



# 2023 Stormwater Management Program (SWMP) Plan

*March 31, 2023*

*In Compliance with NPDES Western  
Washington Phase II Municipal  
Stormwater Permit #WAR045547*



*Prepared by the City of Clyde Hill's  
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## HISTORY

The Federal Water Pollution Control Act of 1948 was the first major U.S. law of its kind to address water pollution. Overtime and growing public awareness and concern for controlling water pollution led to amendments in 1972. As amended in 1972, the law became commonly known as the Clean Water Act (CWA), with the intention to stop point source polluters and improve water quality for fishing, drinking, and recreational use.

The [National Pollution Discharge Elimination System](#) (NPDES) Permit Program was created by the 1972 CWA to protect and restore surface water quality by requiring a permit to continue discharging into waters of the United States. The NPDES Permit requires annual progress reports with various requirements that are phased into effect throughout the five-year coverage period that expires July 31, 2024. The City's Stormwater Management Program (SWMP) has been organized to reflect the structure of the 2019-2024 permit requirements. The required elements of this SWMP are:

- Stormwater Planning
- Public Education and Outreach
- Public Involvement and Participation
- MS4 Mapping and Documentation
- Illicit Discharge Detection and Elimination
- Controlling Runoff from New Development, Redevelopment, and Construction Sites
- Operations and Maintenance
- Source Control Program for Existing Development

The purpose of the SWMP is to develop and present the City's approach for addressing regulations, adopted plans and programs, and policies that affect urban stormwater, flooding, and associated water-dependent resources. The Public Works Department is responsible for the SWMP and NPDES Permit implementation with input and feedback from the City's Planning / Building Departments, City Administration, Consultants, Regulatory bodies, and it's citizens.

To provide comments regarding the City of Clyde Hill's SWMP please utilize the following methods:

Email: [shaun@clydehill.org](mailto:shaun@clydehill.org);  
Phone: contact Public Works at 425.453.7800 ext. 104  
Mail: City of Clyde Hill - Public Works Department  
9605 NE 24<sup>th</sup> Street  
Clyde Hill WA, 98004

View past reports - <https://www.clydehill.org/departments/public-works/stormwater-management/>

## INTRODUCTION

The NPDES Permit Program was created by the 1972 CWA to protect and restore surface water quality by requiring a permit to continue discharging into waters of the United States. This requires those permitted to establish a stormwater program with a set of activities and actions aimed at protecting and restoring local creeks, streams, rivers and lakes. The Washington State Department of Ecology (Ecology) administers the NPDES Permit for the Environment Protection Agency (EPA).

Specific permit requirements are identified using the Permit's citation methodology (e.g. S5.C.3.b). All Western Washington Phase II Municipal NPDES Permits and accompanying manuals, including the entire current NPDES Permit, can be viewed by visiting the Washington Department of Ecology Website: <https://ecology.wa.gov/>.

The City follows permit requirements and plans continued compliance with future requirements as they come into effect.

## S5 STORMWATER MANAGEMENT PROGRAM

### S5.C.1 STORMWATER PLANNING

Stormwater planning was a permit requirement introduced in the 2019 NPDES Permit. The City has engaged in various stormwater planning efforts for many years however, the new permit requirement asks the City to take a fresh look at a broad range of water quality tools available to protect and restore its receiving waters.

#### *S5.C.1.(a) Interdisciplinary Team*

Clyde Hill utilizes an “all hands” approach to inform and assist in the development of stormwater policies and strategies as well as water quality management tools to protect receiving waters. As a small agency, strategic discussions involve the Public Works Director & maintenance staff, Building Official, Administrator, City Clerk, and appropriate consultants with relevant experience either in Stormwater Design or Stormwater Planning disciplines.

#### *S5.C.1.(b) Coordination with Long-Range Plan Updates*

The core team described above will continue to ensure that stormwater considerations are used to inform updates to the City's Comprehensive Plan & its elements, along with Surface and Stormwater Management Plans. In 2022 Clyde Hill began the process of rewriting its Comprehensive Plan, with anticipated plan adoption in 2024. Stormwater is an important part of this conversation and the team will ensure watershed protections, water quality standards, and stormwater management are included in long-term planning efforts as it relates to land use, growth and transportation. With the assistance of its consultant, Clyde Hill has successfully met the timelines and requirements for development of the Stormwater Management Action Plan (SMAP).

### *S5.C.1.(c) Low Impact Development Code Requirements*

Clyde Hill's Municipal Code [15.10.090](#) generally encourages the use of LID techniques. Additional guidance for developers related specifically to drainage and Minimum Requirement #5 is available in the city's "[Stormwater Drainage Guidelines](#)" document. Public Works will continue to review municipal code and development guidance to affirm that Low Impact Development (LID) principles and best management practices (BMPs) are the preferred approach to site development.

### *S5.C.1.(d) Stormwater Management Action Planning*

#### *i. S5.C.1.(d).i Receiving Water Assessment*

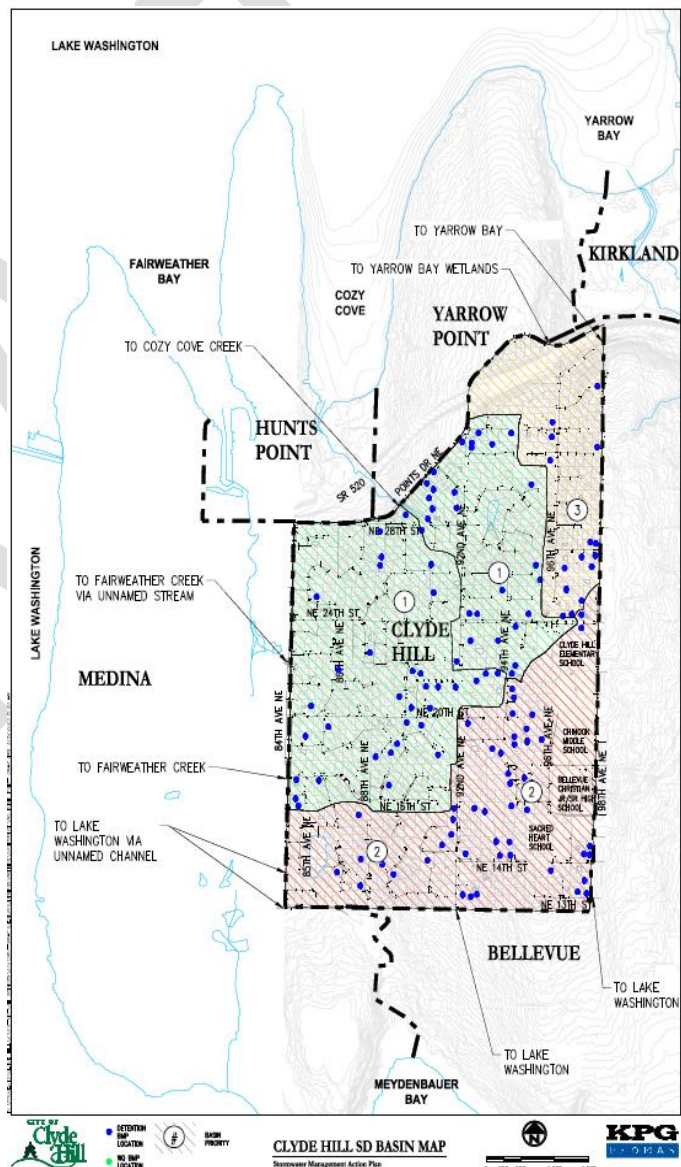
The City utilized a consultant to perform basin delineation and watershed & receiving water identification. The results of the assessment was included as an Appendix to the SWMP in 2022.

#### *ii. S5.C.1.(d).ii Receiving Water Prioritization*

In accordance with this requirement and as a result of the Receiving Water Condition Assessment and Receiving Waters Prioritization effort, completed in 2022, the City has selected Fairweather Creek for SMAP development and will prioritize water quality and flow control measures within this basin. S5.C.1.(d).

#### *iii. Stormwater Management Action Plan (SMAP)*

In coordination with this SWMP update, and to meet the required deadline, the city's SMAP for the Fairweather Creek Basin has been posted to the City's website, and overviewed at the SWMP Public Hearing.



The City will continue to update and refine the methodology to prioritize and rank watersheds based on updated information and data collection. This will allow the City to provide an updated watershed inventory and prioritized and ranked list of receiving waters.

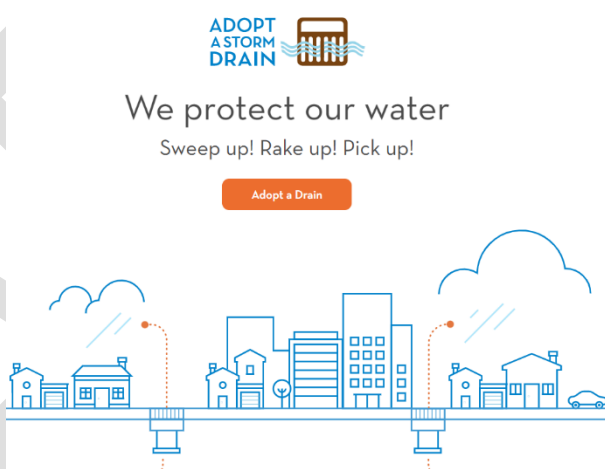
## S5.C.2 PUBLIC EDUCATION AND OUTREACH

The City will be increasing its participation in a variety of stormwater education and outreach efforts focused on environmental stewardship, including stormwater management. This includes participation in regional stormwater working groups, and whenever appropriate, the City will partner with neighboring jurisdictions to ensure stormwater outreach messages are clear, consistent, and widely distributed for the local population.

### S5.C.2.(a).i General Awareness

In 2023 the City will implement or continue the following activities to provide targeted stormwater-related outreach programs to the public:

- Coordinate with other permitted jurisdictions in the region through organizations such as the Stormwater Outreach for Regional Municipalities (STORM) and Puget Sound Starts Here (PSSH).
- Conduct outreach to residents to provide them with general information about stormwater at the annual City Celebration/Movie Night in August.
- Maintain pet waste stations at various locations throughout the City. In support of previous Behavior Change campaigns.
- Monitor, update, and replace signage as needed around City-owned properties or stormwater facilities to educate residents, businesses, and visitors about the vital role proper stormwater management plays in local environmental health.
- Provide information to local developers, engineers, and contractors regarding permanent and temporary management of stormwater on a site.



### S5.C.2.(a).ii Behavior Change

Through 2023 the city will work with the regional STORM group and plans to participate in the “Adopt a Drain” program to affect behavior change of residents in the prevention of illicit discharges into the MS4 by utilizing social marketing practices and methods.

Clyde Hill’s 2021 Behavior Change campaign involved proper disposal of pet waste with the intent of preventing waste from entering the MS4. Generally, the city used online surveys to gauge public perceptions at the beginning and end of the campaign, while also measuring (by weight)

the use of dog-waste disposal bags at various locations in the city during the campaign period. The study found that many pet owners were already properly disposing of their pet's waste and identified higher traffic areas that could benefit from additional receptacles. The campaign provided good information and lessons-learned, but staff found that opportunities for follow on phases of the program were difficult to define & develop.

#### *55.C.2.(c) Creating Stewardship Opportunity*

SWMP stewardship opportunities have been created to encourage participation in surface water protection and active incorporation of SWMP principles and goals. General residential stewardship activities such as volunteer plantings are emphasized during public venues such as Earth and Arbor Day, and other public educational opportunities at City sponsored events. Stewardship is also encouraged through interaction and volunteer planting/maintenance parties and storm drain marking primarily with the Boy Scouts of America, or groups and individuals requesting or required to complete volunteer service hours. Additional local & regional stewardship opportunities 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)

### **55.C.3 PUBLIC INVOLVEMENT AND PARTICIPATION**

Comments from the public are welcomed throughout the year and the city provides a phone number and email address for residents to contact with questions. The Draft SWMP Plan will be presented to the City Council during a Public hearing at a regularly scheduled meeting on March 14<sup>th</sup> 2023. During the meeting, any member of the public who wishes to comment on the SWMP will be given the opportunity to do so. Comments will be evaluated by staff and adjustments to the SWMP made if appropriate.

The city will notify the public of stormwater related discussions outside of the annual SWMP via the City website and social media posts. City webpages can be translated into other languages using the Google Translate Tool but the City will take advantage of opportunities to translate key written outreach materials into common languages spoken in our community when presented.

Common ways to participate or get involved:

- Website: <https://www.clydehill.org/departments/public-works/stormwater-management/>
- Social Media: [Facebook](#)
- Email: [cityhall@clydehill.org](mailto:cityhall@clydehill.org)
- Phone: 425.453.7800



- Mail: City of Clyde Hill – Public Works  
9605 NE 24<sup>th</sup> Street  
Clyde Hill WA, 98004

#### S5.C.4 MS4 MAPPING AND DOCUMENTATION

The City of Clyde Hill's MS4 has been previously mapped and includes the elements required by the current Permit. Updates to the map are generally made quarterly by the City's GIS consultant. Privately-owned detention tank systems that are part of planned development are added to the MS4 mapping from record drawings when construction is completed. Ongoing mapping efforts as it pertains to stormwater activities assist in identifying drainage issues within the City.

In 2023 the City will continue to maintain its comprehensive stormwater conveyance map using ArcGIS geodatabase methods and incorporating observations from annual inspections or previously undiscovered structures, conveyance, etc. Updating and managing data is done according to documented procedures and quality control standards.

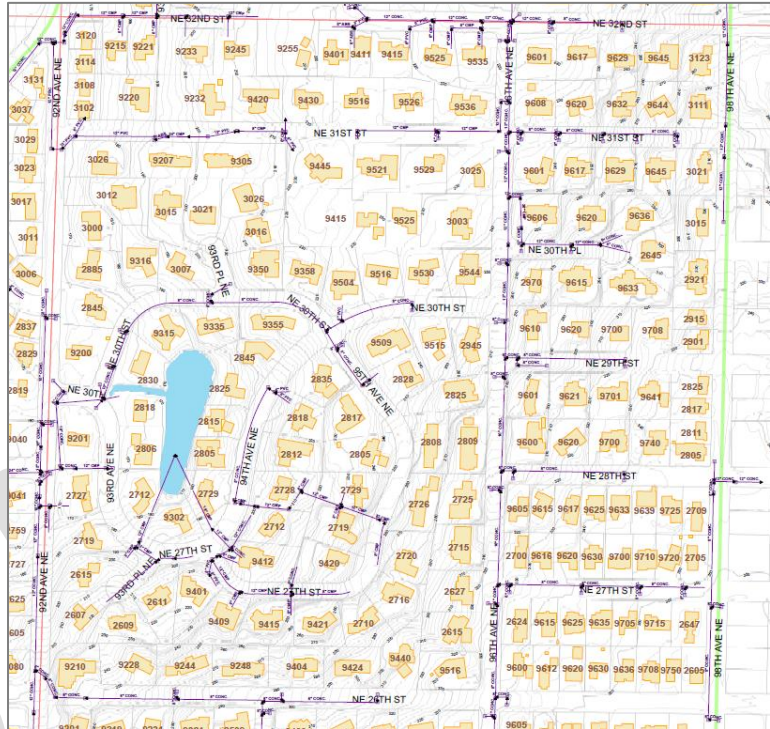


Figure 2 - Example of GIS-based Storm System Map

#### S5.C.5 ILLICIT DISCHARGE DETECTION AND ELIMINATION

The City's Illicit Discharge Detection and Elimination (IDDE) program was developed in 2008 and is designed to prevent contamination of groundwater and surface water by monitoring, tracking, and removing non-stormwater discharges into the stormwater drainage system. The City's SWMP includes an ongoing program to detect and remove illicit connections and discharges as defined in 40 CFR 122.26(b)(2), including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the City.



#### *S5.C.5.(a) Reporting and corrective measures*

The City's general phone number is posted to the website with instruction for residents, visitors, and City employees to report illicit discharges, dumping or other stormwater related concerns within City limits: 425.453.7800; emergency after-hours (via Norcom): 425.577.5656. Additionally, reporting parties can email: [cityhall@clydehill.org](mailto:cityhall@clydehill.org). This information is available on the City's Public Works Department Stormwater web page and under general city contact pages.

During regular business hours calls are received by City Hall and routed to the Public Works Department. After-hours reporting is managed by the Public Works Director or other assigned personnel.



#### *S5.C.5.(b) Target Stormwater Outreach*

Illicit discharge public education material intended 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 S5.C.2 of the SWMP Plan.

#### *S5.C.5.(c) Ordinance prohibiting non-stormwater and illicit discharges into MS4*

This SWMP includes an ongoing program to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the municipal separate storm sewer system (MS4). A City IDDE Ordinance was developed and adopted into the Clyde Hill Municipal Code [CHMC 13.10](#), that effectively prohibits non-stormwater, illicit discharges into the City's MS4 to the maximum extent allowable under State and Federal law. The City continues to research and network with surrounding jurisdictions and Ecology to continue to improve and update these policies.

#### *S5.C.5.(d) IDDE program to detect and identify non-stormwater discharges and illicit connections*

The ongoing IDDE program is also designed to address illicit discharges including spills and illicit connections. The program requires the inspection, characterizing the nature of, and potential public and environmental threat posed by an illicit discharge; and attempts to trace the source and eliminate the illicit connection.

The City is required to screen or inspect 12% of the City's stormwater conveyance and catchment system for illicit connections each year. This is accomplished by dry weather screening City outfalls (pipes) that exceed 12-inches in diameter, annual catch basin inspections and stormwater facility inspections. In 2022 staff performed inspections on 1,061 catch basins and structures in the storm system. Any identified illicit connections during these inspections are recorded and documented primarily through the city's Mobile 311 (now Asset Essentials) system. The inspector would then notify the Public Works Director for documentation and to determine the appropriate solution if guidance is needed.

#### *S5.C.5.(e) Implement a program to address Illicit discharges*

Compliance with this provision is achieved by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge, including spills; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe. This protocol will continue in 2023.

Under the IDDE program the city responds to and investigates all calls and emails regarding environmental concerns such as illegal dumping, spills, illicit discharges, and illicit connections. 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.

#### *S5.C.5.(f) and (g) IDDE Staff Training and Recordkeeping*

Public Works Maintenance Crewmembers and those who might come into contact with or otherwise observe an illicit discharge are trained to identify, document and report illicit discharges or connections to the city's MS4. Clyde Hill staff responsible for the IDDE program have taken CESCL training and continued with refresher and awareness training related to IDDE. IDDE-specific refresher training will be provided to staff in 2023 and as staff changes occur. Staff continue to look for resources that are tailored to specific job-related activities that aid in informing the City's entire workforce and continue to refine new employee orientation and training opportunities. All staff were provided with IDDE awareness training through an educational video on December 1<sup>st</sup>, 2022.

All recordkeeping associated with the City's IDDE program is maintained by the Public Works Director. Records generally 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 2023, continued field screening and inspections will be performed using the City's new GIS-based data management system, "Asset Essentials." All IDDE incidences are reported to the *WQ WebIDDE* app for reporting to Ecology.

## S5.C.6 CONTROLLING RUNOFF FROM DEVELOPMENT AND REDEVELOPMENT PROJECTS

The City of Clyde Hill has an established program for controlling runoff from new development, redevelopment and construction sites that will continue in 2023. The program shall apply to private and public development, including transportation projects. Development and redevelopment projects in the city can have a significant impact on the health of local creeks, streams, and other waterbodies. City staff review and inspect development sites during construction to ensure temporary and permanent facilities are maintained and functioning as designed. The following sections describe existing program elements to comply with Permit requirements.

### *S5.C.6.(a) and (b) Develop Stormwater Management Standards*

[CHMC 15.10 \(Drainage\)](#) codifies stormwater management in the City and includes code for construction and stormwater infrastructure design. The municipal code is supplemented by the City's Stormwater Drainage Guidelines which provides additional detail specific to stormwater management & design. CHMC authorizes the City to enforce provisions required by the NPDES permit, including the minimum requirements in [Appendix 1](#). In 2022 the City formally adopted by code amendment the 2019 SWMMWW, its related appendices, and subsequent revisions thereof.

The city will continue to modify and update development standards and applicable CHMC as required to include enforceable thresholds by the Permit.

### *S5.C.6.(c) Review and Inspect Public and Private Development/Redevelopment Projects*

Clyde Hill's Public Works Director, building official, and appropriate consulting engineers review permits as submitted for both public and private development/redevelopment and infrastructure improvement projects. This process includes Engineering or Site Plan review and approval, inspections, and enforcement actions necessary to meet standards established by CHMC.

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 prior to clearing and grading
- 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

#### *S5.C.6.(d) Notice of Intent (NOI)*

While very few projects in the city require coverage under the NPDES Construction Stormwater General Permit and the NPDES General Industrial Stormwater Permit, the local development community is made aware that the NOI forms are available on Ecology's website.

#### *S5.C.6.(e) Staff Training*

Staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up staff training, including peer-to-peer training, will be provided in 2023 as needed to address changes in standards, procedures, and techniques. Staff responsible for inspecting temporary erosion and sediment control (TESC) measures at construction sites are Certified Erosion and Sediment Control Lead (CESCL) certified. Records of training provided as well as records of staff that received training are maintained by the Public Works Director. The city will continue to document and maintain all relevant staff training records.

### **S5.C.7 OPERATIONS & MAINTENANCE**

The city has taken many steps to ensure operational and maintenance activities are done in a manner that protects and reduces potential impacts to stormwater infrastructure and creeks, streams, rivers, wetlands, and lakes.

#### *S5.C.7.(a) Maintenance Standards*

[Chapter 15.10.100](#) of Clyde Hill's municipal code requires that private stormwater facilities be maintained to the standards & requirements of "the most current version of Washington State Department of Ecology's Stormwater Management Manual for Western Washington" by "the person or persons holding title to the property." This requirement, and duty, is formalized in a county-recorded Declaration of Covenant for Maintenance and Inspection of Stormwater BMP's.

#### *S5.C.7.(b) Maintenance of Facilities Regulated by the City*

The city verifies adequate long-term operation and maintenance (O&M) of permanent stormwater facilities and BMPs for private projects by working with owners & operators of private stormwater facilities to ensure they continue functioning as designed. All stormwater infrastructure, including runoff treatment and flow control facilities, are inspected prior to final formal approval or acceptance by the City. Once this occurs on private sites, these facilities are added to the long-term private system inspection program. In 2019 the City implemented 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
- City field staff will field check facility locations and update GIS records using Asset Essentials.
- City field staff will perform inspections in accordance with CHMC 15.10.100 and CHMC 15.10.110, utilizing maintenance standards from Appendix V-A of the 2019 SWMMWW. Inspections will be documented using Asset Essentials.
- 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 four years of annual facility inspections, the City may review maintenance records and evaluate if a reduced inspection frequency is appropriate.

#### *55.C.7.(c) Maintenance of Facilities Owned & Operated by the City*

The City completes annual inspections of stormwater treatment and flow control BMPs and or facilities in accordance with adopted maintenance standards. The City will continue to implement its municipal catch basin inspection program. Catch basins, inlets, and control structures owned or operated by the City are inspected annually. Catch basins are cleaned if the inspection indicates cleaning is needed to comply with maintenance standards established in the ***Stormwater Management Manual for Western Washington***. In 2022 Public Works performed inspections of 1,061 catch basins & storm structures, with 112 identified for follow up, and subsequently cleaned by vactor truck.

Any identified maintenance actions occurred within the timeframe outlined by the NPDES Permit. Decant water shall be disposed of in accordance with Appendix 6 – Street Waste Disposal.

The City inspects known “hotspots” in the stormwater system during and immediately after any large storm events (requirement: 24-hour storm event with a 10

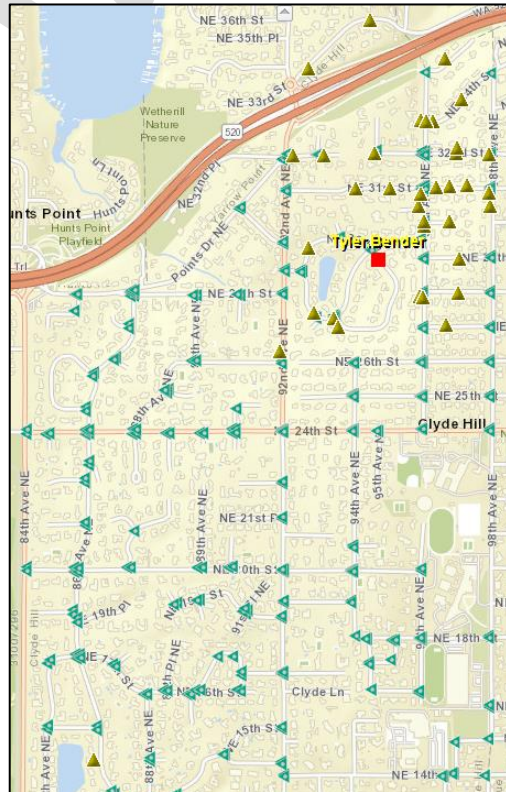


Figure 3 - Basins marked for follow up cleaning 2021

year or greater reoccurrence interval). For the purpose of hotspot checks, a large storm in Clyde Hill is considered two or more inches of rainfall in a 24-hour period, unless otherwise directed by the Public Works Director

#### *S5.C.7.(d) Practices, Policies, Procedures to Reduce Stormwater Impacts of Municipal Operations*

The City has developed and Implemented 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 functional control of the City include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road rights-of-way, maintenance yards, and stormwater treatment and flow control BMPs/facilities. Specific examples of these policies are provided below:

**City Parks:** The City of Clyde Hill operates two small parks: Clyde Hill City Park (0.8 acre), which contains two tennis courts, located at the south end of 95<sup>th</sup> 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 26<sup>th</sup> Street immediately east of 92<sup>nd</sup> 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 generally 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 2019 SWMMWW. During snow and ice events, crews apply deicer sparingly to dry surfaces in anticipation of a forthcoming event with sand or sand/salt mixes applied to areas determined to be potentially hazardous. Following an event, sand and grit is swept to reduce the amount of material ending up in catch basins.

#### *S5.C.7.(e) Employee Training*

The training program addresses the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. The City maintains records of ongoing training program for employees whose primary construction, operations, or maintenance job functions may impact stormwater quality. This practice will continue in 2023.

#### *S5.C.7.(f) Stormwater Pollution Prevention Plan for City Facilities*

A SWPPP has been prepared for the City's main maintenance/storage facility located at [2119 96<sup>th</sup> Avenue NE](#). The current SWPPP will be update as required to fully meet detailed permit requirements.



#### *S5.C.7.(g) Record Maintenance*

The City maintains records of inspection, maintenance, and repair to City-operated stormwater facilities as detailed in this section.

### **S5.C.8 SOURCE CONTROL FOR EXISTING DEVELOPMENT**

The City currently uses the existing GIS inventory and annual inspections of public and privately-owned stormwater facilities and catch basins to satisfy this requirement and prevent and reduce pollutants in runoff from areas that discharge to the MS4. The City will continue to require pollution preventing BMPs and facilities for pollution generating sources based on land use and activities.

The City held a Public Hearing on 10/18/2022 to discuss the adoption of new code related to the enforcement of source control BMPs on existing, developed sites with three sections of code updated to meet the requirements of S5.C.8.

## **S8 MONITORING AND ASSESSMENT**

The City is a member of the Stormwater Action Monitoring (SAM) consortium, which coordinates a regional monitoring program that includes (1) Status and Trends monitoring, (2) Stormwater Program Effectiveness monitoring, and (3) Source Identification and diagnostic monitoring. The City has opted to fully participate in SAM under the current permit cycle to maintain compliance. For information about SAM-sponsored monitoring projects, please visit the [SAM website](#).

### **S8.A STATUS AND TRENDS MONITORING**

The city has chosen to participate in the program described above to satisfy this requirement and notified Ecology prior to the deadline.

### **S8.B EFFECTIVENESS AND SOURCE IDENTIFICATION STUDIES**

The city has chosen to participate in the SAM effectiveness and source identification programs in order to meet this requirement.

## GLOSSARY

**Best Management Practices (BMPs):** The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Department of Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State. For example, a structural BMP is the use of catch basin cloth inserts to capture sediment from turbid water prior to the water discharging into the stormwater system.

**Clean Water Act (CWA):** 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.

**Illicit Connection:** Any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections.

**Illicit Discharge:** Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system. Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

**Low Impact Development (LID):** A stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of onsite natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic functions. It aims to capture water, slow it down, allow it to enter our soil, and clean and cool the water before it reaches our streams.

**Municipal Separate Storm Sewer System (MS4):** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

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

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

**Non-Point Source Pollution (NPS):** NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and ground waters.

**Point Source Pollution:** Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

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

**Stormwater Management Program (SWMP):** A set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 and S6 of the NPDES permit and any additional actions necessary to meet the requirements of the NPDES permit.

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

**Total Maximum Daily Load (TMDL):** A water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body (i.e. drinking water supply, contact recreation such as swimming, and aquatic life support such as fishing), and the scientific criteria to support that use. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.



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