City of Gladstone, Oregon

National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer System
Discharge Permit and
Willamette River TMDL Implementation Plan

2022 – 2023 Annual Report

Prepared for the
Oregon Department of Environmental Quality

November 13, 2023

CITY OF GLADSTONE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
MUNICIPAL STORMWATER SYSTEM ANNUAL REPORT

JULY 1, 2022 – JUNE 30, 2023

The undersigned hereby submits this National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater System Annual Report in accordance with NPDES Permit Number 101348. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Jacque M. Betz

Jacque Betz
City of Gladstone City Administrator

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1.0 INTRODUCTION

1.1 Regulatory Background

The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from the City of Gladstone through the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit No. 101348, issued to Clackamas County and its co-permittees. Clackamas County co-permittees include the City of Gladstone along with the cities of Lake Oswego, Oregon City, West Linn, Milwaukie, Wilsonville, Happy Valley, Johnson City, and Rivergrove, the Oak Lodge Sanitary District, and Clackamas County. Each co-permittee is a relatively small community, most having populations between 15,000 and 25,000 with some (Johnson City, Rivergrove) having populations significantly smaller.

The City's MS4 NPDES permit was reissued September 15, 2021, after a multi-year negotiation process with DEQ. The 2021 reissued permit maintains an effective date of October 1, 2021.

Each co-permittee is required to submit an annual report, summarizing accomplishments and implementation of their individual Stormwater Management Plans (SWMPs). In conjunction with the reissuance of the City's MS4 Permit, SWMP updates to address requirements of the reissued permit were submitted to DEQ December 1, 2022, and approved by DEQ on March 31, 2023. The new SWMP became effective once approved by DEQ. This annual report documents stormwater management activities from July 1, 2022 to June 30, 2023 in conjunction with the City's 2021 NPDES MS4 permit and 2017 and 2022 SWMPs. As the City's SWMP was approved March 31, 2023, the 2017 SWMP was effective until March 31, 2023 and the new 2022 SWMP became effective April 1, 2023, this annual report will report on both SWMPs for the timeframes they were effective as applicable. It should be noted that as the new 2022 SWMP was only implemented for three months of the reporting period, only a small portion of the BMPs were able to be implemented, therefore, only the relevant BMPS that were able to be implemented will be reported on in this annual report. For this annual report, the 2022 SWMP BMPs that were not implemented during the 2022-2023 reporting year will be noted "not applicable for the 2022-2023 reporting year" in the Appendix A Gladstone SWMP Implementation Status reporting matrix. Future annual reports will reflect the October 1, 2021 MS4 NPDES Permit and December 1, 2022 SWMP once approved.

The 2021 issued MS4 NPDES Permit includes a number of requirements due to be submitted with this 2022-2023 annual report. These documents will be included as attachments to this annual report and reported on in the Appendix A Gladstone SWMP Implementation Status reporting matrix.

In addition to the City's NPDES MS4 permit, the City implements a total maximum daily load (TMDL) Implementation Plan to address elevated temperatures in receiving waters, as well as bacteria and mercury. Appendix C would normally consist of the annual report specific for the TMDL Implementation Plan, reflecting activities from July 1, 2022 to June 30, 2023. However, as

2023 is a five-year TMDL implementation plan milestone, DEQ requires a TMDL Implementation Plan five-year survey and TMDL Implementation Plan five year-plan update to be submitted in place of the TMDL Implementation Plan annual report for the 2022-2023 reporting year. The five-year survey was completed and submitted to DEQ on October 25, 2023.The five year TMDL Implementation Plan update is included as an attachment to this annual report.

1.2 Document Organization

The following table (Table 1) outlines the organization of this annual report document, with respect to the annual reporting requirements per Schedule B(5) of the City's NPDES MS4 permit.

Table 1: Summary of the NPDES MS4 Annual Report Requirements

Annual reporting requirement	Location in document
a) Status of implementing SWMP elements, including progress in meeting measurable goals.	Appendix A
b) Status of any public education effectiveness evaluation conducted during the reporting year, and a summary of how results were used in adaptive management.	Appendix A
c) Summary of the adaptive management process implementation during the reporting year including new BMPs.	Section 2.0
d) Proposed changes to SWMP program elements to reduce TMDL pollutants to the MEP.	Section 2.0
e) A summary of total stormwater program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year.	Section 3.0
f) A summary of monitoring program results, including monitoring data that is accumulated throughout the reporting year.	Section 4.0 & Appendix B
g) Any proposed modifications to the monitoring plan necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.	Section 4.0
h) A summary describing the number and nature of enforcement actions, inspections, and public education programs.[a]	Appendix A
i) An overview, as related to MS4 discharges, describing land use changes, UGB expansions, land annexations, and new development activities. The number of new post-construction permits issued and estimate of new and replaced impervious surface must also be included.	Section 3.0
j) A summary related to MS4 discharges describing concept planning or other activities in preparation of UGB expansions or land annexations.	Section 3.0
k) Gladstone Willamette River TMDL Implementation Plan Annual Report (Not applicable for the 2022-2023 reporting year, placeholder)	Appendix C
l) Gladstone Plantings to Date Mapping	Appendix D
m) Mercury Minimization Assessment	Appendix E
n) Erosion Control Enforcement Procedures	Appendix F
o) IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan	Appendix G
p) Dry Weather Field Screening Prioritization Criteria	Appendix H
q) Dry Weather Field Screening Priority Locations	Appendix I
r) Industrial and Commercial Facilities Strategy	Appendix J
s) Hydromodification Assessment and Retrofit Strategy Update	Appendix K
t) Low Impact Development/Green Infrastructure Strategy	Appendix L

[a] Enforcement actions, inspections, and public education programs are included in the City's SWMP as BMPs, and are reported along with the status of implementing all components of the SWMP in Appendix A.

Each section of this report corresponds to the specific permit requirements in Schedule B(5). This report emphasizes efforts and activities associated with individual Best Management Practices (BMPs) from the City's 2017 SWMP, as summarized in Appendix A.

Again, activities related to the City's TMDL Implementation Plan are annually reported in Appendix C. It should be noted, that the TMDL Implementation Plan normally reported in Appendix C are not required for the 2022-2023 reporting year, as DEQ has required the TMDL 5 year survey and TMDL Implementation Plan 5 year update in it's place.

The City has completed a 2022 Mercury Minimization Assessment finding that sediment and mercury reducing BMPs are <u>fully incorporated</u> into the City's 2017 and 2022 SWMP Documents. (See Appendix E.)

2.0 ADAPTIVE MANAGEMENT PROCESS IMPLEMENTATION

2.1 Adaptive Management Program

In accordance with the issuance of the City's previous 2021 MS4 NPDES Permit in which this annual report reflects as the December 1, 2022 SWMP was approved by DEQ on March 31, 2023, the City is required to document its adaptive management approach to assess annually and modify, as necessary, existing and new SWMP components. The City submitted its updated approach to DEQ on December 1, 2022 with the updated SWMP reflecting 2021 MS4 NPDES Permit requirements.

Historically, the City has implemented adaptive management principals to annually refine implementation methods and data collection activities in conjunction with its effective SWMP and BMPs. More significant modifications to SWMP activities occur every five years, in conjunction with the Permit renewal application and updated permit requirements. The City's adaptive management approach (submitted with the 2022 updated SWMP) maintains consistency with the City's historical approach for implementing adaptive management principals.

Annually, as the City completes its NPDES MS4 annual report, the City reviews SWMP implementation through BMP-specific measureable goals and tracking measures. The City collects data and feedback from staff responsible for implementing and reporting on each BMP to gage whether implementation was deemed to be effective or whether there are suggested improvements to be made. Suggested adjustments to BMP implementation will include consideration of resource availability, budget/ funding, and overall need.

Every 5-years, during the permit renewal process and SWMP update effort, additional factors are considered as part of the City's overall adaptive management process. These factors include more detailed information related to BMP implementation, such as:

1. Whether technology or information is available that would help improve or refine BMPs,
2. How representative are the measureable goals and tracking measures to the BMP objective, and
3. Are resources available to make changes to the measureable goals and BMP objectives?

Additionally, at the end of the permit term, technical investigations and studies are required in conjunction with compliance dates outlined in the permit. Such studies include (but are not limited to) a water quality trends analysis, pollutant load reduction evaluation, hydromodification assessment, and a retrofit assessment, mercury minimization assessment, hydromodification assessment update, and retrofit assessment update. These studies were initiated during the

2014-2015 reporting year and were submitted to DEQ during the 2015-2016 reporting year. The mercury minimization assessment was submitted in 2022. The hydromodification assessment update and retrofit assessment update is submitted as an appendix K in this 2022-2023 annual report. These studies help target and identify specific issues that need to be addressed to maintain waterbody health and help formulate BMP activities (measureable goals and tracking measures) that can be used to support improvements.

The city recently used its five year adaptive management process to develop proposed changes to its SWMP which was submitted to DEQ along with its MS4 NPDES annual report December 1, 2022. DEQ approved the new 2022 SWMP March 31, 2023. The new 2022 SWMP became effective and was implemented on April 1, 2023. In addition to using the adaptive management process to update the SWMP in order to reflect new Permit requirements after new MS4 NPDES Permits are issued, the adaptive management process is also generally used at the time of permit renewal and included in the Permit renewal package

2.2 SWMP Updates for the 2021–2022 Reporting Year

The 2022-2023 reporting year is the first year in which the City's effective SWMP (dated 2022) has been implemented. The 2022 SWMP was merely implemented for the final three months of the 2022-2023 reporting year. The 2017 SWMP was implemented for the initial nine months of the 2022-2023 reporting year until being superseded by the 2022 SWMP.

For the 2022-2023 reporting year, no updates were made to the 2022 SWMP or BMP measureable goals and tracking measures beyond those submitted to DEQ in 2022. Review of BMP implementation during the preparation of this annual report did not reveal the need for adaptive management changes. However, in December 2022, as a result of the 2021 MS4 NPDES Permit, the city used its adaptive management process to develop proposed changes to its SWMP which was submitted to DEQ along with the annual report December 1, 2022. DEQ approved the 2022 SWMP March 31, 2023. The approved 2022 SWMP was implemented and became effective April 1, 2023. The City is currently operating off of the 2022 SWMP until the December 1, 2022 SWMP. The City also uses a 5 year adaptive management process where updates are made to the SWMP as part of the MS4 NPDES Permit renewal package/process as applicable.

3.0 ADDITIONAL ANNUAL REPORT REQUIREMENTS

3.1 Summary of Program Expenditures

Historically the City of Gladstone's stormwater management program has been funded by utility bills paid by sewer customers. In July 2017 the city adopted a stormwater utility fee. The City's current stormwater utility fee is $14.28 per month for single family residences. This fee will raise consistent with inflation each year. For the 2024 fiscal year, the City anticipates, and has budgeted for revenue in the amount of $985,500. 2024 fiscal year SDC revenues are projected at $5,500. The Stormwater SDC is currently $3,616 per EDU. For the 2023 fiscal year, total revenue from the stormwater fund was $997,899. No SDC revenues were received for the 2023 fiscal year. Total expenditures during the 2023 fiscal year were $743,295. This included costs for staff, administrative staff support, line and catch basin cleaning, street sweeping, leaf pickup program and consulting services.

3.2 Overview of Planning and Land Use Changes, UGB Expansions and New Development Activities

During the 2022–2023 reporting year, there were no code modifications.

A minimal amount of new development activity occurred in the City over the last reporting year. The City developed an on-call services contract with Sisul Engineering in 2012 to perform development review services (including stormwater review). Private maintenance agreements are required as part of their stormwater design review process.

During the 2021-2022 reporting year the following land use applications and stormwater projects were reviewed:

Z0321-20, 3-lot Partition, 18245 Portland Avenue

Description: The existing home will remain on a parcel along Portland Avenue and two new duplexes will

access from Glen Echo Avenue. Storm water quality and detention will be met by construction of one

storm water planter onsite and one storm water planter fronting the site. The infiltration requirement

has been waived as seasonally high ground water has been demonstrated and observed.

Initial Review: January 26, 2021

Status: Construction plans have been approved. No construction has occurred.

Z0483-21-C, Hillside Christian Fellowship Conditional Use, 6460 SE Glen Echo Avenue

Description: Conditional use to modify the interior and exterior of the existing church building to provide day care and a pre-school within the existing facility. Most alterations would occur within the existing building. Some exterior improvements will occur, but less than the 5,000 sq. ft. threshold that would trigger storm water review or improvements.

Initial Plan Review: Construction plans have not been submitted for review.

Status: The Conditional Use has expired.

Z0024-22-D, Webster Ridge Apts. Parking Area, 18181 Webster Road

Description: Development of additional parking area for an existing apartment complex. The project includes 26 exterior parking stalls and several enclosed garages. Construction plans include a proprietary water quality treatment device and an underground storm water detention chamber system. Subsurface infiltration was recommended against by the geotechnical engineer after an investigation found shallow groundwater and hard rock at relatively shallow depths.

Initial Review: August 30, 2022

Status: Construction plans have been approved for construction. No construction has occurred.

Z0028-22-D, Gladstone Library, 525 Portland Avenue

Description: Development of a new library on the site of the old City Hall and Police Station. Development will construct a new library on the site of the former City Hall. The library is approximately 7,500 sq. ft. and has an exterior courtyard of approximately 1,000 sq. ft. Water quality, infiltration, and detention requirements are met by construction of a private drywell and a stormwater planter.

Initial Review: April 20, 2023

Status: Construction plans have been approved for construction. Construction is in process and the drywell has been installed. Test results provided by the engineer of record have been submitted documenting that the infiltration rate for the drywell exceeds the design rate.

File Z0466-22-D, Genuine Motors Building Addition, 19900 McLoughlin Blvd.

Description: Construction of 92 sq. ft. of showroom and limited site work. The use of the building will change from a bank to a motor vehicle showroom with a sales office. The addition of the 92 sq. ft. improvement will be under the existing roof. Improvements are less than the 5,000 sq. ft. threshold and the project will not trigger stormwater review or improvements.

Initial Plan Review: Construction plans are not required to be reviewed by Public Works.

Status: Unknown.

File Z0489-22-M, 2-lot Partition, 18340 Cornell Place, Kevin Johnson/Maryanna Moore
Description: The project would partition a residential tax lot into two and create a new 7,200 sq. ft. building lot. No house plan was submitted. The future house & impervious area is expected to be less than the 5,000 sq. ft. threshold to trigger stormwater review or improvements.

Initial Plan Review: Construction plans have not been submitted for review.

Status: Unknown.

File DR-23-01, Gladstone Nissan, 19505 McLoughlin Blvd.

Description: The project will add a 2,200 sf, one-story addition to the existing Gladstone Nissan Dealership building. The application also includes a new enclosed 227 sf storage shed that will be attached to the existing building. New impervious improvements are less than the 5,000 sq. ft. threshold and the project will not trigger stormwater review or improvements.

Initial Plan Review: Construction plans are not required to be reviewed by Public Works.

Status: Unknown.

DR-23-02, Mazda Dealership Showroom, 19405 McLoughlin Blvd.

Description: The project will add a 746 square foot two-story addition to the exterior of the building and would include some exterior façade, parking, and landscaping renovations. Improvements are less than the 5,000 sq. ft. threshold and the project will not trigger stormwater review or improvements.

Initial Plan Review: Construction plans are not required to be reviewed by Public Works.

Status: Unknown.

File DR-23-03, Public Works Building, 18595 Portland Avenue.

Description: The project will renovate the existing Public Works Building, upgrade the foundation, adjust parking & sidewalk, and add a vestibule at the building entrance. The existing building structure and slab remain. New impervious improvements are less than the 5,000 sq. ft. threshold and the project does not trigger stormwater review or improvements.

Initial Plan Review: April 14, 2023.

Status: Construction plans have been approved for construction. Construction is in process.

File DR-23-04, Cover at Seventh Day Adventists Camp, 19800 Oatfield Rd.

Description: Design Review for Approval of a 20,000 sq. ft. unenclosed cover with attached lean-to. The cover will be installed over an existing paved area. The applicants are proposing construction of a new stormwater pond / planter to meet storm water quality, infiltration, and detention.

Initial Plan Review: A storm water report was included with the Design Review application. Public Works reviewed the report and provided comments on May 26, 2023. A formal plan review has not occurred.

Status: Construction plans have not been submitted for review.

DR23-005 Wong's Cabinets, 19640 McLoughlin Blvd.

Description: Development of a commercial building on the site of the former Pizza Hut restaurant. The new building will be approximately 6,530 square feet. Most of the site is an existing asphalt parking lot that would remain unchanged. Plans submitted for Design Review show storm water requirements being met through construction of a new stormwater planter on the front side of the building adjacent to McLoughlin Blvd.

Initial Plan Review: Construction plans have not been submitted for review.

Status: Construction plans have not been submitted for review.

4.0 ENVIRONMENTAL MONITORING

4.1 Summary of the Comprehensive Clackamas County Stormwater Monitoring Plan (CCCSMP) Development

Per 2004 MS4 NPDES permit requirements (Schedule B), the City of Gladstone, along with Clackamas County and other co-permittees, was required to develop and implement a stormwater monitoring program. Given the effort associated with implementing an effective environmental monitoring program that adequately met all permit requirements and objectives, Clackamas County (i.e., CCSD#1 and SWMACC) and six other co-permittees including the City of Gladstone agreed to consolidate efforts and prepare one comprehensive stormwater monitoring plan. This plan, called the Comprehensive Clackamas County Stormwater Monitoring Plan (CCCSMP), was prepared for submittal with the 2006 NPDES Permit Annual Compliance Reports. The plan was implemented beginning July 1, 2007 and minor editorial changes were made in 2008.

In conjunction with requirements of the 2012 reissued NPDES MS4 permit, the 2007/2008 CCCSMP was reviewed for consistency with revised monitoring objectives. Monitoring locations and frequencies were adjusted to reflect requirements of the 2012 Permit. Additional efforts related to mercury monitoring, pesticide monitoring, macro invertebrate (biologic) monitoring, and geomorphic monitoring were added to the CCCSMP. Additional information such as quality assurance procedures and rationale for use of a time-composite sampling methodology were also added in conjunction with Schedule B.2 of the 2012 Permit. The 2012 updated CCMP was submitted to DEQ in September 2012. Comments from DEQ were received in October 2012, and final revisions to the 2012 CCCSMP were submitted to DEQ June 30, 2013. As the new NPDES MS4 permit was recently issued September 15, 2021 and effective October 1, 2021, the Clackamas County Co-permittees submitted an updated CCCSMP December 1, 2022 to meet new Permit requirements. The CCCSMP was resubmitted to DEQ on May 30, 2023, following the completion and outcome of the Clackamas NPDES MS4 Permit Modification (initiated in January, 2023). The CCCSMP reflects updated pesticide monitoring frequencies and was approved by DEQ on June 7, 2023, for implementation beginning July 2023. The resubmitted 2023 CCCSMP is effective and is currently being implemented. For the 2022-2023 reporting year, the 2012 CCCSMP is the effective monitoring plan for the City of Gladstone. The 2022 CCCSMP will be the effective monitoring plan for the 2023-2024 reporting year and beyond.

As described in the CCCSMP, the MS4 NPDES stormwater monitoring program requires two components. The first component is program monitoring, which involves the tracking and assessment of programmatic activities, as described in the individual permittees SWMP, through the use of performance indicators or metrics. Results of the program monitoring are reported in Appendix A as the annual tracking measures. The second component is environmental monitoring, which includes visual monitoring and the actual collection and analysis of samples. Visual monitoring efforts include dry weather field screening as described in the City's SWMP under the following BMP: "Implement the Illicit Discharge Elimination Program." Results of the visual monitoring efforts are reported in Appendix A under the applicable BMPs. Environmental monitoring consists of in-stream and/or outfall sample collection, and the City's sampling efforts are outlined in more detail in Section 4.2 and 4.3 and in the CCCSMP. Results of the instream sample collection efforts are provided in Appendix B.

4.2 CCCSMP Updates and Modifications for the 2021–2022 Reporting Year

As mentioned in Section 4.1, new environmental monitoring requirements were incorporated into the 2012 CCCSMP. New requirements included the documentation of a rationale related to the time-composite sampling methodology, documentation of laboratory quality assurance and control procedures, and inclusion of mercury (for some jurisdictions), pesticide, and macroinvertebrate monitoring. Monitoring frequencies and parameters were also revised.

In 2016, the City of Gladstone, in collaboration with other participants in the CCCSMP participated in a series of workshops to identify updates and modifications to the CCCSMP due to completion of monitoring obligations under the 2012 Permit. Key modifications included the following:

- *Inclusion of Oak Lodge Water Services and Wilsonville instream, stormwater, and biologic monitoring activities*
- *Removal of mercury and pesticide monitoring activities, as those obligations have been met*
- *Removal of biochemical oxygen demand (BOD) and total volatile solids (for co-permittees outside of the Tualatin basin) from the analyte list, because of the limited usefulness of the collected data to date*
- *Adjustment of analytical methods and reporting limits based on consistency with Code of Federal Regulations (CFR) Title 40 and current laboratory capabilities*
- *Adjustment of monitoring locations to ensure geographic distribution of data and to continue to inform trends analyses*
- *Inclusion of routine instream sampling, in addition to targeted dry weather/wet weather instream sampling activities*
- *Removal of CCSD #1's geomorphic monitoring activities from the CCCSMP, as physical conditions are evaluated during biologic (macroinvertebrate) monitoring activities*
- *Minor editorial updates to improve clarity and consistency with current practices*

Per Schedule B.2.e of the 2012 Permit, and Section 7.2 of the CCCSMP, the City submitted a 30-day notice of the proposed 2017 CCCSMP for DEQ's review and approval on December 16, 2016. As the City did not receive a response from DEQ within 30 days, the proposed modifications were deemed approved without written approval. Implementation of the 2017 CCCSMP began July 1, 2017.

The Clackamas County Co-permittees and the City of Gladstone submitted an updated CCCSMP to DEQ December 1, 2022 to reflect the effective October 1, 2021 new Permit requirements. The plan was updated and resubmitted to DEQ on May 30, 2023, following the completion of and outcome of the Clackamas NPDES MS4 Permit Modification (initiated in January 2023). The CCCSMP reflects updated pesticide monitoring frequencies and was approved by DEQ on June 7, 2023, for implementation beginning in July 2023. For the 2022-2023 reporting year, the 2012 CCCSMP is the effective monitoring plan for the City of Gladstone. The 2022 CCCSMP will be the effective monitoring plan for the 2023-2024 reporting year and into the future.

4.3 Summary of Monitoring Data

The City of Gladstone currently has one instream monitoring location on Rinearson Creek at Risley Avenue. Time-weighted composite samples are required three times per year during rainfall events. In late 2007, the City and Clackamas County Water Environment Services (WES) signed an intergovernmental agreement (IGA) for stormwater monitoring, and WES now monitors Gladstone's location on the City's behalf. Results of the monitoring effort are summarized in Appendix B.

During the 2021-2022 reporting year, only two Gladstone samples were taken due to an oversight mistake by Clackamas County WES. Clackamas County WES took more samples than required throughout Clackamas County sites during the 2021-2022 reporting year, which Gladstone and WES believe offsets the one missing Gladstone Sample for the Clackamas County Co-permittee group as a whole. On Gladstone's behalf, WES also collected an additional Gladstone sample during the 2022-2023 reporting year (4 samples instead of the normally required 3 samples) to offset the missing Gladstone 2021-2022 reporting year sample.

Appendix A

Gladstone SWMP Implementation Status

Appendix A. Status of Implementing Components of Gladstone's MS4 NPDES Permit SWMP
2017 SWMP

Best Management Practice or Activity	Addresses Bacteria?	Addresses Mercury?	Responsible Department	Measurable Goals (2017 SWMP)	Tracking Measures (2017 SWMP)	Annual Report Information: Tracking Measure Status, Permit Year 2022-2023	BMP Estimated Cost	Additional Detail Related to Activities Conducted
Element #1 **Illicit Discharge Detection and Elimination**								
Implement the Illicit Discharges Elimination Program	√	√	Gladstone Public Works Department	• For identified illicit discharges, conduct appropriate actions to remove the discharge in conjunction with time frames outlined in the City's MS4 NPDES Permit. • Track and record all identified illicit discharges and how such discharges were removed.	(1) Track and record illicit discharges	(1) During the 2022-2023 reporting year, there was 1 illicit discharge reported. **6/28/23:** At 1:00 pm, Public Works discovered sewage in the storm system at 935 Yale Avenue. An investigation was immediately performed and the source was determined to be a cross connection at 1004 High Street from an unpermitted sewer connection. There was no recent rain or rain in the forecast and he discharge was contained within the MS4 between Yale Avenue and Harvard St. Public Works immediately notified OERS and the property owner of the illicit discharge and that the sewer lateral needed to be disconnected immediately and cleanup of the MS4 would need to follow up immediately after. The building occupants were instructed not to use the building sewer. 6/29/23: 8:00 am, Public Works met on-site with property owner and their contractor to develop a plan to remove the cross connection. Work began immediately after. The cross connection was eliminated and properly connected to the City sewer at 3:00. 3/30/23: 10:00 am. River City cleaned the affected City MS4 system.	$500	
Conduct Annual Dry Weather Field Screening	√	√	Gladstone Public Works Department	• Inspect all major outfalls and select minor outfalls annually for illicit discharges. • Follow appropriate follow-up procedures to identify the source of any illicit discharges discovered. • Notify the City Administrator of all positive identifications of illicit discharges and take appropriate actions to eliminate the discharge.	(1) Track the number and location of major and minor outfalls inspected annually. (2) Indicate all illicit discharge inspection results and specify these outfalls requiring monitoring (sampling) and/or investigation annually. (3) Describe the resolution of any investigation activities conducted annually.	(1) During August 2022, 7 outfalls were inspected. No signs of illicit discharges were present. (2) There were no signs of illicit discharges discovered during outfall inspections. (3) Not Applicable	$700	-The City updated the High Priority Field Screening List on July 21, 2023. The updated list contains 10 priority locations.

Spill Response	√	√	Gladstone Public Works Department and Clackamas Fire District #1	• Conduct spill containment and/or cleanup activities in coordination with DEQ Hazardous Materials Team, depending on the volume and hazardous rating of spill.	(1) Indicate the number of spills reported to the Public Works Department annually. (2) Indicate spill sources, causes, and types of discharges resulting from spill activities annually.	(1) 9 spills requiring response from Gladstone Public Works and CCFD1 were reported during the 2022-2023 reporting year. (2) Public Works spill response: **-7/1/22:** Received a concern from a customer on Sladen Ave that they had a seal coat placed on their driveway and it did not set up correctly. With rain looming, we guarded the nearby catch basins with oil booms and sediment controls. **-9/9/22:** 335 Patricia Dr. Responded to a call reporting a small amount of concrete slurry in the street gutter. Source was from a home project at 445 Patricia Dr. Made contact with homeowner at 445 Patricia Dr who mentioned a tool washout bin accidently spilled causing the discharge. The homeowner also mentioned they would make sure to take extra care on the remainder of the project to ensure that no more spills occur. The discharge did not make it to the City storm system. The street sweeper was called to sweep up the curb gutter where the slurry was present. **-9/15/22:** Worked with Code enforcement to respond to a customer complaint which came to code enforcement regarding a possible vehicle parked on Bellevue Ave at 205 W. Jersey Street in which may have been leaking fluids into Rinearson Creek. Upon investigation, determined vehicle was not leaking any fluids and there was no sign of pollution in Rinearson Creek. **-10/18/22:** Responded to a call from Code Enforcement stating a customer reported a motor oil spill at 205 E Berkeley Street on the Chicago Ave side of the property. Respoded to site, observed 2 small blotches of spilled motor oil. Cleaned up spill with adsorbent. Storm system was not impacted. **-1/24/23 2:00 pm:** Code Enforcement notified PW of a white powder substance spilled on the Gladstone Safeway loading dock near a catch basin. PW notified Safeway of the spill. Safeway mentioned they would clean it up immediately. 9:00 am 1/25/23, public works inspected site, noticed spill was not completely cleaned up. Notified Safeway that spill needed to be fully cleaned up ASAP. 1:00 pm 1/25/23 PW verfified spill has been fully cleaned up. **-5/4/23:** Responded to a transmission fluid spill at Cross Park. Cleaned up spill and placed oil booms around perimeter of spill to safeguard MS4. Dry weather. No contaminants reached MS4. **-6/2/23:** Responded to a hydraulic fluid spill at DMV and adjacent streets. Dry weather, no rain in forecast, no fluids reached MS4.Discovered the DMV parking lot sweeper developed a hydraulic leak while sweeping the lot overnight and placed adsorbent over the spill. Cantell Sweeping responded to sweep up the spill. Public Works responded to sweep City streets and place oil booms in adjacent storm system to protect water quality. **6/28/23:** At 1:00 pm, Public Works discovered sewage in the storm system at 935 Yale Avenue. An investigation was immediately performed and the source was determined to be a cross connection at 1004 High Street from an unpermitted sewer connection. There was no recent rain or rain in the forecast and he discharge was contained within the MS4 between Yale Avenue and Harvard St. Public Works immediately notified the property owner of the illicit discharge and that the sewer lateral needed to be disconnected immediately and cleanup of the MS4 would need to follow up immediately after. The building occupants were instructed not to use the building sewer. 6/29/23: 8:00 am, Public Works met on-site with property owner and their contractor to develop a plan to remove the cross connection. Work began immediately after. The cross connection was eliminated	$500	

Best Management Practice or Activity	Addresses Bacteria?	Addresses Mercury?	Responsible Department	Measurable Goals (2017 SWMP)	Tracking Measures (2017 SWMP)	Annual Report Information: Tracking Measure Status, Permit Year 2022-2023	BMP Estimated Cost	Additional Detail Related to Activities Conducted
						and properly connected to the City sewer at 3:00. 3/30/23: 10:00 am. River City cleaned the affected City MS4 system. Clackamas Fire District #1 Spill Response: **-8/23/22:** 82nd Dr, fuel tank leak, soaked up fuel with adsorbent pads.		

Element #2 **Industrial and Commercial Facilities**								
Screen Existing and New Industrial Facilities	✓	✓	Gladstone Public Works Department	• Notify DEQ of any existing or new industrial facilities within the City of Gladstone's jurisdiction that may potentially be subject to an industrial stormwater NPDES permit. • Maintain list of high priority facilities.	(1) Track the number of existing or new facilities subject to a stormwater industrial NPDES permit during the permit term. (2) Track changes made to list of high priority facilities.	(1) There were no new facilities subject to a stormwater industrial NPDES permit during the 2022-2023 reporting period. (2) No changes to the list of high priority facilities were required.	$300	
Conduct Inspections of High Priority Facilities	✓	✓	Gladstone Public Works Department	• Inspect five high source facilities during the permit cycle. • Report any facilities found to contribute excessive stormwater pollutant discharges to the City Administrator for follow-up.	(1) Indicate the number of high source facility inspections conducted (during the business inspection activities) during the permit cycle. (2)Report abatement measures for any facility found to be inappropriately discharging to the municipal stormwater system.	(1) In conjunction with development of the City's Industrial/ Commercial Facility Inspection Program SOP, Public Works staff is responsible for conducting windshield surveys and onsite inspections. Five windshield inspections were performed during this reporting period. (2) No abatement measures were required.	$1,000	
Element #3 **Construction Site Runoff Control**								
Require Erosion Control for New and Redevelopment	✓	✓	Gladstone Public Works Department, Gladstone Administration, and Clackamas County Service District #1	• Require erosion control measures for development disturbing areas greater than 800 ft_2. • Conduct review of erosion control plans, attend pre-construction meetings, and conduct erosion control site inspections through an IGA with CCSD#1.	(1) Report any updates or modifications to the approved erosion control standards or the Erosion Prevention and Sediment Control Planning and Design Manual (2008). (2) Report renewals of the IGA with CCSD#1 for erosion control services and document any changes made to the IGA. (3) Report updates or modifications to the Gladstone Municipal Code related to erosion and sediment control. (4) Track the number of erosion control plans reviewed for the City.	(1) There have been no updates to the 2008 "Erosion Prevention and Sediment Control Planning and Design Manual". During the 2021-2022 reporting year, the City examined the effectiveness of the current EPSC manual on meeting new requirements. The current manual was determined sufficient on meeting requirements. As the new MS4 Permit has been reissued September 15, 2021 and the updated SWMP reflecting new Permit requirements was submitted to DEQ December 1, 2022 and approved by DEQ on March 31, 2023, the City and WES will re-evaluate the current EPSC manual for effectiveness in meeting new permit requirements over the 2021-2026 Permit term per the December 1, 2022 SWMP. (2) The City is still operating under their existing IGA for erosion control services with CCSD#1 (expiration 2011). During the 2021-2022 reporting year, the City and CCSD#1 examined the current IGA and determined it is still suited to meet current requirements. As the new NPDES permit was reissued September 15, 2021, and the updated SWMP to meet new Permit requirements was submitted to DEQ December 1, 2022 and approved March 31, 2023, the City and WES will examine the existing IGA to verify it meets new permit requirements over the 2021-2026 Permit term per the December 1, 2022 SWMP. (3) No changes to the municipal code have been made during the reporting year. (4) 4 erosion control plan review was conducted during the 2022-2023 reporting year. 55 inspections and 0 enforcement actions were performed on 7 active sites.	$2,000	

Educational Training Measures for Construction Site Operators	✓	✓	Gladstone Public Works Department	• Provide a copy of the Design Manual to all contractors and inform them of City and County requirements at pre-construction planning meetings.	(1) Track number of planning conference meetings attended by City staff.	(1) Approved erosion control plans from WES are a requirement on Gladstone plan approval checklist for construction projects. Public Works directs contractors to the Clackamas County website for information and requirements on erosion and sediment control at preconstruction meetings. One preconstruction meeting was attended by City Staff. One project requiring a preconstruction meeting began in the City this reporting period.	$200	The City of Gladstone directs Construction Site Operators to the WES Erosion Control Planning and Design Manual, which is available for free download from the Water Environment Services / CCSD #1 website. Inspectors have handouts that are distributed as needed to convey proper installation and maintenance techniques. In addition, WES continues to mail out to applicants an informational flyer on the correct type of sediment fencing and how to install it. The City and WES will review the current WES EPSC manual for appropriate compliance with the 2021 MS4 Permit over the 2021-2026 Permit term per the December 1, 2022 SWMP.
Conduct Erosion Control Inspections and Enforcement	✓	✓	Clackamas County Service District #1	• Inspect all sites requiring erosion control a minimum of three times (conducted through an IGA with CCSD #1). • Impose penalties such as fines and stop work orders if corrective actions aren't taken. • Require sites to pass a final erosion control inspection prior to receiving a final engineering or building inspection (conducted through an IGA) with CCSD #1.	(1) Report the number of erosion control inspections conducted annually. (2) Report the number of erosion control violations discovered during inspections, and describe methods used to resolve the issue. (3) Report number of fines and Stop Work Orders issued.	(1) There were 8 active sites and 63 inspections conducted by CCSD#1 in Gladstone during the 2021-2022 reporting year. (2) There were 0 enforcement actions issued. (3) No stop work orders were issued.	$10,000	
Element #4 **Education and Outreach**								

Provide Public Education and Outreach Materials Regarding Stormwater Management	✓	✓	Gladstone Public Works Department and Gladstone Administration	• Utilize newsletters, brochures, bill inserts, and local newspapers to promote public awareness of stormwater quality issues and sources, including reporting of illicit discharges. • Continue as a member and participate in the Regional Coalition of Clean Rivers and Streams. • Stencil public catch basins annually, if needed.	(1) Track the number and content of informational articles published in the City newsletter annually. (2) Track membership and participation in Regional Coalition of Clean Rivers and Streams. (3) Record the percentage of public catch basins stenciled each year.	(1) Fall 2022: Leaf Map/ Pick-up program rules x 2 Clear Storm Drains to Protect Property/Water x 2 Fish on the Run x 2 Draining Your Swimming Pool Spill Prevention Winter 2022/23: Street Sweeping-3 months Leaf Pickup Storm Drain Maintenance Protect Frozen Pipes Battery Recycling Spring 2022: Water Conservation x 2 Community Litter Pickup Scoop the Poop Pesticide Pledge Summer 2021: Lawn Care Tips to Protect Water Quality Storm Drain Maintenance Pesticide Pledge (2) Continued and participated in Regional Coalition of Clean Rivers and Streams membership. (3) No catch basins were stenciled during the 2022-2023 reporting year as the stencils throughout town were determined to be in good working order.	$2,500	

Ensure Municipal Staff Training for Stormwater Pollution Prevention	✓	✓	Gladstone Administration	• Conduct regular stormwater staff meetings one to two times per year. • Continue coordination with other co-permittees regarding regional water quality efforts. • Continue participation with agencies and groups involved in water quality issues.	(1) Track the number of employees receiving training in stormwater management annually. (2) Track staff participation in professional organizations. (3) Track regular stormwater staff meetings conducted.	(1) Stormwater meetings are held regularly for the utility department at Public Works. (2) The City of Gladstone continues its partnership with the following groups and organizations: • Clackamas County NPDES Co-Permittees • Oregon Association of Clean Water Agencies • Regional Coalition of Clean Rivers and Streams • SOLV • Friends of Rinearson Creek • North Clackamas Watersheds Council -ECO • Clackamas River Basin Council • Oregon Dept. of Fish and Wildlife • Clackamas Soil & Water Conservation District • Rinearson Neighborhood Association • Audubon Society -North Clackamas Watersheds Council -Earth on the Edge -Lower Columbia Estuary Partnership (3) City Staff regularly attended Clackamas County NPDES Co-Permitee meetings.	$500	
Element #5 **Public Involvement and Participation**								
Provide for Public Participation with Submittals	✓	✓	Gladstone Administration	• Provide for public participation with the SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline. • Provide a public comment period for the updated monitoring plan and annual reports prior to submittal to DEQ.	N/A	N/A for the 2022-2023 reporting year.	$100	-The City's 2022 SWMP is posted to the City's website which can be found at: www.ci.**gladstone**.or.us -The City's December 1, 2022 SWMP draft was posted on the City website for a 30 day public comment period. www.ci.**gladstone**.or.us The DEQ approved SWMP is posted on the City Website. -The December 1, 2022 CCCSMP draft was posted to the City Website for a 30 day public comment period. www.ci.**gladstone**.or.us . The DEQ approved CCCSMP is posted on the City website. -The City's 2021-2022 NPDES annual report is posted on the City's website, which can be found at https://www.ci.gladstone.or.us/. -The City's 2023 Industrial and Commercial Facilities Inspection Strategy draft was posted on the City website for a 30 day public comment period in October/November 2023.
Element #6 **Post-Construction Site Runoff**								

Review New and Redevelopment Plans for Stormwater Components	✓	✓	Gladstone Public Works Department, Clackamas County Department of Transportation and Development (DTD), and Clackamas County Service District #1 (CCSD #1)	• Require all new and redevelopment to meet general stormwater quality provisions in the Municipal Code. • Maintain IGA with DTD and CCSD #1 or other contract mechanisms to continue to conduct planning and design review activities on behalf of the City.	(1) Record the number of development applications reviewed for compliance with the stormwater regulations annually.	(1) Following is a list of stormwater reviews conducted for this reporting period: - Z0321-20, 3-lot Partition, 18245 Portland Avenue - Z0483-21-C, Hillside Christian Fellowship Conditional Use, 6460 SE Glen Echo Avenue - Z0024-22-D, Webster Ridge Apts. Parking Area, 18181 Webster Road - Z0028-22-D, Gladstone Library, 525 Portland Avenue - File Z0466-22-D, Genuine Motors Building Addition, 19900 McLoughlin Blvd. - File Z0489-22-M, 2-lot Partition, 18340 Cornell Place, Kevin Johnson/Maryanna Moore - File DR-23-01, Gladstone Nissan, 19505 McLoughlin Blvd. - DR-23-02, Mazda Dealership Showroom, 19405 McLoughlin Blvd. - File DR-23-03, Public Works Building, 18595 Portland Avenue. - File DR-23-04, Cover at Seventh Day Adventists Camp, 19800 Oatfield Rd. - DR23-005 Wong's Cabinets, 19640 McLoughlin Blvd.	$50,000	Post-construction stormwater review activities are conducted by Public Works. The City has a contract with Sisul Engineering to assist in plan review activities.
Element #7 **Pollution Prevention for Municipal Operations**								
Street Maintenance	✓	✓	Gladstone Public Works Department	• Sweep each City street a minimum of four times per year. • Provide weekly curbside yard debris pickup and scheduled winter leaf pickup for city residents.	(1) Track the number of city-wide sweeps conducted each year. 2) Estimate the proportion of residences participating in the winter leaf collection program.	(1) Twelve city-wide street sweeps were conducted during this reporting period. (2) Approximately 85% of residences participate in the leaf collection program.	$100,000	
Minimize Impacts Associated with Landscape Management Activities	✓	✓	Gladstone Public Works Department	• Require all City employees that apply herbicides within the City to be OSHA trained and certified. If herbicides are not applied by Public Works staff, then the services will be hired out to a contractor. • Implement the City's IPM guidelines on all public parks, roadsides, and open space areas.	(1) Estimate the relative volume of herbicides applied by the City or contractor, based on purchasing records each year. 2) Track the manual removal of non-native vegetation from parks and ditch lines.	(1) Certified and trained Public Works staff applied 4 gallons of herbicide in City greenspaces, parks, facilities and ROW during this reporting period. Contractors applied 1,642 gallons of herbicides in City Greenspaces, parks, facilities and ROW during this reporting period. (2) Manual removal of vegetation was conducted by city staff and volunteers at Cross Park, Meldrum Bar Park, Rinearson Creek, and Dahl Beach during the 2022-2023 reporting year. See description under the "Additional Detail" column.	$15,000	For the 2022-2023 reporting year, City Crews, private contractors and volunteers have continued work on Dahl Beach, Cross Park, Meldrum Bar Park, Gladstone Nature Park, Rinearson Creek and various Gladstone drainage ditches invasive species removal. Ongoing progress this reporting year includes: • Public Works, volunteers and private contractors performed roughly 40 acres of invasive species removal. • Roughly 40 acres of riparian areas were maintained by Public Works, private contractors and volunteers. • City Staff spent over 239 hours removing invasive species manually.

Implement a Program to Reduce the Impact of Stormwater Runoff from Municipal Facilities	✓	✓	Gladstone Public Works Department	• Implement strategies to reduce the impact of pollutant discharges from these facilities.	(1) Track strategies used to minimize pollutant discharges at municipal facilities.	(1) Cleaned the Public Works maintenance yard wash rack catch basins 7 times and removed a total of 4 cubic yards of sediment. Public Works yard water quality manhole was cleaned 4 times and a total of 1.5 cubic yards of debris was removed. The Public Works wash rack facility was cleaned 4 times, with a total of 12 cubic yards of debris removed. The City installed and maintained oil and sediment filtration in the public works yard storm drains.	$5,000	
Control Infiltration and Cross Connections to the Stormwater Conveyance System	✓	✓	Gladstone Public Works Department and various departments of Clackamas County	• Maintain a contract with Clackamas County for I&I investigations. • Repair/resolve any cross-connections immediately once discovered, in conjunction with the timeframes documented in Schedule A.4.a.vii. • Per DEQ SSO MAO, by July 31, 2020 begin I&I data analysis, hire consultant and allocate budget for I&I study. • Per DEQ SSO MAO, by August, 31 2022 complete I&I study. • I/I Study identified cross connections scheduled to be removed in 2024.	(1) Indicate any cross-connections discovered during the plan review process or during illicit discharge investigations and describe resolution activities. (2) Track SSO I&I progress	(1) The City performed an I/I investigation on the sanitary sewer system as part of its current MAO with DEQ. The investigation was completed during the 2021-2022 reporting year. 66 possible cross connections were identified where stormwater is possibly connected to the sanitary sewer system. 31 private and 35 public. Design for repair of cross connections was completed in 2023. Construction to remove cross connections is scheduled to begin and finalize in 2024. (2) The City is currently under a MAO with DEQ regarding SSO's and is partnering with Clackamas County WES to conduct an I&I study, action plan and construction repairs. The I&I study and construction action plan have been completed. Repairs are scheduled to begin and finalize in 2024.	$100,000	
Coordinate with the Local Fire Department related to Pollutant Discharge from Fire Fighting Training Activities			Gladstone Public Works Department	• As applicable, provide educational information to the City fire department.	(1) Track communications with the fire department.	(1) Clackamas County Fire District #1 and Public Works coordinate regularly to ensure that water quality is protected during fire fighting and training activities.	$100	
Conduct Master Planning for Stormwater Quality Improvements	✓	✓	Gladstone Public Works Department	• Seek opportunities to incorporate water quality into public works projects as applicable.	(1) Track completion of any public works projects that also implemented stormwater controls in conjunction with the City's stormwater treatment and detention standards. (2) Track all public works projects that were considered for water quality enhancements, the decision made, and reasoning.	(1) No public works projects meeting these criteria were completed this past reporting year. (2) Over this past reporting year, the City's main water quality project has been the sanitary sewer system I/I project. However, the City entered in a contract with the Clackamas River Basin Council to conduct a 4-year riparian enhancement/restoration at Cross Park. No other public works projects aimed at the enhancement of water quality were considered, due to the focus of funding and resources on the sanitary sewer I/I project and Cross Park restoration projects described above.	Unknown	

Element #8 Stormwater Management Facilities Operation and Maintenance								
Stormwater Conveyance System Cleaning and Maintenance	√	√	Gladstone Public Works Department	• Inspect all public culverts, catch basins, and the public conveyance system annually. • Conduct maintenance of the storm water system based on inspections.	(1) Record the length or number of conveyance system facilities (ditches, culverts, catch-basins) maintained annually. (2) Estimate the volume of debris removed during catch basin cleaning annually. (3) Track changes to the inspection and maintenance procedures. (aka: ODOT's Road Maintenance Guide)	(1) Roughly 2,000 feet of drainage ditch maintained. -22,580 feet of storm pipe cleaned. -1,375 catch basins cleaned. (2) 58.2.5 cubic yards of debris removed from storm system. (3) No changes were made to the inspection and maintenance procedures.	$100,000	
Structural and Pollution Control Facility Cleaning and Maintenance	√	√	Gladstone Public Works Department	• Inspect the public and existing private structural storm water quality control facilities annually and maintain as necessary. • Conduct annual spot inspections of all new private structural stormwater quality control facilities. • Require signed maintenance agreements for new private structural stormwater facilities as a condition of plan approval.	(1) Record the structural control inspection and maintenance activities that occur annually. (2) Track any additional (public and private) structural control facilities installed within the City on an annual basis.	(1) Inspected 2 stormwater swales and 2 ponds this past reporting period and performed appropriate maintenance. Inspected the Public Works shop yard on 12 different occasions during the reporting period, cleaned as necessary. Public works inspected and maintained 5 CDS stormwater quality manholes. (2) No additional structural control facilities were installed	$1,500	City staff implements an inspection and maintenance procedure previously developed in 2009. The City has initiated mapping of existing public and private control facilities in conjunction with new development applications. The mapping project for private control facilities is still in progress and is expected to be completed during the 2021-2026 Permit term per the December 1, 2022 SWMP and then maintained as new development takes places. Refinement of the City's stormwater facility mapping has been conducted in conjunction with the pollutant load modeling efforts. This effort is complete and requires updates as new facilities are constructed. The City requires signed maintenance agreements for new private structural stormwater facilities as a condition of plan approval and before signing off on the completion of construction.

Appendix A. Status of Implementing Components of Gladstone's MS4 NPDES Permit
2022 SWMP

Best Management Practice or Activity	Addresses Bacteria?	Addresses 2019 Mercury TMDL	Responsible Department	Measurable Goals (2022 SWMP)	Tracking Measures (2022 SWMP)	Annual Report Information: Tracking Measure Status, Permit Year 2021-2022	BMP Estimated Cost	Additional Detail Related to Activities Conducted
Element #1 Education and Outreach								
Public Education and Outreach Strategy	√	√	Gladstone Public Works Department	1. During the MS4 Permit term, include educational goals targeting audiences and topics in the Strategy. 2. Maintain RCCRS membership. 3. Update the Public Education and Outreach Strategy once before December 1, 2022 and then as needed. 4. Each year, complete 80% of planned City newsletter outreach articles. 5. Annually review and update (if necessary) City website outreach/informational material related to stormwater and IDDE education and reporting channels. 6. Perform annual catch basin stenciling upkeep as required. 7. Maintain partnership with WES and CCC for k-12 watershed Health Education Program. 8. Maintain partnership with CRBC to provide volunteer education and stewardship opportunities.	1. Running total of target audiences included in the Public Education and Outreach Strategy. 2. Status of RCCRS membership. 3. Date(s) the plan was updated. 4. Number of planned articles each year. -Number of articles published each year. -Percentage of planned articles published each year. 5. Date(s) website material reviewed/updated. 6. Number of catch basins stenciled annually. 7. Watershed health education program partnership status. 8. Current partnership status and volunteer events conducted annually.	**1.** The target audiences included in the implemented Education and Outreach Strategy consist of; -General public of all ages and backgrounds, -Those making purchasing and management decisions about yard care, pets and auto maintenance activities, -Construction site operators, commercial and industrial business owners/operators, operators of private stormwater facilities, and -City maintenance staff. 2. The city is currently a member of the RCCRS. 3. The Public Education and Outreach Strategy was updated 10/10/2022. No further updates have been required. 4. 23 newsletter articles were planned for the 2022-2023 reporting year. -23 newsletter articles were published during the 2022-2023 reporting year. -100% of planned newsletter articles were published during the 2022-2023 reporting year. 5. The City website was reviewed in May 2023. No updates were required. 6. No stencils required upkeep during the 2022-2023 reporting year. 7. The City is currently a member of the Watershed Health Education Program. 8. The City currently maintains a partnership with the CRBC to provide volunteer education and stewardship opportunities.	$1,500	
Outreach and Priority Audiences	√	√	Gladstone Public Works Department	1. Reference the WES ESPC Manual at 80% of pre-construction meetings to construction site operators each year. 2. Over the permit term, update the City website to offer information about 1200-C and 1200-CN permits. 3. Over the permit term, update the City website to maintain a list of local and regional training opportunities for EPSC. 4. During the permit term, update City website to offer private stormwater facility maintenance guidance. 5. During the Permit term, upgrade City website to promote CWS online Private Water Quality Maintenance Program and explore partnership opportunities to offer additional education opportunities. 6. During the Permit term, develop program to identify and reach out to businesses, City staff and property owners that have high potential to spill oil and hazardous substances into the MS4.	1. Number of pre-construction meetings held annually. -Number of references to WES EPSC Manual at pre-construction meetings. -Percentage of pre-construction meetings in which WES EPSC Manual was referenced. 2. Status of 1200-C and 1200-CN permit information available on City website. -Date(s) website updated. 3. Status of EPSC training opportunities available on City website. -Date(s) website upgraded. 4. Status of private maintenance guidance on City website. -Date(s) website updated. 5. Status of CWS online Water Quality Maintenance Program promotion and consideration of additional education opportunities. Date(s) website upgraded. 6. Status of program. 7. Status of program. 8. Date of check in meeting.	1. 2 pre-construction meetings were held during the 2022-2023 reporting year. -The WES EPSC Manual was referenced at 2 pre-construction meetings during the 2022-2023 reporting year. -The WES EPSC Manual was referenced at 100% of pre-construction meetings during the 2022-2023 reporting year. 2. No updates to the City website to offer information about 1200-C and 1200 CN permits were made during the 2022-2023 reporting year. 3. No updates to the City Website to include EPSC training opportunities were made during the 2022-2023 reporting year. 4. No upgrades were made to the City website to offer private stormwater facility maintenance guidance during the 2022-2023 reporting year. 5. No upgrades to the City website were made to promote the CWS online Private Water Quality Maintenance Program during the 2022-2023 reporting year. However, The City and CWS did agree to partner in order to offer additional education opportunities in the future during the 2022-2023 reporting year. 6. No spill outreach program has been developed during the 2022-2023 reporting year.	$700	The City of Gladstone directs Construction Site Operators to the Erosion Control Planning and Design Manual, which is available for free download from the Water Environment Services / CCSD #1 website. Inspectors have handouts that are distributed as needed to convey proper installation and maintenance techniques. In addition, WES continues to mail out to applicants an informational flyer on the correct type of sediment fencing and how to install it.

				7. During the permit term, create program to distribute spill prevention messages to businesses. 8. Once during the permit term, conduct one check in meeting for City staff, volunteers and City contractors performing landscaping and building in the City.		7. No program to distribute spill prevention messages to businesses was developed during the 2022-2023 reporting year. 8. No check in meetings were conducted during the 2022-2023 reporting year.		
Evaluation of Education and Outreach Activities	√	√	Gladstone Public Works Department	1. Evaluate the Education and Outreach activities by April 3, 2026.	1. Date of evaluation and results included in permit renewal package.	1. The City did not perform the evaluation of the education and outreach activities during the 2022-2023 reporting year.	$500	
Element #2 **Public Participation**								
Publically Accessible Website	√	√	Gladstone Public Works Department	1. Post MS4 Permit renewal documents to City website by April 3, 2026. 2. Post MS4 Annual Report to City website by Dec. 5 each year. 3. Post draft documents for public comment on City website for at least 30 days 4. Consideration of comments received during public comments periods. 5. Post reports, plans, and other documents to the City website. 6. Annual review of website for current information and accuracy. 7. Conduct at least one IDDE reporting publicity campaign during the MS4 Permit term.	1. Date documents posted to City website. 2. Date(s) MS4 Annual Report posted to City website each year. 3. Title of each document and starting and ending date of document postings on City website. 4. Summary of comments received and how they were addressed prior to final issuance for each document that was available for public comment. 5. Title of each document and date of posting. 6. Date of completed review. 7. Running total of IDDE reporting publicity campaigns to date.	1. NA 2. The 2021-2022 MS4 Annual Report was posted to the City website on December 5, 2022. 3. –The 2022 CCCSMP was posted to the City website for the 30 day public comment period from 10/25/22 through 11/28/23. -The 2022 SWMP was posted to the City website for the 30 public comment period from 10/25/22 through 11/28/22. 4. -No public comments were received for the 2022 CCCSMP. -No public Comments were received for the 2022 SWMP. 5. -The 2021-2022 MS4 Annual Report was posted to the City website on December 5, 2022. 6. –The 2022 CCCSMP was posted to the City website on December 5, 2022. 7. –The 2022 SWMP was posted to the City website on December 5, 2022.	$600	
Public Stewardship	√	√	Gladstone Public Works Department	1. Continue to offer stormwater utility bill credits for private businesses and property owners that construct stormwater quality BMPs above and beyond minimum criteria. 2. Evaluate the feasibility of co-sponsoring at least one volunteer activity with an education component.	1. Annual number of billing credits granted. 2. Report evaluation results.	1. No billing credits were granted during the 2022-2023 reporting year. 2. -During the 2022-2023 reporting year, the City collaborated with the Lower Columbia Estuary Partnership to conduct K-12 field trips to Meldrum Bar Park where students removed invasive species and learned about stormwater quality and management. 11 total classes attended the field trips. -The City partnered with the Clackamas River Basin Council to hold a volunteer invasive species removal/cleanup event at Cross Park on November 12, 2022. -The City partnered with the Clackamas River Basin Council to conduct a volunteer native tree planting event at Cross Park on March 18, 2023 where volunteers learned about riparian area enhancement.	$500	
Evaluation of Public Participation Activities	√	√	Gladstone Public Works Department	1. Evaluate the public participation activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	2. NA for the 2022-2023 reporting year.	$500	
Element #3 **Illicit Discharge Detection and Elimination**								

Illicit Discharge Legal Authority	√	√	Gladstone Public Works Department, Gladstone Administration, Gladstone Code Enforcement	1. Review and update legal authority as necessary to prohibit illicit discharges by Dec. 1, 2024.	1. –Date legal authority reviewed. -Date legal authority updated, if necessary.	1. The legal authority to prohibit illicit discharges was not reviewed/updated during the 2022-2023 reporting year.	$700	
Illicit Discharge Response	√	√	Gladstone Public Works Department, Gladstone Fire Department, Gladstone Code Enforcement	1. Each year investigate and confirm 100% of reports of suspected illicit discharges within 24 hours. 2. Each year evaluate removal of 100% confirmed illicit discharges within five working days of determining the source of the discharge. 3. Each year halt 100% of illicit discharges within 15 working days after the source has been confirmed. 4. Each year report 100% of reportable spills on public roadways or in the MS4 to state and federal authorities within required reporting timelines.	1. Annual number of illicit discharges investigated within 24 hours. -Annual number of reported suspected illicit discharges. -Annual percentage of illicit discharges investigated within 24 hours. 2. Annual number of illicit discharges evaluated for removal within five working days. -Annual number of confirmed illicit discharges (not including spills cleaned up within 24 hours). -Annual percentage of illicit discharges evaluated for removal within five working days. 3. Annual number of illicit discharges removed within 15 working days. -Annual number of confirmed illicit discharges (not including spills cleaned up within 24 hours). -Annual percentage of illicit discharges removed within 15 working days. 4. Annual number of reportable spills on public roadways or in the MS4 reported within required timelines. -Annual number of reportable spills on public roadways or in the MS4. -Annual percentage of reportable spills on public roadways or in the MS4 reported within required timelines.	1. During the 2022-2023, 9 possible illicit discharges were reported to Public Works. All of the 9 possible illicit discharge reports were investigated within 24 hours. -9 suspected illicit discharges were reported during the 2022-2023 reporting year. -100% of reported suspected illicit discharges were investigated within 24 hours during the 2022-2023 reporting year. 2. During the 2022-2023 reporting year, 1 illicit discharge was evaluated for removal within five working days. -During the 2022-2023 reporting year, 1 illicit discharge was confirmed. -During the 2022-2023 reporting year, 100% of illicit discharges were evaluated for removal within five working days. 3. During the 2022-2023 reporting year, 1 illicit discharge was removed within 15 working days. -During the 2022-2023 reporting year, 1 illicit discharge was confirmed. -During the 2022-2023 reporting year, 100% of confirmed illicit discharges were removed within 15 working days. 4. During the 2022-2023 reporting year, 1 reportable spill occuring on public roadways or in the MS4 was reported during the required timelines. -During the 2022-2023 reporting year, 1 reportable spill occurred on public roadways or in the MS4. -During the 2022-2023 reporting year, 100% of reportable spills on public roadways or in the MS4 were reported during the required timelines.	$2,000	
Illicit Discharge Enforcement Procedures	√	√	Gladstone Public Works Department, Gladstone Code Enforcement	1. Track 100% of enforcement actions initiated in that MS4 Permit year and their resolution. 2. Review and revise “Illicit Discharge Detection & Elimination Program Enforcement Response Plan” by December 1, 2023.	1. Annual number of enforcement actions initiated in that MS4 Permit year that were resolved by the discharger. -Annual number of enforcement actions initiated in that MS4 Permit year that were abated by the City. -Annual number of enforcement actions initiated in that MS4 Permit year that paid a civil penalty. -Annual number of enforcement actions. 2. Date the SOP was reviewed. -Date the SOP was revised, if necessary.	1. During the 2022-2023 reporting year, 1 enforcement action was initiated that was resolved by the discharger. -During the 2022-2023 reporting year, no enforcement actions required abatement by the City. -During the 2022-2023 reporting year, no enforcement actions required a civil penalty to be paid. 2. The City’s Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan was reviewed and revised on April 4, 2023. See Appendix G of this 2022-2023 annual report.	$2,000	

Dry Weather Inspections	√	√	Gladstone Public Works Department	1. Review and update of prioritization criteria for dry weather screening Priority Locations by December 1, 2023. 2. Each year inspect 100% of priority locations as identified in the most recent list. 3. Each year, conduct investigations on 100% of confirmed (and unconfirmed) illicit discharges discovered through dry-weather inspection within one working day.	1. Date prioritization criteria submitted with Annual Report. -Date MS4 Map updated with new locations. 2. Annual number of priority locations inspected. -Number of priority locations in most recent list. -Annual percentage of priority locations inspected. 3. Annual number of confirmed and unconfirmed illicit discharges investigated within one working day. -Annual number of confirmed and unconfirmed illicit discharges discovered through dry-weather inspection. -Annual percentage of confirmed and unconfirmed illicit discharges investigated within one working day.	1. The City's IDDE Prioritization Criteria for Dry Weather Screening Locations is submitted in the 2022-2023 MS4 annual report as Appendix H of this 2022-2023 annual report. -The City's GIS MS4 map was updated in August 2023. 2. For the 2022-2023 reporting year, Public Works inspected 7 priority locations. -For the 2022-2023 reporting year, at the time of the August 2022 dry weather screening inspections, there were 7 priority locations included on the applicable list at the time. -For the 2022-2023 reporting year, 100% of the priority locations were inspected. 3. For the 2022-2023 reporting year, Public Works did not investigate any confirmed and unconfirmed illicit discharges within one working day, as no possible illicit discharges were discovered through dry-weather inspections. -For the 2022-2023 reporting year, there were no confirmed or unconfirmed illicit discharges discovered through dry-weather inspection. -NA for the 2022-2023 reporting year, as no possible illicit discharges were discovered.	$500	-In relation to number 2 to the left of this column, the City updated the High Priority Field Screening List on July 21, 2023. The updated list contains 10 priority locations.
IDDE Staff Training	√	√	Gladstone Public Works Department	1. Evaluate and document staff training and education needs one time during the MS4 Permit term. 2. Provide training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and education and type received.	1. For the 2022-2023 reporting year, no staff training and education needs were evaluated. 2. For the 2022-2023 reporting year, no training was provided as the staff training and education strategy has not been published. However, the public works utility department conducts stormwater staff meetings regularly.	$500	
Evaluation of IDDE Activities	√	√	Gladstone Public Works Department	1. Evaluate IDDE activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	1. NA for the 2022-2023 reporting year.	$500	
Develop Mapping Strategy	√	√	Gladstone Public Works Department	1. Complete mapping strategy by December 1, 2022.	1. Date Mapping Strategy completed.	1. The mapping strategy was completed 10/12/2022.	$500	

Inventory and Map MS4 Infrastructure	√	√	Gladstone Public Works Department	1. MS4 Map and Digital Inventory submitted to DEQ by December 1, 2022. 2. 70% of existing public stormwater conveyances and stormwater facilities mapped by December 1, 2022. 3. 100% of existing public stormwater conveyances and stormwater facilities mapped by December 1, 2025 4. 20% of existing private stormwater facilities mapped by December 1, 2022. 5. 100% of existing private stormwater facilities mapped by December 1, 2025. 6. 100% of new public stormwater conveyances and public and private stormwater facilities are mapped within 3 months of public acceptance and private final construction approval (see POST-4). 7. 100% of IDDE Priority Locations mapped by December 1, 2023.	1. Date MS4 Map and Digital Inventory submitted. 2. Number of in-service public stormwater assets mapped by December 1, 2022. - Number of in-service public stormwater assets. - Percentage of in-service public stormwater assets mapped by December 1, 2022. 3. Number of in-service public stormwater assets mapped by December 1, 2025. -Number of in-service public stormwater assets. -Percentage of in-service public stormwater assets mapped by December 1, 2025. 4. Number of existing private stormwater facilities mapped by December 1, 2022. -Number of existing private stormwater facilities. -Percentage of existing private stormwater facilities mapped by December 1, 2022. 5. Number of existing private stormwater facilities mapped by December 1, 2025. -Number of existing private stormwater facilities. -Percentage of existing private stormwater facilities mapped by December 1, 2025. 6. Number of new public stormwater conveyances and stormwater facilities mapped within three months of acceptance. -Number of new public stormwater conveyances accepted. -Percentage of new public stormwater conveyances mapped within three months of acceptance. -Number of new private stormwater facilities mapped within three months of final construction approvals. -Number of new private stormwater facilities with final construction approval. -Percentage of new private stormwater facilities mapped within three months of final construction approval. 7. Number of Priority Locations mapped by December 1, 2023. -Number of Priority Locations. -Percentage of Priority Locations mapped by December 1, 2023.	1. The MS4 Map and Digital Inventory was submitted to DEQ on December 1, 2022. 2. 3,338 in-service public stormwater assets were mapped in the City's GIS mapping system by December 1, 2022. -To the City's knowledge, 3,338 in-service public stormwater assets currently exist. -To the City's knowledge, 100% of in-service public stormwater assets were mapped on the City's GIS mapping system by December 1, 2022. 3. NA for the 2022-2023 reporting year. 4. 166 in-service private stormwater facilities were mapped in the City's GIS mapping system by December 1, 2022. -To the City's knowledge, 166 in-service private stormwater facilities currently exist. -To the City's knowledge, 100% of private stormwater facilities were mapped in the City's GIS mapping system by December 1, 2022. 5. NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. 6. NA for the 2022-2023 reporting year, as this BMP was merely implemented in the final quarter of the reporting year once the 2022 SWMP was approved by DEQ. There was not sufficient allotted to fully implement this BMP for the 2022-2023 reporting year. 7. 10 priority locations were mapped on the City's GIS mapping system by December 1, 2023. -The City's current updated priority location list consists of 10 priority locations. -100% of priority locations were mapped in the City's GIS mapping system by December 1, 2023.	$3,000	
Track and Map Locations of Concern	√	√	Public Works Department	1. MS4 Map and Digital Inventory submitted to DEQ by December 1, 2022.	1. Date MS4 Map and Digital Inventory submitted.	1. The MS4 Map and Digital Inventory was submitted to DEQ on December 1, 2022.	$100	

MS4 Mapping Evaluation	√	√	Public Works Department	1. Evaluate the MS4 mapping activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	1. NA for the 2022-2023 reporting year.	$500	
Element #4 **Construction Site Runoff Control (EPSC)**								
Construction Site Runoff Legal Authority	√	√	Gladstone Public Works Department and Gladstone Code Enforcement	1. Review, and update, if necessary, Public Works boilerplate contract terms to ensure contract language adequately requires EPSC plans by Dec. 1, 2024. 2. Review, and update, if necessary, Gladstone City code to ensure alignment with the MS4 Permit Schedule A.4.c by Dec. 1, 2024. 3. Review, and update, if necessary, in coordination with Clackamas County, *WES Rules and Regulations* to ensure alignment with MS4 Permit Schedule A.4.c by Dec. 1, 2024. 4. Review, and update, if necessary, in coordination with Clackamas County, Clackamas County Code and Building and Development Ordinance to ensure alignment with MS4 Permit Schedule A.4.c by Dec. 1, 2024. 5. Review, and update, if necessary, in Coordination with Clackamas County WES, Clackamas County Erosion Prevention Planning and Design Manual once during the MS4 Permit Term.	1. Date legal authority reviewed. -Date legal authority updated, if necessary. 2. Date legal authority reviewed. -Date legal authority updated, if necessary. 3. Date legal authority reviewed. -Date legal authority updated, if necessary. 4. Date legal authority reviewed. Date legal authority updated, if necessary. 5. Date manual reviewed. -Date manual updated, if necessary.	1. For the 2022-2023 reporting year, legal authority was not reviewed. -For the 2022-2023 reporting year, legal authority was not updated. 2. For the 2022-2023 reporting year, legal authority was not reviewed. -For the 2022-2023 reporting year, legal authority was not updated. 3. For the 2022-2023 reporting year, legal authority was not reviewed. -For the 2022-2023 reporting year, legal authority was not updated. 4. For the 2022-2023 reporting year, legal authority was not reviewed. -For the 2022-2023 reporting year, legal authority was not reviewed. -For the 2022-2023 reporting year, legal authority was not updated. 5. For the 2022-2023 reporting year, the EPSC manual was not reviewed. -For the 2022-2023 reporting year, the EPSC manual was not updated.	$1,500	
EPSC Plan Review	√	√	Gladstone Public Works and Clackamas County WES	1. Public Works to internally review the EPSC plan of 100% of City CIPs going to construction in the Permitted Area each year. 2. Per IGA between Clackamas County and Gladstone, Clackamas County WES is to review EPSC plans for 100% of land use and building permit applications meeting threshold for erosion prevention and sedimentation control in the City each year. 3. Per IGA, Clackamas County WES to Attend 80% of pre-construction meetings for development projects meeting threshold for erosion prevention and sediment control in the City.	1. Annual number of City CIP EPSC plans reviewed by Public Works. -Annual number of City CIP Projects that began construction. -Annual percentage of EPSC reviews conducted. 2. Annual number of EPSC reviews. -Annual number of new land use and building permit applications meeting threshold for EPSC in the City. -Annual percentage of EPSC reviews conducted. 3. Annual number of pre-construction meetings attended by WES. -Annual number of pre-construction meetings for projects needing EPSC. -Annual percentage of pre-construction meetings attended by WES.	1. NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No City CIP project EPSC plans were reviewed by Public Works between April 1, 2023 and the end of the 2022-2023 reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No City CIP projects began construction between April 1, 2023 and the end of the 2022-2023 reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No City CIP projects began construction between April 1, 2023 and the end of the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No EPSC reviews for applicable land use or building permit applications were conducted between April 1, 2023 and the end of the 2022-2023 reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No new land use or building permit application permits meeting the threshold for EPSC permitting were submitted between April 1,	$1,000	-All City CIP projects require EPSC permits from Clackamas County WES. Clackamas County WES also reviews EPSC plans prior to issuance of EPSC permits for City CIP projects. -Public Works and Clackamas County WES have historically performed EPSC reviews and attended pre-construction meetings for applicable projects requiring EPSC permitting in the City. While the appropriate EPSC plan reviews and pre-construction meeting attendance was performed throughout the entire 2022-2023 reporting year, tracking measures required to fully support the requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.

						2023 and the end of the 2022-2023 reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, no applicable EPSC reviews were conducted between April 1, 2023 and the end of the 2022-2023 reporting year. 3. NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No pre-construction meetings for development projects meeting the threshold for EPSC in the City were attended by WES between April 1, 2023 and the end of the reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No pre-construction meetings for projects needing EPSC were held between April 1, 2023 and the end of the 2022-2023 reporting year. - NA for the 2022-2023 reporting year as the 2022 SWMP was approved by DEQ March 31, 2023. The City began implementing this BMP under the approved 2022 SWMP April 1, 2023. No pre-construction meetings for projects needing EPSC were held between April 1, 2023 and the end of the 2022-2023 reporting year.		
Inspection and Enforcement	√	√	Gladstone Public Works and Clackamas County WES	1. Conduct at least three EPSC inspections over the life of the project at 100% of City CIP construction sites within the Permitted Area that require EPSC review. 2. Each year conduct the initial EPSC inspection prior to construction 100% of City CIP projects. 3. Inspect 90% of EPSC permitted sites at least three times over the life of the project. 4. Inspect 100% of EPSC permitted sites at least twice over the life of the project. 5. For building permit, new construction and redevelopment projects, each year WES to conduct the initial EPSC site inspection prior to construction at 100% of EPSC permitted sites within the City limits on behalf of the City. 6. On behalf of the City, WES to inspect 90% of EPSC permitted sites within the City limits at least three times over the life of the project. 7. On behalf of the City, WES to inspect 100% of EPSC permitted sites within the City limits at least twice over the life of the project. 8. Adopt construction site enforcement procedures by December 1, 2023.	1. Annual number of City CIP projects in the Permitted Area that completed construction and that Public Works inspected for EPSC at least three times over the life of the project. -Annual number of City CIP projects in the Permitted Area that met the threshold for EPSC review and that completed construction. -Annual percentage of City CIP projects that Public Works inspected for EPSC at least three times. -Number of EPSC complaints received per project. 2. -Annual number of EPSC permitted sites that received an initial EPSC inspection prior to construction. -Annual number of EPSC permitted sites that began construction. -Annual percentage of EPSC permitted sites that received an initial EPSC inspection prior to construction. -Number of EPSC complaints received per permitted site. 3. Annual number of EPSC permitted sites that completed construction and received at least three EPSC inspections over the life of the project. -Annual number of EPSC permitted sites that completed construction. -Annual percentage of EPSC permitted sites that received at least three EPSC inspections. 4. Annual number of EPSC permitted sites that received at least two EPSC inspections over the life of the project. -Annual number of EPSC permitted sites that completed construction. -Annual percentage of EPSC permitted sites that received at least two EPSC inspections. -Number of EPSC complaints received per	1. NA for the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year. 3. NA for the 2022-2023 reporting year. 4. NA for the 2022-2023 reporting year. 5. NA for the 2022-2023 reporting year. 6. NA for the 2022-2023 reporting year. 7. NA for the 2022-2023 reporting year. 8. Public Works updated and adopted updated construction site enforcement procedures on November 20, 2023. See Appendix F of this 2022-2023 annual report for the document.	$10,000	-EPSC services relating to items 1-7 of this BMP have historically been completed by the City and Clackamas County WES, and have been completed throughout the entire 2022-2023 reporting year. However, tracking measures required to fully support the specific requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.

					project. 5. Annual number of EPSC permitted sites that received an initial EPSC inspection by WES prior to construction. -Annual number of EPSC permitted sites that began construction. -Annual percentage of EPSC permitted sites that received an initial EPSC inspection by WES prior to construction. -Number of EPSC complaints received per permitted site. 6. Annual number of EPSC permitted sites that received at least three EPSC inspections by WES over the life of the project. -Annual number of EPSC permitted sites that completed construction within the City limits. -Annual percentage of EPSC permitted sites within the City limits that received at least three EPSC inspections by WES. -Number of EPSC complaints received per project. 7. Annual number of EPSC permitted sites that received at least two EPSC inspections by WES over the life of the project. -Annual number of EPSC permitted sites that completed construction in the City. -Annual percentage of EPSC permitted sites in the City that received at least two EPSC inspections by WES. -Number of EPSC complaints received per permitted site. 8. Date construction site enforcement procedures adopted for each jurisdiction.			
Construction Site Runoff Staff Training	√	√	Gladstone Public Works Department	1. Evaluate and document staff training needs one time during the MS4 Permit term. 2. Conduct or procure training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and type of training received.	1. For the 2022-2023 reporting year, staff training needs were not evaluated. 2. For the 2022-2023 reporting year, no staff trainings were conducted.	$600	
Evaluation of Construction Site Runoff Control Activities	√	√	Gladstone Public Works Department	1. Evaluate construction site runoff control activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	1. NA for the 2022-2023 reporting year.	$500	
Element #5 **Post-Construction Site Runoff (POST)**								
Post-Construction Legal Authority	√	√	Gladstone Public Works and Gladstone Code Enforcement	1. Review, and update, if necessary, Gladstone Municipal code to ensure alignment with the MS4 Permit Schedule A.3.e by December 1, 2024. 2. Review, and update, if necessary, *Gladstone Public Works Design Standards* to ensure alignment with MS4 Permit Schedule A.3.e by December 1, 2024.	1. Date legal authority reviewed. -Date legal authority updated, if necessary. 2. Date legal authority reviewed. -Date legal authority updated, if necessary.	1. For the 2022-2023 reporting year, legal authority was not reviewed. 2. For the 2022-2023 reporting year, legal authority was not reviewed.	$1,000	
Post Construction Stormwater Standards	√	√	Gladstone Public Works	1. By Dec. 1, 2023, review and update or develop and begin a LID/GI strategy. 2. Update the *Public Works Stormwater Standards* by Dec. 1, 2024.	1. Date LID/GI strategy update or adoption and adopted, if necessary. 2. Date stormwater design standards updated.	1. Public Works updated and adopted the updated LID/GI strategy on June 14, 2023. The LID/GI strategy is included in Appendix L of this 2022-2023 annual report. 2. For the 2022-2023 reporting year, no updates were made to the design standards.	$1,000	

Stormwater Management Plan (SWMP) Review	✓	✓	Gladstone Public Works	1. Review 100% of City CIP SWM Plans that meet the minimum impervious surface threshold each year. 2. Review 100% of SFR SWM Plans received prior to signing off on building permit each year. 3. Public works/engineering services to attend 100% of pre-application meetings for land use applications. 4. Public works/engineering services to review and approve 100% of non-SFR SWM Plans for projects that meet the minimum impervious threshold each year.	1. Annual number of City CIP SWM Plans reviewed and approved. -Annual number of City CIPs that meet the minimum impervious surface threshold approved for construction. -Annual percentage of City CIP SWM Plans reviewed and approved where the project met the minimum impervious surface threshold. 2. Annual number of SFR SWM Plans reviewed by engineering services/public works prior to signing off on building permit. -Annual number of SFR building permit applications referred to Clackamas County DTD. -Annual percentage of SFR SWM Plans reviewed by engineering services/public works prior to signing off on building permit. 3. Annual number of pre-application meetings attended by public works/engineering services. -Annual number of pre-application meetings held for applicants (Clackamas County DTD). -Annual percentage of pre-application meetings attended by public works/engineering services. 4. Annual number of non-SFR SWM Plans approved by engineering services/public works. -Annual number of non-SFR stormwater management plans submitted to engineering services/public works that meet the minimum impervious area threshold. -Annual percentage of non-SFR SWM Plans approved by engineering services/public works.	1. For the 2022-2023 reporting year, no City CIP SWM Plans were reviewed and approved, as no City CIP projects meeting the minimum impervious surface threshold were conducted. -For the 2022-2023 reporting year, No City CIPs were approved that met the minimum impervious surface threshold. -For the 2022-2023 reporting year, no percentage of City CIP SWM plans meeting the minimum impervious surface threshold were reviewed and approved as no applicable projects were conducted. 2. NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. 3. During the 2022-2023 reporting year, Public works/engineering services attended 6 pre-application meetings. -During the 2022-2023 reporting year, 6 pre-application meetings were held for the City. -During the 2022-2023 reporting year, public works/engineering services attended 100% of pre-application meetings for the City. 4. NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year.	$5,000	SWM Plans relating to items 1 and 2 of this BMP have historically been completed by Public Works/engineering services and have been completed throughout the entire 2022-2023 reporting year. However, tracking measures required to fully support the specific requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.
Post-Construction Verification and Acceptance	✓	✓	Gladstone Public Works, Clackamas County DTD, and Clackamas County WES	1. Perform final SWM construction site inspection on 100% of residential development sites each year. 2. Perform final SWM construction site inspection on 100% of subdivision and partition sites each year. 3. Perform final SWM construction site inspection on 100% of commercial development sites each year. 4. Inspect 100% of stormwater facilities for new City CIPs.	1. Annual number of final SWM construction site inspections performed on residential development sites. -Annual number of residential development sites that complete construction. -Annual percentage of final SWM construction site inspections performed residential development sites. 2. Annual number of final SWM construction site inspections performed on subdivision and partition development sites. -Annual number of subdivision and partition development sites that complete construction. -Annual percentage of final SWM construction site inspections performed on subdivision and partition development sites. 3. Annual number of final SWM construction site inspections performed on commercial development sites. -Annual number of commercial development sites that complete construction. -Annual percentage of final SWM construction site inspections performed on commercial development sites. 4. Annual number of stormwater facility inspections of new City CIPs. -Annual number of City CIPs completing construction.	1. NA for the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year. 3. During the 2022-2023 reporting year, no final SWM construction site inspections were performed on commercial development sites as no projects fitting the applicable criteria were completed. -During the 2022-2023 reporting year, no commercial development sites completed construction. -NA for 2022-2023 4. During the 2022-2023 reporting year, no City CIPs requiring stormwater facilities were completed. -During the 2022-2023 reporting year, 2 City CIPs completed construction. These CIPs did not require stormwater facilities. -NA for the 2022-2023 reporting year.	$1,500	- Final SWM construction site inspections for residential development relating to items 1 and 2 of this BMP have historically been completed by Clackamas County and have been completed throughout the entire 2022-2023 reporting year. However, tracking measures required to fully support the specific requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.

					-Annual percentage of stormwater facility inspections of new City CIPs.			
Post-Construction Site Runoff Staff Training	√	√	Gladstone Public Works Department	1. Evaluate and document staff training needs one time during the MS4 Permit term. 2. Conduct or procure training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and type of training received.	1. During the 2022-2023 reporting year, staff training needs were not evaluated. 2. NA for the 2022-2023 reporting year.	$500	
Evaluation of Post-Construction Site Runoff Activities	√	√	Gladstone Public Works Department	1. Evaluate the City's post-construction site runoff activities by April 3, 2026.	1. Date evaluation results included in Permit renewal package.	1. NA for the 2022-2023 reporting year.	$500	
Element #6 **Pollution Prevention for Municipal Operations (PREV)**								
Road Operations and Maintenance	√	√	Gladstone Public Works Department	1. Sweep all public streets within the City a minimum of four times per year. 2. Remove 90% of solid waste dumps in the City ROW within six weeks of notification or discovery. 3. Review and update pollution prevention procedures related to road maintenance during the MS4 permit term.	1. Total number of City-wide sweeps each year. 2. Annual number of solid waste dumps removed within six weeks. -Annual number of solid waste dumps discovered or notified about. -Annual percentage of solid waste dumps removed within six weeks. 3. Summary of review of pollution prevention procedures. -Summary of updates to pollution prevention procedures, if any.	1. For the 2022-2023 reporting year, 12 City-wide sweeps were completed. 2. For the 2022-2023 reporting year, 3 solid waste dumps were removed within six weeks. -For the 2022-2023 reporting year, 3 solid waste dumps were discovered or reported. -During the 2022-2023 reporting year, 100% of solid waste dumps were removed within six weeks. 3. For the 2022-2023 reporting year, no review of the pollution prevention procedures occurred. -During the 2022-2023 reporting year, no updates to the pollution prevention procedures occurred.	$35,000	
Winter Operations and Maintenance	√	√	Gladstone Public Works Department	1. Maintain winter materials stockpile. 2. Implement winter operations and maintenance activities if snow and/or ice events occur.	1. List of types of materials stored and/or used in the Permitted Area per MS4 Permit year. 2. Number of winter weather events where winter maintenance materials are used in the Permitted Area per MS4 Permit year. -Quantities and general location of each material used in relation to distance (e.g., pounds per mile) in the Permitted Area per MS4 Permit year. -Any other actions taken to protect waters of the state in the Permitted Area per MS4 Permit year.	1. For the 2022-2023 reporting year, Public Works stores the following winter materials at the Public Works Yard: -Sanding rock. -Magnesium chloride liquid de-icer. -Granular ice melt. 2. For the 2022-2023 reporting year, there were two winter weather events where winter maintenance materials were used. -**2/21/22-12/22/23:** 440 gallons of de-icer. 10 yards of sanding rock. 3 lane miles throughout permitted area. **2/22/23-2/24/23:** 350 gallons of de-icer. 2 yards of sanding rock. 2 lane miles throughout permitted area. -Public works is committed to using winter weather materials sparingly. Winter weather materials that are used during weather events are swept up by the street sweeper as soon as possible following the event.	$500	

Landscape Maintenance and Vegetation Control	√	√	Gladstone Public Works Department	1. Adopt and implement the most recent ODOT Guide or an approved alternative for vegetation maintenance in City-maintained ROW during the permit term.	1. Date manual adopted.	1. For the 2022-2023 reporting year, the manual was not adopted.	$300	
Litter Control	√	√	Gladstone Public Works Department	1. Coordinate with volunteer groups to station litter storage bags in parks available to the public. 2. Respond to 100% of roadway litter reports each year.	1. Number of litter storage bags stationed in City parks each year. 2. Number of reports resolved. -Number of submitted reports each year. -Percentage of roadway litter reports resolved.	1. During the reporting year, two litter storage bag stations were stationed in City parks. 2. During the reporting year, three roadway litter reports were resolved. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year.	$600	-Roadside litter pickup relating to item 2 of this BMP have historically been completed by Public Works and have been completed throughout the entire 2022-2023 reporting year. However, tracking measures required to fully support the specific requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.
Municipal Facilities	√	√	Gladstone Public Works Department	1. Each year, inspect municipal waste facilities at least once.	1. Annual number of municipal waste facilities inspected.	1. During the 2022-2023 reporting year, public works municipal waste facilities were inspected 4 times.	$200	
Control Sewage Infiltration	√	√	Gladstone Public Works Department	1. Each year, conduct periodic TV inspections of public storm and sanitary sewer systems as budget allows. 2. Eliminate 100% of sanitary sewer discharges to the MS4 public within five days of discovery each year.	1. Annual length (linear feet) of public storm sewer pipe TV inspected. - Annual length (linear feet) of public sanitary sewer pipe TV inspected. 2. Annual number of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines that were eliminated within five days of discovery. - Annual number of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines. - Annual percentage of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines that were eliminated within five days of discovery.	1. NA for the 2022-2023 reporting year. 2. For the 2022-2023 reporting year, there were no discharges to the MS4 resulting from cracked or broken public sanitary sewer lines that were eliminated within five days of discovery, as there were no discharges to the MS4. -During the 2022-2023 reporting year, there were no discharges to the MS4 resulting from cracked or broken public sanitary sewer lines. -NA for the 2022-2023 reporting year.	$18,000	-Storm and sanitary sewer piping within the City relating to item 1 of this BMP has historically been TV inspected by public works crews, neighboring jurisdictions and contractors and has been completed periodically throughout the 2022-2023 reporting year. However, tracking measures required to fully support the specific requirements of this BMP were not in place for the entirety of the reporting year as this BMP included in the 2022 SWMP was merely implemented April 4, 2023 upon DEQ approval.

Fire Fighting Training	√	√	Gladstone Public Works Department and Clackamas County Fire Department	1. Once during the MS4 Permit term, contact the Fire Department, visit site and confirm training practices are being conducted in a manner that is watershed safe.	1. Date(s) of site visit and discussion with Fire Department.	1. For the 2022-2023 reporting year. No site visits and discussions with the Fire Department were conducted.	$200	
Pollution Prevention Staff Training	√	√	Gladstone Public Works Department	1. Evaluate and document staff training needs one time during the MS4 Permit term. 2. Conduct or procure training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and type of training received.	1. For the 2022-2023 reporting year, the staff training and education needs were not evaluated. 2. For the 2022-2023 reporting year, no employee trainings were conducted.	$1,000	
Evaluation of Pollution Prevention for Municipal Operations Activities	√	√	Gladstone Public Works Department	1. Evaluate the pollution prevention for municipal operations activities by April 3, 2026.	1. Dave evaluation results included in Permit renewal package.	1. NA for the 2022-2023 reporting year.	$1,000	
Element #7 **Industrial and Commercial Facilities (COMM)**								
Identify Industrial NPDES Permit Facilities	√	√	Gladstone Public Works Department	1. Review new industrial development applications for applicability of 1200-Z permit a minimum of one time each year. 2. Survey existing industrial facilities for 1200-Z permit applicability a minimum of one time each year. 3. Each year notify facility operator and DEQ of 100% of facilities newly identified as potentially needing a 1200-Z permit within 30 days of discovery.	1. Date(s) new development applications were reviewed. 2. Date(s) survey performed. 3. Annual number and list of facilities where operator and DEQ were notified within 30 days of discovery. -Annual number and list of newly identified facilities. -Annual percentage of facilities where operator and DEQ were notified within 30 days of discovery.	1. For the 2022-2023 reporting year, no new development applications were reviewed. 2. NA for the 2022-2023, existing industrial facilities were surveyed for 1200-Z permit applicability in May 2023. 3. For the 2022-2023 reporting year, there were no facilities where the operator and DEQ were notified within 30 days, as no facilities were discovered. -For the 2022-2023 reporting year, no newly identified facilities were discovered. -NA for the 2022-2023 reporting year.	$1,500.	

Industrial/Commercial Stormwater Pollutant Prevention	√	√	Gladstone Public Works Department	1. Update Industrial/Commercial Facilities Strategy by December 1, 2023. 2. Each year, inspect 100% of sites referred through complaint of referral within ten business days.	1. Date Industrial/Commercial Facilities Strategy updated. 2. Annual number of sites inspected within ten business days based on complaint or referral. -Annual total of complaints and referrals. -Annual percentage of sites inspected within ten business days based on complaint or referral. -List of SIC categories of facilities inspected. -Overview of results from inspections.	1. The Industrial/Commercial Facilities Strategy was updated May 15, 2023. See Appendix J of this 2022-2023 annual report. 2. During the 2022-2023 reporting year, no sites were inspected within then business days based on complaint or referral, as no complaints or referrals were received. -For the 2022-2023 reporting year, no complaints or referrals were received. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year. -NA for the 2022-2023 reporting year.	$5,000	
Industrial/Commer-cial Site Inspection Staff Training	√	√	Gladstone Public Works Departmentt	1. Evaluate and document staff training needs one time during the MS4 Permit term. 2. Conduct of procure training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and type of training received.	1. For the 2022-2023 reporting year, staff training needs were not evaluated. 2. For the 2022-2023 reporting year, no trainings were conducted.	$1,000	
Evaluation of Industrial and Commercial Facilities Activities	√	√	Gladstone Public Works Department	1. Evaluate the City's industrial and commercial facilities activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	1. NA for the 2022-2023 reporting year.	$1,000	

Element #8 **Stormwater System Operation and Maintenance**								
Operation and Maintenance Legal Authority	√	√	Gladstone Public Works Department and Gladstone Code Enforcement	1. Review, and update, if necessary, legal authority to require maintenance and inspect private storm systems (once during the MS4 Permit term) by Dec. 1, 2024.	1. Date legal authority verified. -Date legal authority updated, if necessary.	1. During the 2022-2023 reporting year, legal authority was not evaluated. -NA for the 2022-2023 reporting year.	$1,000	
Inspection and Maintenance Strategy	√	√	Gladstone Public Works Department	1. Complete Inspection and Maintenance Strategy document during the MS4 Permit Term.	1. Date Inspection Schedule and Maintenance Standards document completed.	1. For the 2022-2023 reporting year, the Inspection and Maintenance Standards document was not completed.	$1,000	
Per 2022 SWMP, Continue using existing goals and tracking measures as described for MAINT-3.1 from 2022 SWMP until the BMP activities are superseded by MAINT-3.2 and 3.3 from the 2022 SWMP. Expected date to be superseded is March 31, 2025.								
Public Facility Inspection and Maintenance	√	√	Gladstone Public Works Department	1. Inspect the public and existing private structural storm water control facilities annually and maintain as necessary. 2. Conduct annual spot inspections of all new private structural stormwater quality control facilities. 3. Require signed maintenance agreements for new private structural stormwater facilities as a condition of plan approval.	1. Record the Structural control inspection and maintenance activities that occur annually. 2. Record annual spot inspections conducted. 3. Track any additional (public or private) structural control facilities installed within the City on an annual basis.	1. During the 2022-2023 reporting year, 10 public structural control facilities were inspected. 10 public structural control facilities required maintenance and were maintained. 9 private structural control facilities were inspected. 7 private structural facilities required maintenance and were maintained. 2. During the 2022-2023 reporting year, no spot inspections were conducted, as no new public or private structural control facilities were installed. 3. During the 2022-2023 reporting year, no additional public or private structural control facilities were installed, therefore no new signed maintenance agreements were executed.	$1,500	
Per SWMP, begin using goals and tracking measures as described below for MAINT-3.2 and 3.3 when the SWMP City implements the inspection-based maintenance program, supported by MAINT-2, Inspection and Maintenance Strategy. Anticipated implementation date is March 31, 2025.								
Public Facility Inspection and Maintenance continued	√	√	Gladstone Public Works Department	1. Complete 90% of scheduled preventive maintenance on time each year. 2. Perform 100% of scheduled facility inspections each year. 3. Correct 100% of maintenance deficiencies discovered during a public facility inspection within allowed time period. (Allowed time period based on maintenance schedule established in MAINT-2) (Does not include repairs.)	1. Running total of facilities with maintenance deficiencies (excluding repairs) that were corrected within the allowed time period. -Running total of facilities with maintenance deficiencies (excluding repairs) discovered during public facility inspection. -Percentage of maintenance deficiencies corrected within allowed time period. -Estimated volume of debris removed as a total or by category or type of activity, if known. 2. Annual number of facility inspections conducted. -Annual number of facility inspections scheduled. -Annual percentage of facility inspections completed. 3. Running total of facilities with maintenance deficiencies (excluding repairs) that were corrected within the allowed time period. -Running total of facilities with maintenance	1. NA for the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year. 3. NA for the 2022-2023 reporting year.	$60,000	-This BMP is anticipated to become effective March 31, 2025.

					deficiencies (excluding repairs) discovered during public facility inspections. -Percentage of maintenance deficiencies corrected within the allowed time period. -Estimated volume of debris removed as a total or by category or type of activity, if known.			
Per the SWMP, continue using existing goals and tracking measures as described below for MAINT-4.1 until the BMP activities are superseded by MAINT-4.2 once the City implements BMP MAINT-2 (expected to be implemented March 31, 2025).								
Public Facility Inspection and Maintenance continued	√	√	Gladstone Public Works Department	1. Clean 100% of catch basins and inlets (with sumps) each year.	1. Annual number of catch basins and inlets (with sumps) cleaned. -Total number of catch basins and inlets (with sumps). -Percentage of catch basins and inlets (with sumps) cleaned.	1. For the 2022-2023 reporting year, Public Works cleaned 1,375 catch basins and inlets. -For the 2022-2023 reporting year, the City's GIS mapping systems has an inventory of 1,165 catch basins and inlets. -For the 2022-2023 reporting year, according to Public Works maintenance records and GIS mapping inventory, Public Works cleaned over 100% of the City's catch basins and inlets. Despite extensive GIS mapping efforts, it is likely that all of the City's catch basins and inlets are not currently mapped/inventoried in the City's GIS mapping system.	$50,000	
Per the SWMP, Begin using goals and tracking measures as described below for MAINT-4.2 when the City implements the inspection-based maintenance program, supported by BMP MAINT-2, Inspection and Maintenance Strategy. BMP MAINT-2 expected to be implemented March 31, 2025.								
Public Facility Inspection and Maintenance continued	√	√	Gladstone Public Works Department	1. Perform 100% of scheduled catch basin/inlet inspections each year. (Number of scheduled inspections may differ each year, based on priorities and schedules established in MAINT-2 of the SWMP.) 2. Clean 100% of catch basins/inlets that fail a sediment depth inspection within allowed time period. (Allowed time period based on maintenance schedule established in MAINT-2 of the SWMP.) 3. Repair or replace 60% of catch basins/inlets that fail condition inspection within allowed time period from date of inspection. (Allowed time period based on maintenance schedule established in MAINT-2 of the SWMP.)	1. Annual number of catch basins/inlets inspections performed. -Annual number of scheduled catch basin/inlet inspections. -Annual percentage of catch basins/inlets inspected. 2. Running Total of catch basins/inlets that were cleaned within the allowed time period. -Running total of catch basins/inlets that failed sediment depth inspection. -Percentage of catch basins/inlets that were cleaned within the allowed time period to date. 3. Running total of catch basins/inlets that were repaired or replaced within the allowed time period. -Running total of catch basins/inlets that failed condition assessment. -Percentage of catch basins/inlets that were repaired or replaced within the allowed time period to date.	1. NA for the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year. 3. NA for the 2022-2023 reporting year.	$75,000	
Public Conveyance Cleaning and Maintenance	√	√	Gladstone Public Works Department	1. Complete 75% of scheduled conveyance system cleaning maintenance activities each year.	1. Annual number of conveyance system feet cleaned each year. -Annual number of conveyance system feet scheduled to be cleaned each year. -Annual percentage of conveyance system planned cleanings completed each year.	1. For the 2022-2023 reporting year, Public Works cleaned 22,582 feet of the conveyance system. 2. For the 2022-2023 reporting year, 31,680 feet of the conveyance system was scheduled to be cleaned. 3. For the 2022-2023 reporting year, 71% of conveyance system planned cleaning was completed. Public Works fell short of it's scheduled conveyance system cleaning goal due to equipment break downs.	$65,000	

Regulated Private Storm System Inspection and Maintenance Program	√	√	Gladstone Public Works Department	1. Following completion of MAINT-2, inspect 25% of prioritized regulated private storm systems each year. 2. 50% of prioritized regulated private storm systems to pass initial inspection each year. 3. Provide technical assistance to 90% of prioritized regulated private storm systems found to have a maintenance deficiency within one year.	1. Annual number of prioritized regulated private storm systems inspected at least one time. -Total number of prioritized regulated private storm systems within the City in reporting year. -Annual percentage of prioritized regulated private storm systems inspected. 2. Annual number of prioritized regulated private storm systems that passed initial inspection. - Annual number of prioritized regulated private systems inspected. -Annual percentage of prioritized regulated private storm systems that passed initial inspection. 3. Running total of prioritized regulated private storm systems that received technical assistance within one year of an inspection that discovered a maintenance deficiency. - Running total of prioritized regulated private storm systems where an inspection discovered a maintenance deficiency. -Percentage of prioritized regulated private storm systems that received technical assistance within one year to date.	1. NA for the 2022-2023 reporting year. 2. NA for the 2022-2023 reporting year. 3. NA for the 2022-2023 reporting year.	$2,000	-This BMP is anticipated to be implemented March 31, 2025 following the completion of MAINT-2 per the 2022 SWMP.
Urgent Conditions/Storm Preparation and Response	√	√	Gladstone Public Works Department	1. Maintain a list of conveyances and facilities to inspect and clear of debris and blockages when weather reports call for heavy rainfall.	1. List currently maintained and implemented?	1. For the 2022-2023 reporting year, Public Works currently maintains a list of priority conveyances and facilities to inspect and clear of debris and blockages when weather reports call for heavy rainfall.	$2,000	
Storm Sewer System Retrofit Program and Hydromodification Assessment	√	√	Gladstone Public Works Department	1. Assessment of outcomes related to the Hydromodification Assessment and Stormwater Retrofit Strategy reports by December 1, 2023.	1. Progress or completion of projects identified in Retrofit Strategy. -Dates Hydromodification Assessment and Stormwater Retrofit Strategy assessed and, if needed, updated.	1. The Hydromodification Assessment and Stormwater Retrofit Strategy Report Update was completed in October 2023 and is included as Appendix K of this annual report.	$5,000	
Stormwater Facility Maintenance Training	√	√	Gladstone Public Works Department	1. Evaluate and document staff training needs one time during the MS4 Permit term. 2. Conduct of procure training documented in the staff training and education strategy.	1. Date staff training and education strategy published. 2. Number of employees who receive training and type of training received.	1. For the 2022-2023 reporting year, staff training needs were not evaluated. 2. For the 2022-2023 reporting year, no staff received training.	$3,000	

Evaluation of Stormwater System Operations and Maintenance Activities	√	√	Gladstone Public Works Department	1. Evaluate the City's operations and maintenance activities by April 3, 2026.	1. Date evaluation results included in permit renewal package.	1. NA for the 2022-2023 reporting year.	$2,000.	

Appendix B

Gladstone Environmental Monitoring Results

Instream Monitoring - Gladstone 2022-2023

CITY OF GLADSTONE

Location : Risley Ave

Stream Name: Rinearson Creek

Analysis	Units	Sampling Method	Results				
			Rain Event 11 15 22	Rain Event 12 13 22	Rain Event 04 26 23	Rain Event 06 20 23	Mean
Total Phosphate	mg/L	Grab	0.08 outside	.12 outside	.08 outside	.12 outside	.1 OS
BOD	mg/L	Grab	NA	NA	NA	NA	NA
Dissolved Oxygen - Winkler	mg/L	Grab	5.40	8.90	6.60	7.10	7.00
Dissolved Oxygen - Field	mg/L	N/A	NOT REQUIRED				NA
Conductivity Field	uS	Grab	166.90	128.70	213.90	410.00	229.90
Temperature Field	°C	Grab	8.00	6.60	14.60	16.90	11.50
pH Field	Std Units	Grab	7.20	7.10	7.22	7.31	7.21
Dissolved Copper	ug/L	Grab	1.86 outside	1.79 outside	1.18 outside	1.69	1.63 OS
Total Copper	ug/L	Grab	2.62 outside	4.28 outside	1.48 outside	2.74	11.12 OS
Dissolved Lead	ug/L	Grab	.105 outside	0.024 outside	.056 outside	.102 outside	.07 OS
Total Lead	ug/L	Grab	.48 outside	1.9 outside	.224 outside	.554 outside	.79 OS
Dissolved Zinc	ug/L	Grab	10.9 outside	13.8 outside	12.3 outside	9.1 outside	11.5 OS
Total Zinc	ug/L	Grab	14.9 outside	36.5 outside	11.1 outside	15.6 outside	78.1 OS
E. coli - Colilert	MPN/100mL	Grab	411.00	345.00	52.00	>2420	807.00
Ammonia Nitrogen	mg/L	Grab	.061 low seal	.048 low seal	<.025 low seal	.066 low seal	.05 LS
Nitrate-Nitrite	mg/L	Grab	1.7 seal	1.2 seal	.74 seal	1.5 seal	1.285 S
Ortho Phosphate	mg/L	Grab	0.05seal	0.03 seal	.03 seal	.06 seal	.0425 S
Total Dissolved Solids	mg/L	Grab	133.00	97.00	101.00	124.00	113.75
Total Solids mg/L	mg/L	Grab	153.00	168.00	176.00	179.00	169.00
Total Suspended Solids	mg/L	Grab	6.00	55.00	<1.2	4.70	66.90
Volatile Solids	mg/L	Grab	43.00	47.00	NA	NA	45.00
Hardness	mg/L	Grab	74.00	55.00	67.00	65.00	65.25
Rainfall depth (daily per storm event)	inches	N/A	0	0	0	.14	0.10

Notes:

Appendix C

Gladstone Willamette River TMDL Implementation Plan Annual Report (Not applicable for the 2022-2023 reporting year, placeholder)

Appendix D

Maps of Gladstone Riparian Plantings to Date

Gladstone GIS Map

Legend

- Address Numbers
- Street Names
- Taxlots
- City Limits
- Basemap

Notes

Overview Map

0 400 800 Feet

1: 4,800

Map created 10/16/2020

City of Gladstone
525 Portland Ave
Gladstone
OR 97027
(503) 656-5225
www.ci.gladstone.or.us

Gladstone GIS Map

Legend

- Address Numbers
- Street Names
- Taxlots
- City Limits
- Basemap

Notes

Overview Map

0 400 800 Feet

1: 4,800

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Map created 10/20/2020

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525 Portland Ave
Gladstone
OR 97027
(503) 656-5225
www.ci.gladstone.or.us

Gladstone GIS Map

Legend

- Address Numbers
- Street Names
- Taxlots
- City Limits
- Basemap

Notes

Overview Map

0 50 100 Feet

1: 600

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Map created 11/22/2021

City of Gladstone
525 Portland Ave
Gladstone
OR 97027
(503) 656-5225
www.ci.gladstone.or.us

Gladstone GIS Map

Legend

- Address Numbers
- Street Names
- Taxlots
- Storm Manholes
- Storm Inlets
- Storm Outlets
- Storm Conduits - Gladstone
  - Unclassified
  - Pipe
  - Culvert
  - Open Channel
  - Sanitary Overflow
- Storm Conduits - County
- Storm Conduits - Oak Lodge
- Storm Conduits - ODOT
- Storm Conduits - Private
  - Pipe
  - Dentention Tank

Notes

Overview Map

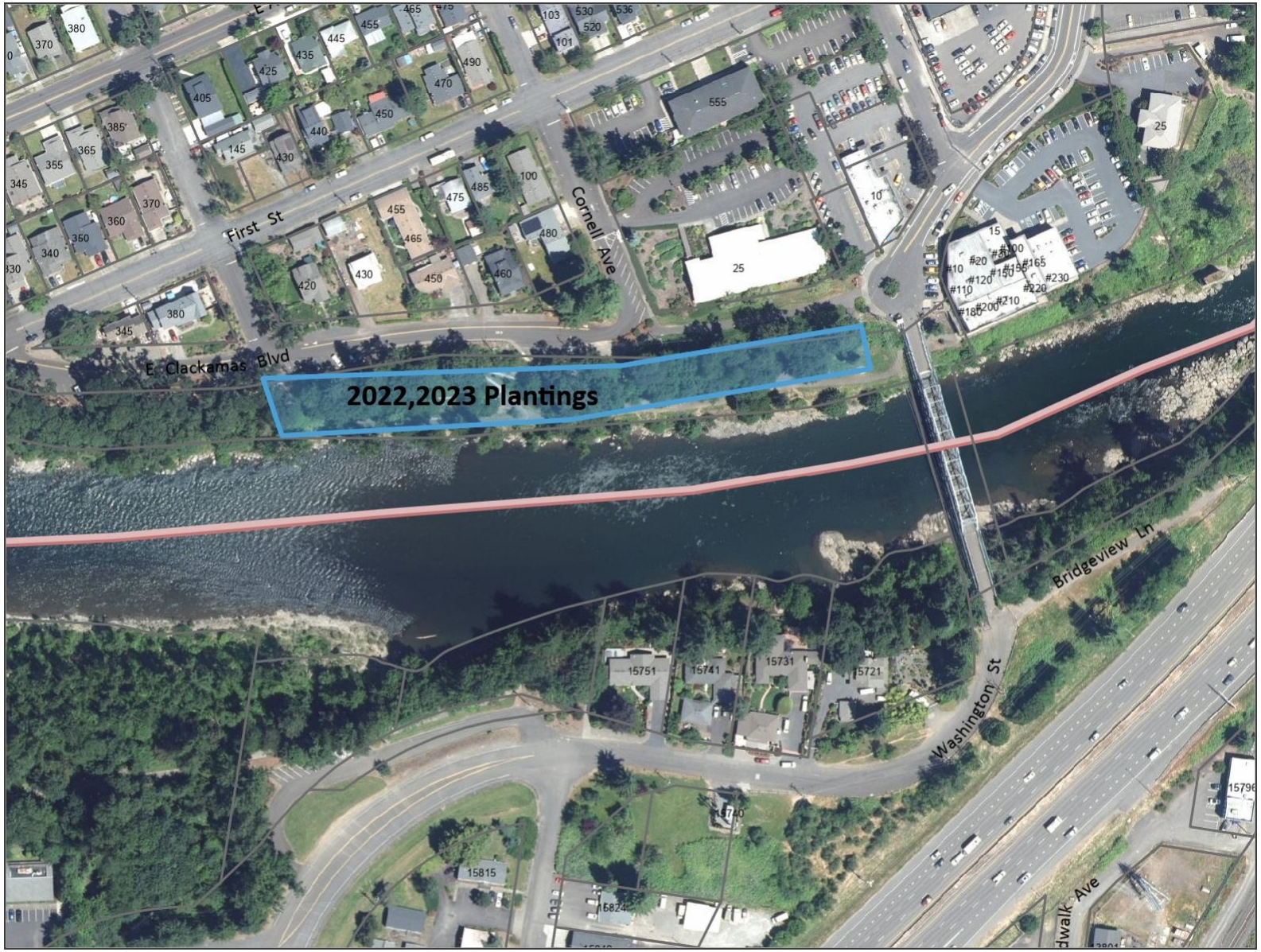
0 200 400 Feet

1: 2,400

Map created 11/22/2021

City of Gladstone
525 Portland Ave
Gladstone
OR 97027
(503) 656-5225
www.ci.gladstone.or.us

Gladstone GIS Map



Legend

- Address Numbers
- Street Names
- Taxlots
- City Limits
- Basemap

Notes

Overview Map

0 200 400 Feet

1: 2,400

The City of Gladstone makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 11/21/2023

City of Gladstone
525 Portland Ave
Gladstone
OR 97027
(503) 656-5225

www.ci.gladstone.or.us

Appendix E

Mercury Minimization Assessment

Mercury Minimization Assessment for the City of Gladstone

A Total Maximum Daily Load (TMDL) is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet applicable water quality standards. TMDLs assign wasteload allocations (WLAs) to point sources of pollutants, and load allocations (LAs) to nonpoint sources of pollutants. The Oregon Department of Environmental Quality (DEQ) has the regulatory authority to implement TMDL programs in Oregon with responsibility for: 1) requiring and reviewing TMDL Implementation Plans for nonpoint sources; and, 2) incorporating TMDL related requirements for point sources in NPDES permits. Therefore, with respect to municipal stormwater discharges regulated under an NPDES MS4 permit, DEQ includes TMDL requirements directly within those permits.

As stated in DEQ's Permit Evaluation Report (PER) for the 2021 Clackamas Group NPDES MS4 Permit,

> "*DEQ has determined that implementation of the permit conditions, BMPs identified in the SWMP Document, and the adaptive management process will meet TMDL WLAs for municipal stormwater* (PER, pp 36)."

The City of Gladstone's NPDES MS4 permit identifies applicable TMDLs and associated WLAs. Schedule D, *Special Conditions* of the permit lists specific conditions for addressing those TMDLs. These permit conditions include requirements to conduct a TMDL pollutant load reduction evaluation in comparison to assigned WLAs for stormwater, and to develop pollutant load reduction benchmarks targeting achievement of WLAs for specified TMDL pollutants over time. DEQ included TMDL requirements in the 2005, 2012, and the recently issued 2021 NPDES MS4 permits for Phase I permittees.

The City has complied with permit requirements to conduct pollutant load reduction evaluations and establish TMDL pollutant load reduction benchmarks. However, WLAs were not established for mercury until 2021 and, therefore, mercury was neither required nor included in the City's prior TMDL analyses.[1] The 2021 mercury TMDL includes a water quality management plan (WQMP) developed by DEQ, that outlines management strategies for both point and nonpoint sources of mercury. Specific management strategies for Phase I NPDES MS4 permittees are outlined in Section 13.3.2.2 of the revised TMDL (Appendix A) and were subsequently included in Schedule D.3.b of the Clackamas County Group NPDES MS4 permit. Per Schedule D.3.b, requirements specific for mercury are detailed below:

i. Develop and submit a mercury minimization assessment with the annual report due December 1, 2022, that documents the current actions, such as BMPs implemented, that reduce the amount of solids discharged into and from the permitted MS4 system (similar to the actions currently required in Schedule A). If the assessment indicates that mercury and

[1] Mercury was originally included in the 2006 Willamette River TMDL, but establishment of WLAs was deferred due to lack of data. On November 22, 2019, DEQ issued a revised Willamette River TMDL for mercury. The United States Environmental Protection Agency (EPA) disapproved DEQ's TMDL on December 30th, 2019 and the final TMDL was issued on February 4, 2021.

sediment reducing BMPs are fully incorporated into the SWMP Document, a report documenting the results as such is sufficient.

ii. *Continued implementation of the BMPs and other actions described in the mercury minimization assessment that are effective for mercury reduction, along with documentation of implementation in each subsequent annual report.*

iii. *An analysis of the effectiveness of the best management practices and any other actions taken and qualitative pollutant load reductions achieved in the MS4 Permit Renewal Application Package. Due to data limitations, mercury benchmarks are not applicable in the first permit cycle after the TMDL is finalized.*

iv. *Collection of paired total mercury and total suspended solids samples, as described in Schedule B.*

v. *Submittal of paired mercury and total suspended solids monitoring data in the appropriate DEQ data submission template. Given the lack of sufficient mercury data, pollutant load reduction evaluations, benchmarks, and waste load allocation attainment analyses for mercury will not be required in this permit cycle.*

The purpose of this Mercury Minimization Assessment, included with the City's 2022 MS4 Annual Compliance Report is to address the requirement outlined in bullet *i.* above.

Chapter 4 of EPA's 2021 *TMDL for Mercury in the Willamette Basin* includes summary information regarding mercury sources. Atmospheric deposition of mercury from global sources is presented as the dominant source of mercury in the Willamette River Basin. Additional sources identified include: nonpoint sources such as runoff from forestry and agricultural land management practices that can transport sediment and mercury to streams; background/anthropogenic sources that include mercury in groundwater due to local geology, and naturally occurring sediment-bound mercury that is eroded and transported to streams; and point sources such as municipal waste discharges, industrial discharges, suction dredge mining and stormwater. Mercury loads in urban stormwater are believed to be predominantly associated with atmospheric deposition and active erosion or transport of sediment that is carried in runoff to downstream water bodies. As a result, stormwater best management practices (BMPs) implemented by NPDES MS4 permittees are focused on reducing the discharge of sediment as the primary method to reduce discharges of mercury.

The prevention and reduction of sediment in runoff has been a focus of the City's stormwater management program since the first MS4 permit-required Stormwater Management Plan (SWMP) was developed in the early 1990's. The City uses an adaptive management approach to continually improve upon existing stormwater BMPs over time as new knowledge is gained regarding the effectiveness and efficiency of these practices. The City has submitted the results of its adaptive management process as applicable in annual reports since the original SWMP became effective. The City has also conducted detailed quantitative and qualitative adaptive management analyses as part of each NPDES MS4 permit renewal. The City's 2022 MS4 Annual Compliance Report, due to DEQ on December 1, 2022, provides the latest summary of BMP implementation according to the

pre-existing 2012 SWMP. A new SWMP that meets the conditions of the recently issued 2021 NPDES MS4 permit is also being submitted to DEQ for approval on December 1, 2022.

Based on the City's long-term ongoing adaptive management process, a review of the current/approved 2012 SWMP, and a comprehensive MS4 program evaluation and update as per the 2021 permit, we have determined that effective sediment and mercury reducing BMPs are fully incorporated into the City's new/proposed 2022 SWMP Document. The BMP summary table at the end of this section (Table E1) provides a cross-reference for each BMP to potential TMDL pollutants addressed, including total mercury (i.e., by way of addressing sediments). To meet the NPDES MS4 permit standard, these BMPs have been developed as part of an overall program to reduce pollutants to the maximum extent practicable (MEP).

In summary, the City's BMPs, or Stormwater Program Management Control Measures as termed in the 2022 SWMP, include the following major categories of BMPs and activities that prevent sediment and mercury in stormwater discharges:

- Education and Outreach (ED)
- Public Participation (PP)
- Illicit Discharge Detection and Elimination (IDDE)
- Construction Site Runoff Control (EPSC)
- Post-Construction Site Runoff (POST)
- Pollution Prevention for Municipal Operations (PREV)
- Industrial and Commercial Facilities (COMM)
- Stormwater System Operation and Maintenance (MAINT)

The 2022 SWMP includes detailed descriptions of each major MS4 category and associated BMPs, including measurable goals and tracking measures. As noted in Table E1 most BMP activities support the prevention and reduction of mercury and sediment.

Further, the City submitted an updated TMDL Implementation Plan in September, 2022 that addresses requirements of the 2021 *TMDL for Mercury in the Willamette Basin* for nonpoint sources of mercury in Gladstone.

As a result of this Mercury Minimization Assessment, the City finds that sediment and mercury reducing BMPs are fully incorporated into the SWMP Document.

Appendix F

Erosion Control Enforcement Procedures

City of Gladstone Erosion Control Enforcement Procedures

November 20, 2023

Background: Consistent with schedule A.3.d of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, the City of Gladstone must continue to implement and enforce a construction site runoff control program to reduce discharges of pollutants from construction sites in its coverage area. The City of Gladstone must continue to implement it's existing construction site runoff program as the new requirements are developed and implemented.

Purpose: The purpose of this document is to fulfill requirements of Schedule A.3.d.V of the September 15, 2021 MS4 permit by describing the steps the City will follow in order to implement enforcement procedures in order to implement and enforce a comprehensive program to eliminate discharges into the MS4, to the extent allowable by state laws.

Permit Language:

Schedule A.3.d.V

Enforcement Procedures

The co-permittees must continue to implement and maintain a written escalating enforcement and response procedure for all qualifying construction sites and summarize or reference in the SWMP Document. The procedure must address repeat violations through progressively stricter response, as needed, to achieve compliance. The escalating enforcement and response procedure must describe how the co-permittees will use enforcement techniques to ensure compliance. The enforcement procedures must include timelines for compliance and, when formulating response procedures and penalties should consider factors (or multipliers) such as the type and severity of pollutant discharge, and whether the discharge was intentional or accidental. If the escalating enforcement procedure already in place does not meet these requirements, a revision or update may be submitted with the Annual Report due December 1, 2023, and, if necessary as specified under Schedule A.2.f, added to the SWMP Document at that time.

Legal Authority:

Chapter 16 of the Gladstone Municipal Code relates to erosion control enforcement as follows:

15.06.080 Abatement and penalties.

(1) Whenever any work is being done contrary to the provisions of this chapter, the City Administrator or his designee may issue a stop work order as in Section 202(e) of the Oregon State Structural Code and Fire and Life Safety Code.

(2) The city shall abate any violation, or the consequences of any violation, of any provision of this chapter or the terms or conditions of any permit granted thereunder where:

(a) Such violations results, or may result, in a condition which may pose an imminent threat of injury to persons or property; or

(b) Any person, after receiving notice from the city to cease and desist from such violations, fails, refuses or neglects to comply with such notice within 5 days of the date of mailing or personal service of notice; or

(c) Any person, after receiving notice, fails, refuses, or neglects to clean up, repair, correct or otherwise mitigate the effects of a violation within 5 days of the date of mailing or personal service of the notice.

(3) The permit holder and any person violating this chapter shall be jointly and severally liable for all costs and expenses incurred by the city for actions taken pursuant to this section. Costs and expenses shall include, but not be limited to, any and all direct costs and expenses relating to personal salaries and benefits, equipment costs, including operation and maintenance, overhead, rent, interest, fees for experts and consultants, legal costs and expenses including reasonable attorneys fees, costs of delay or other city projects directly attributable to shifts of personnel and equipment to actions taken under this section, claims against the city as a consequence of such violations and procedures associated with collecting monies due hereunder.

(4) Violation of the requirements of this chapter also constitute a Class A Infraction. Each day a violation continues shall constitute a separate offense.

Procedures:

Gladstone's Erosion Control Enforcement Procedures are escalating and address repeat violations through progressively stricter response, as needed, to achieve compliance. The City intends to address EPSC deficiencies with the lowest level of response needed to gain compliance. However, it may be necessary to begin enforcement at a higher level if the non-compliance is of extreme severity, a repeat violation, is intentional, or is causing or has the potential to cause immediate degradation. Penalties will be administered in such an escalating manner depending on these factors. The below erosion control enforcement procedures describe how the City will use enforcement techniques to ensure compliance.

Level 1: Notice to Correct (NTC)

If the site has an EPSC deficiency, the Public Works Inspector will communicate deficiencies to the contractor while onsite or via phone or email. The written or verbal NTC will detail the required corrective action and time frame for compliance. Details will be documented by recording an inspection

in the Public Works electronic files or in the Public Works Inspector's daily inspection reports. The NTC will include the following:

- the existence of a violation;
- the actions required to resolve the violation;
- the consequences of continued non-compliance;
- the time by which compliance is to be achieved.

Level 2: Notice of Violation (NOV)

A Notice of Violation NOV may be issued for EPSC noncompliance if previous enforcement actions have not been successful in achieving compliance. The written NOV will detail the required corrective action, time frame for compliance, and potential consequences if compliance is not achieved. Details will be documented by recording an inspection in the Public Works electronic files or in the PWI's daily inspection reports. The Public Works Inspector will conduct a follow-up inspection and document that deficiencies have been corrected or determine if a Stop Work Order is required.

Level 3: Stop Work Order

A stop work order may be issued for EPSC noncompliance if previous enforcement actions have not achieved compliance or there is an imminent risk to waterways. Public Works will coordinate with Code Enforcement to carry out the stop work enforcement process. If a stop work order is unlikely to be effective because work has stopped at the site for other reasons, or a legal determination has been made that the stop work order does not affect the remaining activities at the site, a civil penalty may be issued.

Level 4: Civil Penalty

A civil penalty may be issued for EPSC noncompliance if previous enforcement actions have not achieved compliance or if there is an imminent risk to the watershed, or a violation has caused degradation in the watershed. It may replace or augment a stop work order. Code Enforcement will lead the civil penalty enforcement process with assistance from Public Works. See **Legal Authority** above for enforcement penalty options.

Level 5: Abatement

Abatement may occur per Gladstone Municipal Code Chapter 15.06.080 **(see Legal Authority)** above.

Appendix G

IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan

Gladstone IDDE Program and Industrial/Commercial Facilities

Enforcement Response Plan

April 4, 2023

Background:

Consistent with Schedule A.3.c of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, the City of Gladstone must continue to implement and enforce a comprehensive program to detect and eliminate illicit discharges into the MS4, to the extent allowable by state laws. In addition, co-permittees must continue to implement procedures to prevent, contain, and respond to spills, as well as seepage from the sanitary sewer system, which may discharge into the MS4 in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System (OERS). An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater. Conditional exceptions are identified in Schedule A.1.d of the MS4 Permit issued September 15, 2021. Procedures and processes required by the MS4 Permit are to be documented or referenced in the SWMP Document.

Purpose:

The purpose of this document is to fulfill requirements of Schedule A.3.c.ii of the September 15, 2021 MS4 permit by describing the steps the City will follow in order to implement enforcement and response procedures in order to implement and enforce a comprehensive program to detect and eliminate illicit discharges into the MS4, to the extent allowable by state laws .

Permit Language:

Schedule A.3.c.ii
Enforcement Procedures

The co-permittees must continue to implement their enforcement and response procedures as developed under the previous permit. The SWMP Document must describe or reference the enforcement and response procedures. The procedures should describe how repeat violations are addressed; the timelines for compliance; specifically address commercial and industrial facilities or activities as described in Schedule A.3.g of this permit; and consider factors such as the amount and type of pollutant discharged, and whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented.

Procedures:

Once an illicit discharge is confirmed and the source is located, the City will immediately evaluate steps to remove the discharge.

In cases where the source of an illicit discharge has not been immediately identified and controlled by the initial responders, Public Works will implement this *Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan.* If sampling is necessary, The City maintains an IGA with Clackamas County WES to conduct stormwater sampling and analysis as needed. In some cases, professional services may be used to conduct sampling.

If a responsible party is identified as the source, the City can choose to initiate enforcement. Enforcement actions will be of a progressive nature. When determining enforcement actions for each event, the City will weigh a number of factors described herein in order to determine a specific enforcement action for each event. The discharger will always be required to stop and clean up the discharge immediately. The City may contact the site owner or responsible party and provide technical assistance or enforcement to address or control the discharge. Based on the amount and type of pollutant discharged, whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented, if the discharge is caused by a repeat offender, the City may conduct further enforcement actions. The City may take steps to control the discharge in an emergency as needed.

The City will document all complaints or reports of illicit discharges into and from the MS4 and all associated investigation activities. Complaint tracking information from each year will be summarized in the following Annual Report.

The City may require or apply any of the following control options, when appropriate for the discharge:

- Removing an illicit connection to the storm sewer from sanitary sewer system pipe, floor drainpipe, or other illicit connection;
- Implementing operational source control BMPs (e.g., cease use of soap when washing vehicles; wash vehicles indoors);
- Directing discharge to dry land or sanitary sewer, if permitted;
- Construction of a water quality facility (e.g., oil/water separator);
- Capturing and hauling wastewater off-site for proper disposal; or
- Applying for a discharge permit from DEQ.
- Deny use of the MS4 system until the illicit discharge is ceased and corrective action is completed.

Enforcement Action Options:

The City of Gladstone may implement provisions of the GMC in conducting enforcement activities related to illicit discharges. Enforcement actions will be progressive in nature, based on whether the discharge was a repeat violation, the amount and type of pollutant discharged, whether the discharge was accidental or intentional and whether the discharge could have been prevented.

Generally, a verbal warning is given (if a responsible party is identified) or a written notification is distributed, requiring an immediate stop to the discharge. Under GMC Chapter 13.15.020(3), the City Administrator and other duly authorized employee shall be permitted to enter properties to inspect, observe, monitor, measure, and sample the municipal storm sewers.

Depending on the nature of the discharge, clean up measures may be conducted by the responsible party or City. If the City conducts clean-up efforts, an additional 20 percent expense will be added to the code for administrative overhead (Chapter 8.04.170). Follow up inspections and monitoring of the site/ source will be conducted by the City.

Samples collected at the time of the observed illicit discharge will inform remediation/clean up efforts and be used to establish any additional fees, fines, posted notices or penalties. Per GMC Chapter 8.04.149, the City Administrator or designee may also abate nuisances through the municipal court or as described in GMC Chapters 8.04.150 to 8.04.200. The following penalties in addition to a verbal and handwritten notice may be enforced per Gladstone Municipal Code in a progressive manner based on whether the discharge was a repeat violation, the amount and type of pollutant discharged, whether the discharge was accidental or intentional and whether the discharge could have been prevented:

13.15.030 Enforcement—Violation—Penalty.

(1) The City Administrator or designee shall enforce the provisions of this chapter.

(2) Failure to comply with any provision of this chapter is a Class “A” Infraction.

(3) Any person convicted of violating any provision of this chapter may be denied the use of the municipal storm water sewer system until the “illicit discharge” is ceased and corrective action is completed to accomplish the objective of this chapter.

8.04.200 Violation—Penalty.

Violation of any provision of this chapter shall be a Class “A” infraction.

(1) Each day’s violation of a provision of this chapter constitutes a separate offense.

(2) Cleanup may be conducted by the City at the expense of the responsible party and an additional 20 percent expense will be added (GMC Chapter 8.04.170).

Timelines for Compliance:

Once the source of an illicit discharge is determined, The City must take appropriate action to eliminate the illicit discharge, including an initial evaluation of the feasibility to eliminate the discharge, within 5 working days. If the City determines that the elimination of the illicit discharge will take more than 15 working days due to technical, logistical, or other reasonable issues, the City must develop and implement an action plan to eliminate the illicit discharge in an expeditious manner within 20 working days of source identification.

Repeat violations: If the responsible party of an illicit discharge is determined to be a repeat offender, penalties will escalate. Depending on the nature of the discharge and repeat violations, the following may apply:

- Cleanup may be conducted by City at the expense of the responsible party and an additional 20 percent expense will be added (GMC Chapter 8.04.170).
- Any person convicted of violating any provision of this chapter may be denied the use of the municipal storm water sewer system until the “illicit discharge” is ceased and corrective action is completed.
- Issuance of a Class “A” infraction fine per Gladstone Municipal Code.
- Each day that the responsible party is in violation of Gladstone Municipal Code provision constitutes a separate offense.

Commercial and Industrial Facilities or Activities:

Commercial and industrial facilities or activities that address MS4 Permit Schedule A.3.g and result in an enforcement action will utilize this Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan.

Amount and Type of Pollutant Discharged: For each discharge enforcement, the City will consider the amount and type of the pollutant discharged when determining the enforcement

action. For instance, a large amount of a highly toxic pollutant will result in a greater enforcement action than a discharge of a small amount of a minimally toxic pollutant.

Accidental or Intentional Discharge: For each discharge, the City will consider whether the discharge was accidental. Intentional discharges will carry a stronger enforcement action than discharges that are accidental by nature.

Preventable: For each discharge, the City will consider whether the discharge was preventable. Discharges that are determined to have been preventable will carry a stronger enforcement action than those are determined to be non-preventable.

Escalating Enforcement Sequence:

1. Notice to correct
2. Notice of violation
3. Stop work order
4. Civil penalty
5. Abatement

Appendix H

Dry Weather Field Screening Prioritization Criteria

Gladstone IDDE Prioritization Criteria for Dry Weather Screening Locations

Updated 7/18/2023

Background

Consistent with Schedule A.3.c.v of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, the City of Gladstone must implement a Dry Weather Screening Program at priority MS4 locations.

Purpose

The purpose of this document is to fulfill requirements of Schedule A.3.c.v of the September 15, 2021 MS4 permit by performing a review and update of the prioritization criteria for dry weather screening locations to ensure compliance with Permit Schedule A.3.c.v. The following criteria will be used to review and update (if necessary) dry weather field screening priority locations.

Criteria for Identifying Dry Weather Field Screening Priority Locations

Public Works will maintain and update the list of priority locations for dry-weather inspections. The list will include all major outfalls and a few minor outfalls based on an analysis of risk of potential for illicit discharges, accounting for factors listed in the MS4 Permit Schedule A.3.c.v. A major outfall meets the criteria given in the Clean Water Act below:

• A large pipe (≥36" inside diameter); or

• A conveyance other than circular pipe that serves a drainage area of more than 50

acres; or

• A single pipe (≥12" inside diameter) if it also receives drainage from lands zoned for

industrial activity; or

• A single conveyance other than a circular pipe that receives drainage from more than

two acres of land zoned for industrial activity.

1. Priority locations must, when possible, be located at an accessible location downstream of any source of suspected illegal or illicit activity or location as identified by the co-permittees.
2. Priority location designations must be based on analyses of risk of potential for illicit discharge(s), accounting for factors such as hydrological conditions, percent of impervious surface area, total drainage area of the location, population density of the location, infrastructure access density, traffic density, development age (age of the infrastructure and structures or buildings in the area), history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the co-permittees.

3. Priority field screening locations must be identified on the MS4 mapping and digital inventory when the assessment is complete, and may change based on the above criteria if new information comes to light or if a new analysis is conducted.

Conclusion

Priority locations will be mapped in the City's GIS. They will also be shared with maintenance staff responsible for inspection, maintenance, and cleaning of the MS4, as required by MS4 Permit Schedule A(3)(c)(v). Public Works will submit this updated **Gladstone IDDE Prioritization Criteria for Dry Weather Screening Locations** document to DEQ with the Annual Report due by December 1, 2023, as required by MS4 Permit Schedule A(3)(c)(v).

Appendix I

Dry Weather Field Screening Priority Locations

Gladstone High Priority Field Screening Locations																		
High Priority Screening Site Number	**Location Description**	**Diameter and Type**	**Receiving Water**	**Significant Baseflow?**	**Assessment Criteria**													**Notes**
					Major Outfall	Historical Complaints	Risk Potential	Hydrological conditions	% of impervious area	Total drainage area	Pop. Density	Infrastructure access density	Traffic density	Development age	History of Area	Land use types	Safely accessible	
1	Meldrum Bar Park at Rinearson Natural Area (A0110, A0101)	18" CMP and 12" CMP	Rinearson Pond to Willamette River				X	X		X		X	X			X	X	
2	19535 River Rd. Brookside Apartments (A0200)	48" CMP	Rinearson Creek to Willamette River		X		X		X	X	X	X	X	X		X	X	
3	Barton Rd Outfall (B0100)	54" CSP	Clackamas River		X		X		X	X	X	X	X	X			X	
4	Portland Ave/W. Clackamas Blvd (C0100)	24" PVC	Clackamas River				X		X	X	X	X	X	X			X	

5	Chicago Outfall (Z0200)	18” CMP	Clackamas River				X	X	X	X	X	X	X	X				Outfall spills over cliff. May need to inspect/sample from nearby upstream MH.
6	Harvard Outfall (D0100)	21” CMP	Clackamas River				X	X	X	X	X	X	X	X				Outfall spills over cliff. May need to inspect/sample from nearby upstream MH.
7	High Rocks Park Outfall (E0100)	24” CMP	Clackamas River			X	X		X	X	X	X	X	X	X	X		Outfall is inaccessible. May be inspected/sampled from nearby upstream vault.
8	Evergreen Ln Outfall (H0100)	18” CSP	Clackamas River				X	X	X	X	X	X	X	X	X	X	X	Outfall to be upgraded to 18” HDPE in 2023/2024
9	North of Edgewater Rd at Railroad (I0100)	24” HDPE	Clackamas River				X	X	X	X	X	X	X	X	X	X	X	
10	Sherwood Forest Robinhood Park (V0110, V0100)	24” HDPE and 12” steel	Unknown creek draining to Kellogg Creek							X	X	X		X			X	

Appendix J

Industrial and Commercial Facilities Strategy

City of Gladstone Industrial/Commercial Facilities Inspection Strategy

July 1, 2013
Updated May 15, 2023

Background

Consistent with Schedule A.1.a of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, the co-permittees must continue to implement, adaptively manage, and enforce a Stormwater Management Program (SWMP) designed to reduce pollutants from the MS4 to the maximum extent practicable, to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act. Compliance with this permit and implementation of the DEQ-approved SWMP Document in accordance with Schedule A.2, establishes the MEP requirement, unless DEQ modifies the permit as provided in Oregon Administrative Rule (OAR) 340-045-0055 to require additional controls.

Purpose

The purpose of this document is to fulfill requirements of Schedule A.3.g.ii of the September 15, 2021 MS4 permit by describing the steps the city will follow in order to implement a program to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities.

Permit Language

Schedule A.3.g.ii.

Strategy to Reduce Pollutants from Industrial and Commercial Facilities

The co-permittees must, by December 1, 2023, at minimum, review and update as appropriate the Industrial/Commercial Facilities Strategy developed under the previous permit term and include it in the SWMP Document directly or by reference. The Strategy must be posted on the co-permittees' websites for public comment for a minimum of 30 days prior to submission to DEQ for approval and incorporation into the SWMP Document. If the Strategy Document is completed early, wholly incorporated into the SWMP Document, and submitted to public review with the initial SWMP Document, this suffices for the public review requirement. The Strategy document must include, at a minimum:

(A) The facility types or activities, rationale, and priorities for entities that the copermittee has determined may have high potential to discharge pollutants of concern to the MS4,

(B) Inspection procedures, documentation standards, and frequency of inspections; and

(C) Description of the assessment and tracking of compliance with municipal ordinances related to discharges to the MS4 at industrial and commercial facilities that are potential sources of pollutants in stormwater runoff.

GENERAL INFORMATION

As of May 2023, the City of Gladstone has over 200 active registered businesses (not including home businesses). While many of those businesses are professional services conducted in-doors, the City still has a significant number of commercial and industrial businesses that may conduct pollutant-generating activities with exposure to the MS4.

As of May 2023, one facility within Gladstone has an active industrial stormwater NPDES permit. The permittee is described below:

ID	SIC	Common Name	Address	City	County	Permit Type	Initial Issuance Date	Last Permit Action Date	Expiration Date
112644	4151	First Student, Inc. #10317 – Gladstone	1200 82nd Drive	Gladstone	Clackamas	GEN12Z	11-18-2003	Unknown	6-30-2026

The 1200-Z permit database is maintained by Oregon DEQ and searchable online. The existing First Student Inc. 1200-Z permit maintains a June 30, 2026 expiration date.

FACILITY SCREENING

The City maintains a database of all business licenses. The database tracks the information provided during the business license application, which includes business name, address and contact information.

Public Works maintains a list of high potential pollutant generating facilities (industrial and commercial). This list was originally developed in 2009 to 1) identify businesses that may be subject to industrial stormwater NPDES permit requirements and 2) identify businesses that have the potential to contribute significant pollutant loads to the MS4 and determine whether those businesses should be included in the City's Industrial/Commercial Facility Inspection Program.

High Priority Business List Prioritization/Rationale: In 2023, the High Priority Business List/High Potential Pollutant Generating Facility List was updated based on a survey of facilities in which included recent business license applications, GIS mapping surveys, site surveys, SIC codes, physical structure of the facility, business type, geographical proximity to water bodies, and records of previous complaints/violations. The City also refers to DEQ's guidebook, *"Industrial Stormwater Best Management Practices Manual (DEQ, February 2013)"* and DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z",* as references to determine businesses to be included on the High Priority Business List.

Businesses with any of the following SIC codes were included on the High Priority Business List:

- 10 Metal Mining
- 12 Coal Mining
- 13 Oil and Gas Extraction
- 20 Food and Kindred Products
- 21 Tobacco Products
- 22 Textile Mill Products
- 23 Apparel and Other Finished Products Made From Fabrics and Similar Material
- 24 Lumber and Wood Products, Except Furniture (Activities with SIC 2411 Logging that are defined in 40 CFR §122.27 as silvicultural point source discharges are covered by this permit.)
- 25 Furniture and Fixtures
- 26 Paper and Allied Products
- 27 Printing, Publishing and Allied Industries
- 28 Chemicals and Allied Products Manufacturing and Refining (excluding 2874: Phosphatic Fertilizers)
- 29 Petroleum Refining and Related Industries (excluding 2951, covered by 1200-A)
- 30 Rubber and Miscellaneous Plastics Products
- 31 Leather and Leather Products
- 32 Glass, Clay, Cement, Concrete and Gypsum Products (excluding 3273, covered by 1200-A)
- 33 Primary Metal Industries
- 34 Fabricated Metal Products
- 35 Industrial and Commercial Machinery and Computer Equipment
- 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment
- 37 Transportation Equipment
- 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks

- 39 Miscellaneous Manufacturing Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage 5015 Motor Vehicle Parts, Used 5093 Scrap and Waste Materials

Businesses that perform any of the following activities were included on the High Priority Business List:

- Maintenance of vehicles, machinery, equipment, and trailers (including repairs, servicing, washing, testing and painting)
- Storage of vehicles, machinery, equipment (including disposal/refuse containers stored by a disposal/refuse contractor/vendor), and trailers (including rental, sales, wrecked vehicles, fleet, and general storage)
- Materials storage (including raw materials; bulk fuels, chemicals, detergents, and plastic pellets; finished materials; lumber and food products; wholesale gravel, sand, and soil stockpiles; and bulk liquids other than water)
- Waste handling (including recycled product storage, composting, tires, and bulk hazardous waste)
- Commercial animal operations (such as kennels, race tracks, and veterinarians not covered under a Confined Animal Feeding Operation permit)
- Fuel distribution and sales (including bulk stations, fuel oil dealers, manned and unmanned retail stations, fleet fueling, mobile fueling, and truck stops)

The attached Table 1 reflects the 2023 Gladstone High Priority Business List/High Potential Pollutant Generating Facility List. This list is updated annually to add new businesses.

Annual Updates and Modifications

Annually, Public Works updates (as necessary) the list of high potential pollutant generating facilities based on new business license information and review of new development applications. Additionally, updates are made based on complaints received by the Public Works Department over the last year.

Industrial Stormwater NPDES Permit Notification

Annually, Public Works reviews the current High Priority Business List and any new business license information as well as new development applications in conjunction with site surveys to identify businesses that could be regulated and subject to a 1200-Z industrial stormwater NPDES permit. The City also uses SIC codes and site surveys along with other prioritization methods listed herein this document in conjunction with DEQ's guidebook, *"Industrial Stormwater Best Management Practices Manual (DEQ, February 2013)"* and DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z"* as references to identify potential facilities.

In cases where Public Works identifies a potential facility, the facility is flagged for a formal business site inspection to be performed immediately to confirm whether the facility meets the conditions for a 1200-Z permit. Public works will reference DEQ's guidebook, *"Industrial Stormwater Best Management Practices Manual (DEQ, February 2013)"* and DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z* to determine if a DEQ-issued Industrial Stormwater Permit will be required. Within 30 days after determining a facility may be subject to a DEQ-issued Industrial Stormwater Permit, the City of Gladstone must notify the industrial facility and DEQ.

The City is not currently an agent of the industrial stormwater NPDES program. It is ultimately the responsibility of DEQ and the facility owner/operator to determine whether an industrial stormwater NPDES permit is required for a given facility.

FACILITY INSPECTIONS

Per the City's Stormwater Management Plan (2022), the current strategy uses complaints and reports from citizens, DEQ, and other County and City employees as the trigger for inspecting a facility to determine whether the site contributes a significant pollutant load to the MS4. Public Works will also conduct scheduled facility inspections annually every April. The goal of the facility inspections is to identify water quality impairments and work with facility owners and operators to remove the discharge while screening for possible businesses that may require a DEQ-issued Industrial Stormwater Discharge Permit.

Facility Inspection Prioritization/Rationale

The City's 2023 business inventory and working list of high potential pollutant generating facilities reflects a wide range of operational activities. The list of high potential pollutant generating facilities/High Priority Business list is based on review of business license applications, business type, geographical proximity to water body, SIC Codes, site surveys, GIS map surveys and a survey of records of past violations. During the surveys, facilities were identified based on the type of business/manufacturing processes conducted at the facility, (any businesses that are industrial in nature or have an industrial SIC code, conduct manufacturing activities, have potentially harmful chemicals on-site, or perform car washing activities are included on the High Priority Business List at minimum), past history of violations, the physical structure of the facility, and the proximity of the facility to surface water. The City also refers to DEQ's guidebook, *"Industrial Stormwater Best Management Practices Manual (DEQ, February 2013)"* and DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z* in order to determine businesses to be included on the High Priority Business List.

Annually, in May, Public Works will review new industrial development applications for applicability of 1200-Z permit a minimum of one time each year and survey existing industrial facilities for 1200-Z permit applicability a minimum of one time each year using review of development applications, business license applications, site surveys, GIS map surveys, a survey of records of past complaints/violations, DEQ's guidance document *"General Permit, National Pollutant Discharge*

Elimination System Industrial Stormwater Discharge Permit No. 1200-Z" and DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z,* as well as other methods described in this document to determine if a 1200-Z permit may be required.

Public Works will conduct a site survey annually in April of each facility listed on the high potential pollutant generating facility list and identify/prioritize facilities for a formal site inspection as needed. The prioritization is based on professional judgment of those most likely to currently pose a risk for water pollution, dates of previous inspections, timeline of any past complaints, the understanding of City staff of the current activities and facilities at each site as well as refer to methods described herein this document. The prioritization will consider whether facilities will require a 1200-Z Permit, have ongoing inspections as part of other regulatory programs (e.g., has a current 1200-Z permit), whether City Municipal Code requirements are being met, whether further compliance/enforcement actions are required and whether additional information is needed in order to confirm whether or not the facility may be subject to a 1200-Z permit.

Staff responsible for prioritizing/rationalizing facility inspections are to be experienced and trained in pollution prevention including experience in Industrial Pretreatment, Erosion Control, Source Control Pollution Prevention site inspections, Natural Resources, Illicit Discharge Response and other disciplines. The determination of further training needs will be detailed in a strategy within WES' SWMP document Section COMM 3.1 satisfying permit Schedule A(3)(g)(iii).

Additional formal business site inspections will also be conducted over the permit term as needed based on-site surveys and reports from the public, DEQ and other City/County employees.

Provision of Education for Operators of Commercial and Industrial Facilities

Public Works will provide educational materials to operators of commercial and industrial facilities upon inspection of facilities and as needed when in contact with commercial and industrial facilities operators. Educational material links will also be available on the City of Gladstone website. Public Works will reference and provide Clean Water Services educational materials specific to industry type and general industry information as needed.

Legal Authority

While implementing the *Industrial/Commercial Facility Inspection Program/Strategy,* The City will assess and track compliance with municipal ordinances related to discharges to the MS4 at industrial and commercial facilities that are potential sources of pollutants in stormwater runoff. The City's Municipal Code contains multiple references related to the prohibition and enforcement against illicit discharges to the City's storm sewer system. References are located in code sections related to health and safety nuisances (Chapter 8.04) and public services (surface water) (Chapter 13.15).

Per Gladstone Municipal Code (GMC) Chapter 8.04.060, "*no owner or person in charge of property may permit or cause a nuisance affecting public health*." Nuisances listed include water pollution, which by definition is pollution of a body of water, well, spring, stream, or drainage ditch by sewage, industrial

wastes or other substances placed in or near such water in a manner that will cause harmful material to pollute the water.

GMC Chapter 13.15 further limits discharges to the storm sewer and provides authority for the City to respond to potential illicit discharges. GMC Chapter 13.15.020(1) states that "*no person, corporation, partnership or property owner is authorized to discharge any pollutants, excessive sediments, or other significant materials into a municipal storm sewer system, surface water or natural storm water conveyance system which is directly related to any activity occurring on the site*". Under GMC Chapter 13.15.020(3), the City Administrator and other duly authorized employees shall be permitted to enter properties to inspect, observe, monitor, measure, and sample the municipal storm sewers.

Procedures

Formal business inspections will be conducted per the 2022 SWMP strategy. The current strategy uses complaints and reports from citizens, DEQ, and other County and City employees in addition to annual scheduled inspections every April as the trigger for inspecting a facility to determine whether the site contributes a significant pollutant load to the MS4. When practicable, the City will provide advance notice to the business operator in the form of a phone call to schedule an appropriate time to conduct the inspection. Records of phone calls and communication with business owners/operators will be retained in the program files.

The City will assemble the following materials for use during the inspection:

- Industrial/Commercial Inspection Program, Facility Inspection Form (see Attached).
- Aerial map of the facility
- Camera
- A copy of the guidebook, Industrial Stormwater Best Management Practices Manual (DEQ, February 2013)
- A copy of DEQ document *"General Permit, National Pollutant Discharge Elimination System Industrial Stormwater Discharge Permit No. 1200-Z*.

During the site visit, Public Works will physically walk the site, both indoors and outdoors to evaluate whether the facility has the potential to contribute significant pollutant loads to the MS4. Public Works will complete the Facility Inspection Form, noting any findings of concern and indicating the appropriate follow-up action(s) and will take pictures of activities or site conditions that look to be problematic.

At the conclusion of the site inspection, the Public Works Inspector will verbally discuss any findings of concern with the business owner/operator and provide the owner/operator with a copy of the guidebook, Industrial Stormwater Best Management Practices Manual (DEQ, February 2013).

Staff responsible performing site inspections will be experienced and trained in pollution prevention including experience in Industrial Pretreatment, Erosion Control, Source Control Pollution Prevention site inspections, Natural Resources, Illicit Discharge Response and other disciplines. The determination of further training needs will be detailed in a strategy within WES' SWMP document Section COMM 3.1 satisfying permit Schedule A(3)(g)(iii).

Follow-up Actions and Enforcement

Any observed illicit discharges will be recorded on the Facility Inspection Form and appropriate follow-up procedures initiated.

For businesses that do not appear to contribute significant pollutant loads to the MS4, the Public Works Inspector will prepare a follow-up letter, thanking the business for participating in the city's Industrial/Commercial Facility Inspection Program. The Facility Inspection Form will be filed and the inspection date noted. No additional follow-up actions are required.

For businesses that are observed to be contributing significant pollutant loads to the MS4 and/ or appear to require coverage under a general industrial stormwater permit (1200-Z permit), City staff will initiate enforcement actions per the Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan and prepare a notification letter as needed. If the business may be subject to a 1200-Z permit, the notification letter will be sent to both the business license applicant and DEQ's NW Region Office within 30 days. If the business is observed to be contributing significant pollutant loads to the MS4 (but does not appear subject to a 1200-Z permit), the notification letter will outline observed concerns and refer to DEQ's Industrial Stormwater Best Management Practices Manual (DEQ, February 2013). The letter will indicate that a follow-up inspection will be conducted to determine whether the pollutant discharge is an ongoing problem. Copies of all letters are retained in the City's files.

The Public Works Inspector will conduct a follow-up inspection, utilizing the same Facility Inspection Form that was completed for the initial formal business inspection. Observations and findings will be recorded and a follow-up action will be identified. Ongoing pollutant source problems will be referred to the City's illicit discharge program for follow-up and enforcement (see attached **"**Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan").

PROGRAM TRACKING, DOCUMENTATION AND RECORDKEEPING

The City will maintain records of Industrial/Commercial Inspection activities and follow-up actions to meet annual reporting requirements of the MS4 Permit. Documentation will include compiling relevant pictures, correspondence and completed forms in the Public Works archives.

ATTACHMENTS

The following documents are included with this SOP

- Appendix A: Gladstone's 2023 High Priority Business List and High Potential Pollutant Generating Facility List
- Appendix B: Facility Inspection Form
- Appendix C: Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan

Industrial/Commercial Facilities Inspection Strategy

Appendix A

Gladstone's 2023 High Priority Business List and High Potential Pollutant Generating Facility List

Gladstone High Priority Business List/High Potential Pollutant Generating Facility List 2023

Business Name	Phone Number	Address	Owner Name
AARON'S HONEST ENGINE	503-891-9214	630 FIRST STEET	STAUFFER, AARON
AFFORDABLE CLASSICS INC	503-653-4030	19895 MCLOUGHLIN BLVD	RUIZ, JUAN
ARMSTRONG MOTORS, INC.	503-656-2924	20000 MCLOUGHLIN BLVD	FREEMAN, JANET
AUTO TOWN BUICK GMC INC	503-513-4640	19495 MCLOUGHLIN BLVD	MOHAMED, SAMI
BERG AUTO GROUP, INC	503-882-2928	19850 MCLOUGHLIN BLVD	BERG, LOREN
CAIN PETROLEUM INC	503-850-4238	19200 SE MCLOUGHLIN BLVD	CAIN PETROLEUM INC.
CARZ PLANET, LLC	503-683-1212	19120 MCLOUGHLIN BLVD	BAHRAMI, SARAH
CHEVRON	503-722-2179	830 E BERKELEY	CAIN PETROLEUM INC.
CROWN MOTORS PDX LLC	503-825-8266	90 82ND DR	LASHGARI, AMIN
DELTA AUTO GLASS INC.	503-656-9642	865 E BERKELEY	REYES, MISSY
DARMATT LLC MAZDA OF GLADSTONE	503-722-4854	19405 MCLOUGHLIN BLVD	MATTHEWS, IRVING
DAVEY ROCKET CORP		1250 82ND DRIVE	
DICK HANNAH NISSAN	503-723-2000	19505 MCLOUGHLIN BLVD	HANNAH, JASON
DICK HANNAH NISSAN	503-723-2000	19775 MCLOUGHLIN BLVD	HANNAH, JASON
DOUBLE J INC Goldwrench	503-655-7116	655 E ARLINGTON	DOUBLE J INC.
FIRST STUDENT	503-655-9528	1200 82ND DRIVE	FIRST STUDENT
FAMILY SIZE MOTORS LLC	503-809-8987	20105 MCLOUGHLIN BLVD	GHOBADI, DANIEL
GEE AUTOMOTIVE VI, LLC	503-250-5808	19335 MCLOUGHLIN BLVD	GEE AUTOMOTIVE HOLDINGS LLC
GEE AUTOMOTIVE XIII, LLC	503-258-5700	19300 MCLOUGHLIN BLVD	GEE AUTOMOTIVE HOLDINGS LLC
GENUINE MOTOR COMPANY	503-621-6883	19900 MCLOUGHLIN BLVD	CERCEA, SAMUEL
IN & OUT AUTO CARE LLC	503-786-0700	610 FIRST STREET	DAN & MONIQUE BARE
INT'L ANIMAL SEMEN BANK, INC.	503-663-7031	430 W ARLINGTON ST	WU, TONG
M&M INVESTMENT CARS LLC	503-267-0479	19360 MCLOUGHLIN BLVD	SARIEDDINE, MAZEN
MCDONALD'S	503-685-5002	820 E BERKELEY	MAYER, MINDY
MJD CORP GLADSTONE TOYOTA	503-722-4854	19375 MCLOUGHLIN BLVD	MATTHEWS, IRVING
NET DIRECT MOTORSPORTS	503-267-0479	19360 MCLOUGHLIN BLVD	SARIEDDINE, MAZEN

SAFEWAY STORES #4387	503-723-2680	95 82ND DRIVE	SAFEWAY, INC.
SCOTT SKI MOTOR CO	(503) 305-6608	585 W GLOUCESTER	
STEIN OIL CO., INC./TEXACO 76	503-594-2794	19805 MCLOUGHLIN BLVD	STEIN OIL CO.
SWICKARD GLADSTONE LLC	503-722-5000	19400 MCLOUGHLIN BLVD	SWICKARD, JEFFREY
TREASURE AUTO LLC	503-342-6799	20115 MCLOUGHLIN BLVD	FARAED, FARSHAD
UNCLE AL'S AUTOMOTIVE	503-655-9977	180 E CLARENDON ST	ANDERSON, ALAN
VINTAGE CAR WASH LLC	503-723-0668	880 E ARLINGTON	DEMPSEY, KENNETH
WOW PETROLEUM INC	503-723-8100	810 E ARLINGTON ST	SOHAL, JASPAL

Industrial/Commercial Facilities Inspection Strategy
Appendix B

Gladstone
INDUSTRIAL/COMMERCIAL INSPECTION PROGRAM
FACILITY INSPECTION FORM

Gladstone
INDUSTRIAL/COMMERCIAL INSPECTION PROGRAM
FACILITY INSPECTION FORM

Inspections must be conducted by a person with the knowledge and skills to assess conditions and activities that could impact stormwater quality and evaluate the effectiveness of best management practices. Retain a copy of the completed form.

I. INSPECTION SUMMARY	
FACILITY NAME:	**INSPECTION DATE:** **TIME:**
FACILITY ADDRESS:	**INSPECTOR(S) NAME:**
BUSINESS TYPE:	**WEATHER INFORMATION:**
CONTACT INFORMATION:	**PERSONS PRESENT DURING INSPECTION:**

II. FACILITY OVERVIEW
DESCRIBE SITE ACTVITIES:
ONSITE STORMWATER SYSTEM: (catch basins, trench drains, floor drains, roof drains, ditches, drywells, treatment facilities, etc.) **DISCHARGE TO:**

III. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION		
Good Housekeeping BMPs: • Are paved surfaces free of accumulated sediment and debris? • Waste receptacles located outdoors covered and in good condition? • External surfaces and areas free of excessive contaminant buildup? • Methods in place to prevent erosion and sediment discharge to storm drains?	Y N N/A	**Findings and Follow Up Actions:**
Spill Response and Equipment: • Spill kids available and properly stocked? • Any evidence of leaks or spills? • Any vehicles and/or equipment leaking fluids?	Y N N/A	**Findings and Follow Up Actions:**

Vehicle/Equipment Areas: • Is equipment washed and/or cleaned in ways that are protective of stormwater? • Fueling areas free of contaminant buildup and evidence of chronic leaks/spills? • Tools, equipment and materials stored in designated areas? • Drums and containers of fluids stored with proper cover and containment?	Y N N/A	Findings and Follow Up Actions:
Material Storage Areas: • Potential pollutants stored inside a building or another type of storm resistance shelter? • Material piles secured to protect storm drainage system? • Are outdoor containers covered? • Are empty containers cleaned and stored properly?	Y N N/A	Findings and Follow Up Actions:
Stormwater BMPs and Treatment Structures: *Visually inspect all stormwater infrastructure and treatment BMPs. Complete private facility inspection forms where applicable.*	Y N N/A	Findings and Follow Up Actions:
Observation of Non-Stormwater Discharges: *Visually inspect the site for illicit discharges and/or evidence of dumping or washing into the storm drainage system.*	Y N N/A	Findings and Follow Up Actions:
Additional Findings: *Describe additional inspection findings and follow-up actions, if needed.*		

IV. FOLLOW-UP ACTION (check all that apply):

- ☐ Daily operations of the site are not a concern for significant pollutant discharge to the MS4; Close File
- ☐ Site activities/conditions are a concern for pollutant discharge to the MS4; Prepare letter and schedule follow-up inspection
- ☐ Observed illicit discharge; Refer for enforcement
- ☐ Other: _____

FOLLOW-UP INSPECTION (IF NEEDED)	
INSPECTION DATE: TIME:	INSPECTOR(S) NAME:
WEATHER INFORMATION:	PERSONS PRESENT DURING INSPECTION:
OBSERVATIONS/FINDINGS:	FOLLOW-UP ACTION: ☐ Problem Resolved; Close File ☐ Problem Persists; Refer for Enforcement ☐ Other: _____

Industrial/Commercial Facilities Inspection Strategy
Appendix C

Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan

Gladstone IDDE Program and Industrial/Commercial Facilities

Enforcement Response Plan

April 4, 2023

Background:

Consistent with Schedule A.3.c of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, the City of Gladstone must continue to implement and enforce a comprehensive program to detect and eliminate illicit discharges into the MS4, to the extent allowable by state laws. In addition, co-permittees must continue to implement procedures to prevent, contain, and respond to spills, as well as seepage from the sanitary sewer system, which may discharge into the MS4 in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System (OERS). An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater. Conditional exceptions are identified in Schedule A.1.d of the MS4 Permit issued September 15, 2021. Procedures and processes required by the MS4 Permit are to be documented or referenced in the SWMP Document.

Purpose:

The purpose of this document is to fulfill requirements of Schedule A.3.c.ii of the September 15, 2021 MS4 permit by describing the steps the City will follow in order to implement enforcement and response procedures in order to implement and enforce a comprehensive program to detect and eliminate illicit discharges into the MS4, to the extent allowable by state laws .

Permit Language:

Schedule A.3.c.ii
Enforcement Procedures

The co-permittees must continue to implement their enforcement and response procedures as developed under the previous permit. The SWMP Document must describe or reference the enforcement and response procedures. The procedures should describe how repeat violations are addressed; the timelines for compliance; specifically address commercial and industrial facilities or activities as described in Schedule A.3.g of this permit; and consider factors such as the amount and type of pollutant discharged, and whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented.

Procedures:

Once an illicit discharge is confirmed and the source is located, the City will immediately evaluate steps to remove the discharge.

In cases where the source of an illicit discharge has not been immediately identified and controlled by the initial responders, Public Works will implement this *Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan.* If sampling is necessary, The City maintains an IGA with Clackamas County WES to conduct stormwater sampling and analysis as needed. In some cases, professional services may be used to conduct sampling.

If a responsible party is identified as the source, the City can choose to initiate enforcement. Enforcement actions will be of a progressive nature. When determining enforcement actions for each event, the City will weigh a number of factors described herein in order to determine a specific enforcement action for each event. The discharger will always be required to stop and clean up the discharge immediately. The City may contact the site owner or responsible party and provide technical assistance or enforcement to address or control the discharge. Based on the amount and type of pollutant discharged, whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented, if the discharge is caused by a repeat offender, the City may conduct further enforcement actions. The City may take steps to control the discharge in an emergency as needed.

The City will document all complaints or reports of illicit discharges into and from the MS4 and all associated investigation activities. Complaint tracking information from each year will be summarized in the following Annual Report.

The City may require or apply any of the following control options, when appropriate for the discharge:

- Removing an illicit connection to the storm sewer from sanitary sewer system pipe, floor drainpipe, or other illicit connection;
- Implementing operational source control BMPs (e.g., cease use of soap when washing vehicles; wash vehicles indoors);
- Directing discharge to dry land or sanitary sewer, if permitted;
- Construction of a water quality facility (e.g., oil/water separator);
- Capturing and hauling wastewater off-site for proper disposal; or
- Applying for a discharge permit from DEQ.
- Deny use of the MS4 system until the illicit discharge is ceased and corrective action is completed.

Enforcement Action Options:

The City of Gladstone may implement provisions of the GMC in conducting enforcement activities related to illicit discharges. Enforcement actions will be progressive in nature, based on whether the discharge was a repeat violation, the amount and type of pollutant discharged, whether the discharge was accidental or intentional and whether the discharge could have been prevented.

Generally, a verbal warning is given (if a responsible party is identified) or a written notification is distributed, requiring an immediate stop to the discharge. Under GMC Chapter 13.15.020(3), the City Administrator and other duly authorized employee shall be permitted to enter properties to inspect, observe, monitor, measure, and sample the municipal storm sewers.

Depending on the nature of the discharge, clean up measures may be conducted by the responsible party or City. If the City conducts clean-up efforts, an additional 20 percent expense will be added to the code for administrative overhead (Chapter 8.04.170). Follow up inspections and monitoring of the site/ source will be conducted by the City.

Samples collected at the time of the observed illicit discharge will inform remediation/clean up efforts and be used to establish any additional fees, fines, posted notices or penalties. Per GMC Chapter 8.04.149, the City Administrator or designee may also abate nuisances through the municipal court or as described in GMC Chapters 8.04.150 to 8.04.200. The following penalties in addition to a verbal and handwritten notice may be enforced per Gladstone Municipal Code in a progressive manner based on whether the discharge was a repeat violation, the amount and type of pollutant discharged, whether the discharge was accidental or intentional and whether the discharge could have been prevented:

13.15.030 Enforcement—Violation—Penalty.

(1) The City Administrator or designee shall enforce the provisions of this chapter.

(2) Failure to comply with any provision of this chapter is a Class “A” Infraction.

(3) Any person convicted of violating any provision of this chapter may be denied the use of the municipal storm water sewer system until the “illicit discharge” is ceased and corrective action is completed to accomplish the objective of this chapter.

8.04.200 Violation—Penalty.

Violation of any provision of this chapter shall be a Class “A” infraction.

(1) Each day’s violation of a provision of this chapter constitutes a separate offense.

(2) Cleanup may be conducted by the City at the expense of the responsible party and an additional 20 percent expense will be added (GMC Chapter 8.04.170).

Timelines for Compliance:

Once the source of an illicit discharge is determined, The City must take appropriate action to eliminate the illicit discharge, including an initial evaluation of the feasibility to eliminate the discharge, within 5 working days. If the City determines that the elimination of the illicit discharge will take more than 15 working days due to technical, logistical, or other reasonable issues, the City must develop and implement an action plan to eliminate the illicit discharge in an expeditious manner within 20 working days of source identification.

Repeat violations: If the responsible party of an illicit discharge is determined to be a repeat offender, penalties will escalate. Depending on the nature of the discharge and repeat violations, the following may apply:

- Cleanup may be conducted by City at the expense of the responsible party and an additional 20 percent expense will be added (GMC Chapter 8.04.170).
- Any person convicted of violating any provision of this chapter may be denied the use of the municipal storm water sewer system until the “illicit discharge” is ceased and corrective action is completed.
- Issuance of a Class “A” infraction fine per Gladstone Municipal Code.
- Each day that the responsible party is in violation of Gladstone Municipal Code provision constitutes a separate offense.

Commercial and Industrial Facilities or Activities:

Commercial and industrial facilities or activities that address MS4 Permit Schedule A.3.g and result in an enforcement action will utilize this Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan.

Amount and Type of Pollutant Discharged: For each discharge enforcement, the City will consider the amount and type of the pollutant discharged when determining the enforcement

action. For instance, a large amount of a highly toxic pollutant will result in a greater enforcement action than a discharge of a small amount of a minimally toxic pollutant.

Accidental or Intentional Discharge: For each discharge, the City will consider whether the discharge was accidental. Intentional discharges will carry a stronger enforcement action than discharges that are accidental by nature.

Preventable: For each discharge, the City will consider whether the discharge was preventable. Discharges that are determined to have been preventable will carry a stronger enforcement action than those are determined to be non-preventable.

Escalating Enforcement Sequence:

1. Notice to correct
2. Notice of violation
3. Stop work order
4. Civil penalty
5. Abatement

Appendix K

Hydromodification Assessment and Retrofit Strategy Update

City of Gladstone Hydromodification Assessment and Stormwater Retrofit Strategy Update

October 2023

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City of Gladstone Hydromodification Assessment and Stormwater Retrofit Strategy Update

October 17, 2023

Background

Consistent with Schedule A.1.a of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, The co-permittees must continue to implement, adaptively manage, and enforce a Stormwater Management Program (SWMP) designed to reduce pollutants from the MS4 to the maximum extent practicable, to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act. Compliance with the MS4 Permit and implementation of the DEQ-approved SWMP Document in accordance with Schedule A.2, establishes the MEP requirement, unless DEQ modifies the permit as provided in Oregon Administrative Rule (OAR) 340-045-0055 to require additional controls.

Purpose

The purpose of this document is to fulfill requirements of Schedule A.3.h. of the September 15, 2021 MS4 permit by providing an assessment of any outcomes related to the 2015 Hydromodification Assessment and Stormwater Retrofit Strategy reports .

Permit Language

Schedule A.3.h

Infrastructure Retrofit and Hydromodification Assessment Update

The co-permittees must continue to consider the impacts of policy, capital improvements, and retrofit projects on MS4 discharges to receiving waters, considering the goals and proposed actions described in the previous permit's Hydromodification Assessment and Stormwater Retrofit Strategy reports.

i. Documentation

The co-permittees are required to include in the third Annual Report of this permit term, an assessment of any outcomes related to the Hydromodification Assessment and Stormwater Retrofit Strategy reports. This update may be an appendix or a subsection of the report, and must include, at a minimum:

(A) An assessment of how the Hydromodification Assessment and Stormwater Retrofit Strategy have been used, considered, or implemented since the time the reports were completed;

(B) Progress toward or completion of projects identified in the Retrofit Strategy priority

list, and a qualitative assessment of the benefits of those projects;

(C) Description of any further actions taken as a result of the Hydromodification Assessment, and a rationale for those actions since the writing of the reports;

(D) Narrative describing progress toward addressing gaps in hydromodification information or data related to waterbodies within the co-permittees' jurisdiction as identified in the Hydromodification Assessment; and,

(E) New goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification and/or water quality impacts resulting from historical development/infrastructure, and for improving retrofit planning, considering information gathered in the time since the completion of the reports.

General Information

Hydromodification Assessment:

Brown and Caldwell (BC) completed a hydromodification assessment for the City of Gladstone (City) in August of 2015. This study was conducted in accordance with the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit.

Hydromodification of stream channels is caused by both natural and man-made factors. The study was focused on hydromodification impacts associated with urbanization and MS4 discharges. As a highly urbanized area, past development in the City has impacted stream conditions through the channelization and piping of natural channels, resulting in few remaining open-channel areas in the city. As such, the hydromodification assessment was focused on the open-channel portion of Rinearson Creek.

The hydromodification assessment included a review of existing planning documents, a geographic information system (GIS) desktop evaluation of watershed conditions, and targeted field assessments to identify hydromodification indicators. Based on these evaluations, the hydromodification assessment revealed the following conclusions:

• Current land use and future development patterns in the city indicate limited potential for future flow increases.

• Observed stream channel segments show minor signs of hydromodification.

• Current stormwater design standards include mechanisms to mitigate hydromodification impacts but have barriers to consistent implementation.

• Deferred maintenance of stormwater infrastructure has the potential to exacerbate/intensify channel degradation.

In light of these conclusions, it was recommended that the City implement the following strategies to help address hydromodification impacts. The following recommendations are expanded on in section 8 of the 2015 Hydromodification Assessment:

• Establish a schedule and funding mechanism to support implementation of stormwater capital improvement projects (CIPs) to minimize flooding and improve natural stream conditions.

• Establish a maintenance schedule that includes annual inspections and removal of sediment and debris around culverts and structures on Rinearson Creek.

• Conduct annual documentation of stream channel conditions in locations of proposed and completed in-stream projects.

• Update existing stormwater design standards for consistency with current Clackamas County (County) standards.

The conclusions and recommendations outlined in the hydromodification assessment were intended to be used to inform City decisions related to stormwater maintenance, design standards, and the selection of CIPs.

Stormwater Retrofit Strategy:

The City's 2012 NPDES MS4 Permit required development of a Stormwater Retrofit Strategy and identification of stormwater retrofit projects to aid in water quality improvement. Specific 2012 NPDES MS4 permit requirements (Schedule A.6.b) relating to the Stormwater Retrofit Strategy are listed below:

1. Stormwater Retrofit Strategy statement and summary, including objectives and rationale

2. Summary of current stormwater retrofit control measures being implemented, and current estimate of annual program resources directed to stormwater retrofits

3. Identification of developed areas or land uses impacting water quality that are high-priority retrofit areas

4. Consideration of new stormwater control measures

5. Preferred retrofit structural control measures, including rationale

6. A retrofit control measure project or approach priority list, including rationale, identification, and map of potential stormwater retrofit locations where appropriate, and an estimated timeline and cost for implementation of each project and approach

The City of Gladstone's Stormwater Retrofit Strategy was included in section 4 of the 2014 Gladstone Stormwater Master Plan (Master Plan) (See Appendix A). As the methodology for identifying water quality improvement projects or CIPs and stormwater retrofits is the same, the City opted to conduct both efforts as part of it's Stormwater Management Plan (SWMP). The collective effort, referred to as the water quality retrofit assessment, provides descriptions of the objectives, methodology, project

identification (i.e., project list), and applicability to the City's NPDES MS4 permit requirement(s). Identified water quality CIPs were coordinated with flood control CIPs (identified in Section 3.4 of the 2014 Gladstone Stormwater Master Plan) to develop a comprehensive project list to address stormwater quality and quantity management and NPDES MS4 permit compliance in the city (2014 Gladstone Stormwater Master Plan Section 5).

Water quality improvement projects were initially identified through a review of system mapping and GIS information including aerial photos, existing (public and private) vacant areas, publicly owned lands, existing and future condition land uses, topography, and locations where flood control CIPs are needed.

The City's stormwater collection and conveyance system discharges through 32 modeled stormwater outfalls, representing 26 major drainage basins. Stormwater is discharged to the Willamette River (directly or via Rinearson Creek), the Clackamas River, or the Clackamas County-owned stormwater collection and conveyance system. Each major basin was individually reviewed in accordance with the following steps in order to identify initial water quality opportunity areas for water quality improvement projects and stormwater retrofits:

Step 1: Identify vacant lands

Step 2: Review land use

Step 3: Review soils

Step 4: Identify placement/location within the overall conveyance system

Step 5: Identify available right-of-way

Step 6: Review proposed flood control project needs

In conjunction with the methodology described in Section 4.2 of the 2014 Gladstone Stormwater Master Plan, initial water quality improvement projects were reviewed with City staff at a workshop on September 16, 2013. During the workshop, project feasibility and practicability was discussed. Additional water quality opportunity areas/projects identified by City staff were also discussed. Based on City feedback and, in some cases, field reconnaissance, a recommendation to include the project as a CIP in the Stormwater Management Plan was made. Table 4-1 of the 2014 Gladstone Stormwater Master Plan summarizes the initially identified water quality improvement project (by major basin), the associated project description, and feedback from City staff regarding feasibility. The CIP recommendation is also provided.

Reporting

Assessment of How the Hydromodification Assessment and Stormwater Retrofit Strategy Have Been Used, Considered, or Implemented Since the Time the Reports Were Completed:

Upon completion of the 2015 Hydromodification Assessment and 2014 Stormwater Retrofit Strategy documents, the City of Gladstone has used these documents as key elements of the City planning process when considering City Capital Improvement Projects (CIPs), proposed development projects, public works projects and public works programs/maintenance activities.

Stormwater Retrofit Strategy: The City uses the general process described in section 6 of the 2014 Gladstone Stormwater Master Plan to prioritize and implement the Stormwater Retrofit Strategy in relation to CIPs. The City conducted its CIP prioritization in conjunction with its stormwater financial evaluation. As described in Section 5 of the 2014 Gladstone Stormwater Master Plan, a total of 18 CIPs were developed to address flood control and water quality improvement within the city of Gladstone. To the extent possible, individual CIPs were developed to address multiple objectives (e.g., addressing flood control, regulatory compliance, water quality improvement, etc.). Please note that the Green Streets Pilot Project is not considered a CIP for inclusion in the overall prioritization, as it is a programmatic activity proposed for annual funding.

All CIPs identified in Section 5 of the 2014 Gladstone Stormwater Master Plan are considered priority for implementation. Due to the significant cost of the CIPs proposed, the City's limited existing stormwater fund balance when the Master Plan was developed, and the fact that a stormwater utility was not in use during the time of the creation of the Master Plan/Stormwater Retrofit Strategy, an extended implementation period of 30 years was used for the financial evaluation. Therefore, the 30-year implementation period as opposed to the traditional 20-year planning horizon was used for CIP scheduling.

During the CIP development workshop on October 29, 2013, City staff identified criteria to be used to schedule and prioritize CIP implementation (see Table 6-1 from the Master Plan). Criteria include historical/persistent problems, flooding/safety issues, regulatory compliance, ongoing maintenance, water quality improvement, project concurrence, and system sustainability. Identified criteria may overlap (e.g., water quality improvements would also address regulatory compliance). Such overlap creates an indirect weighting of projects for implementation based on the City's deemed importance of the overlapping issue. Though the prioritization criteria was developed in 2013, the City is still currently using this criteria today in order to prioritize City CIP projects.

Table 6-1. Multi-Objective CIP Prioritization Criteria		
Criterion	Higher Priority	Lower Priority
Historical problem/ persistent problem	City staff considers area or system to be of ongoing concern	New CIP identified as part of this evaluation
Flooding issue/safety concern	Significant hazard or threat to public safety or property System experiences flooding for longer than a 2-hour duration during a modeled 10-year design event Flooding currently observed.	No safety hazard addressed with CIP
NPDES permit requirements	Addresses NPDES permit requirement related to stormwater retrofits	Does not directly address NPDES permit requirements
Ongoing maintenance need	City staff frequently responds to citizen complaints in the area Frequent onsite response/maintenance required	City staff does not maintain facility outside of a typical maintenance cycle
Water quality improvement	Facility installation will directly reduce TMDL/303(d) pollutants to receiving water bodies.	CIP does not address water quality control
Concurrence	Required prerequisite or preliminary project for other CIPs.	CIP construction scheduling would not impact or be impacted by other stormwater or infrastructure projects
Sustainability	CIP would provide long-term benefits (aesthetics, livability, etc.)	CIP would address immediate need but may not enhance or improve benefits over the long term

The prioritization criteria identified in Table 6-1 (above and in section 6 of the Master Plan) was used to identify those highest priority CIPs that should be scheduled and completed first within the implementation period. CIPs that address the most criteria were considered highest priority. Therefore, multi-objective CIPs (that address flood control and water quality) were prioritized over CIPs that just address one objective.

After evaluating the CIPs and criteria, the highest priority projects in terms of scheduling are as follows:

1. Portland Avenue Bypass (CIP A-2.1, CIP A-2.2, and CIP A-2.3)
2. Riverdale Drainage Improvements (A-8)
3. Basin B Drainage Improvements (B-1)
4. Kraxberger Middle School Bioswale and Pipe Replacement (N-1)

Each of these projects addresses historic and reported flooding issues, water quality improvement and NPDES compliance, and maintenance needs. Construction of CIP A-2.1, A-2.2, and A-2.3 are specifically required prior to construction of numerous other upstream system improvements, thereby addressing the project concurrence criteria. Two of the projects (A-8 and B-1) are proposed to eliminate known

cross connections between the stormwater and sanitary conveyance systems and may reduce intermittent flooding.

It should be noted that water quality is also considered with CIPs proposed solely to address flooding issues, even though the CIP was not developed specifically with water quality in mind. Incorporation of sedimentation or pollution control manholes or sumps could be installed in conjunction with pipe and inlet replacement projects (see CIP F-1, M-1 and N-1 in section 5 of the Master Plan). Implementation of the annual green street pilot projects are scheduled and located when other construction activities including stormwater pipe replacement projects are being installed to provide efficiencies.

Though the above list of highest priority projects was created in 2013, the priority list generally currently holds true and is being used by the City for CIP planning and implementation purposes, though the following CIP priorities requiring immediate implementation have arisen since the priority list was created in 2013 and are currently being implemented:

-Sanitary Sewer I/I Project: Due to historic re-occurring sanitary sewer overflows (SSOs) to the Clackamas River at 115 W. Clackamas Blvd, DEQ implemented an enforcement action against the City in 2019 which resulted in an immediate mutual agreement and order (MAO) requiring the City to conduct an I/I study and complete construction projects to repair and eliminate I/I sources contributing to SSOs. The I/I study has been completed, mitigation projects have been designed and construction is anticipated to begin and finalize in 2024. The project involves the disconnection of a number of stormwater sources from the sanitary sewer which require public stormwater system upgrades and extensions. Stormwater capital funds are being used in conjunction with sanitary sewer capital funds to finance the project.

-Evergreen Lane Stormwater Project: In 2020, the City experienced immediate failure of a critical 18" stormline and outfall on Evergreen Lane which outflows to the Clackamas River. Public Works has designed a project to replace the 393' of failed 18" pipe. Construction is anticipated to begin and finalize in 2024. This failed critical section of the stormwater conveyance system required immediate planning implementation and has catapulted to the top of the stormwater CIP priority list.

Hydromodification Assessment: Section 7 of the 2015 Hydromodification Assessment (see table 7-1 below) identified CIPs from the 2014 Stormwater Master Plan (Master Plan) that have the potential to address hydromodification impacts. The 2014 Master Plan identified CIPs are focused primarily on improving capacity of the stormwater conveyance system and replacing degrading infrastructure.

However, some projects address hydromodification impacts by increasing upland flow control or increasing floodplain storage to restore a more natural flow regime.

The primary source document for existing data regarding the City's stormwater and surface water infrastructure is the 2014 Gladstone Stormwater Master Plan. The Master Plan includes a comprehensive inventory of stormwater infrastructure and hydrologic and hydraulic model results to evaluate system performance for existing and projected future stormwater flows. While the Master Plan does not include a comprehensive evaluation of in-stream flow conditions, the modeling provides estimates of contributing flows to the stream systems during various storm events.

As described in Section 4 of the 2015 Hydromodification Assessment, the City has few areas of

natural open channels. As such, the majority of CIPs identified in the Master Plan are focused on replacing aging stormwater infrastructure, improving conveyance capacity, or adding upland flow control. Table 7-1 of the 2015 Hydromodification Assessment (shown below) documents the CIPs from the Master Plan that have direct or indirect hydromodification benefits within the city.

Table 7-1. Stormwater Capital Improvement Projects with Potential Hydromodification Benefits

Basin	Project number	Project name	Description	Hydromodification strategy	Potential hydromodification benefits
Rinearson	A-1	Rinearson Creek Stream Enhancement	Remove existing berm and restore channel connection to floodplain; install native vegetation and wetland restoration	In-stream: stream stability and restoration	Increases stream capacity and floodplain connectivity, and enhances riparian zone
Rinearson	A-2	Portland Avenue Bypass and Upstream Improvements	Install series of piped conveyance to bypass and re-route peak flows down Portland Avenue and address upstream flooding and pipe capacity issues	In-stream: piped bypass system	Diverts high flows from Rinearson Creek during peak storm events
Rinearson	A-3	High School Storm Drain Improvements and Detention Facility	Replace existing pipe system and install large detention pond to provide flow attenuation for upstream basins	Upland: flow control	Provides upland flow control and opportunities for infiltration
Rinearson	A-4	High School Rain Garden	Install rain garden to provide treatment and flow attenuation for upstream areas	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement
Rinearson	A-5	Tryon Rain Garden	Install rain garden to provide treatment and flow attenuation for upstream areas	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement
Rinearson	A-7	Meldrum Bar Bioswale	Install stormwater bioswale to provide treatment and flow attenuation for upstream areas	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement
Rinearson	A-8	Riverdale Drainage Improvements	Install stormwater planters to improve drainage and water quality	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement
Clackamas	B-1	Basin B Drainage Improvements	Install stormwater planters to improve drainage and water quality	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement
Clackamas	H-1	System H Channel Improvement	Remove invasive species and replant riparian area with native plants	In-stream: riparian zone restoration	Improves riparian area habitat function
Kellogg	N-1	Kraxberger Middle School Bioswale and Pipe Replacement	Install bioswale and upsize existing pipes to increase storage and conveyance capacity	Upland: flow control	Facilities could provide flow attenuation in addition to water quality improvement

All	N/A	Green Streets Pilot Project	Install green street LID systems in available ROW as opportunities arise	Upland: flow control	LID facilities could provide flow attenuation in addition to water quality improvement

Though the above list of highest priority projects relating to hydromodification was created in 2013, the priority list generally currently holds true and is being used by the City for CIP planning and implementation purposes, though the following CIP priorities requiring immediate implementation have arisen since the priority list was created in 2013 and are currently being implemented:

-Sanitary Sewer I/I Project: Due to re-occurring sanitary sewer overflows (SSOs) to the Clackamas River at 115 W. Clackamas Blvd, DEQ implemented an enforcement action against the City in 2019 which resulted in an immediate mutual agreement and order (MAO) requiring the City to conduct an I/I study and complete construction projects to repair and eliminate I/I sources contributing to SSOs. The I/I study has been completed, mitigation projects have been designed and construction is anticipated to begin and finalize in 2024. The project involves the disconnection of a number of stormwater sources from the sanitary sewer which require public stormwater system upgrades and extensions. Stormwater capital funds are being used in conjunction with sanitary sewer capital funds to finance the project.

-Evergreen Lane Stormwater Project: In 2020, the City experienced immediate failure of a critical 18" stormline and outfall on Evergreen Lane which outflows to the Clackamas River. Public Works has designed a project to replace the 393' of failed 18" pipe. Construction is anticipated to begin and finalize in 2024. This failed critical section of the stormwater conveyance system required immediate planning implementation and has catapulted to the top of the stormwater CIP priority list.

CIP A-1 from section 5 of the 2014 Master Plan includes restoration of Rinearson Creek near Risley Avenue. The project would provide direct hydromodification benefits by increasing channel storage, improving floodplain connection, and enhancing the riparian corridor. The Master Plan also includes CIP A-2 to address capacity issues and reported flooding in the middle portion of Rinearson Creek and along Portland Avenue by installing a piped bypass system to divert peak flows away from the stream channel.

In addition to these two in-stream projects, the Master Plan includes multiple projects that add upland flow control in the form of stormwater planters, rain gardens, bioswales, or other LID stormwater management systems. While the systems would be designed with a focus on water quality treatment, they would also provide hydromodification benefits by promoting infiltration and reducing flows to downstream channels. In select locations, detention ponds were proposed to aid in flow attenuation.

The hydromodification assessment presented in Sections 4 through 7 of the 2015 Hydromodification Assessment identifies the hydromodification impacts and potential strategies to offset or mitigate those impacts. Observed stream channels in the City display hydromodification impacts associated with past development activities. Such activities included the channelization and piping of natural stream channels, encroachment into riparian areas, and construction of culverts and other structures. As such, observed hydromodification indicators include minor areas of channel incision and bed/bank

erosion, localized flooding, and stream channel aggradation. Recent and future development activity in the city have been and are expected to be limited to small-scale redevelopment projects, which have not been and are not expected to significantly increase flow and alter the current state of the stream channel.

The results of the 2015 Hydromodification Assessment show that the City needed to continue to implement key programs and projects and develop more proactive maintenance schedules to address hydromodification impacts. The results of the hydromodification assessment have been used and are currently being used by the City of Gladstone as key a key element of the City planning process when considering City Capital Improvement Projects (CIPs), proposed development projects and public works programs/maintenance activities. Below are specific recommendations stated in the 2015 Hydromodification Assessment on how the City should use the assessment. The City has been and is currently following this guidance:

- Establish a schedule and funding mechanism to support implementation of stormwater capital improvement projects (CIPs) to minimize flooding and improve natural stream conditions.
- Establish a maintenance schedule that includes annual inspections and removal of sediment and debris around culverts and structures on Rinearson Creek.
- Inform the City's prioritization of CIPS
- Guide development of updated stormwater design standards
- Support operations and activities to maintain existing stream channels and structures

For further assessment about how the City has used the 2015 Hydromodification Assessment since it was created, refer to the following section "Description of any further actions taken as a result of the Hydromodification Assessment, and a rationale for those actions since the writing of the reports."

Progress toward or completion of projects identified in the Retrofit Strategy priority list, and a qualitative assessment of the benefits of those projects:

Funding for CIPs: As mentioned above, per the 2014 Stormwater Retrofit Strategy and Stormwater Master Plan, CIP implementation was projected over a 30-year period as the City did not have a stormwater utility fund in place at the time the Retrofit Strategy and Master Plan were created.

Per the Stormwater Retrofit Strategy and Master Plan (see Section 6.1 and 6.2) recommendations, stormwater utility rates and system development charges (SDCs) were implemented in 2017 in order to support maintenance of the stormwater system and develop a capital fund for CIPs. The amounts implemented differ from the Stromwater Retrofit Strategy and Master Plan recommendations as City policy makers implemented the rates and charges that were most feasible at the time. The current City stormwater utility fee is $14.28 per month for residential customers. The current stormwater SDC is $3,616 per EDU. The stormwater fund generated $997,899 for the 2023 fiscal year and anticipates generating $985,500 for the 2024 fiscal year. The City currently allocates $831,327 per year over the 2023-2025 biennium to the stormwater capital fund for CIPs. The City currently has $2,302,281 in the stormwater capital fund for CIPs.

Funding for Vehicles and Equipment: An annual cost of $75,000 was recommended for replacement of vehicles and equipment in support of the stormwater system (street sweeper, vactor, CCTV truck, emergency response jetter, etc.). After the 2017 implementation of the stormwater utility rate and SDCs, the City was able to allocate funds into a stormwater vehicle maintenance and vehicle replacement fund as well as purchase a Vactor Combo truck and a CCTV camera truck as well as replace the City street sweeper in order to support maintenance of the stormwater system. For the 2023-2025 biennium, the City currently allocates $75,000 per year for stormwater vehicle and equipment replacement/maintenance.

Funding for Staff: At the time of the creation of the Stormwater Retrofit Strategy and Master Plan, due to limited staff availability, preventative maintenance of the stormwater system was not performed routinely and proactively. The City's existing public works department consisted of six full time staff that were shared amongst stormwater, sanitary, water, parks, and streets. There was no dedicated stormwater staff. Preventative maintenance is essential to optimizing functionality and performance of a stormwater system. Each identified CIP requires routine maintenance to ensure ongoing operation. Such maintenance efforts include regular Vactoring and debris removal of catchbasins, manholes, conveyance system piping and ditches; TV-inspection of pipes; planting and grading of vegetated stormwater facilities; trash, debris, and invasive vegetation removal along creeks and streams; and inspection and repair of hard infrastructure (culverts, manholes, outfalls, outlet control structures).The financial analysis recommended the addition of 2.5 full time employees (FTE) to supplement existing staff in support of a preventative stormwater maintenance program. With the addition of staff, and as preventative maintenance activities are conducted and tracked at specified intervals, the staffing allocation was recommended to be revisited amongst all utilities to ensure that adequate levels of service are achieved amongst all utilities. Public Works staffing has expanded to currently include a total of 17 FTEs with 3.2 FTEs dedicated to stormwater staffing and 2 FTEs of the stormwater staff dedicated to stormwater field maintenance activities. The City is currently performing the level of stormwater system maintenance recommended in the Stormwater Retrofit Strategy and Master Plan.

CIPs: The following is a list of Retrofit Strategy and Master Plan recommended CIPS from section 5 of the 2014 Stormwater Master Plan that the City has implemented. For detailed descriptions of each recommended CIP, refer to section 5 of the 2015 Gladstone Stormwater Mater Plan:

CIP A1. Rinearson Creek Stream Enhancement: Since the development of the Retrofit Strategy and Master Plan, the City has begun implementing the Rinearson Creek stream enhancement project on a Public Works staff maintenance level. During the immediate years following the Retrofit Strategy development, Public Works staff annually removed vegetation and minimal debris from Rinearson Creek from Beatrice to the western end of the Olson Wetlands. However, due to private property concerns, annual vegetation and debris removal maintenance currently merely occurs on the Olson wetlands frontage, which is City property. This routine maintenance has proven to demonstrate the benefits of increased stream flow, resulting in a significant reduction of flooding. Further instream vegetation and debris removal is being considered for future implementation.

The City considers removing the existing 500' of berm along the Olson Wetlands in order to restore connectivity between the creek and wetlands a high priority as capital funding allows in the future.

CIP A-2. Portland Avenue Bypass and Upstream Improvements: As recommended in the Retrofit Strategy and Master Plan, the City considers CIP A-2 a high priority in order to mitigate flooding of the Glen Echo Wetlands and Rinearson Creek, while improving water quality by disconnecting catch basins from the sanitary sewer system and adding enhanced water quality facilities along Portland Avenue. The City has begun implementing the CIP in phases described below which have been most opportunistic and financially feasible to date. Further continuation of phase implementation is currently being considered.

CIP A-2.2 Sanitary Sewer Disconnection: Catch basin leads draining to the sanitary sewer systems on Portland Avenue between Clarendon Street and Arlington Street were disconnected and connected to the stormwater conveyance system in conjunction with the East Clarendon Street Project completed in 2020. These disconnects have proved beneficial in improving water quality and mitigating SSOs to the Clackamas River.

CIP A-2.4 Duniway to Barclay Pipe Replacement/Realignment: In Conjunction with the 2020 Gladstone Civic Center development project, the City was able to replace and realign the existing 12" and 18" piping on Duniway with 116 LF of 12" HDPE (MH A2987 to A2986) and 252 LF of 18" HDPE (MH A2986 to A2980), respectively.

In conjunction with the 2020 Gladstone Civic Center Project, the City was able to replace and realign the existing 18" CSP with 692 LF of 24" HDPE from Duniway to the intersection of Barclay St. and Watts St. (MH A2980 to A2962), as well as install a ditch inlet near A2980 to accommodate flow from the Glen Echo Wetlands, which have historically flooded this area during storm events. The improvements have proved beneficial in improving flows and mitigating flooding of the Glen Echo wetlands. However, due to grade issues downstream on Portland Avenue south of Barclay, maximum flow is not currently achievable. Maximum flow will be available once further phases of CIP A-2 are completed and piping grades are altered on Portland Avenue south of Barclay.

In conjunction with the Public Works Barclay Avenue Stormwater Project, the City was able to install 385 LF of new 30" HDPE from Watts St. to Portland Ave. along Barclay (MH A2962 to A3300). This project has proved beneficial in the sense that it alleviates flows from the problematic Watts St. stormline that travels behind the Gladstone High School stadium and has mitigated flooding of the Glen Echo wetlands. However, due to grade issues downstream on Portland Avenue south of Barclay, maximum flow is not currently achievable. Maximum flow will be available once further phases of CIP A-2 are completed and piping grades are altered on Portland Avenue south of Barclay.

CIP A-5. Tryon Rain Garden: In conjunction with the 2020 Tasso Hills development project, the Glen Echo church property was sold for development of the subdivision. The project was required to install two vegetated stormwater quality ponds with flow control manholes as well as an additional stormwater planter. The stormwater facilities have proven beneficial in increasing water quality and quantity for the subdivision drainage as well as drainage upstream in the conveyance system.

CIP A-8. Riverdale Drainage Improvements: As result of the current MAO with DEQ for elimination of Gladstone SSOs, the City has developed plans as part of the City-wide I/I reduction project previously discussed to disconnect the Riverdale catch basins from the sanitary sewer system. The plans include the installation of catch basin replacements and a stormwater piping system on Riverdale Drive draining to River Road and traveling north to Meldrum Bar Park Road where the new piping will extend west and connect into the existing stormwater conveyance system on Meldrum Bar Park Road near existing inlet

A0102. This project is expected to begin construction and finalize in 2024. This project is expected to be beneficial in eliminating SSOs to the Clackamas River and improving local water quality.

CIP Green Streets Pilot Project: In 2017, following the development of the Stormwater Retrofit Strategy and Master Plan, the City created City stormwater design standards to require water quality standards for development and City projects. As a result, a number of water quality facilities have been and are currently installed as retrofits of the City stormwater conveyance system in conjunction with development and Public Works projects. This has been beneficial in improving water quality and quantity throughout the City stormwater conveyance systems as well as local waterways.

Description of any further actions taken as a result of the Hydromodification Assessment, and a rationale for those actions since the writing of the reports

As result of the 2015 Hydromodification Assessment recommendations, the City has taken the following actions:

Establish a schedule and funding mechanism to support implementation of stormwater capital improvement projects (CIPs) to minimize flooding and improve natural stream conditions:

Funding for CIPs: As mentioned above, per the 2014 Stormwater Retrofit Strategy and Stormwater Master Plan, CIP implementation was projected over a 30-year period as the City did not have a stormwater utility fund in place at the time the Retrofit Strategy and Master Plan were created.

Per the Stormwater Retrofit Strategy and Master Plan (see Section 6.1 and 6.2) recommendations, stormwater utility rates and system development charges (SDCs) were implemented in 2017 in order to support maintenance of the stormwater system and develop a capital fund for CIPs. The amounts implemented differ from the Stromwater Retrofit Strategy and Master Plan recommendations as City policy makers implemented the rates and charges that were most feasible at the time. The current City stormwater utility fee is $14.28 per month for residential customers. The current stormwater SDC is $3,616 per EDU. The stormwater fund generated $997,899 for the 2023 fiscal year and anticipates generating $985,500 for the 2024 fiscal year. The City currently allocates $831,327 per year over the 2023-2025 biennium to the stormwater capital fund for CIPs. The City currently has $2,302,281 in the stormwater capital fund for CIPs.

Funding for Vehicles and Equipment: An annual cost of $75,000 was recommended for replacement of vehicles and equipment in support of the stormwater system (street sweeper, vactor, CCTV truck, emergency response jetter, etc.). After the 2017 implementation of the stormwater utility rate and SDCs, the City was able to allocate funds into a stormwater vehicle maintenance and vehicle replacement fund as well as purchase a Vactor Combo truck and a CCTV camera truck as well as replace the City street sweeper in order to support maintenance of the stormwater system. For the 2023-2025 biennium, the City currently allocates $75,000 per year for stormwater vehicle and equipment replacement/maintenance.

Funding for Staff: At the time of the creation of the Stormwater Retrofit Strategy and Master Plan, due to limited staff availability, preventative maintenance of the stormwater system was not performed

routinely and proactively. The City's existing public works department consisted of six full time staff that were shared amongst stormwater, sanitary, water, parks, and streets. There was no dedicated stormwater staff. Preventative maintenance is essential to optimizing functionality and performance of a stormwater system. Each identified CIP requires routine maintenance to ensure ongoing operation. Such maintenance efforts include regular Vactoring and debris removal of catchbasins, manholes, conveyance system piping and ditches; TV-inspection of pipes; planting and grading of vegetated stormwater facilities; trash, debris, and invasive vegetation removal along creeks and streams; and inspection and repair of hard infrastructure (culverts, manholes, outfalls, outlet control structures).The financial analysis recommended the addition of 2.5 full time employees (FTE) to supplement existing staff in support of a preventative stormwater maintenance program. With the addition of staff, and as preventative maintenance activities are conducted and tracked at specified intervals, the staffing allocation was recommended to be revisited amongst all utilities to ensure that adequate levels of service are achieved amongst all utilities. Public Works currently has a total of 17 FTEs with 3.2 FTEs dedicated to stormwater staffing and 2 FTEs of the total stormwater staff dedicated to stormwater field maintenance activities. The City is currently performing the level of stormwater system maintenance recommended in the Stormwater Retrofit Strategy and Master Plan.

Establish a maintenance schedule that includes annual inspections and removal of sediment and debris around culverts and structures on Rinearson Creek/support operations and activities to maintain existing stream channels and structures: Since the development of the Hydromodification Assessment and Master Plan, the City has begun implementing Rinearson Creek stream enhancement on a Public Works staff maintenance level. During the immediate years following the Hydromodification Assessment development, Public Works staff annually removed vegetation and minimal debris from Rinearson Creek from Beatrice to the Western end of the Olson Wetlands. However, due to private property concerns, annual inspection and annual vegetation and debris removal maintenance currently merely occurs on the Olson Wetlands frontage, which is City property. Public Works staff also inspects and removes debris from culverts and structures along Rinearson Creek public right-of-way weekly during the rainy season. This routine maintenance has proven to demonstrate the benefits of increased stream flow, resulting in a significant reduction of flooding. The Rinearson Creek Olson Wetlands frontage has also been routinely cleared of invasive species and has been planted with native plants. Further instream vegetation and debris removal is being considered for future implementation. The City considers removing the existing 500' of berm along the Olson Wetlands in order to restore connectivity between the creek and wetlands a high priority as capital funding allows in the future.

Inform the City's prioritization of CIPS: The following is a list of recommended stormwater CIPS with potential hydromodification benefits from table 7-1 of the 2014 Hydromodification Assessment that the City has implemented. For detailed descriptions of each recommended CIP, refer to table 7-1 and section 7.2 of the 2015 Gladstone Hydromodification Assessment:

CIP A1. Rinearson Creek Stream Enhancement: As mentioned above, since the development of the Hydromodification Assessment and Master Plan, the City has begun implementing the Rinearson Creek Stream Enhancement Project on a Public Works staff maintenance level. During the immediate years

following the Hydromodification Assessment development, Public Works staff annually removed vegetation and minimal debris from Rinearson Creek from Beatrice to the Western end of the Olson Wetlands. However, due to private property concerns, annual inspection and annual vegetation and debris removal maintenance currently merely occurs on the Olson Wetlands frontage, which is City property. Public Works staff also inspects and removes debris from culverts and structures along Rinearson Creek public right-of-way weekly during the rainy season. This routine maintenance has proven to demonstrate the benefits of increased stream flow, resulting in a significant reduction of flooding. Further instream vegetation and debris removal is being considered for future implementation. The City considers removing the existing 500' of berm along the Olson Wetlands in order to restore connectivity between the creek and wetlands a high priority as capital funding allows in the future.

CIP A-2. Portland Avenue Bypass and Upstream Improvements: As recommended in the Hydromodification Assessment, the City considers CIP A-2 a high priority in order to mitigate flooding of the Glen Echo Wetlands and Rinearson Creek, while improving water quality by disconnecting catch basins from the sanitary sewer system and adding enhanced water quality facilities along Portland Avenue. The City has begun implementing the CIP in phases described below which have been most opportunistic and financially feasible to date. Further continuation of phase implementation is currently being considered.

CIP A-2.2 Sanitary Sewer Disconnection: Catch basin leads draining to the sanitary sewer systems on Portland Avenue between Clarendon Street and Arlington Street were disconnected and connected to the stormwater conveyance system in conjunction with the East Clarendon Street Project completed in 2020. These disconnects have proved beneficial in improving water quality and mitigating SSOs to the Clackamas River.

CIP A-2.4 Duniway to Barclay Pipe Replacement/Realignment: In Conjunction with the 2020 Gladstone Civic Center development project, the City was able to replace and realign the existing 12" and 18" piping on Duniway with 116 LF of 12" HDPE (MH A2987 to A2986) and 252 LF of 18" HDPE (MH A2986 to A2980), respectively.

In conjunction with the 2020 Gladstone Civic Center Project, the City was able to replace and realign the existing 18" CSP with 692 LF of 24" HDPE from Duniway to the intersection of Barclay St. and Watts St. (MH A2980 to A2962), as well as install a ditch inlet near A2980 to accommodate flow from the Glen Echo Wetlands, which have historically flooded this area during storm events. The improvements have proved beneficial in improving flows and mitigating flooding of the Glen Echo wetlands. However, due to grade issues downstream on Portland Avenue south of Barclay, maximum flow is not currently achievable. Maximum flow will be available once further phases of CIP A-2 are completed and piping grades are altered on Portland Avenue south of Barclay.

In conjunction with Public Works Barclay Avenue Stormwater Project, the City was able to install 385 LF of new 30" HDPE from Watts St. to Portland Ave. along Barclay (MH A2962 to A3300). This project has proved beneficial in the sense that it alleviates flows from the problematic Watts st. stormline that travels behind the Gladstone High School Stadium and has mitigated flooding of the Glen Echo wetlands. However, due to grade issues downstream on Portland Avenue south of Barclay, maximum flow is not currently achievable. Maximum flow will be available once further phases of CIP A-2 are completed and piping grades are altered on Portland Avenue south of Barclay.

CIP A-5. Tryon Rain Garden: In conjunction with the 2020 Tasso Hills development project, the Glen Echo church property was sold for development of the subdivision. The project was required to install two

vegetated detention stormwater ponds with flow control manholes as well as an additional stormwater planter. The stormwater facilities have proven beneficial in increasing water quality and quantity for the subdivision drainage as well as drainage upstream in the conveyance system.

CIP A-8. Riverdale Drainage Improvements: As result of the current MAO with DEQ for elimination of SSOs, the City has developed plans as part of the City-wide I/I reduction project previously discussed to disconnect the Riverdale catch basins from the sanitary sewer system. The plans include the installation of a catch basin replacements and a stormwater piping system on Riverdale Drive draining to River Road and traveling north to Meldrum Bar Park Road where the new piping will extend west and connect into the existing stormwater conveyance system on Meldrum Bar Park Road near existing inlet A0102. This project is expected to begin construction and finalize in 2024. This project is expected to be beneficial in eliminating SSOs to the Clackamas River and improving water quality.

Rinearson Natural Area Project: During the development of the 2015 Hydromodification Assessment, The Rinearson Natural Area Project was beginning its early stages. The project was essentially completed in 2018 by Falling Springs, a habitat development company. The Rinearson Natural Area Restoration Project is designed to provide high quality habitat for fish and wildlife injured by hazardous releases in the Portland Harbor Superfund site, as well as improve water quality and reduce stream temperatures. The restoration involved:

- Removing an earthen dam that blocked salmon, lamprey, and other fish from swimming up Rinearson Creek
- Reducing the size of the pond to cool water temperatures while maintaining habitat for western pond turtles
- Planting thousands of native plants and removing invasive vegetation throughout the project area
- Placing large wood in the stream for small fish to hide, rock piles in the uplands for mink to den, and snags for bald eagles and other birds to perch and hunt
- Protecting the site from human disturbance by only allowing recreational access on defined trails
- Re-meander Rinearson Creek to create a flowing channel system and maintain long-term connectivity to the Willamette River. A man-made dam feature currently creates ponding of the stream before discharge to the Willamette River.
- Reduce weeds and plant native vegetation to shade the stream channel and open water systems.

With construction complete, the project will now be monitored at least through 2028. After that, long-term stewardship of the site will begin, ensuring restoration benefits in perpetuity.

As a result of the restoration activities, the hydraulic gradient of the stream channel was altered, which impacts flow conditions and channel shape. These impacts are expected to be a net benefit to the natural system, as the channel and floodplain were restored to a more natural condition.

Dahl Beach Mitigation Project: The City partnered with the Port of Portland, Cascade Environmental, Mosaic Ecology, ECO, Clackamas River Basin Council and the Clackamas Soil and Water Conservation District on a stream enhancement project at Dahl Beach, at the confluence of the Clackamas and Willamette rivers. The Dahl Beach project was constructed during summer 2016, and Cascade has

worked with Mosaic Ecology to manage the site, which met its performance criteria during its 5 year monitoring and maintenance program. Although the project does not have significant hydromodification benefits for the city, the project enhances riparian and riverine habitat within the confluence area while providing a means to engage the public and community in restoration activities.

Guide development of updated stormwater design standards: Enhancements to existing stormwater design standards were recommended to align City standards with current Clackamas County standards. In 2017, Gladstone Public Works Design and Construction Standards were created to match and reference the most current Clackamas County WES standards. Public Works uses these standards to require development and City Public Works projects to meet water quality standards. The creation of the standards has proved beneficial in enhancing water quality and reducing the negative effects of urbanization relating to hydromodification.

Narrative describing progress toward addressing gaps in hydromodification information or data related to waterbodies within the co-permittees' jurisdiction as identified in the Hydromodification Assessment

As the City has been focusing its resources on implementing the activities outlined herein this document, no significant information/data has been collected to address information/data gaps relating to section 5 of the Hydromodification Assessment. Moving forward, the City will continue to prioritize and implement the Hydromodification Assessment, Stormwater Retrofit Strategy and Master Plan recommended activities in conjunction with assessing informational/data gaps identified in section 5 of the Hydromodification Assessment as resources and funding allow.

New goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification and/or water quality impacts resulting from historical development/infrastructure, and for improving retrofit planning, considering information gathered in the time since the completion of the reports.

As the City has been focusing its resources on implementing the activities outlined herein this document, naturally, no significant new information has been gathered or arisen for improving retrofit/hydromodification planning. Moving forward, the City will continue to prioritize implementation of the activities outlined herein as well as in the Hydromodification Assessment, Stormwater Retrofit Strategy and Master Plan as funding and resources allow. Ultimately, the City is dedicated to implementing an adaptive management approach to stormwater management and will continue to seek out and balance any new priorities, tools or goals that may arise and consider how they may improve, fit into or alter existing priorities.

Appendix L

Low Impact Development/Green Infrastructure Strategy

Gladstone Low Impact Development/Green Infrastructure Strategy

June 14, 2023

Background

Consistent with Schedule A.3.e.ii of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, The City of Gladstone must, by December 1, 2023, review and update or develop and begin implementation of a strategy to require to the maximum extent feasible, the use of Low Impact Development and Green Infrastructure (LID/GI) design, planning, and engineering strategies intended to minimize effective impervious area or surfaces, and reduce the volume of stormwater discharge and the discharge of pollutants in stormwater runoff from development and redevelopment projects.

Purpose

The purpose of this document is to fulfill requirements of Schedule A.3.e.ii of the September 15, 2021 MS4 permit by describing the City's current LID/GI Strategy.

General Information

The City of Gladstone currently uses a Low Impact Development (LID) and Green Infrastructure (GI) strategy to the maximum extent feasible in design, planning and engineering with the intent to minimize effective impervious area or surfaces and reduce the volume of stormwater discharge and the discharge of pollutants in stormwater runoff from development and redevelopment projects. In development of this strategy, City ordinances and development code were reviewed for current MS4 Permit compliance and opportunities to reduce the volume of discharge by design, engineering, and planning methods that prioritize water quality/treatment, onsite retention, infiltration, and evapotranspiration and the option of reuse where feasible, in order to make LID/GI the preferred and commonly used approach to site development.

Design Standards Support

Gladstone Public Works Design Standards currently requires that all new developments and re-developments resulting in 5,000 square feet or more impervious surface and/or a modification of existing impervious surfaces shall provide water quality treatment, infiltration and water quantity/flow control.

Municipal Code Support

Gladstone Municipal Code requires that the Public Works Design standards for surface water drainage shall apply to all new or redevelopment activities in the City of Gladstone that result in the creation or disturbance of 5,000 square feet or more impervious surface except for substantial improvement or lesser remodel or reconstruction of existing single-family or two-family dwellings.

Summary of Current Strategy and Future Outlook:

The City is currently implementing a strategy that requires to the maximum extent feasible, the use of LID/GI design, planning, and engineering strategies intended to minimize effective impervious area of surfaces, and reduce the volume of stormwater discharge and the discharge of pollutants in stormwater runoff from development and redevelopment projects. The current design, engineering and planning methods in which are currently being implemented per the Gladstone Municipal Code and Public Works Design Standards prioritize water quality/treatment, onsite retention, and infiltration. Where LID/GI controls that infiltrate or otherwise retain stormwater onsite are infeasible, extended filtration is required.

The current LID/GI Strategy lacks prioritization of evapotranspiration and the option of reuse where feasible. The City will update the Public Works Design Standards to include prioritization of evapotranspiration and the option of reuse where feasible by December 1, 2024.