City of Oregon City, Oregon

National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Discharge Permit

2022–2023 Annual Report

Prepared for the
Oregon Department of Environmental Quality

December 1, 2023

Assisted By:

CITY OF OREGON CITY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL STORMWATER SYSTEM ANNUAL REPORT

JULY 1, 2022 – JUNE 30, 2023

I, the undersigned, hereby submit this National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater System Annual Report in accordance with NPDES Permit No. 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.

11-27-2023

Vance Walker — Date
Public Works Operations Assistant Director
City of Oregon City

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1.0 INTRODUCTION

1.1 NPDES MS4 Permit Background and Permit Renewal

The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from the City of Oregon City (City) through the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (Permit) No. 101348, issued to Clackamas County and its co-permittees. Clackamas County co-permittees include the City of Oregon City along with the cities of Lake Oswego, Gladstone, West Linn, Milwaukie, Wilsonville, Happy Valley, Johnson City, and Rivergrove, the Oak Lodge Water Services District, Water Environment Services, and Clackamas County. Each co-permittee is a relatively small community, most having populations under 30,000 with some (Johnson City, Rivergrove) having populations significantly smaller.

This annual report bridges two effective permits. The City's effective NPDES MS4 Permit prior to October 1, 2021, was issued March 16, 2012, after a multi-year negotiation process with DEQ and an additional year-long delay related to an appeal. The 2012 Permit was not appealed, and thus maintained an effective date of March 16, 2012. The Permit expired on March 1, 2017, and the City submitted its Permit Renewal Application on February 27, 2017. The Permit Renewal Application required an evaluation of proposed program and Stormwater Management Plan (SWMP) modifications, development of Total Maximum Daily Load (TMDL) benchmarks, mapping, a maximum extent practicable (MEP) evaluation, updates to the City's environmental monitoring program, and an evaluation of proposed service area expansions and associated pollutant load estimates. The City's renewed NPDES MS4 Permit became effective on October 1, 2022.

Each co-permittee is required to submit an annual report, summarizing accomplishments and implementation of their individual SWMPs. This annual report documents stormwater management activities from July 1, 2022 to June 30, 2023 in conjunction with the City's 2012 and 2021 NPDES MS4 Permit. The **City's 2012 SWMP remains the effective NPDES MS4 program document for purposes of this annual report**. Oregon City submitted a new SWMP that reflect the requirements of the 2021 NPDES MS4 Permit in November, 2022. The DEQ accepted the new SWMP in March of 2023 and has confirmed that they will continue to review measurable goals based on the 2012 Permit until reporting year 2023 – 2024.

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 Permit.

Table 1: Summary of the NPDES MS4 Annual Report Requirements

	Annual reporting requirement	Location in document
a)	Status of implementing the stormwater management program and each control measure program element in Schedule A.3, including progress in meeting measurable goals and program tracking and assessment metrics identified in the SWMP Document.	Appendix A
b)	A summary of the adaptive management implementation and any changes or updates to programs made during the reporting year, including rationales for any proposed changes to the SWMP, and review of related new and historical monitoring data. This summary should also include discussion of the implications of or any findings related to recent years' adaptive management and/or changes made to the SWMP Document.	Section 2.0
c)	Any proposed changes to SWMP program elements that are designed to reduce TMDL pollutants.	Section 2.0
d)	A summary of education & outreach and public involvement activities, progress toward or achievement of measurable goals, and any relevant assessment of those activities. This should include planned adaptive management or other program enhancements to occur in the following years.	Appendix A (BMPs 4-1 through 4-5)
e)	A summary describing the number and nature of enforcement actions, inspections, and public education programs, including results of ongoing field screening and follow-up activities related to illicit discharges.	Appendix A (BMP 1-3)
f)	A list of entities referred to DEQ for possible 1200-Z NPDES general permit coverage based on co-permittee screening activities, a list of categories of facilities inspected, and an overview of the results of inspections of commercial and industrial facilities.	Appendix A (BMP 2-1)
g)	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
h)	A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year submitted in the DEQ-approved Data Submission Template, and any assessments or evaluations of that data completed by the co-permittees or an authorized third party.	Section 4.0 & Data Submitted Online
i)	Any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.	Section 4.0
j)	An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities (including the number of new post-construction permits issued) that occurred within the UGB expansion areas during the reporting year, and those forecast for the following year, where such data is available.	Section 5.0
k)	The details of all corrective actions implemented during the reporting year.	All corrective actions were covered under the Illicit Discharges Program (see BMP 1-3 in Appendix A)
l)	**Additional Annual Report requirements for 2023**:	
	• Low Impact Development (LID) Strategy	Attachment D
	• Construction Escalating Enforcement Procedures	Attachment E
	• Infrastructure Retrofit and Hydromodification Assessment Update	Attachment F

[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 2012 SWMP, as summarized in Appendix A.

The City's will be completing a five year look back survey as a replacement for the Willamette Basin TMDL Implementation Plan annual progress report.

2.0 ADAPTIVE MANAGEMENT PROCESS IMPLEMENTATION

2.1 Adaptive Management Program

In accordance with the issuance of the City's NPDES MS4 Permit (in 2012), the City was required to document their adaptive management approach to assess annually and modify, as necessary, existing and new SWMP components. The City submitted their approach to DEQ on November 1, 2012.

Historically, the City has implemented adaptive management principals to annually refine implementation methods and data collection activities in conjunction with their effective SWMP and BMPs. More significant modifications to SWMP activities occur every 5 years, in conjunction with the Permit renewal application and updated Permit requirements. The City's submitted adaptive management approach is consistent with the City's historical approach for implementing adaptive management principals.

Annually, as the City completes their NPDES MS4 annual report, the City reviews SWMP implementation through BMP-specific measurable 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 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 measurable goals and tracking measures to the BMP objective, and

3. Are resources available to make changes to the measurable goals and BMP objectives?

Additionally, at the end of the Permit term, technical investigations and studies completed over the Permit term are reviewed and used to help target and identify specific issues that need to be addressed to maintain waterbody health and help formulate BMP activities (measurable goals and tracking measures). During the 2012-2017 Permit term, such technical studies included a water quality trends analysis, pollutant load reduction evaluation, hydromodification assessment, and a retrofit assessment.

During the 2016-2017 Permit renewal application process, the City, with the assistance of a consultant, reviewed the adaptive management evaluation factors and the studies listed above. This information informed the City's MEP evaluation and proposed SWMP changes submitted as part of the Permit Renewal Application. Proposed program changes were categorized as an organizational change, a removed activity (due to completion), an implementation change (due to identified efficiencies and adjustments to internal processes and procedures), and a change due

to consolidation of activities. An updated (2017) SWMP was also included, reflecting refinement of BMPs, measurable goals, and tracking measures, for use in future permit negotiations and reissuance. After the new Permit was issued in 2021 the city, with the help of a consultant, developed a new SWMP and submitted it to DEQ in November of 2022. The 2022 SWMP was accepted by the DEQ in March of 2023. DEQ has confirmed that we are not expected to have implemented the New SWMP for this reporting term. However, the new SWMP does include adaptations to meet new permit requirements.

2.2 SWMP Updates for the 2021 – 2022 Reporting Year

The 2022-2023 reporting year is the eleventh year in which the City's effective 2012 SWMP has been implemented. For the 2022-2023 Permit year, a new SWMP was produced with measurable goals and tracking measures, to reflect the new 2021 Permit and was accepted by the DEQ in March 2023.

2.3 Monitoring Plan Updates for the 2020 – 2021 Reporting Year

As documented previously, the 2017 Comprehensive Clackamas County Stormwater Monitoring Plan (CCCSMP) is the effective monitoring plan for the City of Oregon City. The CCCSMP was updated in June of 2023 to reflect the new (2021) Permit monitoring requirements (Mercury, Pesticides, Dissolved Organic Carbon, & Alkalinity). The new requirements became effective July 1, 2023, and do not effect the reporting year of July 1st, 2022- June 30th, 2023.

3.0 SUMMARY OF PROGRAM EXPENDITURES

A summary of the City of Oregon City's revenue and expenditures for the 2022–2023 fiscal year and a projection of the City's revenue and expenditures for the 2023–2024 fiscal year are provided in Table 2, below. Projection of expenditures is considered draft at this time.

Table 2: Summary of Program Expenditures

Stormwater Fund (530)

City of Oregon City

	Fiscal Year			
	2022 Audited Actual	2023 Unaudited Actual	2024 Adopted Budget	2025 Adopted Budget
Beginning Fund Balance	$ 2,613,635	$ 3,032,621	$ 2,955,400	$ 1,748,800
Stormwater Fee Rates (per EDU per month)	Rate = $10.86 / $11.72 8% rate increase	Rate = $11.72 / $12.66 8% rate increase	Rate = $12.66 / $13.68 8% rate increase	Rate = $13.68 / $14.77 8% rate increase
Revenues				
Charges for Service	3,298,450	3,455,046	3,900,700	4,254,800
Intergovernmental	17,065	10,566	-	-
Interest Income	(7,179)	63,389	26,000	21,000
Miscellaneous Income	-	30,269	-	-
Erosion Control Permits	29,345	19,759	20,000	20,000
Project Management	44,621	79,898	66,800	63,600
TOTAL Revenues	3,382,302	3,658,927	4,013,500	4,359,400
Expenditures				
Personnel Services	1,265,833	1,191,933	1,460,300	1,547,500
Materials & Services	1,042,231	1,186,499	1,635,900	1,645,200
Capital Outlay Totals	213,770	493,581	1,670,500	1,590,000
Debt Service	1,482	1,481	1,400	1,500
Total Transfers	440,000	525,000	452,000	475,000
TOTAL Expenditures	2,963,316	3,398,494	5,220,100	5,259,200
Change in Fund Balance	418,986	260,433	(1,206,600)	(899,800)
Ending Fund Balance	$ 3,032,621	$ 3,293,054	$ 1,748,800	$ 849,000
Capital Outlay - Details				
Operations New Equip. >$5000	$ -	$ -	$ 50,500	$ 5,000
Capital Construction	213,770	493,581	1,620,000	1,585,000
	$ 213,770	$ 493,581	$ 1,670,500	$ 1,590,000
Transfers - Details				
Transfer to Building Reserve	$ 300,000	$ 300,000	$ 200,000	$ 200,000
Transfer to Equipment Replacement	140,000	225,000	252,000	275,000
	$ 440,000	$ 525,000	$ 452,000	$ 475,000

Stormwater - NPDES MS4 Annual Report - FY 2023

4.0 MONITORING DATA

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

Per the 2004 NPDES MS4 Permit requirements (Schedule B), the City of Oregon City, 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 Oregon City 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 CCCSMP was implemented beginning July 1, 2007, and minor editorial changes were made in 2008.

In conjunction with requirements of the 2012 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, macroinvertebrate (biologic) monitoring, and geomorphic monitoring were added to the CCCSMP. A description of the proposed time-composite sampling methodology was included as an appendix to the CCCSMP. Additional information such as quality assurance procedures was also added in conjunction with Schedule B.2 of the 2023 Permit.

In 2016, the City, in collaboration with other co-permittees, participated in a series of workshops to propose modifications to the CCCSMP due to completion of monitoring obligations under the 2012 NPDES MS4 Permit. Modifications reflected completion of some select, one-time monitoring obligations under the 2012 Permit and refinement of monitoring locations, parameters, and activities based on information collected over the Permit term. Key modifications included the following:

- Inclusion of Oak Lodge Water Services District and the City of Wilsonville instream, stormwater, and biologic monitoring activities;
- Removal of mercury and pesticide monitoring activities, as those obligations were 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 Clackamas County Service District #1's (CCSD #1s) geomorphic monitoring activities from the Plan, as physical conditions are evaluated during biologic (macroinvertebrate) monitoring activities; and
- Minor editorial updates to improve clarity and consistency with current practices.

Per Schedule B.2.e of the Permit and Section 7.2 of the CCCSMP, the City and other CCCSMP participants submitted to DEQ a 30-day notice of the proposed CCCSMP modifications for the Department's review and approval on December 16, 2016. As no response was received from

DEQ within 30 days, the proposed modifications were deemed approved without written approval. Implementation of the 2017 CCCSMP began July 1, 2017. For this reporting year (2022–2023), **the 2017 CCCSMP is the effective monitoring plan for the City of Oregon City until July 1, 2023**.

As described in the CCCSMP, the NPDES MS4 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 for the 2022–2023 reporting year included dry weather field screening, as described in the City's SWMP under the BMP 1-2: "Conduct Annual Dry Weather Field Screening." Results of the visual monitoring efforts are reported in Appendix A under the applicable BMP. Environmental monitoring also consists of instream sample collection and outfall sample collection, and the City's sampling efforts are outlined in more detail in Sections 4.2 and 4.3 and in the CCCSMP. Results of the instream and outfall sample collection efforts for this reporting year are provided in Appendix B.

To meet the requirements of the most recent 2021 Permit, the CCCSMP was updated and submitted to DEQ in March 2022. Based on a DEQ permit modification related to monitoring (initiated January 2023), the CCSMP was updated again and resubmitted to DEQ on May 30, 2023. The new plan reflects updated pesticide monitoring frequencies. It was accepted by the DEQ on June 7, 2023, and became effective July 1, 2023. Next year's annual report will be the first reporting year for the 2023 CCCSMP.

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

The 2017-2018 reporting year was the first full year implementing the revised 2017 CCCSMP. Until the July 1, 2023 CCSMP, there were no updates or modifications to the 2017 CCCSMP which is being reported on in this year's annual report.

In 2018, seven Clackamas County jurisdictions, including the cities of Gladstone, Lake Oswego, Milwaukie, Oregon City, West Linn, Wilsonville, and Oak Lodge participated in biological monitoring.

4.3 Summary of Monitoring Data

In accordance with the 2017 CCCSMP, Oregon City is required to conduct instream and outfall monitoring. Routine instream monitoring is required at six locations reflecting four tributaries to the Willamette River. Outfall monitoring is required at two outfall locations that discharge to the Clackamas River. Time-weighted composite (during storm events) and single grab samples are taken in accordance with the frequencies outlined in Table 3 below.

During the 2022-2023 monitoring year, the City of Oregon City collected all required outfall samples (three events at two sites) and instream samples (four events at six sites). Complete sampling results are summarized in Appendix B. The sampling results presented have been formatted to simplify the data review process.

Table 3: 2021–2022 Oregon City Monitoring Locations and Required Frequencies

Site #	Location	Sample Type	Required Frequency	Routine Sampling
In-Stream Monitoring				
OC010is	Abernethy Creek at 17082 Holly Ln (Holly Ln Bridge)	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
OC011is	Abernethy Creek at 316 17th St (17th at railroad trestle)	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
OC012is	Coffee Creek behind 415 S McLoughlin (outfall at Willamette)	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
OC013is	Park Place Creek behind 13530 Redland Rd	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
OC014is	Singer Creek at the north end of Singer Creek Park (Linn Ave)	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
OC015is	Singer Creek 502 7th St (MH - 37138 located on Center St)	Grab & Composite	4/year	Dry Weather (2/year) and Wet Weather (2/year)
Outfall Monitoring				
OC006ofm	Clackamas River at O.C. Shopping Center	Composite	3/year	Storm Event
OC007ofm	Clackamas River at Clackamette Cove	Composite	3/year	Storm Event

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

5.1 Summary of Land-Use Changes and UGB Expansions

The following land use/ zoning changes and/or annexations were approved by the City between July 1, 2022, and June 30, 2023:

- Zone Changes:
  - None

- Annexations:
  Rose Road Sewer Annexation – AN-22-0001 – 19024 Rose Road, 1.9 acres

5.2 Summary of Development Activities within the UGB

During the reporting year 2022 – 2023, there were 21 development applications (10 were constructed and placed in operation, 6 were permitted and are in some phase of construction or design and 5 were in the planning and plan review phase of development) reviewed and approved for compliance with water quality/water quantity standards. The projects that are completed and in operation included private detention chambers (2), private raingardens (4), public pond (1), private ponds (5), and miscellaneous roadside planters. Estimated drainage area related to development projects that commenced during the reporting year equals 57.91 acres.

There was one public improvement project (CIP), including a water quality and/or flow control project, for this reporting period. Details of these projects can be found in Appendix A

6.0 ADDITIONAL ACTIVITIES

The following stormwater-related training activities occurred within the City and are not currently documented in Appendix A.

BMP 4-5 – Ensure Municipal Staff Training in Stormwater Pollution Prevention

During this reporting year the Previous Water quality coordinator left the position and this tracking measure (i.e., tracking of municipal staff trainings) was neglected until the new water quality coordinator was hired in late January. The new water quality coordinator recorded 41 stormwater staff meetings conducted during the 2022-2023 reporting period. Dates, topics, and attendees are summarized below in Table 4 on the next page.

Table 4: Staff Meetings and Training

2022-2023

Date/Time	Attendees	BMP's /Topics	Items Discussed	Next Steps/Program
1/23/2023	Marcos Kubow, Mallory Ott	Introduction to Stormwater Quality Coordinator position	Digital File location and Organization. Important Documents to review	Review important documents and orient self with file locations
1/25 & 26/2023	Marcos Kubow, Alex Shmilenko	Vegetated Stormwater Facilities - Training	Water quality and quantity BMPs, seasonal maintenance, inspection process, Plant ID, & compliance.	Application of knowledge through inspections and compliance reports.
1/31/2023	Marcos Kubow, Mallory Ott	Temperature Total Maximum Daily Loads Replacements Informational Webinar	Timeline of implementation, defining principles of changes and why they are happening	Implement changes in temperature TMDL in next permit cycle
2/2/2023	Marcos Kubow	Water Quality Committee Meeting (ACWA)	Indigenous Health inequality in LA(s) of toxins found in fish, PFAS awareness	NA
2/8/2023	Marcos Kubow, Krista Reininga	NPDES MS4 - 101 presentation	Orientation of NPDES MS4 Permit and how Brown & Caldwell assist with requirements	Scheduled next meeting to discuss budget allocations for upcoming permit deadlines.
2/13/2023	Marcos Kubow, Keri Handaly, Roy IWAI	RCCRs Meet and Greet	Introduction to regional coalition and Lawn campaign	Follow up meeting to discuss becoming the new spokesperson for the Lawn campaign.
2/16/2023	Marcos Kubow, John Lewis, Eric Hand, Planning director &, Natural resource committee	Protection and management of NROD sites	NRCs involvement in NROD sites and the omission of water quality facilities from NROD regulations	Trillium park Dr. project, site-cleanup. Youth groups adopting PWQFs
2/22/2023	Marcos Kubow & RCCRs group	Diversity, Equity, and Inclusion	Introduction to regional coalition members and what DEI means to them.	Continue dialogue and discuss DEI document structure.

3/1/2023	Marcos Kubow, Vance Walker, Eric Hand, & Krista Reininga (B&C)	MS4 Consulting Budget	Discussion of 2023 deliverable & approximate help needed per deliverable	Krista will follow-up with consulting budget projections for the next 2 fiscal years.
3/7/2023	Operations Crew	Monthly Safety Meeting	Spill response training video	Ensure video is training is completed once a year.
3/9/2023	Tom Gaskill, Willow Mikels, Marcos Kubow, & Bea Cox	14120 Beemer Way: restoration project w/ GOCWC	Restoration logistics and timeline	Follow-up with Willow and Tom on progress of project. Include outcome in annual report.
3/9/2023	Marcos Kubow, Dante Posadas, John Burrell	EPSC manual and Code enforcement	Discussed relevance of current city addendum and escalating enforcement strategies	Review current enforcement strategies and share comments with Public Works Director..
3/10/2023	Marcos & Eric Hand	Bi-monthly meeting	MS4 Permit milestones and quarterly employee assessment	Develop agenda for reoccurring meeting and goal for each quarterly assessment.
3/13/2023	Marcos & Portland's Green Street steward Coordinator	Overview of program management and tracking methods	Pros and Con of voluntary stewardship and difficulties track work completed	Explore other voluntary stewardship programs for more information on tracking and reporting.
3/14/2023	Marcos and ACWA	Bi-monthly meeting	Permit renewal and PFAS	Start renewal process early and expect delays
3/14/2023	Marcos and Erik Nichols	Beemer Way Outfall project	Project history and progress	Support Erik during permit process.
3/14/2023	Marcos & GCOWC Board	GOCWC March Board meeting	funding and future projects	Support Tom and Willow on the Washington St. Project
3/15/2023	Marcos & ACWA permit review team	Permit Language and permit member grievances	Permit Language and permit member comments/issues	Continue learning from the group at future meetings

3/16/2023	Marcos & Johnathan Waverly	Tour of OC Park green infrastructure	Plant survivorship and weed abatement	Research funding and community partnerships that can foster healthy GI in Park systems
3/21/2023	Marcos & DEQ	DEQ Diversity, Equity, & Inclusion (DEI) webinar	DEI in the water quality workforce	Review language for exclusivity and find ways reach a more diverse community.
3/22/2023	Marcos, John Lewis, Trillium Park HOA	Trillium Park Dr. Natural Area Enhancement Project	Discussed how to fund project and who is doing what	Meet with Perry from HOA board and pick a restoration site
3/22/2023	Marcos & RCCRS	Diversity, Equity, & Inclusion (DEI) webinar	DEI in the water quality workforce	Review language for exclusivity and find ways reach a more diverse community.
3/23/2023	Marcos ACWA GW/SW group	MS4 vs WPCF UIC Permits	Language for UIC Permit is stressing treatment prior to injection	Continue Dialogue and learn more about the requirement for a UIC permit.
4/6/2023	Marcos ACWA GW/SW group	Cause to contribute and IDDE	Interpretation of cause to contribute and SWMP approval	Make sure all necessary documents are incorporated SWPPS prior to 01DEC23
4/19/2023	Marcos & CRC Lawn Campaign Task Force	Methodology of Pre-screening interviews for lawn care intervention information	Individuals feelings behind lawn care and their knowledge coming into the conversation	Begin interview in mid May and use data to inform the chemical lawn intervention.
4/25/2023	Marcos & Mallory	Education & Outreach (CCWF)	Green stormwater infrastructure basics; no weed-n-feed, no dumping, tell someone if you see something.	Find resources for swag to offer kids; pencils, stickers, key chains
5/8/2023	Marcos & GCOWC consultant	Budget & scope of work	Met w/ Amy to discuss ways to utilize the funding for future projects	Continue to encourage Park stream restoration and tree planting in green areas.

5/8/2023	ACWA Education Committee	Homelessness, QR codes, & Bi-lingual services	Discussed service center breaking ground in OC, use more QR, J&L Jaimen Translation services	Pick a document to translate, Put QR code on SCAP post-card, research "fathers heart" and "LoveOne" foundation.
5/8/2023	GOCWC Board	Strategic budget planning	Discussed ways to maximize stakeholders interest and funding for future projects	Continue to support Tom Gaskill (GOCWC) and John Waverly (OCPW) in restoring our parks and streams.
5/9/2023	Marcos & GOCWC Consulting agent	Temperature Total Maximum Daily Loads	Abernathey Shade project and future Stream restoration projects.	Increase collaboration between OC Park and GOCWC to maximize shading of greenspaces.
5/11/2023	Clack Co-Permittees	Permit Language and timeline	Monitoring Plan Status (preparing for implementation), Upcoming SWMP component submittals, Future meeting lead/coordination, SCAP update, Other/announcements.	Finalize pesticide monitoring plan.
5/11/2023	Marcos & Terry Bousha	PWQF Operation and maintenance	ICON Developers improper construction & corrective action	Red Flag ICON for future development and spread the word to neighboring cities
5/19/2023	Marcos & Ian Ford	Indu/Comm Facility pollution prevention	Inspected Facility & discussed Hazardous waste disposal SOPs	Per Owners request and A+ inspection I will look into re prioritizing the facility as Low risk.
5/24/2023	Marcos & Eric Hand	Education & Outreach, Public involvement	Emerging pollutants, BMPs, outreach techniques	Follow-up with contacts made at summit, Implement new techniques learned at conference, sign up for next year.
5/31/2023	Marcos & Renee Harber	Education & Outreach	Funding and future projects	Stick with Brian Monnin's plan for now and make adjustments as necessary

6/1/2023	Marcos & ACWA GW committee	UICs	Permit Updates on underground injection	OC has no UICs so this Committee may be an unnecessary cross training exercise
6/6/2023	Marcos & Krista Reininga	MS4 Permit and TMDL program support	Timeline of 2022 SWMP acceptance & required deliverables for 1JUL22 - 30JUN	Reschedule elected Officials presentation
6/12/2023	Marcos, ACWA Committee, & DEQ	Joint Stormwater and DEQ Annual reporting meeting	Discussed upcoming deliverables and flexibility in permit language.	Work with Brown and Caldwell to support completion of the Hydromodification and Retrofit assessments.
6/14/2023	Marcos Kubow	NEBC conference	Green stormwater infrastructure planning and emerging pollutants	Research pros and cons of off-site large scale water quality facilities.
6/14/2023	Marcos, Dante posada, & Eric Hand	Scattering Canyon water quality investigation	Initial site assessment and plan for monitoring	Finalize monitoring plan. Collect water samples for WQ analysis
6/29/2023	Marcos & CRC Lawn Campaign Task Force	Lawn care personality characterization	Discuss the results of community survey and two distinct lawn care personalities	Pick a strategy to intercept the personalities and steer them away from excessive fertilization and herbicides.

Appendix A

Oregon City SWMP Implementation Status

Appendix A. Status of Implementing Components of Oregon City's 2012 Stormwater Management Plan (SWMP)

BMP or activity	Addresses bacteria?	Addresses mercury?	Responsible department	Measurable goals (2012 SWMP)	Tracking measures (2012 SWMP)	Annual report information: tracking measure status, Permit year 2022– 2023	Additional detail related to activities conducted
Element 1. Illicit Discharge Detection and Elimination							
BMP 1-1: Implement the Illicit Discharge Elimination Program	●	●	Oregon City Public Works Department (OCPW)	• Document and implement updated Standard Operating Procedures (SOPs) for the Illicit Discharge Detection and Elimination (IDDE) Program by November 1, 2012. • Conduct actions to remove identified illicit discharges in conjunction with timeframes outlined in OC's NPDES MS4 Permit. • Track and record all identified illicit discharges and how such discharges were removed.	1) Track status of documenting and updating the IDDE SOP. 2) Track the number, location, type of discharge, resolution, and enforcement action for any illicit discharge investigation conducted.	1) No illicit discharge investigations were deemed necessary as a result of annual dry weather field screening conducted during this reporting period. 2) A review of the SOP as required by the permit to look at outfall prioritization criteria was completed during this reporting period. 3) Minor updates were made and a new 2023 IDDE SOP document was developed during this reporting period.	1) OC developed an IDDE SOP (effective date: November 1, 2012), in conjunction with other Clackamas County co-permittees. The SOP includes guidelines for identification and enforcement of illicit discharges. 2) Results of this review were to retain current priorities.
BMP 1-2: Conduct Annual Dry Weather Field Screening	○	○	OCPW	•	1) Track the number and location of outfalls inspected annually. 2) Summarize inspection results and track the number and location of outfalls requiring monitoring and/or investigations. 3) Report the outcome and resolution of any investigation activities. 4) Report the outcome and resolution of any code enforcement actions. 5) Track the status of updating standard procedures.	1) Nine outfalls were inspected as part of annual dry weather field screening activities. 2) All Outfall inspections were completed by 8/25/2022. Flow was observed at 1 of the outfalls; discharge was moderate and characterized as permissible. 3) Water discoloration was observed at the Scattering Canyon water quality facility. Sampling activities were conducted, and all parameters were within acceptable water quality standards. 4) N/A 5) A review of prioritization criteria concluded that current priorities reflected optimal locations given the current development and land use. Minor updates were made to reflect the 2021 Permit language and on 10/25/23 OC updated the IDDE.	1) Dry weather screening was conducted at the following outfalls: 1. 99E and 6th Street (manhole 33556): 12-inch 2. 427 Main Street (manhole 33558): 15-inch 3. Abernethy Road at Tri-Lett: 15-inch 4. Clackamas River Drive: 48-inch 5. Metro Wetlands Pond: 48-inch 6. Falcon Drive: 30-inch 7. Berry Hill: 24-inch 8. Beavercreek at Hwy 213: 24-inch 9. Behind 1651 Beavercreek Road: 48-inch
BMP 1-3: Implement the Spill Response Program	○	○	Clackamas Fire District #1 (Hazardous Materials Team) and OCPW	• Respond to reports of hazardous and non-hazardous spills and follow the OC *Spill Response Plan*. • Report all hazardous and non-hazardous spills to DEQ as necessary.	1) Indicate the number of spills reported to OCPW and DEQ. 2) Track responses to reported spills. 3) Indicate sources, causes, and types of discharges resulting from spill activities. 4) Track any changes to the OC *Spill Response Plan*.	1) 3 spills were reported to OCPW during the 2022-2023 reporting period. 2) Responses were appropriate for each spill. See list below. 3) One spill required DEQ reporting. These spills were from various causes, vehicle accidents, mechanical failure, illegal dumping & ice storm. • 506 High St. – 0.5-gals paint dumped on sidewalk. Paint was cleaned up using absorbent material & pads. • High School Rd. & Glen Oak Rd. 1 quart of used motor oil released to stormwater pond. Oil was removed using absorbent booms and pads. Reported to OERS. • Washington St. & 17th – Gravel spilled in roadway. Clean up performed with street sweeper.	
Element 2. Industrial and Commercial Facilities							
BMP 2-1: Screen Existing and New Industrial Facilities	○	○	OCPW	• Review the business license inventory for 1200Z industries once over the permit term. • Notify DEQ of any existing or new industrial facilities within OC that may be subject to an industrial stormwater NPDES permit.	1) Track the number of existing or new facilities subject to a stormwater industrial NPDES permit during the permit term.	1) The Water Quality Coordinator continued to review all new business license applications for potential water quality-related issues. 120 business license applications were reviewed during the 2022-2023 reporting period. The screening did not identify any additional facilities potentially subject to an industrial stormwater permit.	DEQ provided additional guidance on industrial facility screening in June 2013.
BMP 2-2: Implement an Industrial/Commercial Inspection Program for High Priority Facilities	○	○	OCPW	• Pursue approval to hire staff to implement a business inspection program. • Develop a priority list of industrial/commercial facilities for inspection. • Investigate 25% of OC's manufacturing businesses once during the permit term.	1) Track the number of inspections conducted. 2) Report on inspection results and follow up actions. 3) Report on status of documenting and updating procedures.	1) No new businesses were ranked with high priority this reporting year. 2 medium priority sites were inspected with one re-inspection required and 2 high priority sites were re-inspected for good measure.	• 13896 Fir St., Macro Industries, confessed to dumping reverse osmosis (RO) wastewater down the stormdrain. Business was required to redirect wastewater to the sanitary sewer. New discharging method was observed and approved by OCPW water quality coordinator.

				• Develop an industrial/commercial inspection procedure by July 1, 2013.			
Element 3. Construction Site Runoff Control							
BMP 3-1: **Implement the Erosion Control Ordinances**	●	●○	OCPW	• Review erosion control plans for all developments greater than 1,000 square feet. • Require erosion and sediment control plans not in compliance with standards to be amended and approved prior to construction. • By November 1, 2014, adopt the Clackamas County *Erosion Control Manual* or revise OC's manual in accordance with the NPDES MS4 permit requirements.	1) Record the number of erosion control plan reviews completed and approved. 2) Track the number of erosion control permits issued annually. 3) Report on the status of adopting the Clackamas manual or updating OC's manual.	1) 41 erosion control plans were reviewed and approved. 2 41 erosion control permits were issued. 3) OC has adopted the Clackamas County *Erosion Control Manual*, in conjunction with its update of the City's *Stormwater and Grading Design Standards* manual. During this reporting year, *Brown and Caldwell conducted a detailed review of the Oregon City Municipal Code (OMC) (revised January 31, 2023) Chapter 13.12–Stormwater Management, Chapter 17.47 Erosion and Sediment Control, and Chapter 1.20.090–Fines*, as well as Oregon City's *Stormwater and Grading Design Standards* (March 2020), to confirm compliance with Schedule A.3.d.v. of the permit regarding construction stie enforcement procedures. A draft SOP was developed to document erosion control enforcement procedures. This new document is now referenced in the SWMP	The erosion control enforcement standards of practice (SOP) was drafted this reporting period and is being submitted to DEQ with this annual report (Appendix E) to address compliance with Scheule A.3.d.v. of the permit (Enforcement Procedures).
BMP 3-2: **Provide Educational Information to Construction Site Operators**	○	○	OCPW	• Continue to provide OC's most current erosion control manual on OC website. • Continue to offer discounts on erosion control permits to contractors completing the Erosion Control Certification Program.	1) Track the number of contractors receiving a discount on erosion control permit fees.	1) No contractors received a discount on permit fees.	
BMP 3-3: **Conduct Erosion Control Inspections**	●	○	OCPW	• Conduct a minimum of three erosion control inspections at each permitted site. • Conduct appropriate enforcement activities for erosion control violations.	1) Record the number of erosion control inspections conducted annually. 2) Report the number of notices of non-compliance issued during inspections.	1) A total of 140 erosion control inspections were conducted this permit year. Due to the time frames with which construction occurs, some sites had all three required inspections, and some sites have only had one or two inspections at this time (construction is still ongoing). 2) 6 notices of non-compliance were issued. 1 stop work order was issued.	1) The total number of inspections are comprised of: • 33 initial site visits, Inspection 1 • 62 random inspections, Inspection 2 • 45 final inspections, Inspection 3
Element 4. Education and Outreach							
BMP 4-1: **Provide Public Education and Outreach Materials Regarding Stormwater Management**	○	○	OCPW	• Include a water quality related article in each City newsletter, distributed to citizens three times per year. • Participate in the Regional Coalition for Clean Rivers and Streams (Coalition). • Seek out opportunities to partner with other agencies/jurisdictions/organizations to educate and promote watershed health and low impact development. • Periodically install signs near water quality structures and around OC promoting water quality. • Sponsor the volunteer catch basin stenciling program. • Distribute an annual water quality report to OC residents.	1) Track the number, types, and topics of public educational materials distributed to the public. 2) Report any large scale public educational campaigns initiated during a given year. 3) Track coordinated public outreach activities with other permittees.	1) The following educational activities were conducted (see Appendix C for details): • A total of eight water quality-related articles were included in Trail News. • OC participated in one special event, Children's Clean Water Festival, at Portland Community College - 4/25/23.The October 2021 utility bill included a message Only Rain Down the Drain. • Mailed 15,608 postcards announcing availability of the Annual Water Quality Report on OC's website. • Stormwater Banner Display at City Hall – 9/29/20221-10/13/20212, Pioneer Center-10/13/20212-10/27/20212). • Continued participation in regional Stormdrain Cleaning Assistance Program (SCAP) in 2022-2023 permit year. 3) Coordinated efforts included: • Continued to sponsor the "Clean Water, It's Our Future" campaign via KPTV media outlets. • Continued participation in the Coalition for Clean Rivers and Streams. • Continued participation with other agencies to promote water quality education through Clackamas River Water Providers. • Continued participation with Greater Oregon City Watershed Council • Continued participation with Clackamas County Water Education Team • Continued participation with Clackamas Community College Environmental Learning Center Advisory Team • OC's sponsorship to the Environmental Learning Center at Clackamas Community College supports the following programs -Water industry career event - middle school & highschool, -Watershed Health Field Trips to Environmental Learning Center – for 4th Graders in Oregon City School District	• OC continues to conduct catch basin marking and stenciling to increase public awareness. During this reporting period 147 catch basins were either stenciled with the message "Dump No Waste – Drains to Stream" or had "No Dumping, Drains to Waterway" markers installed.

						- Wildlife and Water Friendly Gardens -Sponsor for Vegetated Stormwater Facilities – continuing education for adults • Continued to sponsor the Down the River Clean Up event	
BMP 4-2: **Participate in a Public Education Effectiveness Evaluation**	○	○	OCPW	• Coordinate with other local, Phase I jurisdictions in providing/compiling information regarding a public education effectiveness evaluation by July 1, 2015.	1) Report on activities conducted annually.	1) OC submitted a Public Education Effectiveness Evaluation Summary to DEQ on June 29, 2015.	The Association of Clean Water Agencies (ACWA) Stormwater Committee completed a coordinated effort to compile existing educational survey information and develop conclusions to inform how public education efforts result in behavioral change. The study was conducted by DHM Consulting with cost shared among interested Phase I and Phase II communities, including OC.
BMP 4-3: **Conduct Staff Training for Pest Management**	○	○	OCPW and Parks	• Ensure OCPW and Parks Dept. staff conducting pest management activities are certified for spraying activities according to OSHA requirements. • Ensure licensed staff attends annual refresher courses.	1) Track the number of employees licensed for spraying activities. 2) Report number of employees that attended initial or refresher training.	1) Staff licensed for spraying activities: OCPW = 5. 2) 4 OCPW staff attended refresher training classes during the reporting period.	OCPW and Parks Department staff attend refresher training per requirements of their licensing.
BMP 4-4: **Conduct Staff Training in Spill Response**	○	○	OCPW	• Provide non-hazardous spill response training annually through monthly safety meetings. • Coordinate annual training and refresher courses for staff initially responding to spills using OSHA hazardous materials educational resources.	1) Track spill-related training and education.	1) Spill response training at OCPW was conducted on 3/7/2023. Staff participated in CRWP Clackamas Washington County Hazardous Spill Committee Meeting on 5/17/2023.	
BMP 4-5: **Ensure Municipal Staff Training in Stormwater Pollution Prevention**	○	○	OCPW	• Conduct municipal training for employees associated with stormwater management in OC. • Coordinate with other Clackamas County co-permittees regarding regional water quality efforts. • Participate in training and advisory committee opportunities available through state and local agencies and groups. • Conduct regular stormwater staff meetings once or twice a year.	1) Track the number of employees receiving training in stormwater management annually. 2) Track OC staff participation in groups, committees, and organizations relevant to stormwater quality management. 3) Track regular stormwater staff meetings and staff attendance at those meetings.	1) OCPW Employees receiving training in stormwater management: • One employee attended the PNWS-AWWA water conference (4/27 – 4/29/2023) • One employee attended APWA PWX Conference (08/28/22 - 08/31/22) • Five employees attended APWA Fall Conference (10/18/22 - 10/21-22) • One employee attended the annual Oregon onsite wastewater fall mini conference (11/4/2023) • Five employees attended APWA Spring Conference (5/3/23 - 5/5/23) • • One employee attended the Local Government conference (4/25/23 – 4/26/23) • Two employees attended No Dig training (4/30/2023 – 5/3/2023) • 10 employees attended Pesticide Refresher Training Courses • Three employees attended Erosion Control and Stormwater Management (1/25/2022) • Two employees attended Vegetated Private Stormwater Facility Training (CCC in-person) (1/2023) • Two employees attended ACWA Stormwater Summit (5/24/2023-5/25/2023) 2) OC staff participates in the following groups and organizations: • ACWA - active participant in the ACWA Stormwater committee and Phase I Stormwater subcommittee • Continued collaboration with other co-permittees on Comprehensive Clackamas Stormwater Monitoring Program • Greater Oregon City Watershed Council • Clackamas County Water Education Team • Regional Coalition for Clean Rivers and Streams • Clackamas Spill Committee • Clackamas County Water Education Team 3) There were 41 stormwater staff meetings conducted during the 2021-2022 reporting period.	3) Dates, topics, and attendees are summarized in Table 4 in Section 6.0 of the annual report. There was a gap in tracking measures when previous Water Quality Coordinator left to seek alternate career opportunities.
Element 6. Post-Construction Site Runoff							
BMP 6-1: **Implement Municipal Construction Standards**	●	●	OC Community Development	Per OC's Development Code, review all new development and applicable redevelopment for conformance with current city stormwater standards and ordinances.	1) Track the number of development applications reviewed and approved for compliance with stormwater regulations. 2) Track the number, type, and drainage area of treatment facilities constructed annually.	1) 10 development applications were reviewed and approved for compliance with water quality/water quantity standards. For applications that proceed to the construction phase all constructed treatment facilities will be noted in the appropriate reporting period. 2) The following were constructed and placed in operation during the reporting period of 7/1/2022 through 6/30/2023: 10 developments: 2 Private Detention Chambers, 5 Private Detention Ponds, 4 Private Raingardens, 1 Public Detention Pond, and some Public roadside planters	<u>Details of completed treatment facility construction:</u> - Harley Apartments SP 18-125, 1 PRIVATE Stormwater Pond, Private and Public Stormwater Roadside Planters, 1.61 acres - Edward Oaks Subdivision TP 18-02, 1 PUBLIC Stormwater Facility, 1.97 acres

						• Total drainage area = 57.91 acres 3) 6 developments have been permitted and are in some phase of construction, but not yet complete. • Total drainage area = 62.86acres 4) 5 developments are seeking permits for construction. They have not started construction or completed permitting. • Total drainage area = 10.68 acres	- Caldera Subdivision TP 17-08, 5 lot subdivision, 3 PRIVATE raingardens, numerous roadside planters1.15 acres - Timberview Apartments, SP 14-01, 1 Public Pond, 4505 sf, 1 Private Contech Detention Chamber 4327 sf and public stormwater roadside planters, 9.72-acre property - Advantis Credit Union, PR 161-2020, 13.08-acre property, 202,220 sf stormwater management area, 17,720 sf of Private rain gardens and stormwater pond - Beavercreek North Campus, PR 148-2019, 11.75-acre property with 25,315 sf of Private stormwater ponds - 950 South End Expansion, SP 18-106/PR 150-2019, 1.18-acre property, with existing 4,940 cf Private storm chamber and a new 872 sf of Private storm planter - Oregon City Christian Church Expansion, PR 98-2020, 8.55 acres - Willamette Falls Hospital Expansion, PR 151-2020, 8.36 acres - PR 155-2019 /PR 145-2020– 182 Warner Parrott Expansion, 0.54 acres - Under Construction: - Harrison St Apartments SP 17-168/SP 18-118, PRIVATE pervious pavement and PRIVATE underground detention pipe, 0.15 acres - PR 175-2021 – Holmes Lane Condominiums, 4.33 acres - PR 179-2021 – Maplelane Low Income Housing, 5.63 acres - PR 183-2021 – Serres Subdivision, 35.2 acres - PR 205–2022 – County Courthouse, 58.66 acre property with approx.. 8 acres under development - PR 198-2022 – Maplelane South Apartments, 9.55 acres <u>Under Permit Review, not started Construction:</u> - PR 192-2021 – Kamm Street Subdivision, 0.86 acres - PR 149-2021 – Hiram 10-lot Subdivision, 2.39 acres GLUA 22-00028 – 770 Pleasant Ave Apts, 0.66 acres - CP 17-02 Hampton Inn, 1.09 acres - PR 195-2022, South Fork Water Board Improvements, 5.68 acre site -
BMP 6-2: Review and Update Code and	●	●	OC Community Development	• Review OC's current/planned stormwater treatment and detention standards for compliance with new NPDES MS4 permit language.	1) Track progress related to review of OC's code and development	1) Brown and Caldwell conducted a detailed review of the City's stormwater design standards with respect to new permit requirements in Schedule A.3.e. Any changes made to the standards as a result of this review will be reported in the 2023/2024 annual report as required by Schedule	**Stormwater Standards were updated and adopted March 2020.**

Development Standards related to Stormwater Quality Control				• Review OC's current public works development code provisions to ensure that applicable barriers to LID or green infrastructure (GI) are minimized and eliminated where practicable. • If necessary, update OC's post-construction stormwater design standards and code language by November 1, 2014.	standards per provisions in the NPDES MS4 permit. 2) Track any code/standards modifications made by ordinance.	A.3.e. iii. In addition, the City conducted a review of code to identify any barriers to using LID and GI as strategies for stormwater management. Not barriers were identified.	
Element 7. Pollution Prevention for Municipal Operations							
BMP 7-1: **Conduct Street Sweeping and Roadway Repair Activities**	●	●	OCPW	• Sweep city streets every 3-4 months on average, more frequently in high traffic areas and during leaf pick up and following deicing activities.	1) Track the average number of citywide sweeps per year. 2) Estimate the miles of streets swept per year. 3) Track volume of debris removed.	1) 7.9 city-wide sweeps were conducted for this reporting period. 2) 5,810 miles of roadway were swept. 3) 1,818.5 cubic yards of debris were removed as a result of sweeping and leaf pickup activity.	
BMP 7-2: **Minimize Pollutant Discharges Associated with Landscape Management Practices**	○	○	OCPW and Parks	• All chemical applicators, both contractor and city, must follow state laws related to the use of pesticides. • Applicators will complete spray reports for the application of chemicals.	1) Track any program changes regarding chemical application practices used by OC.	1) Both city and contracted chemical applicators comply with 2300-A, pesticide general permit requirements. Pesticide applications are kept at least three feet away from any water's edge. There were no program changes regarding chemical application practices used by OC.	
BMP 7-3: **Implement a Program to Reduce the Impact of Stormwater Runoff from Municipal Facilities**	○	○	OCPW	• By July 1, 2013, inventory municipal facilities subject to this permit requirement. • By July 1, 2013, identify whether there is a need for additional strategies to minimize discharge from these facilities.	1) Track updates to strategies used to minimize pollutant discharge from municipal waste storage facilities	1) OC developed a Stormwater Pollution Prevention Strategy document for municipal operations (SWPPS) July 1, 2013. The SWPPS includes a description of each of OC's six facilities that treat, store, or transport municipal waste. Additionally, it identifies potential pollutant sources as well as short- and long-term pollution reduction strategies. The SWPPS was updated during the 2021-2022 reporting period to reflect the changes described in the next column (additional detail related to activities conducted).	OCPW purchased 13895 Fir Street as the OCPW Complex. The Fir Complex is complete and has been added to the current facilities list and will be monitored quarterly. Updated maps are pending. New impervious surface (IS) was added to the Cove site to facilitate the temporary staging of materials in concrete bunkers. The bunkers are surrounded by pervious surface area and the addition of impervious surface area is under 5000 sq ft.
BMP 7-4: **Control Infiltration and Cross Connections to the City's Stormwater Conveyance System**	●		OCPW	• Review new and redevelopment for possible cross-connections. • Eliminate cross connections upon identification.	1) Report whether any cross connections were discovered and describe follow up activities.	1) Zero cross-connections were discovered and corrected during this reporting period.	Dye tests are performed by OCPW upon request from plumbing inspectors if there are questions regarding sewer connections. Routine storm sewer video inspection continues, and cross-connections are repaired when identified.
BMP 7-5: **Coordinate with Local Fire Department related to Pollutant Discharge from Fire Fighting Training Activities**			OCPW	• By November 1, 2012, contact Clackamas Fire District #1 to determine what activities are conducted to minimize pollutant discharges associated with firefighting training activities. • As applicable, provide educational information to Clackamas Fire District #1 by November 1, 2012.	1) Track contacts made with Clackamas Fire District #1.	1) No contacts were made during this reporting period.	On 9/12/12 OC's Water Quality Coordinator contacted Clackamas Fire District #1 to discuss firefighting training activities conducted in OC. Per an email dated 9/13/12 the Battalion Chief for Training & Safety confirmed that all foam drills were conducted at their primary training facility in Clackamas. Any training activities at the four OC stations use water only.
BMP 7-6: **Conduct Master Planning and Implement Capital Projects for Stormwater Quality Enhancement**	●	●	OCPW	• The *Oregon City Stormwater Master Plan dated July 2019 was adopted by Ordinance 19-1014 on March 18, 2020 and became effective April 17, 2020* • Prioritize CIPs by funding availability and water quality/flood control benefit.	1) Track master planning activities. 2) Track number and cost of major (water quality) CIP projects and discuss added benefit. 3) Map the location and drainage area of water quality related CIPs.	1) The update to OC's City-wide Stormwater Master Plan was completed in 2019 and became effective in 2020. 2) One in-house project was completed during this reporting period • CI 19-012 Scattering Canyon Water Quality-Channel Stabilization Project was completed in October of 2022, costing approximately $542k.	

				• Update maps to include location and drainage area of any new stormwater quality CIPs.		• Scattering canyon is an outfall stabilization and water quality facility constructed to address a significant instream erosion problem. The outfall drains an area of approximately 33.5 acres. • Another Stormwater Assessment Outfall Project is anticipated to be constructed within the 2023-2024 reporting period. 2) Mapping: • The new storm sewers were added into the OCMap GIS System. New stormwater BMPs were mapped after the projects completed construction.	
Element 8. Stormwater Management Facilities Operation and Maintenance							
BMP 8-1: **Conduct Stormwater Conveyance System Cleaning and Maintenance**	●	●	OCPW	• Maintain, repair, and/or replace conveyance system components when needed, based on ongoing inspections. • Update the stormwater system map when discrepancies are found.	1) Estimation of the volume of debris removed per year during public conveyance system cleaning activities (in conjunction with BMP 8-2).	See BMP 8-2.	
BMP 8-2: **Conduct Catch Basin Cleaning and Maintenance**	●	●	OCPW	• Inspect at least 33% of the public catch basins annually. • Schedule the repair, and replacement of catch basins as needed, based on inspections. • Update the stormwater system map when discrepancies are found.	1) Track the percentage of total public catch basins inspected and/or maintained annually. 2) Track the volume of sediment removed during cleaning activities conducted annually (also includes volume from BMP 8-1). 3) Track the number of catch basin replacements annually. 4) Track the number of public catch basins added to OC's catch basin inventory annually.	1) 45% of public catch basins were maintained during this reporting period. 2) 46 cubic yards of sediment were removed (includes sediment from pipes, culverts, manholes, open channels, and catch basins). 3) 9 catch basins were replaced or repaired. 4) OC's catch basin inventory increased by 237 catch basins this year to a total of 4,543.	45% = 2037 catch basins
BMP 8-3: **Public Structural Control Facility Cleaning and Maintenance**	●	●	OCPW	• Inspect and maintain public structural control facilities in accordance with documented frequencies and procedures. • Update the public structural control facility inventory as needed. • Update the stormwater system map in accordance with new public facility installations and when discrepancies are found.	1) Track the number of public structural facilities inspected and maintained. 2) Track the volume of sediment removed during cleaning. 3) Track changes to the public structural control facility inventory as needed.	1) 537 public structural facilities were inspected during the reporting period. See the next column for maintenance details. 2) 16 cubic yards of sediment were removed during maintenance/cleaning. 3) Additional public structural facilities added to inventory: • 1 pond added - new development. • 1 swale added -new development. • 4 roadside stormwater planters added – new development. • 3 pollution control manholes were added to the inventory this past year.	1) The following public structural facilities were inspected and maintained during the reporting period: • ponds (84) = 84 inspected; 84 maintained • swales/bioswales (80) = 80 inspected & maintained. • soaker trench infiltrators (3) = 3 inspected; 3 maintained • rain gardens (1) = 1 inspected; 1 maintained • roadside planters (146) = 146 inspected; 146 maintained • detention pipes (44) = 23 inspected, no cleaning required • water quality vaults (8) = 8 inspected, no cleaning required • pollution control/flow control manholes (171) = 171 inspected, 27 cleaned
BMP 8-4: **Private Structural Control Facility Cleaning and Maintenance**	●	●	OCPW	• Require new private water quality facilities to submit maintenance agreements to OC. • Compile an inventory of existing private structural water quality facilities and work to collect maintenance agreements for these by July 1, 2013. • Implement an inspection strategy for private water quality facilities by July 1, 2013.	1) Track the number of maintenance agreements submitted to OC each year. 2) Track progress related to the inventory and mapping of existing private structural facilities. 3) Track the status of updating the inventory and map of private water quality facilities.	1) OC continues to require maintenance agreements for private water quality facilities. Four maintenance agreements were recorded during this reporting period. 2) Files have been reviewed for existing private structural facilities. An inventory list has been created. 3) Initial mapping is complete, refinements ongoing. 4) OC developed SOPs for public water quality facilities and private water quality facilities July 1, 2013. The SOPs outline procedures for ongoing mapping and inventory activities, as well as	1) The following are details for the newly recorded private water quality facilities: - Canemah Cottages (SP 17-145) – 7 PRIVATE stormwater planters and a PRIVATE 1,089 cf underground detention system, 0.45 acres - Gardiner Middle School Replacement, PR 139-2019, 1 PRIVATE detention pond, 18.25 acres - Clairmont Mobile Homes Expansion, PR 143-2019, 28.93-acre property, 54,685 stormwater

					4) Track the status of developing procedures in accordance with permit requirements.	facility inspections. For private facilities, OC requires a maintenance agreement and submission of annual inspection records.	management area, 6,111 sf of Private rain garden and storm planters - Oregon City Operations Complex, PR 158-2020, 4.79-acre property, 50,135 sf stormwater management area, 1,580 sf of Private rain gardens and storm planters 2) The following are details for newly constructed PUBLIC improvements to be maintained by the city: - Dotson Subdivision TP 17-09, 12 lot subdivision, 1 PUBLIC Stormwater Pond and roadside planters, 2.92 acres - Rowland Subdivision, PR 135-2019, 1.0 acres - Juniper Meadows Subdivision, PR 142-2019, 1.99 acres

Appendix B

Oregon City Monitoring Data

Appendix C

Public Education and Outreach Information

Public Education and Awareness Activities
July 1, 20221 – June 30, 20223

Table 5: Summary of Activities

Date	Event	Location	Contact Total	Program/Subject
7/2022	KPTV Public Service Announcements	Portland Metro Area	General Public	Lawn Tips, Car Wash Tips
8/2022 – 9/2022	KPTV Public Service Announcements	Portland Metro Area	General Public	Water Conservation, Car Wash Tips
9/2022	Message on Utility Bill	Oregon City water customers	General Public	Remember, Only Rain Down the Drain!
Fall 2021	Trail News – Autumn	Oregon City Public Buildings and City website	All OC residents and general public	What's your lawn style, Help Keep Stormdrains Cleared, River Access Trail Improvements, Dog Etiquette In Oregon City Parks
10/2022	KPTV Public Service Announcements	Portland Metro Area	General Public	Fall Lawn Care, Be Rain Ready
10/2021	Message on Utility Bill	Oregon City water customers	Oregon City water customers	Pick up after your pets! Go to https://theriverstartshere.org/
9/30/2022-10/12/2022	Stormwater Banner Display at City Hall	625 Center St. Oregon City, OR	Visitors and Staff at City Hall	Display featuring Oregon City's major streams; tips to improve water quality
10/13/2022-10/27/2022	Stormwater Banner Display at the Pioneer Center	615 5th St. Oregon City, OR	Visitors and Staff at City Hall	Display featuring Oregon City's major streams; tips to improve water quality
10/28/2022-10/14/2022	Stormwater Banner Display at the Pioneer Center	13895 Fir St., Oregon City, OR	Oregon City Engineering and Operations Complex	Display featuring Oregon City's major streams; tips to improve water quality
Winter 2021	Trail News – Winter	Oregon City Public Buildings and City website	All OC residents and general public	OC Stormwater improvements (SWMP) SCAP saves catch basin owners $$ Scattering Canyon Project
11/2022	KPTV Public Service Announcements	Portland Metro Area	General Public	Fall Lawn Care, Be Rain Ready
11/20/2021	Tree Planting Event	North Oregon City Neighborhoods	General Public – advertised in Trail	Friends of Trees tree planting event in the following

			News monthly Enewsletter	neighborhoods: Barclay Hills, Canemah, McLoughlin, Park Place, Rivercrest, and South End
12/2022	KPTV Public Service Announcements	Portland Metro Area	General Public	Rain Ready, Sweep don't wash (winter maintenance)
January 2022	Wildlife and Water Friendly Garden Series – Collaboration between OC and the Environmental Learning Center	Oregon City ENews letter	General Public	Winter 2022, will see the return of our FREE Wildlife & Water Friendly Gardens workshop series, this time with a focus on meeting the challenges of changing climate conditions. Learn how to garden with less water, choose temperature resilient trees, install permeable hardscapes, and more!
Spring 2022	Trail News – Spring	Oregon City Public Buildings and City website	All OC residents and general public	Stormwater treatment - how it impacts you
1/2023	KPTV Public Service Announcements	Portland Metro Area	General Public	Rain Ready, Sweep don't wash (winter maintenance)
1/28/2023	River Starts Here – Student Video Contest	Social Media, OC Website	General Public – generated towards students, grades 9-12	Student engagement in stormwater subjects which impact the students and/or communities
2/2023	KPTV Public Service Announcements	Portland Metro Area	General Public	Rain Ready, Sweep don't wash (winter maintenance)
3/2023	KPTV Public Service Announcements	Portland Metro Area	General Public	Car Wash Tips, Sweep don't wash (winter maintenance)
4/2023	KPTV Public Service Announcements	Portland Metro Area	General Public	Car Wash, Lawn Tips
5/3/2023	Annual Water Quality Report	N/A	15,540**, available on city website	Water Quality Information
Summer 2023	Trail News – Summer	Oregon City Public Buildings and City website	All OC residents and general public	S.a.f.e.r water for all Help us improve water quality in OC
5/2023	KPTV Public Service Announcements	Portland Metro Area	General Public	Car Wash, Lawn Tips
6/24/2023	BMP IDDE Handout	Email	Orion Garcia – Express Power Wash	Sent ACWA IDDE handout for pressure washing and surface cleaning for Mr. Garcia's new business

2021-2023	Regional Coalition for Clean Rivers & Streams	N/A	Metro area	Pollution prevention messages via website and social media
2021-2023	Clackamas River Water Providers	N/A	Residents with the Clackamas River as drinking water source	Various programs to promote source water protection, water conservation, and water quality awareness

***A postcard was mailed to each Oregon City utility customer announcing the on-line availability of the annual water quality report. Those with limited internet access were encouraged to request a printed copy of the report.*

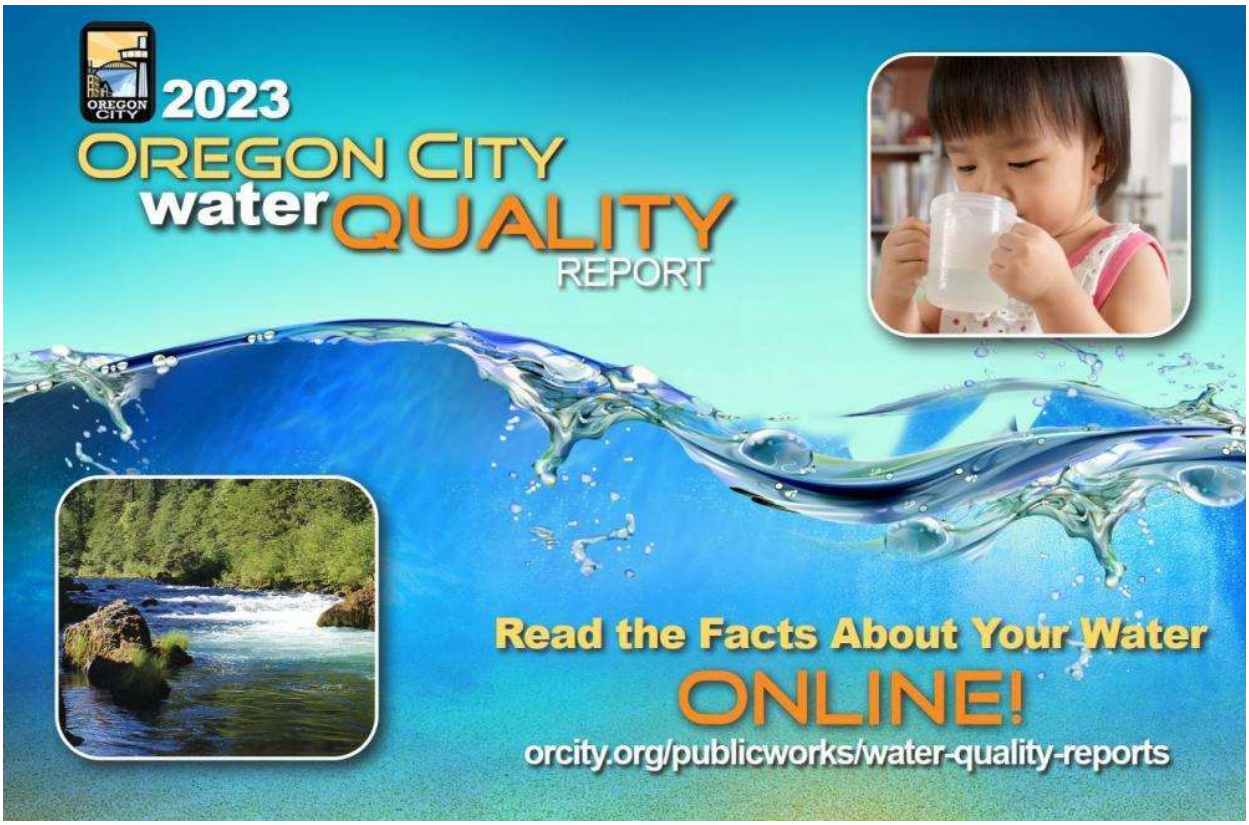

Figure 1: Photo on 20232 Annual Water Quality Report Postcard
https://www.orcity.org/DocumentCenter/View/5856

II. Pressure Washing Informational Handout to Customer

Figure 2: ACWA IDDE Pressure Washing Informational Hand Out

III. Stormwater Banner Display at City Hall: – 9/29/2022-10/13/2022, Pioneer Center: - 10/13/2022-10/27/2022, & Oregon City Engineering and Operations Complex: 10/28/22 - 11/14/22

Visitors to City Hall (625 Center St) the Pioneer Center (615 5th St), & Oregon City Engineering and Operations Complex (13895 Fir St). Customers visiting these three facilities, Pioneer Center (as well as city staff, could view our stormwater banner display featuring Oregon City's largest basins and streams. Included are the following suggestions to prevent stormwater runoff pollution and to improve water quality:

- Never dump anything down storm drains or into streams
- Sweep driveways and patios clean instead of hosing them down
- Repair your vehicles if they are leaking oil, antifreeze, or other fluids
- Take your car to a car wash, or wash it on the lawn instead of the driveway
- Minimize your use of fertilizers and pesticides; consider going organic
- Plant native trees and shrubs; if you have a stream flowing through your property streamside plantings will help reduce the temperature of the water
- Pick up after your pet

The banner includes contact information for the Greater Oregon City Watershed Council and how to obtain additional information about Oregon City's Stormwater Management Plan.

IV. Clackamas River Water Providers – ongoing throughout the year

Oregon City, through its association with South Fork Water Board, partners with other agencies that use the Clackamas
River for potable water, to promote source water protection and water conservation. Programs include water quality monitoring and a pesticide outreach program. For specific information, and to read their annual report, visit the CRWP website at www.clackamasproviders.org.

V. The Oregon City Website – ongoing throughout the year

A wide variety of information pertaining to stormwater, water quality, and Oregon City's NPDES MS4 permit is available to the public at www.orcity.org.

Social Media Posts

Oregon City - City Hall
Published by Hootsuite · October 21, 2022 ·

2022 Comprehensive Clackamas County Stormwater Monitoring Plan | The City of Oregon City is seeking public comments on the updated 2022 Comprehensive Clackamas County Stormwater Monitoring Plan (CCCSMP).

This Plan was developed on behalf of 10 Clackamas County, Oregon jurisdictions, and documents environmental monitoring activities that the City of Oregon City will conduct to address requirements of Oregon City's Phase I National Pollutant Discharge Elimination System (NPDES) stormwater permit. The Phase I NPDES stormwater permit is in place to protect and improve receiving water quality throughout Clackamas County. The Plan describes the monitoring objectives, locations, pollutant parameters, and monitoring procedures and protocols.

Please review the draft document at http://www.orcity.org/.../2022-comprehensive-clackamas..., and submit your questions or comments via the webform by November 19, 2022.

The Plan will be finalized in consideration of public comments and submitted to the Oregon Department of Environmental Quality for review and approval.

3 3 shares

Oregon City - City Hall
Published by Jarrod Lyman · August 25 ·

Oregon City's Stormwater and Street Departments will be closing Pearl St & Eluria St for some stormwater repairs and paving. The closure will be from Monday, Aug 28 through Friday, Sept 8 from 7:30 am – 4 pm. The map indicates the detour route.

6 15 comments

Like Comment Share

Oregon City - City Hall
Published by Hootsuite · September 29, 2022 ·

Comments Needed on the City of Oregon City's 2022 Stormwater Management Plan

Oregon City has been working to update the 2022 Stormwater Management Plan (SWMP). The SWMP describes activities implemented to comply with the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit. The SWMP outlines best management practices that the City will conduct to protect water quality and prevent and reduce stormwater pollution to the maximum extent practicable.

The draft SWMP has been updated by the City to complete a condition of the City's NPDES MS4 permit and is posted on the City's website for public review for the next 30 calendar days. Comments will be collected through October 31, 2022 for consideration and incorporation into the finalized SWMP.

Please review the draft document at www.orcity.org/publicworks/2022-stormwater-management-plan and submit your questions or comments by October 31, 2022.

The final version of the SWMP will be submitted to the Department of Environmental Quality by December 1, 2022.

Collaboration with Other Agencies

VI. Clackamas River Water Providers – ongoing throughout the year

Oregon City, through its association with South Fork Water Board, partners with other agencies that use the Clackamas
River for potable water, to promote source water protection and water conservation. Programs include water quality monitoring and a pesticide outreach program. For specific information, and to read their annual report, visit the CRWP website at www.clackamasproviders.org. "Clean Water, It's Our Future" Campaign on KPTV Chanel 12 on Television and Website (https://www.kptv.com/water/)

Oregon City continues to partner with other agencies in the Portland metro area in sponsoring public education messaging via KPTV media outlets. The campaign identifies simple things that can be done to keep our rivers and streams healthy. The following topics were highlighted on their website, social media, and television during the 2020-2021 campaign:

- Reducing stress while gardening
- Car maintenance
- Water friendly weed control
- Clean gutters and storm drains
- Fall lawn tips
- Clean driveways

VII. Regional Coalition for Clean Rivers and Streams

Oregon City is one of the Clean River Partners of Clackamas County. As such, the city continues to support the effort, along with other agencies in the Portland metro area, to educate the public about the impact of stormwater runoff pollution on the health of our rivers and streams. For specific information about the current campaign – The River Starts Here – visit the Coalition website at http://theriverstartshere.org/.

VIII. The Environmental Learning Center at Clackamas Community College

Oregon City has begun a partnership with the Environmental Learning Center (ELC) at Clackamas Community College (CCC) to fund Watershed Health Program Activities for all age groups ranging from Preschool Programs to adults and continuing professional education.

Appendix D

LID Strategy

Oregon City
Low Impact Development (LID) Strategy

December 1, 2023

Section 1: Introduction/Background

Schedule A.3.e.ii of the NPDES MS4 Permit (Permit) requires co-permittees by December 1, 2023, to "review and update or develop and begin implementation of a strategy to require to the maximum extent feasible, the use of Low Impact Development (LID) and Green Infrastructure (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". The permit requires the co-permittees to document this strategy in the subsequent annual report and incorporate or reference the strategy in the SWMP Document after completion and DEQ approval. The purpose of this document is to summarize the City's current LID strategy to meet these permit requirements.

Section 2: Oregon City's Stormwater Design Standards

To address the previous 2012 iteration of the Clackamas Group's MS4 NPDES permit, the City undertook a significant effort to develop a Stormwater Grading and Design Manual (Manual). The purpose of the manual was to address permit requirements to: prioritize low impact development/green infrastructure, optimize on-site retention, and target predevelopment hydrologic functions as much as practical. The manual was completed in 2015, and since that time, these objectives have been addressed for both new and re-development activities in the City. Since 2015, as the manual has been implemented, additional refinements were made using an adaptive management approach. The latest version of the Manual is dated 2020. The City's strategy, as documented in the manual, is to prioritize LID/GI.

Section 3: Oregon City's LID Strategy

The City's 2020 Manual continues to include requirements for developers to provide both flow control and water quality treatment. Flow control is addressed by requiring either retention of the 10-year storm, or peak flow duration matching for flows that are considered to have the greatest potential for hydromodification impacts (i.e., 42% of the 2-year peak flow to the 10-year peak flow). Water quality is addressed by requiring treatment of a design storm representing 80% of average annual runoff. As stated in Section 1.3 of the Manual, infiltration is the preferred method to address the stormwater runoff for meeting water quality and flow control requirements.

Prior to designing stormwater management facilities, developers are required to conduct a Site Assessment and prepare a Preliminary Design Submittal (Section 2 of the Manual). The purpose of this requirement (as stated in Section 2.1 of the Manual) is to ensure that the physical attributes of the development site are reviewed before placing manmade structures such as streets, parking lots, and buildings. This is meant to optimize site design of stormwater management techniques and sensitive areas protection, and to reduce or eliminate potential conflicts between site development elements and required stormwater management systems. The site assessment includes review of topography, soils, seasonal high groundwater, infiltration rates, site hydrology, natural features, downstream conveyance, existing vegetation, vegetated buffers, land use and zoning. Applicants are required to address the following four objectives in the Site Plan (Manual Section 2.2.3):

- Preserve Existing Resources
- Minimize Site Disturbance
- Minimize Soil Compaction
- Minimize Imperviousness

These objectives are all considered to be LID design techniques.

Given suitable site and soil conditions, the City requires that the stormwater management strategy prioritize infiltration of stormwater runoff to recharge groundwater and mimic predevelopment hydrologic conditions.

Following Site Assessment, the City requires the design of stormwater management to address the flow control and water quality treatment requirements for the remaining runoff (Manual Chapter 4). In meeting the flow control and water quality requirements, the City requires a Stormwater Management Hierarchy to be used in selecting the applicant's proposed stormwater management strategy. Applicants must demonstrate that the strategies higher on the hierarchy are not feasible before selecting a lower-level strategy for stormwater management. To move from one level to the next, the applicant must demonstrate that the proposed development site has one or more of the physical limitations listed in the Manual (Manual Section 2.2.4.1). The Stormwater management hierarchy is included in the Manual and reproduced for convenience in Figure 1 below.

Figure 1. Stormwater Management Strategy Hierarchy

Source: Figure 2-2. Stormwater Grading and Design Manual

All levels in the stormwater management hierarchy require the use of LID facilities. Level 1 on-site retention is required for sites with infiltration rates of 2 inches per hour or greater. Level 2 is required for sites with design infiltration rates between 0.5 and 2.0 inches per hour. For Level 2, LID facilities are required to be designed with infiltration as the primary means of flow control. For Level 2 sites with design infiltration rates less than 0.5 inches per hour, the LID facility will require an underdrain connected to a flow control structure.

Approved LID stormwater management facilities are defined in Chapter 4 of the Manual. As provided in Chapter 4, LID facilities are the preferred strategy to meet the stormwater management requirements for water quality treatment and flow control. The following types of facilities are listed as those that can be used to meet these standards:

- Stormwater planters (infiltration and filtration)
- Rain Gardens (infiltration and filtration)
- Vegetated Swales (infiltration and filtration)
- Detention Ponds (infiltration and filtration)

Manufactured treatment technologies are not allowed for public projects, and, for private projects, they are only allowed for constrained sites where full implementation of LID facilities is not technically feasible.

Section 4: Summary

In summary, since 2015 Oregon City's LID strategy has been to require upfront site planning that emphasizes LID design techniques, and to implement a hierarchy of stormwater management strategies that require LID, GI and infiltration to the maximum extent feasible.

Appendix E

Construction Escalating Enforcement SOP

Oregon City
Erosion Control Enforcement
Standard of Practice

December 1, 2023

Section 1: Background

Protecting the City of Oregon City stormwater system is critical to the health of the City and its surrounding water ways. The City reviews Erosion Prevention and Sediment Control (EPSC) plans and inspects construction sites to ensure plans are being followed. The City works with applicants to best prevent erosion, and control sediment and construction site waste discharges before they become a violation. This review process assists the City to meet and/or exceed its permit requirements. In some circumstances, additional steps may be required to enforce City codes and ordinances and comply with the permit requirements.

This Standard of Practice (SOP) provides guidance in enforcing EPSC. Using established procedures helps ensure fairness (with permit holders) and protection of the City's stormwater system.

Section 2: References

The following documents provide the City's governing codes, to assist with enforcement procedures for permitted projects. Enforcement officers shall be familiar with:

1. Oregon City Municipal Code Chapter 17.47
2. Oregon City Erosion Prevention and Sediment Control Manual

Section 3: Standard of Practice

Every effort should be made to work with developers, contractors, consultants, and permit holders during the construction process. The City strives to achieve mutual success in meeting EPSC requirements. This can be achieved through standard communication channels, either verbally or by notations in inspection reports. When these efforts fail to generate the required action (to correct or implement EPSC measures) the following steps shall be taken.

Step 1. Notice of Non-Compliance

When a routine inspection identifies deficiencies requiring corrections, written notice shall be given using the Notice of Non-Compliance (N-O-N) form (Attachment A). This form will be given to the onsite responsible EPSC person when verbal direction and/or notations of the inspection report (to correct or implement new measures to prevent erosion or discharges of construction site wastes) have not been followed. The responsible person is the "Site Steward" listed on the Erosion Control Permit Application.

The intent of this notice is to alert the responsible person that corrective action must be taken within the time frame indicated on the N-O-N. If there is an imminent threat of sediment or other construction site wastes leaving the site, and entering a waterway or stormwater system, a Stop Work Order (SWO) will be issued as noted in Step 2.

Step 2. Stop Work Order

This notice will be given after Step 1 has been issued and no satisfactory results have been achieved – OR- if there is an imminent threat of sediment or construction site wastes leaving the site thus violating OCMC 17.47 and the OCEPSC Manual. The SWO form (Attachment B) will be issued in accordance with OCMC 17.47 and the OCEPSC Manual. Once the SWO is issued to the responsible person on the site, all work shall cease immediately EXCEPT for the work necessary to achieve compliance with the EPSC permit requirements.

A copy of the SWO form shall also be sent to the EPSC Permit holder. The SWO will be lifted from the site when the inspector reports that all EPSC measures have been brought into compliance. For inactive sites, a SWO is inconsequential and does not protect the City's resources. Proceeding to Step 3 is the next course of action when Step 2 does not produce a compliant situation.

Step 3. Civil Penalties for Violation

OCMC 1.20 "Civil Infractions", provides for civil penalties to be issued to the EPSC Permit holder (by the City's Code Enforcement Department) when there are EPSC violations. Civil penalties will be imposed in accordance with established timelines and processes in the amounts dictated per code.

Typically, civil penalties will not be issued unless the SWO does not achieve the desired results. However, if the Non-Compliance issue is a repeated offense and/or the violation is serious enough, civil penalties may be imposed.

Attachments

A. Notice of Non-Compliance Form
B. Stop Work Order Form

Attachment A: Notice of Non-Compliance Form

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ATTACHMENT A

NOTICE OF NON-COMPLIANCE
Erosion Control

LOCATION: _____ **DATE:** _____

CONTRACTOR: _____ **TIME:** _____

You are hereby notified that a field inspection on _____ indicated that the on-site Erosion and Sedimentation Control Measures DO NOT CONFORM to Oregon City Municipal Code (OCMC) Chapter 17.47 requirements and the City of Oregon City's Addendum to the Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual (EPSC). Noncompliance will result in the City issuing a STOP WORK ORDER if responsible party fails to take corrective action within _____ HOURS OF NOTICE. Responsible party of violation shall be subject to the enforcement procedures of OCMC Chapter 1.20, Civil Infractions.

It is your responsibility to determine the necessary corrective action and promptly remedy the violations noted below. For assistance, refer to the OCMC, Oregon City's EPSC Manual (www.orcity.org/publicworks/erosion-and-sediment-control-requirements) or contact the inspector identified below.

PUBLIC WORKS INSPECTOR INFORMATION

_____ **Phone No.:** _____
Signature

_____ **E-mail:** _____
Printed Name

Noncompliance notice was posted at the property and is visible from adjacent public way.

Violation of the Oregon City EPSC Manual and/or OCMC 17.47 noted below:

☐ EPSC 1.2, 6.4, 6.8 & OCMC 17.47.070.B.2	Effective erosion control measures shall be properly installed and maintained from construction start to finish.
☐ EPSC 1.2, 6.4, 6.5 & OCMC 17.47.080.B	Erosion control measures ·shall be installed prior to excavation or stripping. Owner shall call for City inspection (prior to foundation inspection) to certify that erosion control measures are installed.
☐ EPSC 6.4, 6.8 & OCMC 17.047.080.D	Owner shall be responsible for maintenance, repair and replacement of erosion control measures to ensure uninterrupted functioning.
☐ EPSC 4.1.3, 4.1.4, 4.1.5, 4.1.6	Disturbed soil exposed for 21 days or more during dry weather (May 1 - Sept 30) and 7 or more during wet weather (Oct 1 - April 30) shall be protected from erosion by placing ground cover.
☐ EPSC 2.3 & OCMC 17.47.080	Runoff containing sediment shall be filtered before leaving the site. Resulting sediment shall be retained on site.
☐ EPSC 4.3.2	A gravel pad shall be installed and maintained at all site entrances and exits to keep debris from tracking off-site. No other vehicle access points allowed.
☐ EPSC 1.3.5, 1.3.6	Sediment shall be promptly removed from sidewalks, pavements, off-site areas, storm drains and ditches. Do not wash sediments into storm drains, wetlands, or streams.
☐ EPSC4.1.8	Owner is responsible for vegetation restoration and survival.
☐ EPSC4.1.2	Dust control measures shall be implemented.
☐ EPSC 5	Management of other construction site pollutants.

Comments _____

Attachment B: Stop Work Order Form

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Public Works Department
625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7892

LEGAL NOTICE

WHEREAS, violations of Oregon City Municipal Code(s) have been observed, IT IS HEREBY ORDERED in accordance with Oregon City Municipal Code 1.20 "Civil Infractions" that all parties cease, desist from, and

STOP WORK

at once pertaining to construction, alterations, additions or installations on these premises identified as:

_____

All persons receiving this order and/or acting contrary to this order are subject to conviction of the infraction and the Oregon City Municipal Court may impose a maximum civil penalty of three hundred dollars ($300.00) each day of the violation.

Required corrective action: _____

_____

_____

_____

_____

_____

Continuation of this violation may result in legal action and Municipal Court proceedings. To request a compliance inspection, contact the inspector by the means listed below between the hours of 8:00 AM and 4:00 PM, Monday through Friday (except legal holidays).

POSTED DATE: _____ **CORRECTION DEADLINE:** _____

INSPECTOR INFORMATION

_____ **Phone No.:** _____
Signature

_____ **E-mail:** _____
Printed Name

Appendix F

Infrastructure Retrofit & Hydromodification Assessment Update

Oregon City
Infrastructure Retrofit and Hydromodification Assessment Update

December 1, 2023

Section 1: Introduction/Background

In Oregon City's (City's) previous 2012 Phase 1 National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit (Permit), Schedule A.5 required the City to conduct a hydromodification assessment to examine hydromodification impacts related to MS4 discharges, including erosion, sedimentation, and alteration to stormwater flow, volume, and duration that may cause or contribute to water quality degradation. The report was required to "*identify strategies and priorities for preventing or reducing hydromodification impacts related to the co-permittees MS4 discharges and identify or develop effective tools to reduce hydromodification*". The report was required for submittal to DEQ by July 1, 2015.

Also included in the 2012 Permit, in Schedule A.6., was a requirement to develop a stormwater quality retrofit strategy that applied to developed areas that were identified as impacting water quality, and that were identified as underserved or lacking stormwater controls. The plan was required to include "*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 or approach*." As with the Hydromodification Assessment, this plan was also due to DEQ by July 1, 2015.

Schedule A.3.h. of the City's current 2021 NPDES MS4 Permit requires co-permittees by December 1, 2023, 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.e., the 2015 submittals). Specifically, co-permittees are required to prepare "an assessment of any outcomes related to the Hydromodification Assessment and Stormwater Retrofit Strategy Reports." This documented assessment is required to include the following:

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 rational for those actions since the writing of the reports;*

D. *Narrative describing progress toward addressing gaps in the 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.*

The Permit requires the City to document this assessment in the third annual report (i.e., the 2023 annual report) as an appendix or subsection. This documented assessment was prepared to fulfill this requirement and is being included as an appendix to the 2023 annual report.

Section 2 of this assessment provides a summary of the previous retrofit strategy, progress made since the strategy was submitted in 2015, and goals for moving forward. Section 3 of this assessment provides a summary of the previous hydromodification assessment, progress made since the assessment was submitted in 2015, and goals for moving forward. Section 4 provides an overall summary.

Section 2: 2015 Retrofit Strategy Summary

1. What was included in the Retrofit Strategy and how has it been used, considered, or implemented since 2015?

The City's 2015 retrofit strategy objectives were to: reduce pollutants of concern and reduce hydromodification impacts. To address these objectives, the strategy included the following:

- ✓ Update the Oregon City Stormwater Master Plan – The City committed to developing an updated stormwater master plan to replace the previous 1988 plan. One of the main objectives of developing an updated master plan was to provide an evaluation and inventory of proposed capital improvement projects (CIPs) to address water quality. This included a review of existing flood control facilities for retrofit opportunities to also address water quality, and it included an identification of potential opportunities for new water quality facilities. Another objective of the master plan was to develop and include CIPs to address problems identified in the City's hydromodification assessment.
- ✓ Incorporate Stormwater Treatment Measures into Transportation/Road Improvement Projects When Feasible – A continuing strategy for the City was to provide stormwater treatment elements with road improvement projects. Examples of these types of projects began in 2007 and included the Beavercreek Road Improvement Project (2007, stormwater planters), 10th Street Project (2008, stormwater planters), Warner-Milne Road Project (2010, raingarden), and the McLoughlin Boulevard Enhancement Project, Phase 2 (2015, water quality swales). This element of the strategy stated that newer projects implemented since the City's stormwater design standards were updated in 2015, will adhere to the standards to emphasize low impact development practices, source controls and to address hydromodification through flow duration matching. The purpose of this element of the strategy was to commit to continuing with these types of projects as road project opportunities arise.
- ✓ Investigate Treatment Retrofit Opportunities on City-owned Properties - This element of the City's strategy was to incorporate retrofit opportunities on City-owned properties when opportunities arise. Potential examples listed included: 1) working with the Greater Oregon City Watershed Council to construct a water quality swale to improve conditions in the "Scatter Canyon" area of the Mountain View Cemetery which flows into Newell Creek (this was also identified as a project to address a hydromodification issue); and 2) incorporating water quality retrofits into upcoming improvement projects to municipal buildings (e.g., the Public Safety Building and the Public Works Operations Center).

Since 2015, the City has been using the strategy to implement water quality retrofit projects. The status of project implementation is provided in Section 2, Item 2.

2. What progress has been made toward completion of projects identified in the Retrofit Strategy, and what have been the benefits of those projects?

The following retrofit projects have been completed since 2015 to implement the retrofit strategy:

- ✓ Update the Oregon City Stormwater Master Plan: The City met their commitment to develop an updated stormwater master plan. The Stormwater Master Plan was updated in 2019 and adopted by Ordinance 19-1014 on March 18, 2020, being effective on April 17, 2020. The updated stormwater master plan includes a water quality/retrofit assessment (Section 5 of the Master Plan). The City's overall recommended CIP list in the master plan includes a total of 12 CIPs. Six of these CIPs include water quality enhancement including the following:
  - Oregon City Shopping Center treatment facility for discharges to Clackamette Cove.
  - South End Road Stormwater Improvements (to include potential water quality enhancements),
  - Pebble Beach Pond Retrofit (retrofit pond to provide water quality treatment),
  - Coffee Creek Stream Restoration,
  - Scattering Canyon Stormwater Improvement (stream restoration and water quality enhancement), and,
  - Newell Canyon Outfall Assessment (assess outfalls to address problems associated with erosion and downcutting).

    Of the six water quality CIPs, the Scattering Canyon Stormwater Improvement project, and the Newell Canyon Outfall Assessment were implemented (as described in Section 3, Item 3) given that these projects are retrofit projects that also address hydromodification impacts. The Newell Canyon Outfall Assessment resulted in the identification of a CIP need to restore ravine located at the downstream end of an outfall at Beemer Way. This Beemer Way Outfall project was completed in August of 2023, and is also described in Section 3, Item 3.
- ✓ Incorporate Stormwater Treatment Measures into Transportation/Road Improvement Projects When Feasible:
  - While many roadside stormwater facilities have been constructed in Oregon City since 2015, these facilities were associated with new development projects and not classified as retrofits.
- ✓ Investigate Treatment Retrofit Opportunities on City-owned Properties: The following retrofit projects were constructed on City-owned properties.
  - Oregon City Operations Complex - Rain gardens and stormwater planters were constructed to treat 50,135 square ft drainage area.
  - Carnegie Library Expansion - One vegetated planter was constructed treating 14,500 sf.
  - Mountain View Cemetery, Scattering Canyon – An outfall stabilization and water quality facility was constructed to address a significant instream erosion problem. The outfall drains an area of approximately 33.5 acres. See Section 3, Item 3 for a description of this project.

In terms of benefits of the projects, the master plan project enabled the City to evaluate the storm system City-wide to identify and prioritize water quality projects and provide a roadmap for capital project implementation. The Scatter Canyon and Beemer Way Outfall projects have been implemented and are addressing identified stream erosion issues and preventing significant sediment discharges. In addition, an additional approximately 64,000 sf of previously untreated impervious surface on City-owned property is now being treated with green water quality facilities.

3. What are the new goals, tools, priorities, and planned or potential projects for improving retrofit planning to address water quality impacts resulting from historical development/infrastructure?

No Stormwater Master Plan projects or road improvement projects including stormwater quality treatment facilities are planned for implementation in the next biennium.

Section 3: 2015 Hydromodification Assessment Summary

1. Were there any identified gaps in the hydromodification information or data related to waterbodies within the City's jurisdiction and, if so, what progress has been made in addressing gaps?

The field assessment that was conducted for the City's 2015 hydromodification assessment prioritized urbanized areas of the Abernethy Creek watershed, including the Newell Creek subbasin. In terms of any gaps, the assessment indicated that it would be beneficial for future hydromodification evaluations to include the investigation of additional areas including tributaries to Beaver Creek (Caufield, Mud, and Central Point basins). The purpose of the additional investigations would be to look for hydromodification indicators and identify potential in-stream capital project locations to address issues as identified. It was suggested that these investigations could potentially be conducted as part of the City's upcoming stormwater master plan and that data collected from the City's ongoing water quality and macroinvertebrate sampling could also be used to inform hydromodification project priorities.
In 2016, as part of the City's stormwater master plan update, field evaluations were conducted to expand and enhance the 2015 hydromodification assessment results and address gaps. Locations for the 2016 field assessment were selected based on known problem areas, annual problem area monitoring sites, and locations throughout the Beaver Creek tributary subbasins that were not evaluated in 2015. Field visits to the tributaries of Beaver Creek showed that the channels downstream of large residential developments appeared to be stable and preserved in their natural states and that hydromodification did not appear to be occurring in these areas. Newer development in these areas had been designed with required water quality and flow control facilities that appeared to be protecting the integrity of the tributaries and natural systems.

2. What were the results of the Hydromodification Assessment and how has it been used, considered or implemented since 2015?

The 2015 hydromodification assessment conducted by the City included a desktop GIS assessment of watershed conditions, a field assessment, a review of existing planning documents to identify whether current land use policy and development standards were adequate to protect against further impacts, and an evaluation of planning documents and watershed studies to identify projects that will restore impacted channels or help manage stormwater runoff to better mimic historical conditions.
Results of the assessment included the following recommended programs and projects:

- Data collection and data gaps – As mentioned above, a recommendation was made to conduct further field assessments of the Beaver Creek tributaries to address gaps from the 2015 field assessment.
- Develop an updated Stormwater Master Plan – This recommendation included support for updating the City's stormwater master plan and for including capital projects to address identified hydromodification issues.
- Monitor problem areas – Annual inspections were recommended to monitor known problem areas and proposed capital project locations.

- Capital projects – Four potential capital projects were proposed to carry forward for consideration in the update of the City's stormwater master plan.

The recommendations from the hydromodification assessment were considered and incorporated into stormwater master planning efforts. The City's stormwater master plan was finalized in 2019.

3. What further actions have been taken as a result of the Hydromodification Assessment, and what was the rational for those actions?

The following actions were taken to address the recommendations that resulted from the 2015 hydromodification assessment that are listed above.

- Data collection and data gaps – As described above, an additional field assessment was conducted in 2016 to assess the Beaver Creek system for potential hydromodification issues.
- Develop an updated Stormwater Master Plan – The City updated their stormwater master plan and included consideration of hydromodification issues and projects in the update of the plan. As a result, capital projects were recommended (see item 4 below).
- Monitor problem areas – Visual inspections were conducted at outfall locations.
- Capital projects – Twelve capital projects were prioritized for implementation in the City's updated Stormwater Master Plan. Three of the projects implemented to address hydromodification issues are as follows:
  - **Scattering Canyon Stormwater Improvement**: The Scattering Canyon Stormwater Improvement project was proposed to address a identified hydromodification impacts (erosion/downcutting) occurring at an outfall location on a tributary to Newell Creek in the Mountain View Cemetery property. The creek was experiencing hydromodification in the form of severe channel incision and erosion near the outfall. This project was included in the master plan and construction of the project was completed in 2022. The project includes a pollution control manhole and 16 check damn structures that direct water quality flow to a treatment swale controlling flow and reducing erosive energy. Large boulders and vegetation were placed near the existing outfall to prevent further incision. Multiple boulder check dams were installed in the swale for flow control to reduce erosive energy.
  - **Newell Canyon Outfall Assessment**: The area around Newell Creek, commonly referred to as Newell Canyon, has several locations where erosion, bank sloughing, and landslides have occurred during and following storm events. The canyon is largely protected from development because of Metro ownership and protections. However, prior development of the drainage area contributing to Newell Canyon has resulted in some degradation of the natural systems. Newell Canyon has been established as a problem area that is characterized by steep slopes, erodible soils, and numerous stormwater outfalls and small drainage tributaries. The development in this watershed is generally lacking stormwater management facilities. The combination of development without flow controls and highly erodible soils has resulted in observed stream incision, erosion at the outfalls, and severely altered stream channels. Newell Canyon hillsides have also experienced sloughing and small landslides, though those problems cannot be attributed solely to stormwater runoff. Newell Creek has some areas of severe downcutting and incision in the upper reaches of the creek but lower reaches of the creek through the base of the canyon seem to be well preserved. Stream surveys and site visits in 2015 and 2016 documented areas where stormwater outfalls showed noticeable degradation. Outfalls showed visible

increases in erosion and degradation over the course of 12 months. There is concern that ongoing degradation may lead to more significant bank and hillside stability problems.

The project proposed in the master plan was to conduct further study to evaluate the outfalls in the Newell Canyon area. This would include conducting a widespread outfall assessment to evaluate stormwater outfalls, identify significant problem locations, and develop concept plans to stabilize degrading systems. This outfall assessment was competed in 2022 and included inspection of 17 sites. As a result of the inspections, a new project to restore and outfall was identified for implementation at Beemer Way. This project is described in the following paragraph.

- **Beemer Way Outfall Project**: Due to the nature of the Beemer Way Outfall, the ravine had started to deteriorate, and the side slopes had started to erode. The City identified this outfall as a near term project in 2022 and begin working on a design to repair the outfall, stabilize the slopes and provide mitigation plantings within the ravine. The City worked with multiple government agencies including the US Army Corps of Engineers, Department of State Lands, and the Department of Environmental Quality. The ravine was regraded to remove the perched outfall and to repair and armor the eroded slopes. A new concrete headwall was constructed with a stoned swale that reduces the energy and velocity of the stormwater discharge. Native plan species were also included in areas impacted by the work. The project was completed in August, 2023. The City plans to continue to monitor this outfall and provide maintenance as needed.

4. What are the City's new goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification?

The City will continue to implement projects from the Stormwater Master Plan as budget and resources allow. The City will also continue to implement the Oregon City Stormwater and Grading Standards for private development and public infrastructure projects. These standards require rigorous flow duration matching requirements to prevent hydromodification impacts to streams from new and redevelopment. The City also plans to follow up with minor maintenance activities and observations for the Newell Canyon outfalls, and will expend outfall evaluations to other parts of the City.

Section 4: Summary

In summary, since the 2015 Retrofit Strategy and Hydromodification Assessments were conducted, the City accomplished some significant efforts toward identifying and implementing projects to address these issues. Two of the efforts were planning efforts including: 1) development of a Stormwater Master Plan to identify capital projects including those that address water quality issues; and 2) completion of field assessments of the Beaver Creek and Newell Canyon areas to identify project needs for addressing hydromodification impacts. As a result of these assessments/plans, two significant projects were designed and constructed including the $542,000 Scatter Canyon outfall/stream stabilization and water quality facility, and the $310,000 Beemer Way outfall project. Both of these hydromodification related projects are also considered as system retrofits. In addition, rain gardens and planters were constructed in association with the Oregon City Operations Complex and the Carnegie Library Expansion providing treatment for previously untreated drainage areas. The City will continue to implement projects from the Stormwater Master Plan as resources allow.