeeper Alliance (an environmental organization with particular interest in municipal LID code adoption) to gather input and assess any potential issues of concern in the proposed code revisions. The proposed code changes were also circulated internally for comment to the Senior Planner, the Community Economic Development Director, the Public Works Director, Engineering staff and Construction Inspection staff. Staff integrated the input received and developed the draft LID code update ordinance.

Ongoing Activities

The City plans to maintain its program to review stormwater plans, comply with the requirements of the Stormwater Manual, supply project proponents with Notice of Intent (NOI) forms, and inspect construction sites. In addition, in 2018, the City will conduct the following activities.

1. Staff will continue to work on outreach related to low impact development, and present a revised package for City Council adoption in May 2018.
2. The City plans to continue its ongoing training efforts for staff implementing the requirements of section S5.C.4 of the Permit. Trainings will continue to be provided in 2018 through in-house training sessions, as well as training opportunities provided by other agencies and forums.
3. New support guidance, checklists, a simplified SWPPP template, and new LID engineering standard details are being developed to assist homeowners and professional developers in LID implementation.

Permit Element S5.C.5 -Municipal Operations and Maintenance

Goal

The City's goal is to ensure that all of the municipally owned stormwater management facilities are functioning properly, and to prevent or reduce pollutant runoff to the

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maximum extent practical during the course of City activities. Maintenance activities must be carefully planned, coordinated, and documented to meet the Permit requirements.

What Is Required

Section S5.C.5 of the Phase II Permit requires the City to provide a Pollution Prevention and Operation and Maintenance Program for the area served by its MS4. The goal of the program is to prevent or reduce pollutant runoff from the City's operation and maintenance activities, as well as ensure the proper functioning of the MS4. The program requirements include:

- Maintenance standards that are at least as protective as those specified in the 2012 Stormwater Management Manual for Western Washington as updated in 2014.
- An inspection program that includes all City-owned or operated permanent stormwater treatment, flow control facilities, and catch basins, at a frequency that meets the Phase II Permit requirements unless a reduced frequency can be justified.
- 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.
- Practices to reduce stormwater impacts associated with runoff from streets, parking lots, road/highways owned or maintained by the City, and to reduce pollutants in discharges from all lands owned or maintained by the City.
- An ongoing training program for City staff whose construction, operations, or maintenance job functions may affect stormwater quality.
- Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City.
- Documentation of inspections, maintenance, or repair activities, as well as staff training.

Program Description

The City of Mountlake Terrace has taken many steps to insure that operation and maintenance activities are done in a manner that protects and reduces potential impacts to stormwater drainage and receiving waters. The City maintains a complete inventory of its 2,286 municipally owned or operated catch basins and inlets, which includes invert elevations, pipe sizes and direction, and sump depths. An effort is currently underway to track the sediment levels for each catch basin inspected to apply for a reduced frequency inspection of stormwater infrastructure as allowed by the permit in S5.C.4.c.iii. Currently, this inspection is required to occur within a two-year time period. The City owns and operates a street sweeper. Arterials are swept on average twice a month. Collector and residential streets are swept on average four to five times a year. Overall, between 2,000 and 2,500 lane miles are swept each year.

The City of Mountlake Terrace Municipal Code Chapter *16.21 Illicit Discharge Detection and Elimination and Operation, Maintenance, and Inspection of Storm Drain Facilities* authorizes an Operation, Maintenance, and Inspection Program which meets the requirements specified in the NPDES.

S5.C.5.a Maintenance Standards

MTMC Section 16.21.100 states that minimum maintenance standards shall be in accordance with the Stormwater manual. The City references the 2012 Stormwater Management Manual for Western Washington as updated in 2014.

S5.C.5.b Annual Inspection of Flow Control and Runoff Treatment Facilities

The City currently inspects and maintains flow control and runoff treatment facilities owned and operated by the City to ensure they are maintained in accordance with City standards. Control structures related to ponds and bioswales are inspected annually. New stormwater treatment and flow control facilities are added to the inspection list when the City takes them into ownership.

S5.C.5.c Major Storm Event Inspections

The City routinely inspects the stormwater system before, during, and after large storm events.

S5.C.5.d Catch Basin Inspections

Currently the City has opted to inspect all municipally operated catch basin once by August 1, 2017, and every two years thereafter. Maintenance and cleaning of catch basins occurs within 6 months of the inspections as required by the permit.

S5.C.5.g O&M Employee Training

The City maintains a training program for all operations field staff on procedures necessary to protect stormwater drainage and receiving waters.

S5.C.5.h Stormwater Pollution Prevention Plan (SWPPP) for Mountlake Terrace's Maintenance and Operations Center

The city utilizes a SWPPP which was originally developed in February 2010. The SWPPP is a living document which is updated as changes occur. In 2017 and again 2018, the SWPPP was updated to include provisions related to the new decant facility and update other components of the plan.

S5.C.5.i Record Maintenance

The City maintains records of inspection, maintenance, and repair to City operated stormwater facilities as detailed in each section of S5.C.5. Included are the city's 54 municipally owned or operated stormwater treatment and flow control BMPs/facilities.

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Ongoing Activities

The City plans to maintain its ongoing programs for Operations and Maintenance (O&M) in 2018, including, but not limited to: inspection and maintenance of City owned flow control and treatment facilities; CB inspection and cleaning program; Stormwater Pollution Prevention Plan for the Mountlake Terrace Maintenance Facility; and spot check inspections.

Permit Element S8.A -Monitoring and Assessment

Goal

The goals of monitoring and assessment under the Permit are to: 1) study recommended BMPs to determine their effectiveness after implementation and through time; 2) monitor freshwaters to determine whether the region is achieving its goal of clean water; and 3) to track and record efforts in stopping pollution sources.

What Is Required

Section 8 of the Permit covers Status and Trends Monitoring, Effectiveness Studies, and Source Identification and Diagnostic Monitoring. In the first two categories, the City was given the option to either conduct its own qualifying Status and Trends Monitoring and/or Effectiveness Studies OR opt in to a regional collective fund. This fund will then be used to complete studies of regional significance. In the case of the regional program, the City is required to pay into a collective fund.

The Stormwater Work Group (SWG), a subgroup of the Puget Sound Ecosystem Monitoring Program identifies objectives for stormwater monitoring. Working with regional input from several municipalities and the general public, the SWG develops an approach to provide information about stormwater impacts and the effectiveness of stormwater management actions. The SWG makes recommendations to Ecology for directed studies and shares the results with Permittees. For more information, see the SWG webpage at:

<https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Stormwater-Work-Group>

Ongoing Activities

Section S8 of the Permit describes the monitoring requirements for permittees, including options to complete these monitoring requirements independently or annually contribute funding to regional monitoring programs (formerly RSMP, now renamed SAM, Stormwater Action Monitoring.) The City will continue to contribute funding to the regional monitoring programs in 2018, as it is by far the most cost effective option. In 2018, the City's stormwater program manager will participate as an alternate on the SAM effectiveness studies workgroup.

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S8.B Status and Trends Monitoring

In 2017, the cost paid by City of Mountlake Terrace for SAM status and trends monitoring was \$5,118.00.

S8.C Effectiveness Studies

In 2017, the cost paid by the City of Mountlake Terrace for effectiveness studies was \$8,527.00.

S8.D Source Identification and Diagnostic Monitoring

In 2017, the cost paid by City of Mountlake Terrace for the source identification monitoring program was \$791.00.

Appendix 1

ACRONYMS AND ABBREVIATIONS

AKART Treatment	All Known Available and Reasonable methods of prevention, control and Treatment
APWA	American Public Works Association
BMP	Best Management Practice
City	City of Mountlake Terrace
CWA	Clean Water Act
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
SEPA	State Environmental Policy Act
MTMC	Mountlake Terrace Municipal Code
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Discharge Limit
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WSU	Washington State University