



**STORMWATER MANAGEMENT
PROGRAM (SWMP) PLAN**

2019

Contents

CHAPTER 1 – BACKGROUND	5
1.1 THE STORMWATER MANAGEMENT PROGRAM PLAN DOCUMENT	5
1.2 NPDES PHASE II MUNICIPAL STORMWATER PERMIT	5
1.2.1 PERMIT BACKGROUND.....	5
1.2.2 REQUIRED SWMP COMPONENTS	6
1.3 CLYDE HILL’S STORMWATER PROGRAM.....	6
1.3.1 STORMWATER CODES.....	6
1.3.2 COORDINATION AND RESPONSIBILITY.....	6
1.3.3 MONITORING AND ASSESSMENT	7
1.3.4 SWMP REPORTING	7
CHAPTER 2 – PUBLIC EDUCATION AND OUTREACH	8
2.1 PERMIT REQUIREMENTS.....	8
2.2 2019 PROGRAM ACTIVITY.....	9
2.2.1 BUILDING GENERAL AWARENESS	9
2.2.2 EFFECTING BEHAVIOR CHANGE	9
2.2.3 CREATING STEWARDSHIP OPPORTUNITIES	10
2.2.4 MEASURING UNDERSTANDING AND ADOPTION OF TARGETED BEHAVIORS	11
CHAPTER 3 – PUBLIC INVOLVEMENT AND PARTICIPATION.....	11
3.1 PERMIT REQUIREMENTS.....	11
3.2 2019 PROGRAM ACTIVITY.....	11
3.2.1 Decision-Making Process Opportunities.....	11
3.2.2 SWMP and Annual Report Posting.....	11
CHAPTER 4 – ILLICIT DISCHARGE DETECTION AND ELIMINATION	12
4.1 PERMIT REQUIREMENTS.....	12
4.2 2019 PROGRAM ACTIVITY.....	13
4.2.1 MS4 Mapping.....	13
4.2.2 IDDE Ordinance	13
4.2.3 Program to Detect and Identify Illicit Discharge.....	13
4.2.4 Program to Address Illicit Discharges	14
4.2.5 Illicit Discharge Training	14
4.2.6 Illicit Discharge Recordkeeping	14
CHAPTER 5 – CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES.....	15

5.1	PERMIT REQUIREMENTS.....	15
5.2	2019 PROGRAM ACTIVITY.....	17
5.2.1	Stormwater Ordinance	17
5.2.2	Stormwater Permitting Process.....	17
5.2.3	Operation and Maintenance of Permitted Stormwater Facilities	17
5.2.4	Enforcement of Stormwater Ordinance for Sites with Ecology Permits.....	18
5.2.5	Training	18
5.2.6	Low Impact Development.....	18
CHAPTER 6	– MUNICIPAL OPERATIONS AND MAINTENANCE	19
6.1	PERMIT REQUIREMENTS.....	19
6.2	2019 PROGRAM ACTIVITY.....	20
6.2.1	Maintenance Standards.....	20
6.2.2	Inspection of Municipal Stormwater Facilities	21
6.2.3	Stormwater Impact Reduction Procedures	21
6.2.4	Training	21
6.2.5	Stormwater Pollution Prevention Plan (SWPPP)	21
6.2.6	Municipal O&M Recordkeeping.....	21
CHAPTER 7	– 2019-2024 PERMIT REQUIREMENTS.....	22
7.1	SUMMARY OF ADDITIONAL PERMIT REQUIREMENTS.....	22
7.2	2019 PROGRAM ACTIVITIES.....	22

Acronyms and Abbreviations

AKART	All Known and Reasonable Technologies
CESCL	Certified Erosion and Sediment Control Lead
CHMP	Clyde Hill Municipal Code
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
RSMP	Regional Stormwater Monitoring Program
SIDIR	Source Identification Information Repository
SWMMWW	Stormwater Management Manual for Western Washington
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load

CHAPTER 1 – BACKGROUND

1.1 THE STORMWATER MANAGEMENT PROGRAM PLAN DOCUMENT

This Stormwater Management Program (SWMP) Plan has been prepared to satisfy Special Condition S5 of the current Western Washington Phase II Municipal Stormwater Permit (Permit), of which the City of Clyde Hill is a Permittee.

Section S5.A.2 of the Permit states:

Each Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall be organized according to the program components in S5.C or a format approved by Ecology, and shall be updated at least annually for submittal with the Permittee’s annual reports to Ecology. The SWMP Plan shall be written to inform the public of the planned SWMP activities for the upcoming calendar year.

The current Permit became effective on August 1, 2013. Although the expiration date was originally July 31, 2018, the Washington State Department of Ecology (Ecology) extended the expiration date another year, until July 31, 2019. The 2019-2024 Permit is currently in a draft form and will become effective on August 1, 2019.

This SWMP Plan has been organized as follows:

- **Chapter 1** provides an introduction to underlying permit requirements, required program components, City stormwater codes, stormwater utility, and a description of how the program is managed in Clyde Hill.
- **Chapters 2 - 6** address each of the five SWMP elements required by the Permit, including a summary of the specific permit requirement and current City activities to comply.
- **Chapters 7** provides a summary of additional SWMP requirements that will be included in the 2019-2024 Permit, and the City’s planned initial efforts towards compliance.

1.2 NPDES PHASE II MUNICIPAL STORMWATER PERMIT

1.2.1 PERMIT BACKGROUND

In 1987 the US Congress revised the Clean Water Act to include stormwater discharges in the National Pollutant Discharge Elimination System (NPDES) Permit program. The US Environmental Protection Agency (EPA) developed rules for the implementation of the new stormwater requirements and separated them into two phases. The State of Washington, through Ecology, implements these stormwater rules through the Municipal Stormwater Permit program. As an owner and operator of a small municipal separate storm sewer system (MS4), Clyde Hill is required to be covered by, and comply with, the current Western Washington Phase II Municipal Stormwater Permit (Permit). The Permit allows Clyde Hill to discharge stormwater from its MS4 into waters of the State of Washington.

1.2.2 REQUIRED SWMP COMPONENTS

The Permit requires the development and implementation of a SWMP to control discharge into and from the City's system. The SWMP includes five specific elements that are designed to reduce the discharge of pollutants from the Clyde Hill's MS4 to the maximum extent practicable:

- Permit Section S5.C.1 - Public Education and Outreach
- Permit Section S5.C.2 - Public Involvement and Participation
- Permit Section S5.C.3 - Illicit Discharge Detection and Elimination
- Permit Section S5.C.4 - Controlling Runoff from New Development, Redevelopment and Construction Sites
- Permit Section S5.C.5 - Municipal Operations and Maintenance

1.3 CLYDE HILL'S STORMWATER PROGRAM

1.3.1 STORMWATER CODES

Legal authority for several components of the stormwater program has been established by ordinances approved by City Council and incorporated into the City of Clyde Hill Municipal Code (CHMC).

CHMC 13.10 – Discharge of Hazardous Wastes

This chapter specifies substances that are prohibited to be discharged into the storm drainage system, allowable discharges, and conditional discharges. This chapter also prohibits illicit (non-permitted) connection to the City's storm drainage system and describes enforcement procedures.

CHMC 15.10 – Drainage

This chapter defines the required stormwater drainage requirements in the City, adjustment and variance criteria, site planning and BMP selection and design criteria, low impact development, long-term operation and maintenance of stormwater facilities. This chapter also defines the City's rights to inspect permitted stormwater facilities on private property and procedures for enforcement of maintenance standards.

1.3.2 COORDINATION AND RESPONSIBILITY

Managing the stormwater program and achieving compliance with Permit mandates in Clyde Hill is coordinated by the Public Works Department, with program administration the responsibility of the Public Works Director. This responsibility includes:

- Implementing the SWMP (Permit Section S5.A.1)
- Preparing the SWMP Plan (S5.A.2)
- Tracking SWMP costs (S5.A.3.a)
- Tracking the number of inspections, official enforcement actions and types of public education activities required by program components (S5.A.3.b)
- Coordinating between other Permittees, e.g. adjacent municipalities (S5.A.5.a)
- Maintaining coordination between City departments related to the SWMP (S5.A.5.b)

The City of Clyde Hill has recently implemented Mobile 311, a GIS-based data management system, for many aspects of Public Works operations including managing work orders and documenting inspections.

Mobile 311 is accessible from smartphones, allowing City field staff to readily access GIS mapping and data and document many aspects of the SWMP in a time-efficient manner.

1.3.3 MONITORING AND ASSESSMENT

Section S8 of the Permit requires the City to:

- Provide a description of any stormwater monitoring or stormwater-related studies conducted during the reporting period
- Pay into a collective fund to implement a Regional Stormwater Monitoring Program (RSMP) that includes the following components:
 - Status and trends monitoring (small stream and marine nearshore)
 - Stormwater management program effectiveness studies
 - Source identification and diagnostic monitoring to implement the Source Identification Information Repository (SIDIR)

The City of Clyde Hill contributes to the RSMP \$1,959 annually towards regional status and trends monitoring, effectiveness studies and source identification and the SIDIR. The City does not plan any additional stormwater monitoring or stormwater-related studies that would require reporting to Ecology.

The City of Clyde Hill is not required to conduct water quality monitoring for compliance with total maximum daily loads (TMDLs) pursuant to Section S7 and Appendix 2 of the Permit, because no TMDL implementation plans have been developed for any of the City's downstream receiving waters.

1.3.4 SWMP REPORTING

Section S9 of the Permit requires the City to submit the following on March 31 of each year:

- A copy of the current SWMP Plan
- Annual Report form (Appendix 3 of the Permit) describing the status of implementation of the requirements of the Permit during the reporting period.
- Notifications of any annexations or jurisdictional boundary changes.

The City will submit its 2019 Annual Report and 2019 SWMP Plan to Ecology by March 31, 2019.

CHAPTER 2 – PUBLIC EDUCATION AND OUTREACH

2.1 PERMIT REQUIREMENTS

Section S5.C.1 of the Permit requires the City’s stormwater program to include an education and outreach program designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts, and encourage the public to participate in stewardship activities. The Permit allows for the education and outreach program to be developed and implemented by the local municipality, or as part of a regional effort.

The City’s education and outreach program is specifically required to:

- i. Build general awareness, selecting from the following target audiences and subject areas:
 - a. General public and businesses:
 - General impacts of stormwater on surface waters
 - Impacts from impervious surfaces
 - Impacts of illicit discharges and how to report them
 - Low impact development (LID) principles and LID BMPs
 - Opportunities to become involve in stewardship activities
 - b. Engineers, contractors, developers and land use planners:
 - Technical standards for stormwater site and erosion control plans
 - LID principals and LID BMPs
 - Stormwater treatment and flow control BMPs/facilities
- ii. Effect behavior change, selecting from the following target audiences and BMPs:
 - a. General public and businesses:
 - Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials
 - Equipment maintenance
 - Prevention of illicit discharges
 - b. Residents, landscapers and property managers/owners:
 - Yard care techniques protective of water quality
 - Use and storage of pesticides and fertilizers and other household chemicals
 - Carpet cleaning and auto repair and maintenance
 - Vehicle, equipment and home/building maintenance
 - Pet waste management and disposal
 - LID principles an LID BMPs
 - Stormwater facility maintenance
 - Dumpster and trash compactor maintenance

The City must also 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 City is required to measure the understanding and adoption of the targeted behavior for at least one target audience in at least one subject area. The resulting measurements are to be used to direct education and outreach resources most effectively, as well as to evaluate adoption of the targeted behaviors.

2.2 2019 PROGRAM ACTIVITY

2.2.1 BUILDING GENERAL AWARENESS

Low Impact Development Education

Target Audience: School-age children

Subject Areas:

- General impacts of stormwater on surface waters
- Benefits of LID

The public works director will coordinate and teach a program at Clyde Hill Elementary School. The initial program will contain the following components:

- General stormwater education handouts
- Discussion of the impacts of stormwater on surface waters and impacts caused by impervious surfaces
- A walking tour of the Clyde Hill Elementary and Chinook Middle School campuses, which have been redeveloped recently and include Low Impact Development (LID) features (rain gardens, permeable pavement, infiltration vaults)
- Integration with an existing Arbor Day activity that includes a ceremonial tree planting at the school.

A future phase of this educational program may include a rain garden exhibit constructed at the City's maintenance shop adjacent to the elementary and middle schools, which could be included as part of the LID tour.

2.2.2 EFFECTING BEHAVIOR CHANGE

Newsletter Article

Target Audience: Residents and property owners

BMPs:

- Yard care techniques protective of water quality
- Use and storage of pesticides and fertilizers and other household chemicals
- Vehicle, equipment and home/building maintenance
- Pet waste management and disposal

The March 2019 City newsletter “Clyde Hill Views” will be dedicated to pollution prevention, providing general stormwater information and specific information for residents regarding proper vehicle maintenance practices, pet waste management, storage and disposal of household chemicals, and use of fertilizers.

Outreach Mailer

Target Audience: Residents

BMPs: Vehicle maintenance

An outreach mailer, to be sent to 200 randomly-selected households in March 2019, will include specific recommendations for residents who wash their cars at home (washing on grassy surface to promote infiltration, using only phosphate-free and pH neutral detergents, minimizing water use, and using waterless car washing soap) and will encourage use of commercial car wash facilities as an alternative. The mailer will include a survey to help the City assess the extent of home-based car washing, and will offer car wash coupons to residents who return their completed survey.

Website Information and Links

Target Audience: General public, residents and property owners.

BMPs:

- Yard care techniques protective of water quality
- Use and storage of pesticides and fertilizers and other household chemicals
- Vehicle, equipment and home/building maintenance
- Pet waste management and disposal

The same pollution prevention information included in the March 2019 City newsletter and outreach mailer will be added to the City website, along with links to other resources as appropriate.

2.2.3 CREATING STEWARDSHIP OPPORTUNITIES

Within Clyde Hill, a local Scout group will be invited to participate in marking catch basins with Lake Washington Starts Here – Don’t Pollute emblems. Materials and training will be provided by the City.

Other stewardship opportunities that exist in close proximity to Clyde Hill include:

City of Bellevue Environmental Stewardship Volunteer Opportunities:

<https://parks.bellevuewa.gov/nature-and-environment/visitor-centers-environmental-programs/environmental-stewardship-volunteer-opportunities>

(Provides information on volunteer stewardship opportunities in City of Bellevue parks)

Earthcorps:

<https://www.earthcorps.org/volunteer/>

(Provides information on volunteer stewardship opportunities in other Eastside parks)

2.2.4 MEASURING UNDERSTANDING AND ADOPTION OF TARGETED BEHAVIORS

An outreach mailer will be sent to 200 randomly-selected households in March 2019 that will include a survey to help the City assess the extent of home-based car washing. Residents who return completed surveys will receive a coupon for a car wash at a commercial facility. The results of the survey will be used to tailor future public education efforts.

CHAPTER 3 – PUBLIC INVOLVEMENT AND PARTICIPATION

3.1 PERMIT REQUIREMENTS

Section S5.C.2 of the Permit requires the City to provide ongoing opportunities for public involvement participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. The City must comply with applicable state and local public notice requirements when developing elements of the SWMP.

Minimum performance measures are:

- a. Create opportunities for the public to participate in the decision-making processes involving the development, implementation and update of the City's SWMP.
- b. Post on City website the SWMP Plan and the annual report required under S9.A of the Permit no later than May 31 each year.

3.2 2019 PROGRAM ACTIVITY

3.2.1 Decision-Making Process Opportunities

The SWMP Plan will be presented to the City Council at a regular meeting. During the meeting, any member of the public who wishes to comment on the SWMP will be given the opportunity to provide comments.

3.2.2 SWMP and Annual Report Posting

This SWMP Plan document and Permit annual report will be posted on the City's website in the current year prior May 31.

CHAPTER 4 – ILLICIT DISCHARGE DETECTION AND ELIMINATION

4.1 PERMIT REQUIREMENTS

Section S5.C.3 of the Permit requires the SWMP to include an ongoing program designed to prevent, detect, characterize, trace and eliminate illicit connections and illicit discharges into the MS4. The required program has several components as summarized below (see Permit for complete text):

- a. Ongoing mapping of the MS4, including (by 2/2/18):
 - i. Known MS4 outfalls and discharge points
 - ii. Receiving waters other than groundwater
 - iii. City-owned stormwater treatment and flow control BMPs
 - iv. Tributary conveyance systems to all known outfalls and discharge points, with a 24-inch nominal diameter or larger
 - v. All connections to the MS4 authorized by the City after 2/16/07
 - vi. Connections between the City's MS4 and MS4s owned by other municipalities or public entities
 - vii. Areas served by the City's MS4 that do not discharge to surface waters
 - viii. Provide mapping to Ecology upon request (preferred electronic format with fully described mapping standard per example on website)
 - ix. Provide mapping to federally-recognized Indian Tribes upon request
- b. Implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the Permittee's MS4 to the maximum extent feasible under Federal law, including allowable discharges, conditionally allowable discharges, escalating enforcement procedures and actions, compliance strategy implementation. The ordinance or other regulatory mechanism must be updated to meet these requirements not later than 2/2/18.
- c. Implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the City's MS4, including the following components:
 - i. Procedures for conducting investigations of the City's MS4, including field screening and methods for identifying potential sources, implementation of a field screening methodology, and completing field screening for at least 40% of the MS4 by 6/30/18 and 12% of the MS4 each year thereafter
 - ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges
 - iii. An ongoing training program for a municipal field staff
- d. Implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the City's MS4, including:
 - i. Procedures for characterizing the nature and potential public environmental threat of an illicit discharge
 - ii. Procedures for tracing the source of an illicit discharge
 - iii. Procedures for eliminating the illicit discharge
 - iv. Meet the following timelines in addressing illicit discharges:

- Immediate response to illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment
 - Investigate within 7 days, on average, any complaint, report or monitoring information that indicates a potential illicit discharge
 - Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection
 - Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months
- e. Train staff responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Provide follow-up training as needed. Document and maintain records of training.
- f. Recordkeeping: Track and maintain records of the activities conducted to meet the requirements for illicit discharge detection and elimination (IDDE).

4.2 2019 PROGRAM ACTIVITY

4.2.1 MS4 Mapping

The City of Clyde Hill's MS4 has been previously mapped includes the elements required by the current Permit. Updates to the map are made quarterly by the City's GIS consultant. Currently, privately-owned detention tank systems are being added to the MS4 mapping from record drawings. Symbols identifying outfalls and connections to other jurisdictions' MS4s will also be added.

4.2.2 IDDE Ordinance

Clyde Hill has previously adopted an ordinance that prevents illicit non-stormwater discharges into the MS4, as found in CHMC 13.10.

The lists of allowable and conditionally allowable discharges in CHMC 13.10 will be revised by ordinance to match Section S5.C.3 of the Permit, consisting of:

- Removing car washing and yard care discharges from the list of allowable discharges.
- Adding requirements for thermal control of dechlorinated swimming pool, spa and hot tub discharges.

4.2.3 Program to Detect and Identify Illicit Discharge

The City of Clyde Hill will continues its existing Illicit Discharge Detection and Elimination (IDDE) program, which is documented in the Clyde Hill Illicit Discharge Detection and Elimination Plan, dated September 2008.

Field Screening Methodology

Clyde Hill's IDDE program utilizes the Outfall Reconnaissance Inventory field screening methodology, as described in Chapter 11 of the Center for Urban Watershed Protection's *Illicit Discharge Detection and Elimination* guidance manual (IDDE Manual) dated October 2004. Outfall reconnaissance was performed

(dry weather and wet weather) for at least 40% of the City's MS4 in 2017 and 2018. Outfall reconnaissance in 2019 will screen runoff for at least 12% of other areas of the City. In 2019, outfall inspections will be recorded utilizing the City's Mobile 311 GIS-based data management system.

IDDE Training Program

Clyde Hill staff involved in IDDE have previously undergone training. Additional training will be provided in 2019 if needed due to staff changes.

Hotline for Public Reporting of Spills and other Illicit Discharges

The City Hall telephone number is listed on the City's website for reporting be identified on the City's website specifically for reporting spills and other illicit discharges.

Illicit Discharge Public Education

Illicit discharge public education to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper storage of waste have been integrated into the public education efforts described in Chapter 2 of the SWMP Plan.

4.2.4 Program to Address Illicit Discharges

Procedures for characterizing the nature and potential threat posed by detected or reported illicit discharges are documented in Chapter 6 of the City of Clyde Hill's IDDE Plan.

Procedures for tracing the source of an illicit discharge are described in Chapter 5 of the City's IDDE Plan, with references to Chapter 13 of the Center for Urban Watershed Protection's IDDE Manual for detailed procedures for tracing the source of identified illicit discharges.

Procedures for eliminating the illicit discharge, including spill response, are contained in Chapter 6 of the City's IDDE Plan. CHMC 13.10 contains notification and enforcement procedures for addressing illicit discharges.

4.2.5 Illicit Discharge Training

Clyde Hill staff responsible for the IDDE program attended a training seminar in 2017. Additional training will be provided in 2019 if needed due to staff changes.

4.2.6 Illicit Discharge Recordkeeping

All recordkeeping associated with the City's IDDE program is maintained by the Public Works Director. Records include the following:

- Field Screening Data Sheets
- Records of all detected illicit discharges and actions taken
- Reports of all reported spills and illicit discharges and actions taken
- Records of illicit connections and actions taken
- Records of IDDE training provided and staff trained

In 2019, all field screening and inspections will be performed using the City's "Mobile 311" GIS-based data management system.

CHAPTER 5 – CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

5.1 PERMIT REQUIREMENTS

Section S5.C.4 of the Permit requires that the City implement and enforce a program to reduce pollutants in stormwater runoff to its MS4 from new development, redevelopment and construction site activities. The program must apply to both private and public development, including roads. The program is required to have several components as summarized below (see Permit for complete text):

- a. Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects, no later than 12/31/16, that includes:
 - i. The Minimum Requirements, thresholds, and definitions in Appendix 1 or a program approved by Ecology under the 2013 NPDES Phase I Municipal Stormwater Permit, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included.
 - ii. The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 (or program approved by Ecology under the 2013 Phase I Permit), will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirement under chapter 90.48 RCW to apply AKART prior to discharge:
 - Site planning requirements
 - BMP selection criteria
 - BMP infeasibility criteria
 - LID competing needs criteria
 - BMP limitationsPermittees who choose to use the requirements, limitations, and criteria above in the *Stormwater Management Manual for Western Washington*, or a program approved by Ecology under the 2013 Phase I Permit, may cite this choice as their sole documentation to meet this requirement.
 - iii. The legal authority, though the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities approved under the provisions of this section that discharge to the City's MS4.
- b. The program shall include a permitting process with site plan review, inspection and enforcement capability to meet the following standards:
 - i. Review of all stormwater site plans for proposed development activities

- ii. Inspect, prior to clearing and construction, all permitted development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 of the Permit, or all construction sites that meet the minimum thresholds in Appendix 1 of the Permit.
 - iii. Inspect all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls.
 - iv. Inspect all permitted developments upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities.
- c. The program shall include the following provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities:
 - i. Implementation of an ordinance or other enforceable mechanism that clearly identifies the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures.
 - ii. Establish maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 of Volume V of the *Stormwater Management Manual for Western Washington*.
 - iii. Annual inspection of stormwater treatment and flow control BMPs/facilities.
 - iv. Inspection of all permanent stormwater treatment and flow control BMPs/ facilities and catch basins in new residential development every six months until 90% of the lots are constructed.
 - v. Maintain inspection records. Compliance during the Permit period is determined by achieving at least 80% of scheduled inspections.
 - vi. When an inspection identifies and exceedance of the maintenance standard, maintenance shall be performed:
 - Within 1 year for typical maintenance of facilities, except catch basins
 - Within 6 months for catch basins
 - Within 2 years for maintenance that required capital construction of less than \$25,000
 - vii. Include a procedure of keeping records of inspection and enforcement actions.
- d. The program shall make available as applicable copies of the “notice of Intent for Construction Activity” and copies of the “Notice of Intent for Industrial Activity” to representatives of proposed new develop and redevelopment. The City is required to continue to enforce local stormwater ordinance for sites that are also covered by Ecology permits.
- e. Training shall be provided for staff whose primary job duties are implementing the program and records maintained of the training provided and staff trained.
- f. Low impact development code-related requirements.
 - i. No later than 12/31/16, the City was required to review, revise, and make effective its local development-related codes, rules, standards or other enforceable documents to incorporate and require LID principles and LID BMPs, with the intent to make LID the preferred and commonly-used approach to site development.
 - ii. No later than 3/31/17, the City was required to submit a summary of the results of the review and revision process to incorporate LID.

5.2 2019 PROGRAM ACTIVITY

The City of Clyde Hill has an established program for controlling runoff from new development, redevelopment and construction sites that will continue in 2019. The following sections describe existing program elements to comply with Permit requirements, as well as specific program enhancements planned for 2019.

5.2.1 Stormwater Ordinance

Clyde Hill Municipal Code (CHMC) 15.10 adopts minimum stormwater requirements found in Appendix 1 of the Permit, and the 2012 *Stormwater Management Manual for Western Washington (SWMMWW)*, as amended in December 2014. CHMC 15.10 also adopts the Clyde Hill *Storm Water Drainage Guidelines*, which provides additional requirements, particularly for small residential projects common in Clyde Hill that fall below the flow control thresholds of the SWMMWW.

The legal authority to inspect and enforce maintenance standards for private stormwater facilities through the approval process for new development and redevelopment is currently established by CHMC 15.10.100, CHMC 15.10.110 and 15.10.120.

5.2.2 Stormwater Permitting Process

The City will continue its current stormwater permitting process with plan review, inspection and enforcement capability to ensure compliance with code requirements for both private and public projects, using qualified personnel. This includes:

- Review of all stormwater site plans
- Inspection of all submitted development sites that have a high potential for sediment transport prior to clearing and construction
- Inspection of all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls with enforcement as necessary, based on the inspections
- Inspection of all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls, such as stormwater facilities and structural BMPs
- Verification that a maintenance plan has been completed and responsibility for maintenance has been assigned with enforcement as necessary, based on the inspections
- Ensuring compliance with inspection requirements by the presence and records of an established inspection program that is designed to inspect all sites and achieve at least 80% of scheduled inspections

Beginning in 2019, the City will utilize its Mobile 311 GIS-based data management system to document all site inspections performed as part of the permitting process.

5.2.3 Operation and Maintenance of Permitted Stormwater Facilities

In 2019 the City will implement a program to inspect all permitted, privately-maintained stormwater facilities within Clyde Hill. The steps to implement this program will be as follows:

- The City’s GIS consultant will add private detention systems to the GIS-mapping based on record drawings (approximately 110 detention tanks).
- City field staff will field check facility locations and update GIS records using Mobile 311.
- City field staff will perform inspections in accordance with CHMC 15.10.100 and CHMC 15.10.110, utilizing maintenance standards from Chapter 4 of Volume V of the 2014 SWMMWW. Inspections will be documented using Mobile 311.
- Notifications will be delivered to property owners when an inspection identifies an exceedance of maintenance standards, requiring maintenance be performed within 1 year for typical facility maintenance, or within 6 months for catch basins. Maintenance requiring capital construction will be required to be performed within 2 years.
- Follow-up inspections will be performed after maintenance has been performed.
- Enforcement of maintenance requirements, if required, will be performed in accordance with CHMC 15.10.120.

After two years of annual facility inspections, the City will review maintenance records and evaluate if a reduced inspection frequency is appropriate.

5.2.4 Enforcement of Stormwater Ordinance for Sites with Ecology Permits

The City will enforce local ordinances controlling runoff from sites that are also covered by stormwater permits by Ecology.

5.2.5 Training

City staff currently responsible for stormwater site review and inspection are familiar with the requirements of the SWMMWW and Clyde Hill Stormwater Drainage Guidelines to development sites and have undergone Certified Erosion and Sediment Control Lead (CESCL) training. If needed due to staff change or to enhance knowledge, additional training will be provided.

Records of training provided, staff that received training are maintained by the Public Works Director.

5.2.6 Low Impact Development

The city undertook a process to revise its codes and standards in beginning in 2013 to incorporate Low Impact Development (LID), as required by section S5.C.4.f of the Permit. As part of this project, the City’s subdivisions and zoning codes were reviewed, but no revisions were found to be needed. An earlier code amendment made in 2010 had adopted a Low Impact Development section in CHMC 15.10.090 that allows approval of deviations from the City’s engineering and development regulations to accommodate LID.

CHAPTER 6 – MUNICIPAL OPERATIONS AND MAINTENANCE

6.1 PERMIT REQUIREMENTS

Section S5.C.5 of the Permit requires that the City implement an operations and maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The program is required to have several components as summarized below (see Permit for complete text):

- a. Implement maintenance standards that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the *Stormwater Management Manual for Western Washington*. For facilities which do not have maintenance standards, the City is required to develop a maintenance standard. Maintenance standards were required to be implemented no later than December 31, 2016.
 - i. The purpose of the maintenance standard is to determine if maintenance is required.
 - ii. When an inspection identifies an exceedance of the maintenance standard, maintenance is required to be performed:
 - Within 1 year for typical maintenance of facilities, except catch basins
 - Within 6 months for catch basins
 - Within 2 years for maintenance that requires capital construction of less than \$25,000
- b. Perform annual inspection of all City-owned or operated permanent stormwater and flow control BMPs/facilities, taking appropriate maintenance actions in accordance with the adopted maintenance standards.
- c. Perform spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities after major storm events (24 hour storm event with a 10 year or greater recurrence interval).
- d. Inspect all catch basins and inlets owned and operated by the City at least once no later than 8/1/17, and every two years thereafter. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards.
- e. Compliance with inspection requirements is determined by the presence of an established inspection program designed to inspect all sites and achieving at least 95% of inspections.
- f. Implement practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance activities under the control of the City. The following activities shall be addressed:
 - Pipe cleaning
 - Cleaning of culverts
 - Ditch maintenance
 - Street cleaning
 - Road repair and resurfacing, including pavement grinding
 - Snow and ice control

- Utility installation
 - Pavement striping maintenance
 - Maintaining roadside areas, including vegetation management
 - Dust control
 - Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts
 - Sediment and erosion control
 - Landscape maintenance and vegetation disposal
 - Trash and pet waste management
 - Building exterior cleaning and maintenance
- g. Implement an ongoing training program for City employees whose primary construction, operations or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided and the staff trained.
- h. Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under the General NPDES Permit for Stormwater Discharges Associated with industrial Activities. A schedule for implementation of BMPs shall be included in the SWPPP. The SWPPP shall include periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMP
- i. Maintain records of inspections and maintenance or repair activities conducted by the City.

6.2 2019 PROGRAM ACTIVITY

The City of Clyde Hill has an established program for municipal operation and maintenance, which will continue in 2019. The following sections describe current program elements to comply with Permit requirements.

6.2.1 Maintenance Standards

The City utilizes the maintenance standards specified in Section 4.6 of Volume V of the *Stormwater Management Manual for Western Washington* for operation and maintenance of the City's stormwater systems.

6.2.2 Inspection of Municipal Stormwater Facilities

Annual Inspections: There are currently two publicly-maintained stormwater treatment and flow control facilities in the City of Clyde Hill that require annual inspection: a detention tank serving City Hall and a sediment trap with pump at the City's maintenance facility.

Catch Basin Inspections and Cleaning: City staff will continue to inspect and clean all catch basins at least once every two years, with half of the City completed in each year of the two-year cycle. Decant water from the catch basin cleaning effort will be disposed of in accordance with the requirements set forth in Permit Appendix 6, Street Waste Disposal.

6.2.3 Stormwater Impact Reduction Procedures

The City has implemented the following practices, policies, and procedures to reduce stormwater impacts:

City Parks: The City of Clyde Hill operates two small parks: Clyde Hill City Park (0.8 acre) which contains two tennis court located at the south end of 95th Avenue NE, west of Clyde Hill Elementary, and Clyde Hill View Park, a short segment of public right-of-way (approx. 0.1 acre) along NE 26th Street immediately east of 92nd Avenue NE that contains a landscaped stairway and small lawn area with park bench. The City uses native and adapted vegetation to reduce water, fertilizer and pesticide needs, and uses integrated pest management to minimize the use of pesticides.

Road and Street Maintenance: The City of Clyde Hill performs street sweeping of major streets on a monthly basis, weather permitting. Roadside area and vegetation are maintained without use of herbicides or pesticides. Road repair and resurfacing is performed by contractors in accordance with requirements for construction stormwater pollution prevention as documented in the 2014 SWMMWW. Clyde Hill coordinates with WSDOT on snow and ice events. Crews will apply deicer sparingly to dry surfaces in anticipation of a forthcoming event. During snow and ice events, sand or sand/salt mixes is applied to areas determined to be hazardous by the attendant crewmember. Following an event, sand and grit is swept to reduce material ending up in catch basins.

6.2.4 Training

Field staff have received CESCL training. Pollution prevention training will be continued by sending appropriate staff to training courses when needed due to staff change or to increase knowledge.

6.2.5 Stormwater Pollution Prevention Plan (SWPPP)

A SWPPP has been prepared for the City's main maintenance/storage facility located at 2119 96th Avenue NE.

6.2.6 Municipal O&M Recordkeeping

The Public Works Director or designee will maintain records of all inspections and maintenance activities.

CHAPTER 7 – 2019-2024 PERMIT REQUIREMENTS

7.1 SUMMARY OF ADDITIONAL PERMIT REQUIREMENTS

The 2019-2024 Permit expands the program components from five to eight:

- Permit Section S5.C.1 – Comprehensive Stormwater Planning
- Permit Section S5.C.2 - Public Education and Outreach
- Permit Section S5.C.3 - Public Involvement and Participation
- Permit Section S5.C.4 – MS4 Mapping and Documentation
- Permit Section S5.C.5 - Illicit Discharge Detection and Elimination
- Permit Section S5.C.6 - Controlling Runoff from New Development, Redevelopment and Construction Sites
- Permit Section S5.C.7 - Operations and Maintenance
- Permit Section S5.C.8 – Source Control Programs for Existing Development

7.2 2019 PROGRAM ACTIVITIES

Since the 2019-2024 Permit does not become effective until August 2019, the 2019 SWMP Plan and Annual Report are not required to address the new Permit’s requirements. However, a review of changes in the permit and added requirements will need to occur in 2019 to begin working towards compliance with the new permit. The following list of “early action” items have been identified and will be undertaken in 2019:

- Review and plan implementation of the new Comprehensive Stormwater Planning requirement, including designating an interdisciplinary team of City staff to undertake the task, identifying regional groups for potential participation, and locating and reviewing existing assessments of downstream receiving waters.
- Plan the required behavior change assessment required by July 2020 for the revised Public Education and Outreach program component.
- Add outfall size and material information to the City’s MS4 mapping, required to be completed by January 1, 2020.
- Review the new Source Control Program for Existing Development component and look for ways for early integration into the City’s existing program, particularly in areas of overlap between the Public Education and Outreach and Illicit Discharge and Detection program elements.