

CITY OF LAKEWOOD
2019 STORMWATER MANAGEMENT
PROGRAM (SWMP)

City of Lakewood, WA
March 2019



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CITY OF LAKEWOOD STORMWATER MANAGEMENT PROGRAM

1. INTRODUCTION

1.1 Overview

This document presents the City of Lakewood's Stormwater Management Program (SWMP). Preparation and maintenance of this SWMP is required by the Washington State Department of Ecology (Ecology) as a condition of the Western Washington Phase II Municipal Stormwater Permit (the Phase II Permit). The Phase II permit covers discharges from regulated small municipal separate storm sewer systems (small MS4s). Based on criteria outlined in the Phase II Permit, Ecology considers the City of Lakewood an operator of a small MS4, and therefore required to obtain permit coverage.

Each municipality's permit for discharging stormwater is designed to reduce the discharge of pollutants, protect water quality, and meet the requirements of the federal Clean Water Act.

1.2 The Stormwater Problem

Stormwater is the leading contributor to water quality pollution in our urban waterways. As urban areas grow, stormwater is also Washington's fastest growing water quality problem. Pollutants in or resulting from stormwater can cause a wide range of impacts. Untreated stormwater is not safe for people to drink and is not recommended for swimming because it contains toxic metals, organic compounds and bacteria. Some pollutants such as metals, oil and grease, and organic toxins are toxic to aquatic organisms if concentrations are high enough. Sediments cause tissue abrasion and gill clogging in fish, they reduce light and impair algal growth, they smother fish spawning habitat and are transporters of other pollutants. Nutrients accelerate eutrophication (a process where water bodies receive excess nutrients that stimulate excessive plant growth) of lakes and ponds resulting in nuisance algal blooms, reduced clarity, odors and reduced drinking water quality. Temperature sensitive fish and invertebrates (animals without backbones, for example: insects, crustaceans, worms, snails, and clams) cannot survive in overly warm water bodies (Ecology, 2006).

In addition, the large impervious surfaces in urban areas increase the quantity and peak flows of runoff, which in turn cause hydrologic impacts such as scoured streambed channels, in-stream sedimentation and loss of habitat. Furthermore, because of the enormous volume of runoff discharges, mass loads of pollutants in stormwater can be significant, causing water quality problems such as fish and other aquatic organism's disease and mortality, swimming beach and shellfish bed closures and contamination of wells (Ecology, 2006).

There are a number of pollution sources that contaminate stormwater, including land use activities, operation and maintenance activities, illicit discharges and spills, atmospheric deposition, and vehicular traffic conditions. Many of these sources are not under the direct control of the permittees that own or operate the storm sewers.

1.3 Regulatory Background

The National Pollutant Discharge Elimination System (NPDES) permit program is a requirement of the Clean Water Act, which is intended to protect and restore waters for "fishable, swimmable" uses. The federal Environmental Protection Agency (EPA) has delegated permit authority to state environmental agencies. In Washington, the NPDES-delegated permit authority is the Washington State Department of Ecology (Ecology).

Municipalities with a population of over 100,000 (as of the 1990 census) have been designated as Phase I communities and must comply with Ecology's Phase I NPDES Municipal Stormwater Permit. With Lakewood's 1990 census falling below the 100,000 threshold, and the US Census Bureau's 2010 census reporting Lakewood's population to be 58,163, the City must comply with the Phase II Municipal Stormwater Permit. About 100 other municipalities in Washington now comply with the Phase II Permit (Permit), along with Lakewood, as operators of small municipal separate storm sewer systems (MS4s).

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

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Controlling Runoff from New Development, Redevelopment and Construction Sites
- Municipal Operations and Maintenance
- Monitoring and Assessment

The initial Permit issued by Ecology became effective on February 16, 2007 and expired on July 31, 2013. A new Permit became effective August 1, 2013. The Permit requires the City to report annually (March 31st of each year) on progress in Program implementation for the prior year (with the exception of 2014, when a 2013 Annual Report was not required). The Permit also requires submittal of documentation that describes proposed Program activities for the coming year. Implementation of various Permit conditions is phased throughout the Permit term from August 1, 2013 through July 31, 2019. The Permit will be revised and reissued at the end of this period.

1.4 City of Lakewood Regulated Area

The Phase II Permit applies to operators of regulated small MS4s that discharge stormwater to waters of Washington State located west of the crest of the Cascade Range (west of the eastern boundaries of Whatcom, Skagit, Snohomish, King, Pierce, Lewis and Skamania counties). For cities, the Permit requirements extend to the entire incorporated city. However, discharges to ground waters of the state through facilities regulated under the Underground Injection Control (UIC) program, Chapter 173-218 Washington Administrative Code (WAC), are not covered under the Phase II permit.

1.5 SWMP Implementation Responsibilities

The Permit requirements affect departments across the City organization. The primary entity responsible for administering the stormwater management program is the Engineering Services Division of the Public Works Engineering Department. Other departments, including Parks, Finance, Human Resources, and Legal, will be responsible for certain tasks, and will fill a support role for other tasks. In each of the following sections of this document, specific departmental responsibilities are presented for the 2019 SWMP implementation tasks.

1.6 Total Maximum Daily Load (TMDL) Compliance

Stormwater discharges covered under this permit are required to implement actions necessary to achieve the pollutant reductions called for in applicable TMDLs. Applicable TMDLs are TMDLs which have been approved by the EPA before the issuance date of the permit or which have been approved by the EPA prior to the date the permittees application is received by Ecology. Information on Ecology's TMDL program is available on Ecology's website at <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process>.

All TMDLs approved by EPA before February 15, 2006, were reviewed by Ecology to determine whether stormwater including municipal stormwater sources were identified in the TMDL. When most of these TMDLs were developed, municipal stormwater was considered a subset of non-point discharges, rather than a permitted discharge. As a result, very few TMDLs statewide contain requirements for municipal stormwater sources. Few TMDLs completed to date have established load allocations (LAs) or waste load allocations (WLAs) for municipal stormwater discharges covered under this permit. Ecology is interpreting TMDL requirements as follows:

- For TMDLs where stormwater was not identified as a source of the pollutants of concern, or if all of the sources were defined in the TMDL, Ecology considers the MS4 not to be a significant contributor of pollutants.
- Where stormwater was identified as a source of pollutants and the TMDL or implementation plans developed to support the TMDL identified control measures were less than or equivalent to the requirements of this permit, Ecology sets a narrative effluent limit: "compliance with the permit constitutes compliance with the TMDL."
- If stormwater was identified as a source of pollutants and specific WLAs, LAs or control measures were established, Ecology must develop effluent limits in addition to the other requirements of the permit. These effluent limits may be narrative or numeric depending on the control measures set by the TMDL or implementation plans.

Where a TMDL or the detailed implementation plan developed for the TMDL identifies actions or activities beyond what is required by this permit, Ecology has identified the additional requirements in Appendix 2 of the Permit for all TMDLs approved by EPA prior to February 15, 2006. Appendix 2 of the Permit lists the cities and counties affected by the TMDL. The City of Lakewood has not been listed in Appendix 2.

1.7 Document Organization

The remainder of this document is organized as follows:

- **Section 2** addresses the Permit requirements for administration of the City's SWMP for 2019.
- **Section 3** addresses the Permit requirements for Public Education and Outreach for 2019.
- **Section 4** addresses the Permit requirements for Public Involvement and Participation for 2019.
- **Section 5** addresses the Permit requirements for Illicit Discharge Detection and Elimination for 2019.
- **Section 6** addresses the Permit requirements for Controlling Runoff from New Development, Redevelopment and Construction Sites for 2019.
- **Section 7** addresses the Permit requirements for Municipal Operations and Maintenance for 2019.
- **Section 8** addresses the Permit requirements for Monitoring and Assessment for 2019.

Each section includes a summary of the relevant Permit requirements, and a description of current and planned compliance activities. This document also includes the following attachments for easy reference:

- Appendix A - Acronyms and Definitions from the Permit.

The Western Washington Phase II Municipal Stormwater Permit and additional information can be found on Ecology's website: <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater>

CITY OF LAKEWOOD STORMWATER MANAGEMENT PROGRAM

2. STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

This Section describes Permit requirements related to overall Stormwater Management Program administration, and current and planned compliance activities.

2.1 Permit Requirements

The Permit (Section S5.A) requires the City to:

- Develop and implement a Stormwater Management Program (SWMP) and prepare written documentation for submittal to Ecology on March 31, 2008; and update the SWMP annually thereafter. The purpose of the Program is to reduce the discharge of pollutants from the municipal stormwater system to the maximum extent practicable (MEP) thereby protecting water quality. The Program is to include the actions and activities described in Sections 3 through 8 of this SWMP.
- Beginning in 2008, submit annual reports (for the previous calendar year) to Ecology by March 31st that summarize SWMP implementation status and present information from assessment and evaluation activities conducted during the reporting period.
- Coordinate amongst other permittees on stormwater-related policies, programs, and projects within adjoining or shared areas.

2.2 Current Activities

The City currently has in place activities and programs that meet the Permit requirements. Current activities associated with the above Permit requirements include:

- The City is on track to comply with Ecology's requirements for submittal of the SWMP documentation by March 31, 2019. The Engineering Services Division is currently leading the development of the future planned activities with input and support from other departments as needed.
- The City is on track to comply with Ecology's requirements for submittal of the 2018 Annual Report by March 31, 2019.
- The City created its NPDES departmental/divisional organization structure and identified and empowered NPDES leads.
- The City is coordinating with various other permittees on NPDES related activities including education and outreach planning and implementation and illicit discharges.
- The City is implementing cost accounting strategies to track NPDES permit related costs.

2.3 Planned Activities

The City hired a consultant to evaluate the Stormwater Utility in 2018, including looking at our existing rate structure as well as the existing sanitary sewer charge. Due to a robust reserve, our stormwater rates have remained the same since 2006. The available reserve has reached a point where additional revenue will be needed soon to sustain the Stormwater Utility as well as plan for the future. The evaluation concurred that rate increases are needed to sustain the utility and to plan for future projects. The City Council approved rate increases over the next five years, beginning in 2019.

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3. PUBLIC EDUCATION AND OUTREACH

This Section describes Permit requirements related to public education and outreach, and current and planned compliance activities.

3.1 Permit Requirements

The Permit (Section S5.C.1) requires the City to:

- Design a program to educate target audiences about the stormwater problem and provide specific action that they can follow to minimize the problem. To build general awareness, permittees shall select from the following target audiences, general public (including school aged children), businesses (including home-based and mobile businesses), engineers, contractors, developers, and land use planners. To effect behavior change, Permittees shall select from the following target audiences, general public (which may include school age children), businesses (including home-based and mobile businesses), residents, landscapers and property managers/owners.
- Create stewardship opportunities and/or partner with existing organizations to encourage residents to participate in activities such as stream teams, storm drain marking, volunteer monitoring, riparian plantings and education activities.
- The Permittee shall measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area. No later than February 2, 2016, Permittees shall use the resulting measurements to direct education and outreach resources most effectively as well as to evaluate changes in adoption of the targeted behaviors.

3.2 Current Activities

The City Education and Outreach Plan currently consists of educational brochures that focus on many audiences and activities of concern (e.g., charity car washes, vehicle repair facilities, and restaurants). City staff also provides stormwater pollution prevention education during business inspections. City staff meet regularly with several other permittees to review and share information about public education and outreach activities.

The City participated in other outreach efforts in 2018 including creating and publishing a stormwater pollution prevention themed calendar with one local elementary school, staffed a booth at a dog-a-thon at a City park (scoop the poop campaign), participated in the Puget Sound Starts Here campaign activities (regional outreach campaign with other municipalities), volunteered at the 2018 Tacoma-Pierce County Children's Festival (educating thousands of elementary students from Pierce County on stormwater), and staffed the Stream Team booth at the Puyallup Fair. A copy of the current Education and Outreach Plan is available upon request.

The City has prepared a report on quantifying behavior change, and measured the understanding and adoption of the targeted behaviors. With the results of this report, the City has and is focusing on the auto repair industry and the waste stream they create. A copy of the current report is available upon request.

The City has chartered a NPDES implementation team.

3.3 Planned Activities

Lakewood has a Public Education and Outreach Plan that meets the intent of the Permit requirements. Actions planned for 2019 include:

- Continue collaboration with other NPDES municipalities to identify appropriate Program evaluation techniques.
- Continue existing programs and activities noted above.
- Work with another elementary school located on Joint Base Lewis McChord (JBLM) on a stormwater themed calendar using children's artwork in the calendar. The elementary schools on JBLM are part of the Clover Park School District.
- Work with other public agencies to address the impacts to stormwater from mobile businesses (e.g., carpet cleaners, pressure washers, vehicle detailers, etc.).
- Summarize annual activities for "Public Education and Outreach" component of the annual report; including any updates to the SWMP.

Table 3-1 is the work plan for 2019 SWMP public education and outreach activities.

Table 3-1. 2019 Public Education and Outreach Work Plan			
Task ID	Tasks	Responsible	Schedule Notes
EDUC-2	Continue Education and Outreach Program and supplement existing activities as needed (coordinate with IDDE program).		
EDUC-2.5	Collaborate with other public agencies on the Puget Sound Starts Here campaign	Engineering Services Division	2019
EDUC-2.6	Create stormwater themed calendar with JBLM elementary school students	Engineering Services Division	2019
EDUC-2.8	Work with other public agencies to address stormwater impacts from mobile businesses	Engineering Services Division	2019
EDUC-3	Summarize annual activities for "Public Education and Outreach" component of annual report, identify updates to SWMP.	Engineering Services Division	Submit by March 31, 2019

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4. PUBLIC INVOLVEMENT AND PARTICIPATION

This Section describes Permit requirements related to public involvement, and current and planned compliance activities.

4.1 Permit Requirements

The Permit (Section S5.C.2) requires the City to:

- Provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate structures or other similar activities. The public must be able to participate in the decision-making processes involving the development, implementation and update of the Program.
- Make the SWMP document and annual report available to the public, including posting on the City's website. Make any other documents required to be submitted to Ecology in response to Permit conditions available to the public.

4.2 Current Activities

The City currently has activities and programs that meet many of the Permit requirements. The current compliance activities associated with the above Permit requirements include:

- The City will make the draft of the 2019 SWMP available to the public for comment before final completion and submission to Ecology.
- City staff attends monthly meetings of the local watershed group (Chambers-Clover Creek Watershed Council) and provide opportunity for feedback on City Permit activities.
- Citizens volunteered more than 200 hours on projects like removing invasive plants and replanting native plants, and creek and lake water quality monitoring.
- The City made the 2018 SWMP document and the 2017 Annual Report available to the public by posting on the City website and invited the public to comment.

4.3 Planned Activities

Lakewood has a history of including the public and citizen committees in decision making. Major actions recommended for continued compliance include:

- Continue with activities as noted above.
- Make 2019 SWMP document and 2018 Annual Report available to public by posting on the City website and invite the public to comment.
- Summarize annual activities for "Public Involvement and Participation" component of annual report; including any updates to the SWMP.

Table 4-1 is the work plan for 2019 SWMP public involvement activities.

Table 4-1. 2019 Public Involvement Work Plan			
Task ID	Tasks	Responsible	Schedule Notes
PUBL-2	Maintain website – Post 2019 SWMP and 2018 Annual Report.	Information Services, Engineering Services Division	Ongoing
PUBL-3	Summarize annual activities for "Public Involvement and Participation" component of annual report, identify updates to SWMP.	Engineering Services Division	Submit by March 31, 2019

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5. ILLICIT DISCHARGE DETECTION AND ELIMINATION

This Section describes Permit requirements related to illicit discharge detection and elimination, and current and planned compliance activities.

5.1 Permit Requirements

The Permit (Section S5.C.3) requires the City to:

- Implement an ongoing program designed to prevent, detect, characterize, trace and eliminate illicit connections and illicit discharges into the MS4. An illicit discharge means “any discharge to a municipal storm system that is not composed entirely of stormwater...” and illicit connection means “any man-made conveyance that is connected to a municipal storm system without a permit (excluding roof drains and other similar type connections) such as sanitary sewer connections, floor drains, etc.”
- Continue mapping of the MS4 on an ongoing basis, have ordinances that prohibit illicit discharges, and continue to implement an ongoing program designed to detect and identify illicit connections.
- Publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. Track illicit discharge reports and actions taken in response through close-out, including enforcement actions.
- Train Program staff on proper IDDE response procedures and processes and to recognize and report illicit discharges.
- Summarize all illicit discharges and connections reported to the City and response actions taken, including enforcement actions, in the annual report; including any updates to the SWMP document.

5.2 Current Activities

The City currently implements activities and programs that meet the Permit requirements. The current compliance activities associated with the above Permit requirements include:

- The City currently has an Illicit Discharge Detection and Elimination (IDDE) program.
- All municipal separate storm sewer outfalls, bodies of water, and public catch basins are mapped.
- The City currently maintains a database of businesses. City staff uses a permit software to review and prioritize the businesses for IDDE inspections. The City has inspected many of the businesses and the results of the inspections are documented.
- Citizens can report illicit discharges or illicit connections to the City via a phone call, email, or on our mobile app MyLakewood311.
- For emergency response to IDDE concerns, City staff maintains a list of emergency contacts. City staff also meets on occasion with Ecology staff to discuss potential violations that are not immediate threats.
- If an illicit discharge is detected, City of Lakewood Operations and Maintenance (O & M) Division acts as first responder. The City follows up with Ecology to pursue code enforcement and to assist with larger spills if necessary.

- City procedures for tracing sources of illicit discharges include visual inspections and dye tests. A private vendor under contract with the City also performs camera inspections of storm drain lines.
- The City funds the Pierce Conservation District (PCD) Stream Team who, along with citizen volunteers, monitors water quality in several creeks and lakes in Lakewood.
- The City continues to conduct field staff training on the identification and reporting of illicit discharges into the City storm sewer system.
- The City's municipal code includes an illicit discharge section.
- The City completed an outfall reconnaissance inventory to verify stormwater outfall locations and to detect any illicit discharges.
- Created a map which shows 24" or larger outfalls including associated conveyance systems, drainage areas and land uses.
- Created a map showing all private connections to the City-owned storm sewer system installed since the February 2007 permit effective date.
- Created a map showing all geographic areas of the city that do not drain to the municipal storm sewer system.
- Created a formal Illicit Discharge Detection and Elimination Plan in 2011. The plan was updated in 2015.
- The City has chartered an IDDE implementation team.

5.3 Planned Activities

Lakewood has an IDDE program that meets the Permit requirements. Major actions recommended for continued compliance include:

- Summarize annual activities for "Illicit Discharge Detection and Elimination" component of annual report; including any updates to the SWMP document.
- Support the current IDDE program to detect and address non-stormwater discharges, including spills, and illicit connections into Lakewood's municipal separate storm sewer system.
- Provide refresher training for City field staff on the identification and reporting of illicit discharges into the City storm sewer system.

Table 5-1 is the work plan for 2019 SWMP IDDE activities.

Table 5-1. 2019 Illicit Discharge Detection and Elimination Work Plan			
Task ID	Tasks	Responsible	Schedule Notes
IDDE-4	Support the current IDDE program.	SWM & O&M Divisions	Ongoing
IDDE-5	Provide IDDE refresher training to City field staff.	Engineering Services Division	Ongoing
IDDE-6	Summarize annual activities for "Illicit Discharge Detection and Elimination" component of annual report, identify updates to SWMP.	Engineering Services Division	By March 31, 2019

6. CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

This Section describes Permit requirements related to controlling runoff from new development, redevelopment and construction sites, and current and planned compliance activities.

6.1 Permit Requirements

The Permit (Section S5.C.4) requires the City to:

- Implement and enforce a program to reduce pollutants in stormwater runoff to the municipal separate storm sewer system from new development, redevelopment and construction site activities. The program shall apply to both private and public developments, including roads, and address all construction/development-associated pollutant sources.
- Adopt regulations (codes and standards) and implement plan review, inspection, and escalating enforcement processes and procedures necessary to implement the program in accordance with Permit conditions, including the minimum technical requirements in Appendix 1 of the Permit (i.e., Ecology Stormwater Management Manual for Western Washington (Ecology stormwater manual), equivalent Phase I Manual or one of the Manual options with a Lakewood-specific basin-planning overlay).
- Provide provisions and (plan review, inspection and enforcement) processes and procedures to allow non-structural preventive actions and source reduction approaches such as Low Impact Development techniques (LID), measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation.
- Adopt regulations (codes and standards) and provide provisions to verify adequate long-term operations and maintenance of new post-construction permanent stormwater facilities and best management practices (i.e., private drainage system inspections) in accordance with Permit conditions, including an annual inspection frequency and/or approved alternative inspection frequency and maintenance standards for private drainage systems as protective as those in Chapter IV of the Ecology stormwater manual.
- Provide training to staff on the new codes, standards, processes and procedures and create public outreach and education materials.
- Develop and define a process to record and maintain all inspections and enforcement actions by staff for inclusion in the annual report.
- Summarize annual activities for the “Controlling Runoff” component of the annual report; identify any update to Program document.

6.2 Current Activities

The City currently has activities and programs that meet many of the Permit requirements. The current compliance activities associated with the above Permit requirements include:

- The City of Lakewood Municipal Code (LMC) was updated in 2009 to bring it in line with NPDES permit requirements.

- Storm drainage provisions are covered in LMC Chapter 12A.11 – Stormwater Management. The City adopted the Ecology stormwater manual as the primary manual but also allows the use of the Pierce County Stormwater Management and Site Development Manual and the WSDOT Highway Runoff Manual (current editions). LMC Chapter 12A.11 was revised in 2016 to incorporate Low Impact Development principles and standards.
- LMC Section 12A.11.040 - Minimum Requirement #9: Operation and Maintenance, requires that developers provide maintenance covenants for private stormwater facilities. The City has a plat agreement available for use to provide for maintenance of stormwater facilities and to implement a pollution source control plan.
- Notices of Intent for compliance with Ecology’s Construction Stormwater General Permit are provided by the Public Works Engineering Department and at pre-application meetings as needed.
- LMC Chapter 12A.02, Organization and Enforcement, describes the City’s authority, what constitutes violations, enforcement measures, inspection procedures, and the like.
- The City has chartered a NPDES implementation team.

6.3 Planned Activities

Lakewood has a program to help reduce stormwater runoff from new development and construction sites. Actions that will continue include:

- Implement Low Impact Development (LID) provisions so LID is the preferred and commonly-used approach to site development.
- Summarize annual activities for "Controlling Runoff from New Development, Redevelopment, and Construction Sites" component of annual report (including the post-construction private drainage system inspection and maintenance requirements); including any updates to the SWMP document.

Table 6-1 is the work plan for 2019 SWMP activities related to control of runoff from new development, redevelopment and construction sites.

Table 6-1. 2019 New Development, Redevelopment, and Construction Sites Work Plan			
Task ID	Tasks	Responsible	Schedule Notes
CTRL-5	Implement LID so it is the preferred and commonly-used approach to site development	Engineering Services Division; Community Development Department	Ongoing
CTRL-6	Summarize annual activities for "Controlling Runoff from New Development, Redevelopment and Construction Sites" component of annual report, identify SWMP updates.	Engineering Services Division	By March 31, 2019

CITY OF LAKEWOOD STORMWATER MANAGEMENT PROGRAM

7. MUNICIPAL OPERATIONS AND MAINTENANCE

This Section describes Permit requirements related to pollution prevention and operation and maintenance for municipal operations, and current and planned compliance activities.

7.1 Summary of Requirements

The Permit (Section S5.C.5) requires the City to:

- Implement an operations and maintenance (O&M) program with the ultimate goal of preventing or reducing pollutant runoff from the municipal separate stormwater system and municipal operations and maintenance activities.
- Implement maintenance standards for the municipal separate stormwater system that are at least as protective as those specified in the Ecology stormwater manual.
- Perform required inspection frequency of stormwater flow control and treatment facilities and catch basins, unless previous inspection data show that a reduced frequency is justified.
- Have processes and procedures in place to reduce stormwater impacts associated with runoff from municipal operation and maintenance activities including but not limited to streets, parking lots, roads or highways owned or maintained by the City, and to reduce pollutants in discharges from all lands owned or maintained by the City.
- Train staff to implement the modified processes and procedures and document that training.
- Prepare Stormwater Pollution Prevention Plans (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City.
- Summarize annual activities for the “Pollution Prevention and Operations and Maintenance for Municipal Operations” component of the annual report; including any updates to the SWMP document.

7.2 Current Activities

The City currently has activities and programs that meet many of the Permit requirements. The current compliance activities associated with the above Permit requirements include:

- All City-owned catch basins are inspected and cleaned as needed once every two years. The City has responsibility for numerous water quality vaults (e.g., StormFilter, Vortech, Downstream Defender, CDS, etc.); these are inspected annually and cleaned as needed.
- Stormwater infrastructure cleaning and street sweeping are done by private contractors. The stormwater infrastructure cleaning contractor also inspects storm lines and structures. The contractor records each structure cleaned, and provides spreadsheets and maps to the City to document activities. The sweeping contractor provides spreadsheets of the streets swept, and maps and GPS logs (records date, time, vehicle speed, etc.) upon request.
- The City performs spot checks of stormwater facilities after major storm events; systems are cleaned at that time, if needed.

- Work performed by City maintenance staff includes shoulder, ditch, and pond maintenance, vegetation management, infiltration system installation, sidewalk maintenance, asphalt patching, and snow and ice removal.
- The City contracts for fleet services. Minor vehicle and equipment maintenance and limited vehicle washing is done at the City's maintenance facilities.
- The City Parks Department operates a maintenance shop at Ft. Steilacoom Park where landscaping and other chemicals are stored, and some vehicle and equipment maintenance is performed. However, the shop area is not connected to the City's MS4. The City completed a SWPPP for the maintenance shop in 2010. The plan is reviewed and updated annually.
- The City also completed a SWPPP for the Police Station in 2010. The plan is reviewed and updated annually.
- An Operations and Maintenance Shop was constructed in 2015 at 9420 Front St. S. Some vehicle and equipment maintenance is performed there. The drainage system is not connected to the City's MS4. A SWPPP was prepared for this new facility in 2015 and is reviewed and updated annually.
- The City continues to conduct periodic staff training which covers topics including the importance of protecting water quality, operation and maintenance standards, ways to prevent or minimize impacts to water quality, and the like.
- The City has updated inspection, operation and maintenance SOPs for Lakewood-owned or operated stormwater catch basins and flow control and treatment facilities.
- The City adopted Ecology maintenance standards for City-performed maintenance activities.
- The City has chartered a NPDES implementation team.

7.3 Planned Actions

Lakewood already performs many activities to limit stormwater pollution potential related to its municipal operations and maintenance program. Actions planned for continued compliance include:

- Continue existing programs and activities noted above.
- Summarize annual activities for "Pollution Prevention and Operation and Maintenance" component of annual report; including any updates to the SWMP document.

Table 7-1 is the work plan for 2019 SWMP activities related to pollution prevention and operations and maintenance activities.

Table 7-1. 2019 Pollution Prevention and Operation & Maintenance for Municipal Operations Work Plan			
Task ID	Tasks	Lead	Schedule Notes
MOM-4	Summarize annual activities for "Municipal Operations and Maintenance" component of annual report, identify SWMP updates.	Engineering Services Division	By March 31, 2019

CITY OF LAKEWOOD STORMWATER MANAGEMENT PROGRAM

8. MONITORING AND ASSESSMENT

This Section describes the Permit requirements related to water quality monitoring and assessment, and current and planned compliance activities.

8.1 Permit Requirements

The City is required to provide a description of any stormwater monitoring or studies conducted by the City during the reporting period. If stormwater monitoring was conducted on behalf of the City, or if studies or investigations conducted by other entities were reported to the City, a brief description of the type of information gathered or received shall be included in the annual report.

The City is not required to provide descriptions in the annual report of any monitoring, studies, or analyses conducted as part of the Regional Stormwater Monitoring Program, now referred to as Stormwater Action Monitoring (SAM). The City is a paying participant in the SAM and will not be conducting any independent monitoring. Monitoring will be conducted on a region-wide basis.

The City is also paying into a collective fund to implement SAM effectiveness studies, and source identification and diagnostic monitoring. These programs are managed by Ecology.

8.2 Current Monitoring and Assessment Activities

The City has mapped all municipal stormwater outfalls and has historically conducted monitoring related to lake water quality.

Volunteer-led lake monitoring and sampling, coordinated by the Pierce Conservation District's Stream Team, has been ongoing since 2000 on a number of Lakewood lakes. Data collected from lake sampling has shown very little change over the years. For this reason, and the costs associated with paying a lab to analyze water samples, we are discontinuing regular lake sampling beginning in 2019. However, we will pay for sample analysis if specific concerns about lake water quality are brought to our attention. Volunteer monitoring may continue with coordination through the Stream Team.

The City worked with Ecology staff and a consultant on a SAM effectiveness studies grant funded project. We analyzed business inspection data from other municipal NPDES permittees to determine the effectiveness of their inspection programs in order to increase efficiencies and effectiveness of their programs. The project was completed in 2017. The key project deliverables are available on the SAM website.

The City has also chartered a NPDES implementation team.

8.3 Planned Activities

The City will:

- Participate in or track activities of regional monitoring work groups.
- Summarize annual monitoring activities for the annual report; including any updates to the SWMP document.

Table 8-1 is the detailed work plan for 2019 SWMP monitoring and assessment activities.

Table 8-1. 2019 Monitoring and Assessment Work Plan			
Task ID	Tasks	Lead	Schedule Notes
MNTR-1	Participate in or track activities of Stormwater Action Monitoring work groups.	Engineering Services Division	Ongoing
MNTR-5	Summarize annual monitoring activities for the annual report; identify SWMP updates.	Engineering Services Division	By March 31, 2019

Acronyms and Definitions

The following definitions and acronyms are taken directly from the Phase II Permit and are reproduced here for the reader's convenience.

AKART means all known, available, and reasonable methods of prevention, control and treatment. **All known, available and reasonable methods of prevention, control and treatment** refers to the State Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

Best Management Practices are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

BMP means Best Management Practice.

Component or **Program Component** means an element of the Stormwater Management Program listed in S5 Stormwater Management Program for Cities, Towns, and Counties or S6 Stormwater Management Program for Secondary Permittees, S7 Compliance with Total Maximum Daily Load Requirements, or Monitoring of this permit.

CWA means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.)

Discharge Point means the location where a discharge leaves the Permittee's MS4 through the Permittee's MS4 facilities/BMPs designed to infiltrate.

Entity means another governmental body, or public or private organization, such as another permittee, a conservation district, or volunteer organization.

Ground water means water in a saturated zone or stratum beneath the surface of the land or below a surface water body. Refer to chapter 173-200 WAC.

Heavy equipment maintenance or storage yard means an uncovered area where any heavy equipment, such as mowing equipment, excavators, dump trucks, backhoes, or bulldozers are washed or maintained, or where at least five pieces of heavy equipment are stored on a long-term basis.

Illicit connection means any infrastructure connection to the MS4 that is not intended, permitted or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in the Phase II NPDES permit (S5.C.3 and S6.D.3). Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the MS4.

Illicit discharge means any discharge to a MS4 that is not composed entirely of stormwater or of non-stormwater discharges allowed as specified in the Phase II NPDES permit (S5.C.3 and S6.D.3).

Low Impact Development means a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Maximum Extent Practicable (MEP) refers to paragraph 402(p)(3)(B)(iii) of the federal Clean Water Act which reads as follows: Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control

techniques, and system, design, and engineering methods, and other such provisions as the Administrator or the State determines appropriate for the control of such pollutants.

MEP means Maximum Extent Practicable.

MS4 means municipal separate storm sewer system.

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

- (i) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
- (ii) Designed or used for collecting or conveying stormwater.
- (iii) Which is not a combined sewer;
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2; and
- (v) Which is defined as “large” or “medium” or “small” or otherwise designated by Ecology pursuant to 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Notice of Intent (NOI) means the application for, or a request for coverage under this General Permit pursuant to WAC 173-226-200.

Outfall means a point source as defined by 40 CFR 122.2 at the point where a discharge leaves the Permittee’s MS4 and enters a surface receiving waterbody or surface receiving waters. Outfall does not include pipes, tunnels, or other conveyances which connect segments of the same stream or other surface waters and are used to convey primarily surface waters (i.e., culverts).

Permittee unless otherwise noted, the term “Permittee” includes city, town, or county Permittee, Co-Permittee, New Permittee, Secondary Permittee, and New Secondary Permittee.

Receiving waters means bodies of water or surface water systems to which surface runoff is discharged via a point source of stormwater or via sheet flow. Receiving waters may also be ground water to which surface runoff is directed by infiltration.

Regional Stormwater Monitoring Program means, for all of western Washington, a stormwater-focused monitoring and assessment program consisting of these components: status and trends monitoring in small streams and marine near shore areas, stormwater management program effectiveness studies, and a source identification information repository (SIDIR). The priorities and scope for the RSMP are set by a formal stakeholder group. For this permit term, RSMP status and trends monitoring will be conducted in the Puget Sound basin only.

RSMP means Regional Stormwater Monitoring Program, which was replaced by SAM.

SAM means Ecology's Stormwater Action Monitoring program, which replaced the Regional Stormwater Monitoring Program.

Small Municipal Separate Storm Sewer System means an MS4 that is not defined as "large" or "medium" pursuant to 40 CFR 122.26(b)(4) & (7) or designated under 40 CFR 122.26 (a)(1)(v).

Stormwater means runoff during and following precipitation and snowmelt events, including surface runoff, drainage or interflow.

Stormwater Associated with Industrial and Construction Activity means the discharge from any conveyance which is used for collecting and conveying stormwater, which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, or associated with clearing grading and/or excavation, and is required to have an NPDES permit in accordance with 40 CFR 122.26.

Stormwater Management Manual for Western Washington, SWMMWW (Ecology Stormwater Manual) means the 5-volume technical manual (Publication number 14-10-055 for the 2012 version amended in December 2014) prepared by Ecology for use by local governments that contains BMPs to prevent, control, or treat pollution in stormwater.

Stormwater Management Program means a set of actions and activities designed to reduce the discharge of pollutants from the MS4 to the MEP and to protect water quality, and comprising the components listed in S5 (for cities, towns, and counties) or S6 (for Secondary Permittees) of this Permit and any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 Compliance with TMDL Requirements, and S8 Monitoring and Assessment.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

Waters of the United States refers to the definition in 40 CFR 122.2.

