Gresham and Fairview
NPDES Annual Report 2020
PERMIT YEAR 25
MS4 DISCHARGE PERMIT NO. 101315 EPA REF. NO. ORS 108013


Brookside regional water quality facility


Beaver dam at Columbia Slough WQF

Educational sign at Van Buren swale


Street-level stormwater planter at SW 43rd


Water quality pond at Brickworks subdivision

CITY OF GRESHAM

November 2020

Page left intentionally blank

National Pollutant Discharge Elimination System
Permit No. 101315
EPA Reference No. ORS108013
Permit Year 25 Annual Report
City of Gresham and City of Fairview

"We the undersigned, certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment from knowing violations."

Steve Fancher
Director, Department of Environmental Services
City of Gresham

Allan Berry
Director, Public Works
City of Fairview

For additional information regarding this report, please contact:

Torrey Lindbo
Manager, Water Sciences Program
City of Gresham
1333 NW Eastman Parkway
Gresham, OR 97030
(503) 618-2405
www.greshamoregon.gov

Page left intentionally blank

Table of Contents

Preface

The Cities of Gresham and Fairview submit this report in accordance with requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit # 101315. This report is intended to provide a brief summary of the activities conducted by these agencies to prevent the entry of pollutants into their stormwater, and surface water conveyance systems and may not represent all activities that occur.

This report has four major sections. Section 1, Overview, provides the historical background, location of required elements within the report, and a description of Gresham and Co-permittee's watersheds. Section 2, Environmental Monitoring Program, is the summary of the City of Gresham's data collection efforts conducted on behalf of the Co-permittees and includes corresponding Tables and Figures and Sections 3 through 4 consist of the Stormwater Management Plan (SWMP) implementation status reports for the City of Gresham and the City of Fairview, respectively. Additional supporting documentation for Section 3 is provided in Appendices A through E for Gresham.

Section One--Overview of Required Elements

A. History

In accordance with Clean Water Act (CWA) requirements, the Oregon Department of Environmental Quality (DEQ) issued a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Permit on September 7, 1995 to the City of Gresham and co-permittees: the City of Fairview, Multnomah County, and the Oregon Department of Transportation. This permit (101315) expired on August 31, 2000. The Oregon Department of Transportation (ODOT) sought separation from their multiple joint NPDES MS4 permits and obtained approval from DEQ to implement their own statewide permit.

The Cities of Gresham and Fairview, and Multnomah County submitted a permit renewal package (for the period September 1, 2000 through August 31, 2005) as co-permittees to DEQ in March 2000. Gresham submitted an update to its portion of that package in December 2001. On March 1, 2004, DEQ issued a renewed permit. However, several interest groups requested a petition for reconsideration on the renewed permit. On May 17, 2004, DEQ granted this request and a revised permit was reissued by DEQ on July 28, 2005, subsequently followed by submittal and approval of an updated Stormwater Monitoring Plan and Stormwater Management Plans (SWMP) for Gresham and co-permittees. These documents were approved by DEQ in July 2006 (PY 12).

On August 1, 2008, Gresham and Co-permittees submitted a permit renewal package that included the required elements as stated in Schedule B 2) c) of the permit, including an updated joint Monitoring Plan and individual Stormwater Management Plans.

On December 12, 2010 DEQ issued a renewed permit with the City of Gresham and the City of Fairview as Co-Permittees and issued a separate renewed permit to Multnomah County. DEQ authorized permittees to make minor changes to their SWMPs in order to be consistent with the final permit language by April 1, 2011. This annual report is based upon the City of Gresham and Fairview's respective final SWMPs dated April 1, 2011.

The City of Gresham and Fairview's permits expired on December 29, 2015. DEQ staff initially focused on renewing the NPDES Phase II permits and placed the Phase I renewal on administrative extension. After the Phase II permits were completed, DEQ drafted a Phase I permit that the co-permittees reviewed and provided feedback on. It is anticipated that a renewed permit will be issued in the coming year and that permittees will be required to update their SWMPs to meet the new permit requirements.

B. Reporting Requirements

This section summarizes the requirements for the annual report as described in Schedule B 5) Reporting Requirements of the permit and provides a reference to the location of each element within this report. As noted in the permit, this Annual report is provided to DEQ by November 1 of each year in electronic and hard copy format and is also posted on Gresham's website and cross-linked from the City of Fairview's website.

SWMP Implementation Status

The status of the SWMP best management practices implementation and measurable goals for Gresham and Fairview is described in **Section 2** Environmental Monitoring Program and in **Sections 3** and **4**, respectively.

Proposed Changes, Adaptive Management & New BMPs

The detailed description of the adaptive management process was submitted with the permit year 16 annual report which is available on the City's website at www.greshamoregon.gov/watershed in the stormwater documents section. For purposes of brevity, the ongoing annual review process consists of data intake from various staff who are responsible for the implementation of a particular best management practice (BMP). Factors examined as part of the data intake process include but are not limited to:

*Was the BMP measurable goal attained? If not, why? How will progress be made towards future attainment?
*For multi-year BMPs, were milestones or timelines met?
*Does the BMP need to be refined or improved?
*Are staffing/financial resources available to support such a BMP improvement or refinement? Proposed changes, adaptive management or addition of BMPs for Gresham and Fairview, if applicable, are described in **Section 2** Environmental Monitoring Program and in **Sections 3**, and **4**, respectively.

Summary of Fiscal Year Expenditures and Projected Annual Budgets

Previous and projected budgets for Gresham are included in **Table 3-10** and in **Section 4** for Fairview.

Summary of Monitoring Program Results/Data

Gresham and Fairview's monitoring data and summary of assessments or evaluations and any proposed changes to the monitoring plan are reported in **Section 2 Environmental Monitoring Program** and its subsequent **Tables and Figures.**

Summary of Inspections & Enforcement, Public Education Programs, and Dry Weather Screening

These annual reporting program components as described in Gresham and Fairview's approved SWMPs and are reported in **Sections 3, and 4,** respectively.

Overview of Urban Growth Boundary (UGB) Expansion Areas

A summary of activities that apply for the City of Gresham is included in **Appendix B**: UGB Summary. This requirement does not apply to the City of Fairview whose permitted area does not contain any UGB expansion area.

Legal Authority

See **Appendix A**: Adequate Legal Authority for documentation of legal authority for the Cities of Gresham and Fairview.

Permit Boundary and Map of Major Watersheds

On the following page **Figure 1-1** depicts the permit boundary of Gresham and Fairview and a map of the major watersheds within the permit area with associated acres. Minor errors in GIS calculations can cause acres to fluctuate and are not considered precise.

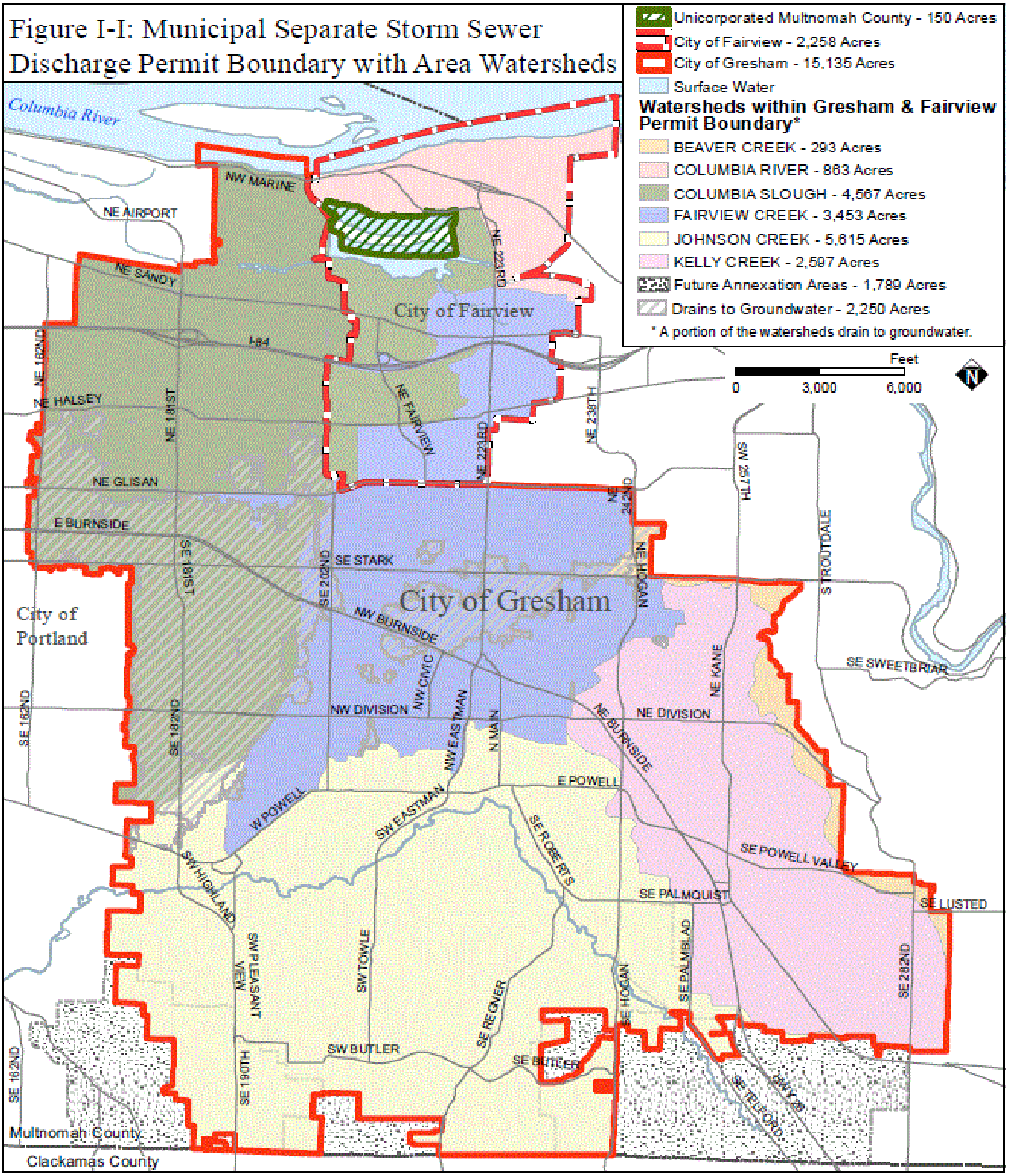


Figure I-I: Municipal Separate Storm Sewer Discharge Permit Boundary with Area Watersheds
Unicorporated Multnomah County - 150 Acres
City of Fairview - 2,258 Acres
City of Gresham - 15,135 Acres
Surface Water
Watersheds within Gresham & Fairview Permit Boundary*
BEAVER CREEK - 293 Acres
COLUMBIA RIVER - 863 Acres
COLUMBIA SLOUGH - 4,567 Acres
FAIRVIEW CREEK - 3,453 Acres
JOHNSON CREEK - 5,615 Acres
KELLY CREEK - 2,597 Acres
Future Annexation Areas - 1,789 Acres
Drains to Groundwater - 2,250 Acres
* A portion of the watersheds drain to groundwater.
Feet
0
3,000
6,000
N
Columbia River
City of Fairview
City of Gresham
City of Portland
Multnomah County
Clackamas County
NW MARINE
NE AIRPORT
NE SANDY
I-84
NE HALSEY
NE GLISAN
E BURNSIDE
SE STARK
NW BURNSIDE
NW DIVISION
NE DIVISION
E POWELL
SW EASTMAN
SE POWELL VALLEY
SE PALMQUIST
SE LUSTED
SE SWEETBRIAR
SW BUTLER
SE BUTLER
NE 162ND
NE 181ST
SE 181ST
SE 202ND
NE 223RD
NE 238TH
NE 242ND
NE FAIRVIEW
NE HOGAN
SW 257TH
S TROUTDALE
NE KANE
NE BURNSIDE
NW CIVIC
NW EASTMAN
N MAIN
SE 162ND
SE 182ND
W POWELL
SW HIGHLAND
SW PLEASANT VIEW
SW TOWLE
SE REGNER
SE ROBERTS
SE HOGAN
SE PALMBLAD
SE 282ND
SE TELFORD
HWY 26

Page left intentionally blank

Section Two:
Cities of Gresham & Fairview Environmental Monitoring Program Annual Report

A. History

Background

The data reported in this Annual Report reflects the Cities of Gresham and Fairview's implementation of the Environmental Monitoring Plan that was approved by DEQ and became effective in August 2008. Revisions to the original plan were submitted to DEQ in August 2010, November 2011, October 2012, November 2015 and July 2016.

The City of Gresham collects data for Multnomah County under an Intergovernmental Agreement and that data is included in this report.

B. Required Elements

This section of the Annual Compliance Report summarizes the Environmental Monitoring Plan implementation and permit requirements contained in the Stormwater permit. Schedule B) 5. states: the annual report must include:

f. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and/or assessments or evaluations.

g. Any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.

The environmental monitoring requirements specified in Table B-1 of the NPDES permit are summarized below in **Table 2-1**. Elements required by the permit are *italicized* text.

Table 2-1 Environmental Monitoring Requirements Summary

Monitoring Type	Monitoring Location(s)	Monitoring Frequency	Pollutant Parameter Analyte(s)	Notes
Instream Monitoring	*Three (3) sites in the Columbia Slough basin:* 1. Fairview Lake @ Lake Shore Park (FVL1) 2. Fairview Creek @ mobile estates (FCI0) 3. Fairview Creek @ Stark (FCI1)	*Four (4) events/year*	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS, Chlorophyll-a (May-Oct); nutrients (nitrate, ammonia, Total P, ortho-phosporus); Total recoverable and dissolved metals (copper, lead and zinc); legacy pesticides (JC only)*	The City of Portland collects data on the entire Columbia Slough, but based on their probabilistic sampling design, locations monitored any permit year will be reported to DEQ by Portland.
	Two (2) sites in the Sandy River basin: 1. Kelly Creek @ Mt. Hood Community College Pond (KCI1) 2. Kelly Creek @ Detention Pond (KCI4)			
	Four (4) sites in the Johnson Creek subbasin: 1. Johnson Creek @ Jenne Rd (JCI1) 2. Johnson Creek @ Palmblad (JCI2) 3. Kelley Creek @ Pleasant Valley Grange (KI1) 4. Kelley Creek @ Rodlun Rd (KI2)			

Continuous Instream Monitoring	*Two (2) continuous monitoring stations:* 1. Johnson Creek @ Regner 2. Fairview Creek @ Glisan*	*Ongoing* 15-minute interval	*Temperature and flow*	Flow data collected by USGS through Joint Funding Agreement #3225. *Fairview gage does not collect temperature. City of Gresham periodically collects summer temperature at Glisan location, as well as other locations throughout city.
Monitoring Type	**Monitoring Location(s)**	**Monitoring Frequency**	**Pollutant Parameter Analyte(s)**	**Notes**
Stormwater Monitoring - Storm Event	*Three (3) sites.* Monitored 10 random and spatially balanced stormwater locations.	*Three (3) events/year* Monitored 1 event at each location (totaling 10)	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, ortho-phosphorus); Total recoverable and dissolved copper, lead and zinc; pesticides*	The permit requirements as described by Schedule B)2)e)ii) would result in 9 data points annually. The City's approved monitoring approach results in 10 data points (5 fixed sites and 5 randomly selected rotating sites).
Macro-Invertebrate Monitoring	*One (1) site in the Columbia Slough basin:* 1. Fairview Creek @ mobile estates (FCI0) 2. Fairview Creek @ Stark (FCI1)	One (1) event/year during summer/low flow conditions	*Macroinvertebrates*	Collected during same week as instream water quality data collection occurred in summer.
	One (1) site in the Sandy River basin: 1. Kelly Creek @ Mt. Hood Community College Pond (KCI1) 2. Kelly Creek @ Detention Pond (KCI4)			
	Two (2) sites in the Johnson Creek subbasin: 1. Johnson Creek @ Jenne Rd (JCI1) 2. Johnson Creek @ Palmblad (JCI2) 3. Kelley Creek @ Pleasant Valley Grange (KI1) 4. Kelley Creek @ Rodlun Rd (KI2)			

Structural BMP Monitoring	*One (1) site - inlet and outlet:* 1. Columbia Slough Water Quality Facility 2. Brookside Regional Facility 3. Hayden's Meadows filtration stormwater planters 4. Kane Road pervious pavement	*Two (2) events/year through Dec. 31, 2013.* Monitored 1 event at 3 facilities, and 2 events at Kane Road	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, ortho-phosphorus); Total recoverable and dissolved metals (copper, lead and zinc)*	

C. Summary of Monitoring Program Results

The City of Gresham and Fairview's raw data collected in PY 25 are described and illustrated in **Tables 2-2 thru 2-7 and Figures 2-1 thru 2-4** of the monitoring report. The instream data have been compared to the relevant DEQ water quality criteria. Values that do not meet the water quality standards are highlighted. Data from Stormwater (wet weather sampling) and Structural BMP (green infrastructure) Monitoring have not been compared to water quality standards because of the mixing that occurs in-stream. Sampling locations are shown in **Figures 2-1 thru 2-4.**

The raw data from the City's Illicit Discharge Detection and Elimination program monitoring is included in **Table 3-5**. A map showing the sampling site locations for fixed and rotating sites are shown **Figure 3-1** and the discussion of the findings is included in **Section 3 BMP ILL 2&3.**

Instream Monitoring

Instream monitoring results are generally within expected ranges. There were some exceedances of water quality standards for pH, temperature, total phosphorus, total Hg, E. coli, and legacy pesticides DDT and its degradates, and Dieldrin. The greatest number of exceedances were for total Hg described further below. Temperature is also commonly exceeded during summer months and, as such, is not a stormwater issue. The city's TMDL related efforts to address temperature are described in **Appendix E** and **Table 3.3**.

pH

Stream pH results were above the 8.5 standard at Fairview Lake (FVL1) during fall sampling and below the 6.5 standard in Kelley Creek during summer sampling. The high pH in Fairview Lake was likely related to photosynthesis from the abundant algae. The low pH readings may be related to recent rain events which delivered water with low pH into the streams (typical pH of rainwater ~5.6). Additionally, this site is always sampled in the mornings, which generally have lower pH levels.

Temperature

Stream temperature was above the 18°C salmon rearing standard in most streams in the summer. The City continues to focus efforts on increasing shade along streams, identifying other sources of heat (such as inline ponds), and working to reduce the impacts from those sources. We work with the Johnson Creek Watershed Council to study and identify privately-owned inline ponds which contribute substantial heat loading to the streams. In the past year, several new pond removal or retrofit projects have been initiated.

Nutrients

Fairview lake (FVL1) exceeded the Columbia Slough TMDL level for total phosphorus in the summer sampling. High phosphorus levels have been noted here before, particularly during the summer when planktonic algae is common throughout the water column in

the Lake. Cyanobacteria (a.k.a. blue-green algae) has frequently been noted in the lake in mid to late summer when the presence of phosphorus and their ability to fix nitrogen allow them to thrive in the warm lake water. We continue efforts to educate the public on the effect of fertilizers on water quality.

Mercury

In December 2019, DEQ set the Willamette Basin TMDL for total mercury and required permittees to monitor. Gresham has been monitoring for mercury for some years. The total mercury target in the TMDL was established by modeling how total mercury concentrations relate to the biologically available form of mercury, methylmercury, and determining what levels would keep the whole body load of mercury in a resident fish (the Northern Pike Minnow) at a safe level to protect Oregonians who eat fish. Mercury comes largely from global air currents into the Pacific Northwest and is deposited onto water during the dry season from the air and also carried to water during the wet season. Major sources of mercury include the use of coal for energy, but are also the result of emissions from volcanoes and forest fires, as well as certain industrial processes, mining, forestry, and concrete manufacturing. Since total mercury is correlated with sediment, the City continues to prioritize stormwater treatment BMPs which remove suspended sediment and implements an erosion control program for land disturbing activities, partners with Metro to offer hazardous waste collection events, and works with dental offices to ensure safe dental amalgum collection.

Bacteria

Three sites exceeded the 406 E. coli/100ml standard for bacteria - two on Johnson Creek and one on Fairview Creek. All of these sites are downstream from locations that have campers from the houseless population. The City of Gresham recognizes the impacts that camps can have on natural areas, water quality, and human social justice. The city responded to the Multnomah County housing crisis and houseless issue by hiring a Community Social Services specialist to help people find the resources they need to obtain housing. Find out more:
https://www.youtube.com/watch?v=DbAXduYdjpE

Pesticides

Both Johnson Creek sites exceeded the chronic water quality criteria for DDT and Dieldrin multiple times. These legacy pesticides most likely enter the creek through erosion of contaminated soil and resuspend during disturbances such as storm events. The City continues to implement a rigorous Erosion Prevention and Sediment Control Program for development to reduce soil erosion. The levels of DDT and total suspended solids are generally higher in the long-term site upstream of Gresham than in the site downstream of Gresham, indicating that much of the sediment and DDT in the Creek is originating in the upper watershed where there is historic and ongoing farming that has been observed to cause sediment-laden runoff.

Continuous Instream Monitoring

The City of Gresham collected continuous instream temperature data at several sites within the city and collaborated with other jurisdictions to collect data at several sites upstream and downstream of the city. The locations are shown in Table 2-2. Together with USGS, Multnomah County, and East Multnomah Soil and Water Conservation District, continuous temperature data was collected at 23 stream sites, representing Beaver, Kelly, Fairview, and Johnson Creek basins. **Table 2-4** and **Figure 2-1** show summaries of the number of days that the 7-day average of the maximum daily temperature (7DADM) at each site exceeded the salmon rearing temperature standard of 18°C, as well as the highest 7DADM temperature reached at each site.

Three sites had no exceedances (highlighted in blue), while ten sites exceeded the standard for more than 100 days (highlighted in red). The sites with no exceedances were in the forested headwaters of Kelley and Sunshine Creeks. Most of the sites with >100 days of exceedances were on the mainstem of large creeks and/or close to the outlet of an inline human-created pond. The City is aware of the impact in-line ponds can have on temperature - Fujitsu Pond is a highly ranked Natural Resource CIP project, and the City is also studying ways to reduce temperature loading from public and private ponds on Butler and Hogan Creeks. The city produced a technical memorandum this permit year which analyzed the instream pond temperature data in the Johnson Creek basin over the past The greatest effects were seen when ponds had large surface areas, were on cool streams, and had surface release structures. Staff authored a Technical Memo of analysis which can be found here: http://www.jcwc.org/wp-content/uploads/2020/08/Effects-of-Inline-Ponds-on-Stream-Temperatures-in-the-Johnson-Creek-Watershed.pdf

Stormwater Monitoring

Stormwater raw data is included in **Table 2-5** and site locations are shown in **Figure 2-4**. Similar to previous years, stormwater monitoring data revealed that higher traffic sites (>1000 vehicle trips per day) have higher pollutant concentrations for many pollutants in comparison to residential streets (<1000 trips/day), especially for heavy metals and PAHs. Also similar to previous years, relatively high levels of several heavy metals (including mercury, copper, and especially zinc) were found at several sites. Cars are likely a major source of these pollutants.

One site had a result of 2,4-D which was above the action level. Fate and transport modelling demonstrated that the site was still protective of groundwater. Education and outreach to the public continues to focus on reducing lawn chemicals.

Structural BMP Monitoring

The structural BMP (green infrastructure) monitoring consisted of monitoring one storm at three facilities (Columbia Slough, Hayden's Meadow and Operations yard swale). See **Figure 2-3** for locations.

The City of Gresham's **Operations Yard has a water quality swale** which underwent a retrofit completed in June 2019. The previous swale collected water from only a small portion of the yard which flowed down a narrow V-shaped grass ditch to the outlet. The retrofit collects stormwater from the entire maintenance yard and filters it through bioretention media to an underdrain. The media is a high-flow media of sand and peat moss which is not typical for Gresham. This was the first storm monitoring the effectiveness. The media effectively reduced most stormwater pollutants to the extent expected for this type of BMP. It was especially effective at reducing TSS, heavy metals, and PAHs.

Hayden's Meadow is a newly constructed neighborhood with street-side vegetated stormwater planters which were constructed in the fall of 2016. This is year four of five for sampling these facilities to assess pollutant removal performance. They were constructed with two different amended soil blends to study any differences in pollutant removal or plant survival between the two common mixes. The two mixes are: Gresham's 3-way mix of equal parts topsoil, compost, and sand and Portland's 40% compost and 60% sand mix. To date, the data indicate that both soil blends exported several pollutants during a rain event immediately after soil placement including nutrients, heavy metals, and suspended solids. However, after the initial export, the facilities are reducing many pollutants, especially suspended solids and PAHs.

The **Columbia Slough Regional Water Quality Facility** is a large constructed stormwater wetland which treats water from almost 1,000 acres of mostly commercial and industrial land. It has been monitored each year since 2011, shortly after it was built. The facility initially was not performing as well in pollutant removal as another similar facility in the City. Factors that may have contributed to lower pollutant removal include: 1) lack of emergent vegetation in portions of the facility because of design variations and 2) lower pollutant levels coming into the facility. However, the performance of this facility has increased over the past several years such that it is now generally removing pollutants at a similar rate to the other facility as reported in the PY23 Annual Report. Management actions taken by staff to improve vegetation establishment may be improving facility performance. Additionally, beavers have established themselves in this facility and are being monitored to understand how they impact the facility's performance. Our observation is that their dams appear to increase water filtration during low and moderate flow events and that they are having an overall positive impact on the facility. A comparison of pollutant removal efficiency in several storms with and without beaver dams present indicates that the facility is more effective at removing pollutants when the dams are present. This facility has been noted for its wildlife habitat value for many birds, insects, and amphibians, most of which have noticeably increased after the arrival of the beavers. Results of this study have been shared at several regional conferences.

Macroinvertebrate Sampling

Macroinvertebrates were collected at all of the instream monitoring locations, except Fairview Lake and KCI3 (see Macroinvertebrate data in **Table 2-7** and illustrated in **Figure 2-2**). The Benthic Index of Biological Integrity (B-IBI) scores indicate a level of impairment. Results are generally slightly improved from previous years using this index.

Kelley Creek (K12) location's results indicate the least amount of impairment (i.e., the greatest abundance and highest number of sensitive species) with a B-IBI category of No Impairment. This site is predominantly surrounded by an undeveloped forested area.

This was the first year in which there were no sites which were classified as severely impaired. Most sites moved into the moderately impaired category, with one site in upper Johnson Creek moving into the slightly impaired category. The summer was relatively mild, which likely contributed to the improved scores. However, most sites, especially in the Johnson Creek watershed, have been consistently improving each year. The most improvement has been seen in the area where the most instream and riparian restoration has taken place.

D. Adaptive Management

Last year, we proposed allowing the option to shift monitoring resources for one storm from BMP sampling to sampling our long-term instream sampling sites during a storm, but did not implement this action. Given that our renewed permit is very close to being issued, we plan to do further assessment of our monitoring program and resource allocation after we have been given the permit.

Section 2 - Gresham and Fairview Program Raw Data

Table 2-2: Water Quality Monitoring Site Locations & Criteria

Instream-Longterm (See Fig. 2-2) & Macroinvertebrate Site Locations	
FCI0	Fairview Creek @ West of Blue Lake Rd in Trailer Park
FCI1	Fairview Creek @ Conifer Park Subdivision, N of Stark
FVL1	Fairview Lake @ Public Dock on NE 217th
JCI1	Johnson Creek @ 174th Ave (Jenne Rd)
JCI2	Johnson Creek @ 252nd Ave. (Palmblad)
KI1	Kelley Creek @ Foster Rd. (tributary of JC)
KI2	Kelley Creek @ Rodlun Rd (tributary of JC)
KCI1	Kelly Creek @ Mt. Hood Community College Pond Outflow
KCI3	Kelly Creek @ Detention Pond Outflow
KCI4	Kelly Creek @ Detention Pond Inflow
BCI1	Beaver Creek @ Lower Bridge (Monitored on behalf of Multnomah County, not shown on Gresham Map of Instream Sites)
BCI2	Beaver Creek @ Division X Troutdale Rd. (Monitored on behalf of Multnomah County, not shown on Gresham Map of Instream Sites)
Stormwater Monitoring Site Locations (See Fig. 2-4)	
Fixed locations	5 sites monitored every year
Panel 10	5 randomly selected rotating sites monitored in PY25

Structural BMP Evaluation Monitoring Locations (See Fig. 2-5)

Facility performance monitoring conducted at the following locations
Operations Yard Swale
Columbia Slough Water Quality Facility
Hayden's Meadow filtration planters (two soil types)

TMDL Constituent	Water Quality Criteria (See Fig. 2-1)
Fairview Creek & Lake	
Temperature	No designated salmon and steelhead spawning use. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
Phosphorus	0.1549 mg/L (Columbia Slough 1998 TMDL)
Mercury	Aquatic life: 2.4 ug/L acute; 0.012 ug/L chronic. MCL: 2 ug/L
Johnson Creek (including Kelley Creek trib)	
Temperature	Spawning: 13 degrees Celsius (55.4 F) - October 15 to May 15. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
PCBs	Acute 2.0 ug/L, Chronic 0.014 ug/L (per Table 30)
PAHs	Not included in Table 40 or 41. Table 30 only lists saltwater acute level of 300 ug/L
Dieldrin	Acute 0.24 ug/L, Chronic 0.056 ug/L (per Table 30)
DDT	Acute 1.1 ug/L, Chronic 0.001 ug/L (per Table 30)
Mercury	Acute 2.4 ug/L, Chronic 0.012 ug/L (per Table 30)
Kelly Creek	
Temperature	Spawning: 13 degrees Celsius (55.4 F) - October 15 to May 15. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
Columbia Slough	
Temperature	No designated salmon and steelhead spawning use. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
pH	between pH 6.5 - 8.5
DO	No spawning
	6.5 mg/L: cool-water aquatic life (avg)
	4.0 mg/L: absolute minimum (Columbia Slough TMDL)
	5.5 mg/L: warm-water aquatic life
Phosphorus	0.1549 mg/L (Columbia Slough 1998 TMDL)
Chlorophyll-*a*	15 mg/m^3 (May-Oct only)
Pb	Based on hardness. Table 30 has formula
PCBs	Acute 2.0 ug/L, Chronic 0.014 ug/L (per Table 30)

Dieldrin	Acute 0.24 ug/L, Chronic 0.056 ug/L (per Table 30)
DDT/DDE	Acute 1.1 ug/L, Chronic 0.001 ug/L (per Table 30)
Dioxins	Fish tissue 0.07 ng/kg (Columbia Slough 1998 TMDL)
Mercury	0.14 ng/L (2019 Willamette Basin TMDL)

Non-TMDL WQ Constituents from OAR 340-41 Table 30

Metals	Based on hardness, formula in Table 30
pH	Between 6.5-8.5: same for all watersheds in the permit area (OAR 340-41)
DO	Not evaluated, since the criteria are for averages. Cold water aquatic life; spawning: 11 mg/L;

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria

NA = constituents not sampled due to equipment failure or other extenuating circumstance

NM= not measured

ND= not detected

MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.

Dup = Duplicate Sample

FD = Field Duplicate Sample

Blank = Deionized Water Sample

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Table 2-3 Longterm Instream Data

Sample ID	Site ID	Date	Time	24-hr Rainfall	Field DO	Field pH	Field Temp	Conductivity	Turbidity	BOD5	DOC	TSS	NH3-N	Chloro-phyll-a	NO3-N	O-PO4	TKN	Total-P	Hardness	Hg-Total	Cu-Total	Pb-Total	Zn-Total
				inches	mg/L		C	µS/cm	NTUs	mg/L	mg/L	mg/L	µg/L	mg/M3	µg/L	µg/L	µg/L	µg/L	mg CaCO3/L	µg/L	µg/L	µg/L	µg/L
Test Method										SM 5210B	SM 5310B	SM 2540D	EPA 300.0	SM 10200H	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2340B CAL	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Method Reporting Limit										2	1	2	20	2	100	20		30	1	0.001	0.2	0.1	0.5
W19G165-01	FCI0	7/22/2019	14:36	0.00	4.59	7.36	19.1	173.3	4.36	**2**	2.94	**3**	56	2.4	1330	118	436	136	77.7	0.00087	1.37	0.239	18.7
W19G165-02	FCI1	7/22/2019	15:07	0.00	7.1	7.18	15.1	115.9	1.37	**2**	1	**3**	**20**	**2**	2600	98	400	120	56.4	**0.00083**	0.484	0.189	5.8
W19G165-03	JCI1	7/22/2019	9:14	0.00	8.92	6.66	20.4	107.1	9.4	4	5.11	10	**20**	77.1	**100**	36	690	92	47.7	0.00184	1.71	0.227	5.8
W19G165-04	JCI2	7/22/2019	10:47	0.00	7.2	6.9	18.4	90.2	12.8	**2**	3.9	8	21	12	670	38	403	62	35.4	0.00227	1.32	0.242	2.9
W19G165-05	KCI1	7/22/2019	12:44	0.00	4.79	7.26	21.5	135.7	2.24	**2**	5.7	3	**20**	2	370	49	366	58	56.8	0.00155	2.33	0.24	13.6
W19G165-06	KCI3	7/22/2019	11:36	0.00	4.8	6.83	16.8	172	6.16	**2**	8.35	**3**	52	**2**	180	55	504	54	77.8	0.00107	1.39	**0.056**	8.5
W19G165-07	KCI4	7/22/2019	11:54	0.00	5.86	7.02	18.9	162.4	15.5	**2**	6.59	20	34	**2**	3370	78	815	185	73.1	0.00204	5.73	0.258	25.2
W19G165-08	KI1	7/22/2019	9:54	0.00	5.43	6.42	16.4	133.4	20.1	**2**	7.2	12	197	3	**100**	240	635	279	69.7	0.00267	1.24	0.586	5.8
W19G165-09	KI2	7/22/2019	10:00	0.00	14.19	6.53	14	131.8	36.7	**2**	1.7	**3**	**20**	**2**	220	34	213	25	78	**0.00083**	0.448	0.076	3.1
W19G165-10	BCI1	7/22/2019	12:11	0.00	4.97	7.38	21.2	169.3	2.3	**2**	2.48	**3**	25	**2**	1040	79	292	71	79.8	0.00103	1.13	**0.056**	2.9
W19G165-11	BCI2	7/22/2019	13:42	0.00	6.24	7.02	18	119.3	3.83	**2**	5.22	**3**	40	**2**	1050	108	521	123	51.3	0.00151	1.94	0.099	3.7
W19G166	FVL1	7/22/2019	14:12	0.00	4.43	8.31	27.8	176.1	10.6	3	6.57	6	21	12	**100**	130	785	213	76.6	0.00108	1.17	0.249	1.76
W19G165-12	FD-FCI0	7/22/2019		0.00						**2**	3.05	**3**	42	**2**	1330	120	445	123	77.1	0.00091	1.58	0.276	16.8
W19J255-01	FCI0	10/29/2019	14:30	0.00	11.8	7.71	6.8	46.1	5.2	**2**	4.41	**3**	30	**2**	1230	80	293	96	77.2	**0.00150**	0.854	0.148	7.6
W19J255-02	FCI1	10/29/2019	14:58	0.00	9.16	6.96	11.1	42.2	5.34	**2**	1.47	**3**	**20**	4	2460	84	244	92	58.2	**0.00150**	0.713	0.425	15.4
W19J255-03	JCI1	10/29/2019	9:17	0.00	13.96	7.38	5.3	24.8	13.2	**2**	3.51	4	**20**	**2**	840	42	326	69	39.1	0.02480	6.93	0.34	11.2
W19J255-04	JCI2	10/29/2019	10:40	0.00	13.35	7.58	4.1	21.3	7.48	**2**	2.77	**3**	27	**2**	1500	23	381	30	28.8	0.00199	1.83	0.289	5.3
W19J255-05	KCI1	10/29/2019	12:49	0.00	10.3	7.55	7.1	31.3	6.33	**2**	4.47	**3**	52	**2**	560	33	398	57	47.1	**0.00150**	2.04	0.198	36.5
W19J255-06	KCI3	10/29/2019	11:45	0.00	11.26	7.31	4.8	35.7	4.12	**2**	4.06	**3**	37	**2**	700	**20**	280	**30**	61.7	0.00150	1.01	**0.1**	15.6
W19J255-07	KCI4	10/29/2019	11:58	0.00	13.33	7.47	5.6	38.6	14.4	**2**	4.54	**3**	38	**2**	1100	27	276	53	64.9	**0.00150**	1.39	**0.1**	12.6
W19J255-08	KI1	10/29/2019	9:34	0.00	23	7.13	5.1	34.8	16.5	14	5.36	24	45	5	210	71	386	217	57.8	0.00606	3	1.42	14.4
W19J255-09	KI2	10/29/2019	10:04	0.00	15.14	7.99	3.2	35.7	7.16	**2**	2.08	53	**20**	**2**	200	**20**	**200**	41	70.2	0.00150	0.584	**0.1**	1.9
W19J255-10	BCI1	10/29/2019	13:31	0.00	10.9	7.81	5.7	37.9	3.31	**2**	3.2	**3**	**20**	**2**	1880	44	265	53	62.5	0.00150	10	**0.1**	9.8
W19J255-11	BCI2	10/29/2019	12:20	0.00	13.85	7.61	3.8	30.1	6.33	**2**	3.15	**3**	**20**	6	4090	27	450	70	47.2	0.00150	21.4	0.257	6.4
W19J256-01	FVL1	10/29/2019	14:16	0.00	15.21	8.81	5.5	49.2	11.6	2	4.06	8	48	4	**100**	78	646	127	93	0.00150	1.75	0.337	5.97
W19J255-12	FD-BCI1	10/29/2019		0.00						**2**	3.12	**3**	**20**	**2**	1880	44	257	54	63	0.00150	10.1	**0.1**	9.8
W20A237-01	FCI0	1/27/2020	13:49	0.21	15.22	7.72	8.9	66.2	15.9	**2**	2.81	12	22	NM	960	34	386	66	45.3	**0.00236**	2.03	0.629	18.6
W20A237-02	FCI1	1/27/2020	14:14	0.21	13.13	6.85	9.7	41.9	72.5	**2**	2.15	22	42	NM	900	29	453	105	27.5	0.00637	8.59	3.59	68.7
W20A237-03	JCI1	1/27/2020	9:13	0.21	26.41	7.65	8.2	45.3	32.4	**2**	2.53	14	21	NM	2240	**20**	433	72	28.2	0.00386	1.97	0.736	11.5
W20A237-04	JCI2	1/27/2020	10:26	0.21	16.35	7.59	8	41.1	26.7	**2**	1.89	7	**20**	NM	2720	**20**	498	46	23.5	0.00198	1.27	0.439	6.0
W20A237-05	KCI1	1/27/2020	11:50	0.21	15.84	7.74	8.6	57.2	31.2	**2**	3.01	12	28	NM	1880	**20**	445	67	37.8	0.00371	2.35	0.559	33.5
W20A237-06	KCI3	1/27/2020	10:51	0.21	17.73	7.38	7.9	73.1	18	**2**	2.5	4	24	NM	3810	**20**	673	47	49.4	**0.00150**	1.43	0.275	13.2
W20A237-07	KCI4	1/27/2020	11:17	0.21	17.03	7.23	8	74.8	13.2	**2**	2.4	5	**20**	NM	4010	**20**	708	50	52.4	**0.00161**	2.48	0.311	14.3
W20A237-08	KI1	1/27/2020	9:32	0.21	26.46	7.4	7.6	49.3	15.8	**2**	3.54	4	29	NM	1030	**20**	416	62	28.4	0.00300	1.73	0.332	8.8
W20A237-09	KI2	1/27/2020	9:53	0.21	29.5	7.62	8	38.4	13	**2**	1.64	12	**20**	NM	1390	**20**	313	38	24.8	0.00230	1.03	0.445	10.7
W20A237-10	BCI1	1/27/2020	12:57	0.21	15.69	7.72	8.5	60.8	35.6	**2**	2.37	56	**20**	NM	3340	**20**	750	92	40.3	**0.00436**	2.38	0.745	18.9
W20A237-11	BCI2	1/27/2020	11:28	0.21	16.26	7.32	8	55.2	44.4	**2**	1.97	16	**20**	NM	4120	**20**	960	92	36	0.00367	1.99	0.617	7.9
W20A242	FVL1	1/27/2020	13:32	0.21	15.1	7.47	9.2	69.7	39.1	3	2.95	28	**20**	NM	520	20	602	93	48.6	**0.00349**	2.30	0.757	110
W20A237-12	FD-FCI1	1/27/2020	13:32	0.21						**2**	1.84	18	43	NM	930	**20**	463	99	28.5	0.00536	7.71	2.7	63.3
W20D165-01	FCI0	4/28/2020	13:39	0.00	5.97	7.42	15.9	127	6.62	2	2.22	5	47	NM	760	49	515	75	59.2	0.00150	1.08	0.221	9.5
W20D165-02	FCI1	4/28/2020	14:24	0.00	9.01	7.25	13.2	116.9	1.77	**2**	1.61	**3**	21	NM	2370	79	567	82	56.5	0.00150	0.615	0.12	13.4
W20D165-03	JCI1	4/28/2020	9:11	0.00	11.9	7.13	13.3	80	7.49	**2**	2.62	**3**	51	NM	780	31	486	46	37.6	0.00150	1.57	0.201	8.5
W20D165-04	JCI2	4/28/2020	10:28	0.00	9.48	7.26	12.8	61.7	8.14	**2**	2.16	4	27	NM	1280	**20**	522	49	26.3	0.00223	1.18	0.347	3.5
W20D165-05	KCI1	4/28/2020	12:03	0.00	5.93	7.4	14.7	92.1	5.32	**2**	4.79	**3**	58	NM	600	32	559	46	42.8	0.00196	2.93	0.317	23.7
W20D165-06	KCI3	4/28/2020	10:54	0.00	5.87	7.31	12.7	182.9	9.89	**2**	3.98	44	29	NM	720	37	342	54	50.8	**0.00150**	2.68	0.122	12.0
W20D165-07	KCI4	4/28/2020	11:07	0.00	8.37	7.35	12.4	99	3.3	**2**	3.09	**3**	33	NM	890	27	419	35	51.7	0.00150	2.2	**0.1**	8.9
W20D165-08	KI1	4/28/2020	9:30	0.00	9.09	7.13	13.2	97.2	7.7	**2**	3.97	3	81	NM	200	72	451	90	46.8	0.00162	1.43	0.17	4.5
W20D165-09	KI2	4/28/2020	9:51	0.00	12.6	7.72	10.6	83.5	10.7	**2**	1.3	6	**20**	NM	510	**20**	219	16	16.6	0.00150	0.407	0.119	3.2
W20D165-10	BCI1	4/28/2020	12:48	0.00	7.32	7.81	14.4	108.5	7.98	**2**	3.21	17	21	NM	1290	50	491	80	53	0.00279	2.44	0.269	10.5
W20D165-11	BCI2	4/28/2020	11:28	0.00	8.85	7.37	13.3	91	11.1	**2**	3.29	**3**	44	NM	2350	97	665	135	39.4	**0.00161**	3.26	0.189	3.5
W20D116	FVL1	4/28/2020	13:16	0.00	6.45	7.78	18.5	164.5	7.93	**2**	3.36	4	80	NM	130	42	663	80	79.6	**0.00150**	1.21	0.243	2.79
W20D165-12	FD-JCI1	4/28/2020								**2**	2.4	**3**	26	NM	1280	**20**	445	40	25.8	0.00193	0.949	0.166	1.8

Analysis Coding for the Reported Data

Bold = < than detection value

NA = constituents not sampled
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each column if constant.

FD = Field Duplicate Sample
For parameters where no MRL is included, this means they vary by sample.

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)
Acute exceedance of metal (Table 30)
Exceedance of City WPCF Permit action level

Table 2-3 Longterm Instream Data

Sample ID	Site ID	Date	Cu-Diss	Pb-Diss	Zn-Diss	E. coli	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	Alpha-BHC	beta-BHC	gamma-BHC	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone
			µg/L	µg/L	µg/L	MPN/100ml	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Test Method			EPA 200.8	EPA 200.8	EPA 200.8	SM 9223B	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081
Method Reporting Limit			0.2	0.1	0.5	10	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	1.0-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various
W19G165-01	FCI0	7/22/2019	0.886	**0.105**	11.1	130																
W19G165-02	FCI1	7/22/2019	0.219	**0.105**	3.98	110																
W19G165-03	JCI1	7/22/2019	1.08	**0.105**	1.14	1600	**2**	1.1	**3.1**	**1**	**1**	**1.9**	1.6	**1**	**5.1**	2.1	**1**	**1**	**1**	**1**	**1.7**	**1**
W19G165-04	JCI2	7/22/2019	0.9	**0.105**	1.21	410	**1**	2.1	**1.3**	**1**	**1**	**4**	1.1	**1**	**5.1**	4.2	**1**	**1**	**1**	**1.2**	**4.2**	0.3
W19G165-05	KCI1	7/22/2019	1.8	**0.105**	6.28	10																
W19G165-06	KCI3	7/22/2019	1.15	**0.105**	6.09	41																
W19G165-07	KCI4	7/22/2019	2.64	**0.105**	15.1	350																
W19G165-08	KI1	7/22/2019	0.518	**0.105**	2.02	85																
W19G165-09	KI2	7/22/2019	0.299	**0.105**	0.81	20																
W19G165-10	BCI1	7/22/2019	0.884	**0.105**	1.79	150																
W19G165-11	BCI2	7/22/2019	1.63	**0.105**	2.3	74																
W19G166	FVL1	7/22/2019	0.813	**0.105**	**0.527**	**10**																
W19G165-12	FD-FCI0	7/22/2019	0.964	**0.105**	11	160																
W19J255-01	FCI0	10/29/2019	0.621	**0.106**	5.6	170																
W19J255-02	FCI1	10/29/2019	0.403	**0.106**	13.3	5500																
W19J255-03	JCI1	10/29/2019	3.3	**0.106**	8.01	41	**1**	**0.42**	**3.6**	**0.42**	**0.42**	**3.2**	**1**	**0.5**	**1.8**	**0.94**	**1.2**	**0.42**	**1**	**0.92**	**0.5**	150
W19J255-04	JCI2	10/29/2019	0.707	**0.106**	3.2	10	**1**	2.5	**1**	**0.44**	**0.44**	**4.5**	**1**	**0.5**	**0.44**	1.1	**0.85**	**1.3**	**1**	**0.44**	1.3	**1.2**
W19J255-05	KCI1	10/29/2019	1.79	0.109	33.7	10																
W19J255-06	KCI3	10/29/2019	0.798	**0.106**	13.2	**10**																
W19J255-07	KCI4	10/29/2019	1.17	**0.106**	10.9	20																
W19J255-08	KI1	10/29/2019	0.89	**0.106**	2.25	63																
W19J255-09	KI2	10/29/2019	0.409	**0.106**	0.83	**10**																
W19J255-10	BCI1	10/29/2019	9.89	**0.106**	9.41	**10**																
W19J255-11	BCI2	10/29/2019	19.8	**0.106**	5.07	170																
W19J256-01	FVL1	10/29/2019	1	**0.106**	1.55	75																
W19J255-12	FD-BCI1	10/29/2019	9.34	**0.106**	8.88	**10**																
W20A237-01	FCI0	1/27/2020	1.09	**0.106**	9.89	120																
W20A237-02	FCI1	1/27/2020	2.29	0.139	36	1400																
W20A237-03	JCI1	1/27/2020	0.902	**0.106**	5.36	97	**4.5**	0.97	**1.5**	**2**	**1**	**1**	**1**	**2**	**1**	**1.1**	**1.5**	**2**	5	**1**	2.2	**1**
W20A237-04	JCI2	1/27/2020	0.599	**0.106**	3.2	63	**1.5**	**2**	**1.5**	**2**	**1**	**1.5**	**1**	**2**	**1**	**1**	**1.5**	**2**	5.7	**1**	1.7	**1**
W20A237-05	KCI1	1/27/2020	1.32	**0.106**	23.3	280																
W20A237-06	KCI3	1/27/2020	0.843	**0.106**	8.75	52																
W20A237-07	KCI4	1/27/2020	0.864	**0.106**	7.74	110																
W20A237-08	KI1	1/27/2020	1.03	**0.106**	5.63	170																
W20A237-09	KI2	1/27/2020	0.388	**0.106**	3.59	20																
W20A237-10	BCI1	1/27/2020	0.91	**0.106**	5.56	110																
W20A237-11	BCI2	1/27/2020	0.749	**0.106**	1.69	51																
W20A242	FVL1	1/27/2020	0.928	**0.106**	78.3	97																
W20A237-12	FD-FCI1	1/27/2020	2.22	0.122	35.7	2100																
W20D165-01	FCI0	4/28/2020	0.777	**0.106**	7.32	140																
W20D165-02	FCI1	4/28/2020	0.451	**0.106**	12.6	10																
W20D165-03	JCI1	4/28/2020	1.25	**0.106**	5.37	51	**2**	1.4	**1.3**	**2**	0.62	**1**	**1**	**2**	**1**	2.3	**1**	**1**	0.48	**1**	**1**	**2**
W20D165-04	JCI2	4/28/2020	0.925	**0.106**	2.7	620	**2**	4.5	3.9	**2**	**1**	**1**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**
W20D165-05	KCI1	4/28/2020	2.47	**0.106**	17.7	41																
W20D165-06	KCI3	4/28/2020	2.18	**0.106**	7.65	20																
W20D165-07	KCI4	4/28/2020	1.91	**0.106**	7.29	280																
W20D165-08	KI1	4/28/2020	1.11	**0.106**	2.44	110																
W20D165-09	KI2	4/28/2020	0.245	**0.106**	0.816	**10**																
W20D165-10	BCI1	4/28/2020	1.56	**0.106**	3.49	**10**																
W20D165-11	BCI2	4/28/2020	2.73	**0.106**	0.529	300																
W20D116	FVL1	4/28/2020	0.868	**0.106**	0.71	31																
W20D165-12	FD-JCI1	4/28/2020	0.708	**0.106**	0.529	450																

Analysis Coding for the Reported Data

Bold = < than detection value

NA = constituents not sampled
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each column if constant.

FD = Field Duplicate Sample
For parameters where no MRL is included, this means they vary by sample.

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)
Acute exceedance of metal (Table 30)
Exceedance of City WPCF Permit action level

Table 2-3 Longterm Instream Data

Sample ID	Site ID	Date	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
			ng/L	ng/L	ng/L	ng/L	ng/L
Test Method			EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081
Method Reporting Limit			1.0-various	0.5-various	1.0-various	0.5-various	50-various
W19G165-01	FCI0	7/22/2019					
W19G165-02	FCI1	7/22/2019					
W19G165-03	JCI1	7/22/2019	**1**	**1**	**1**	**1**	**50**
W19G165-04	JCI2	7/22/2019	**1**	**1**	**1**	**1**	**50**
W19G165-05	KCI1	7/22/2019					
W19G165-06	KCI3	7/22/2019					
W19G165-07	KCI4	7/22/2019					
W19G165-08	KI1	7/22/2019					
W19G165-09	KI2	7/22/2019					
W19G165-10	BCI1	7/22/2019					
W19G165-11	BCI2	7/22/2019					
W19G166	FVL1	7/22/2019					
W19G165-12	FD-FCI0	7/22/2019					
W19J255-01	FCI0	10/29/2019					
W19J255-02	FCI1	10/29/2019					
W19J255-03	JCI1	10/29/2019	**0.5**	**2**	**1**	**0.5**	64
W19J255-04	JCI2	10/29/2019	**0.5**	**0.77**	**1**	**0.5**	**50**
W19J255-05	KCI1	10/29/2019					
W19J255-06	KCI3	10/29/2019					
W19J255-07	KCI4	10/29/2019					
W19J255-08	KI1	10/29/2019					
W19J255-09	KI2	10/29/2019					
W19J255-10	BCI1	10/29/2019					
W19J255-11	BCI2	10/29/2019					
W19J256-01	FVL1	10/29/2019					
W19J255-12	FD-BCI1	10/29/2019					
W20A237-01	FCI0	1/27/2020					
W20A237-02	FCI1	1/27/2020					
W20A237-03	JCI1	1/27/2020	**2**	**1**	**1**	**2**	**1.6**
W20A237-04	JCI2	1/27/2020	**2**	**1**	**1**	**2**	**1.3**
W20A237-05	KCI1	1/27/2020					
W20A237-06	KCI3	1/27/2020					
W20A237-07	KCI4	1/27/2020					
W20A237-08	KI1	1/27/2020					
W20A237-09	KI2	1/27/2020					
W20A237-10	BCI1	1/27/2020					
W20A237-11	BCI2	1/27/2020					
W20A242	FVL1	1/27/2020					
W20A237-12	FD-FCI1	1/27/2020					
W20D165-01	FCI0	4/28/2020					
W20D165-02	FCI1	4/28/2020					
W20D165-03	JCI1	4/28/2020	**2**	**2**	**1**	**2**	**100**
W20D165-04	JCI2	4/28/2020	**2**	**2**	**1**	**2**	**100**
W20D165-05	KCI1	4/28/2020					
W20D165-06	KCI3	4/28/2020					
W20D165-07	KCI4	4/28/2020					
W20D165-08	KI1	4/28/2020					
W20D165-09	KI2	4/28/2020					
W20D165-10	BCI1	4/28/2020					
W20D165-11	BCI2	4/28/2020					
W20D116	FVL1	4/28/2020					
W20D165-12	FD-JCI1	4/28/2020					

Analysis Coding for the Reported Data

Bold = < than detection value

NA = constituents not sampled
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each column if constant.

FD = Field Duplicate Sample
For parameters where no MRL is included, this means they vary by sample.

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Exceedance of City WPCF Permit action level

Table 2-4 Continuous Temperature Monitoring

ID Number	Site	Basin	Stream	Max 7DADM (*C)	days 7DADM >18*C
1	East Fork of Sunshine	Johnson	Sunshine	16.4	0
2	West Fork of Sunshine	Johnson	Sunshine	17.4	0
3	Kelley upstream of Brookside	Beaver	Kelley	17.5	0
4	FCI1 Fairview at Stark	Fairview	Fairview	18.2	2
5	Kelly upstream of golf course	Beaver	Kelly	18.2	3
6	Brigman downstream of Meade	Johnson	Brigman	18.6	32
7	Brigman upstream of Meade	Johnson	Brigman	19.0	45
8	Burlingame at Hogan	Beaver	Burlingame	20.5	67
9	Fairview at Birdsdale	Fairview	Fairview	20.9	72
10	BCI2 Beaver at Division	Beaver	Beaver	20.5	73
11	Brigman at McNutt	Johnson	Brigman	20.4	82
12	Brigman at Hogan	Johnson	Brigman	20.6	82
13	Johnson at Hogan	Johnson	Johnson	21.8	96
14	Beaver upstream of Kelly	Beaver	Beaver	22.4	102
15	KCI2 Kelly upstream of MHCC pond	Beaver	Kelly	21.3	103
16	FCI0 Fairview at 223rd	Fairview	Fairview	20.9	104
17	JCI1 Johnson at Jenne	Johnson	Johnson	23.2	109
18	Johnson at Powell Loop	Johnson	Johnson	23.0	113
19	Johnson at Gresham Woods	Johnson	Johnson	23.5	113
20	Beaver downstream of Kelly	Beaver	Beaver	23.1	114
21	Beaver at Glen Otto	Beaver	Beaver	22.4	117
22	KCI1 Kelly downstream of MHCC pond	Beaver	Kelly	22.8	117
23	Fairview at Glisan	Fairview	Fairview	28.0	150

Coding for Reported Data
Red = temperature exceedances for more than 100 days
Blue = no temperature exceedances
Temperature is not a pollutant associated with stormwater runoff since the rainy season does not coincide with summer temperatures. This data is provided to help the reader understand the general condition and impacts to streams in Gresham and Fairview. The City has a temperature TMDL plan that restores public land in an effort to provide shade and reduce streams temperatures over time. These activities are reported in **Table 3-3.**

Figure 2-1 Temperature Monitoring Site Locations

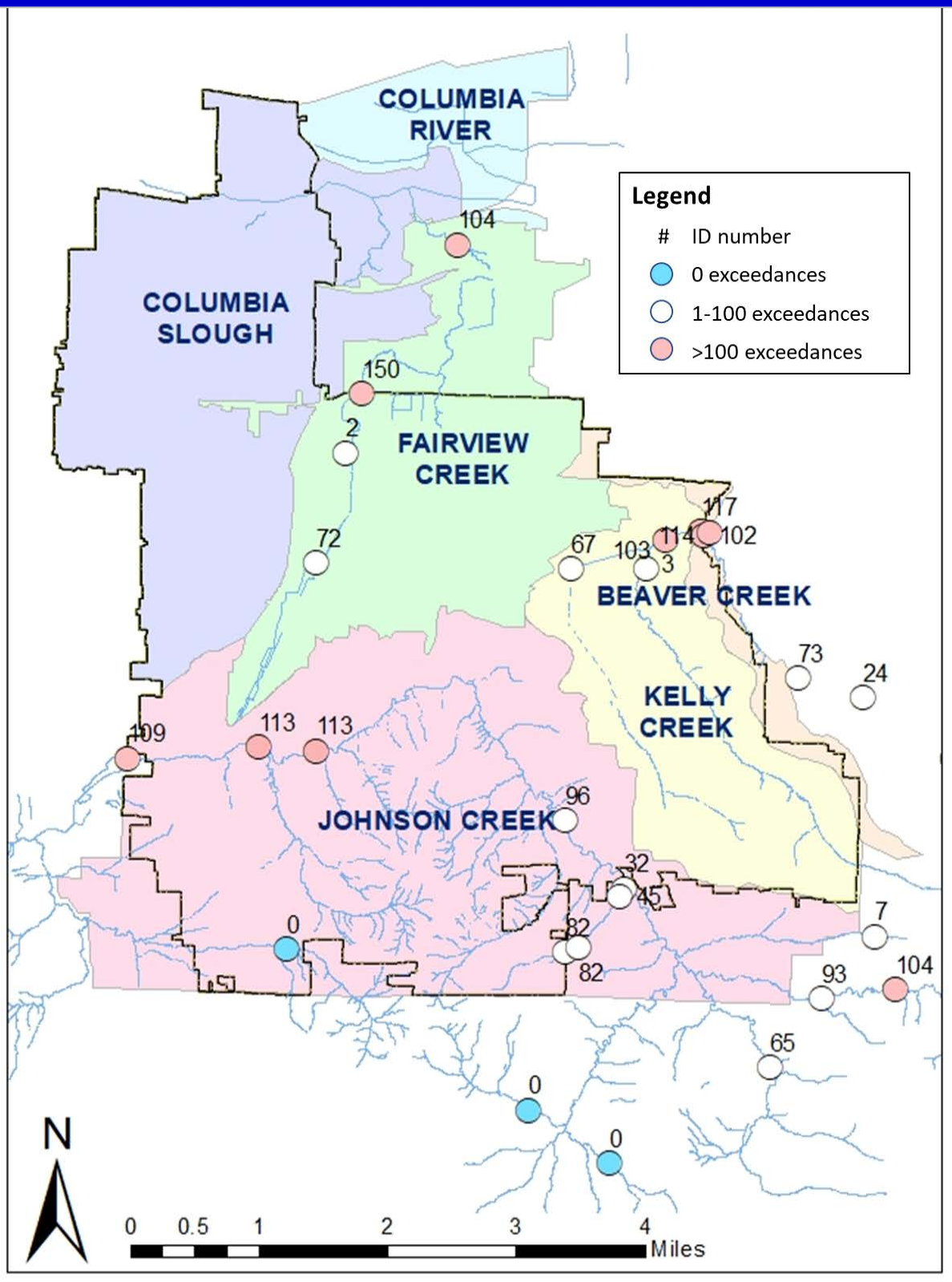


Table 2-5 Stormwater Sampling

System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	DO	pH	Temp	Conduc-tivity	Turbi-dity	E. coli	BOD	DOC	TSS	Ammonia	Nitrate	ortho-P	Total Kjeldahl Nitrogen	T-Phos	Hardness	Total Antimony	Total Cadmium	Total Copper	Total Lead	Total Mercury	Total Zinc	Dissolved Copper	Dissolved Lead	Diss Zinc
Method Reporting Limit						**inches/24 hrs**	**mg/l**		**°C**	**µS/cm**	**NTU**	**MPN/100 mL**	**2 mg/L**	**1 mg/L**	**mg/L**	**10 ug/L**	**ug/L**	**20 ug/L**	**200 ug/L**	**30 ug/L**	**mg/L CaCO3**	**0.100 ug/L**	**0.100 ug/L**	**0.200 ug/L**	**0.100 ug/L**	**0.00200 ug/L**	**0.500 ug/L**	**0.200 ug/L**	**ug/L**	**0.500 ug/L**
Analytical Method												**SM 9223B**	**SM 5210 B**	**SM 5310B**	**SM 2540D**	**EPA 300.0**	**EPA 300.0**	**EPA 365.1**	**EPA 351.2**	**EPA 365.4**	**SM 2340B CAL**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**	**EPA 200.8**
3153-F-040	<1000	RES	Residential	10/16/2019	11:44	0.08	7.77	6.95	14.4	9.70	10.1	31	8	7.17	9	70	**100**	47	404	89	4.00	0.480	**0.1**	4.46	0.675	0.0109	55.2	3.180	0.117	41.9
3152-F-086	<1000	RES	Residential	10/16/2019	12:03	0.20	8.15	6.57	13.4	14.1	9.97	20	5	7.62	4	30	**100**	47	429	81	7.57	0.209	**0.1**	3.93	0.401	0.00933	133	3.220	**0.106**	123
3249-W-021	>1000	COM	Minor Arteria	10/16/2019	12:28	0.20	8.18	5.96	13.7	13.7	45.5	340	7	6.8	36	298	220	32	642	133	9.69	2.160	**0.1**	14.7	3.2	0.00906	64.8	6.670	0.12	21.4
3148-W-014	>1000	RES	Community	10/16/2019	12:46	0.20	8.56	5.90	13.2	7.80	29.7	630	3	4.52	9	162	**100**	**20**	434	52	3.21	0.904	**0.1**	6.01	0.928	0.00688	27.3	3.490	**0.106**	15.9
3248-W-014	<1000	RES	Residential	10/16/2019	13:02	0.30	7.89	5.77	13.8	12.7	13.7	4400	12	13	4	20	100	59	486	109	4.92	0.226	**0.1**	3.57	0.668	0.00762	18.7	2.790	0.173	15.8
3251-F-013	<1000	RES	Residential	10/16/2019	13:49	0.30	6.56	6.52	13.3	12.2	12.1	480	14	8.42	**3**	20	180	39	225	150	7.92	0.126	**0.1**	9.95	0.313	0.00862	94.9	8.540	**0.106**	86.7
3047-W-105	>1000	RES	Community	10/16/2019	19:17	0.38	5.73	6.33	13.2	11.5	120	140	10	3.93	228	305	100	37	692	694	25.0	3.900	0.317	52.1	20.3	0.0323	348	4.720	0.107	21.6
3049-W-011	>1000	VAC	Community	10/16/2019	19:45	0.38	6.61	6.97	13.0	16.6	41.7	360	5	4.52	34	436	140	**20**	646	98	10.2	1.760	**0.1**	15.4	2.77	0.00685	79.6	6.140	0.252	37.4
3150-F-030	<1000	RES	Residential	10/16/2019	20:06	0.40	6.24	7.07	12.9	15.8	11.4	250	11	11.6	7	20	**100**	40	502	79	8.34	0.295	**0.1**	5.42	0.456	0.00491	34.5	4.140	0.108	27.8
3151-F-064	>1000	COM	Collector	10/16/2019	20:38	0.40	5.12	7.11	13.0	62.7	NM	2500	99	83.5	127	28	**100**	700	1950	1500	43.4	2.850	0.156	29.3	5.7	0.0176	196	9.430	0.232	52.5
3251-F-013-FD												63	5	8.39	**3**	20	190	61	357	60	5.65	0.149	**0.1**	10.4	0.146	0.00805	187	9.270	**0.106**	174

Analysis Coding for the Reported Data

Bold = < than detection value

NA = constituents not sampled

NM= not measured

ND= not detected

Dup = Duplicate Sample

MRL = method reporting limits are included at the top of each column if constant.

FD = Field Duplicate Sample

For parameters where no MRL is included, this means they vary by sample

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Exceedance of City WPCF Permit action level

Table 2-5 Stormwater Sampling

System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	Acenaph-thene	Acenaphthylene	Anthracene	Benzo-(a)-anthracene	Benzo-(a)-pyrene	Benzo(b)-fluoran-thene	Benzo(ghi)-perylene	Benzo(k)fluoran-thene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno-(1,2,3-cd)pyrene	Naphthalene	Phenan-threne	Pyrene	Butyl benzyl phthalate	Di-n-butyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-octyl phthalate
Method Reporting Limit						inches/24 hrs	ug/L	MPN/100 ml	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Analytical Method							EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM
3153-F-040	<1000	RES	Residential	10/16/2019	11:44	0.08	**0.020**	0.025	**0.020**	**0.010**	**0.010**	**0.010**	0.017	**0.010**	**0.010**	**0.010**	0.020	**0.020**	**0.010**	**0.040**	0.029	0.033	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3152-F-086	<1000	RES	Residential	10/16/2019	12:03	0.20	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	**0.020**	0.011	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3249-W-021	>1000	COM	Minor Arteria	10/16/2019	12:28	0.20	**0.020**	0.024	**0.020**	0.017	0.023	0.033	0.074	**0.010**	0.030	**0.010**	0.076	**0.020**	0.021	0.051	0.067	0.130	**1.0**	**1.0**	**1.0**	**1.0**	1.2
3148-W-014	>1000	RES	Community	10/16/2019	12:46	0.20	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	0.022	**0.010**	**0.010**	**0.010**	0.022	**0.020**	**0.010**	0.041	0.033	0.044	**1.0**	**1.0**	**1.0**	**1.0**	0.5
3248-W-014	<1000	RES	Residential	10/16/2019	13:02	0.30	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	0.010	0.013	**0.010**	**0.010**	**0.010**	0.015	**0.020**	**0.010**	**0.040**	0.029	0.024	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3251-F-013	<1000	RES	Residential	10/16/2019	13:49	0.30	**0.020**	0.021	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	0.023	**0.010**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3047-W-105	>1000	RES	Community	10/16/2019	19:17	0.38	**0.020**	**0.020**	0.069	0.084	0.120	0.190	0.340	0.042	0.150	**0.010**	0.390	**0.020**	0.095	0.140	0.420	0.560	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3049-W-011	>1000	VAC	Community	10/16/2019	19:45	0.38	**0.020**	**0.020**	**0.020**	0.013	0.019	0.031	0.062	**0.010**	0.024	**0.010**	0.056	**0.020**	0.019	0.051	0.061	0.100	**1.0**	**1.0**	**1.0**	**1.0**	2.1
3150-F-030	<1000	RES	Residential	10/16/2019	20:06	0.40	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	0.021	0.011	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3151-F-064	>1000	COM	Collector	10/16/2019	20:38	0.40	**0.020**	0.075	**0.020**	0.017	0.018	0.032	0.043	**0.010**	0.024	**0.010**	0.074	**0.020**	0.017	0.040	0.100	0.100	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
3251-F-013-FD							**0.020**	0.022	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	**0.020**	**0.010**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

Analysis Coding for the Reported Data
Bold = < than detection value
NA = constituents not sampled
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each column if constant.
FD = Field Duplicate Sample
For parameters where no MRL is included, this means they vary by sample

Exceedance of TMDL or other water quality criteria
Chronic exceedance of metal (Table 30)
Acute exceedance of metal (Table 30)
Exceedance of City WPCF Permit action level

Table 2-5 Stormwater Sampling — Stormwater Sampling

System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	Di-(2-ethylhexyl)-phthalate	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	Acifluorfen	Bentazon	3,5-Dichlorobenzoic acid	Dicamba	Dichlorprop	Dinoseb	Pentachlorophenol	Picloram
Method Reporting Limit						**inches/24 hrs**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**.040 ug/L**
Analytical Method							**EPA 8270-SIM**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**
3153-F-040	<1000	RES	Residential	10/16/2019	11:44	0.08	1.3	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.035	**0.2**
3152-F-086	<1000	RES	Residential	10/16/2019	12:03	0.20	**1.0**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.028	**0.2**
3249-W-021	>1000	COM	Minor Arteria	10/16/2019	12:28	0.20	5.6	**0.1**	**0.1**	42.0	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.370	**0.2**
3148-W-014	>1000	RES	Community	10/16/2019	12:46	0.20	2.8	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.122	**0.2**
3248-W-014	<1000	RES	Residential	10/16/2019	13:02	0.30	1.8	**0.1**	**0.1**	0.5	**0.4**	**0.2**	**0.4**	**0.2**	**0.1**	**0.4**	**0.4**	0.054	**0.2**
3251-F-013	<1000	RES	Residential	10/16/2019	13:49	0.30	**1.0**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.331	**0.2**
3047-W-105	>1000	RES	Community	10/16/2019	19:17	0.38	37.0	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.040**	**0.2**
3049-W-011	>1000	VAC	Community	10/16/2019	19:45	0.38	6.5	**0.1**	**0.1**	0.5	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	1.370	**0.2**
3150-F-030	<1000	RES	Residential	10/16/2019	20:06	0.40	0.8	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.100	**0.2**
3151-F-064	>1000	COM	Collector	10/16/2019	20:38	0.40	6.7	**0.1**	**0.1**	1.3	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.345	**0.2**
3251-F-013-FD							**1.0**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.053	**0.2**

Analysis Coding for the Reported Data
Bold = < than detection value
NA = constituents not sampled
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each column if constant.
FD = Field Duplicate Sample
For parameters where no MRL is included, this means they vary by sample

Exceedance of TMDL or other water quality criteria
Chronic exceedance of metal (Table 30)
Acute exceedance of metal (Table 30)
Exceedance of City WPCF Permit action level

Table 2-6 Stormwater Green Infrastructure Sampling Data

Sample ID	Site ID	Inlet/outlet	Date	Time	Storm	24-hr Rainfall	Field DO	Field pH	Field Temp	Conduc-tivity	Turbi-dity	NH3-N	BOD5	NO3-N	O-PO4	TKN	Total-P	TSS	Hard-ness	Ca	Mg	Hg-Total	DOC
						inches	mg/L		C	uS/cm	NTUs	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L as CaCO3	mg/L	mg/L	ug/L	ug/L
												EPA 300.0	SM 5210B	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2540D	SM 2340B CAL	EPA 200.7	EPA 200.7	EPA 200.8	SM 5310B
											0.01	20	2	100	20	100	25	2	1	0.5	0.5	0.001	1
W19I084-02	Ops yard CB	inlet	9/15/2019	9:33	1	0.72	10.81	5.53	17	18.1	114	70	**3**	**100**	29	268	168	116	7.59	1.68	0.826	0.0102	2.01
W19I084-01	Ops swale N inlet	inlet	9/15/2019	8:38	1	0.72	12.84	6.37	17.3	198.6	31.6	108	4	140	38	516	97	41	5.66	1.62	**0.391**	0.00976	5.03
W19I084-03	Ops swale S inlet	inlet	9/15/2019	9:45	1	0.72	10.95	5.66	16.5	18.4	20.1	**20**	**3**	**100**	72	260	100	11	5.48	1.59	**0.365**	0.00524	4.45
W19I084-04	Ops swale outlet	outlet	9/15/2019	10:12	1	0.72	9.12	5.3	16.4	97.4	33.2	20	**3**	200	43	342	83	20	47.6	11.8	4.41	0.00411	8.31
W19I084-05	Ops yard CB	inlet	9/15/2019	10:53	1	0.72	9.86	5.54	16.7	11.6	6.56	**20**	**3**	**100**	134	555	146	**3**	1.87	0.493	**0.155**	0.00431	4.22
W19I084-07	Ops swale N inlet	inlet	9/15/2019	11:16	1	0.72	7.91	5.31	17.1	19	12.8	115	**3**	120	58	514	83	10	5.92	1.78	**0.361**	0.00474	6.04
W19I084-06	Ops swale S inlet	inlet	9/15/2019	11:03	1	0.72	9.07	5.49	16.7	19.6	24.3	**20**	**3**	**100**	71	230	97	9	6.8	1.9	**0.498**	0.00437	4.3
W19I084-08	Ops swale outlet	outlet	9/15/2019	11:35	1	0.72	7.78	5.27	16.7	71.5	20.7	**20**	**3**	120	38	223	64	6	33.2	8.07	3.18	0.00334	7.12
W19I084-09	Ops yard CB	inlet	9/15/2019	12:21	1	0.72	6.15	5.52	18.5	10.1	26.4	80	**3**	**100**	44	438	100	71	3.17	0.899	**0.224**	0.00507	5.01
W19I084-10	Ops swale N inlet	inlet	9/15/2019	12:48	1	0.72	5.58	5.38	17.9	14.5	25.3	61	**3**	**100**	41	376	76	26	5.11	1.53	**0.313**	0.00455	4.43
W19I084-11	Ops swale S inlet	inlet	9/15/2019	12:53	1	0.72	7.9	5.38	17.3	14.9	35.1	**20**	**3**	**100**	70	224	94	16	4.95	1.37	**0.37**	0.00469	7.75
W19I084-12	Ops swale outlet	outlet	9/15/2019	13:15	1	0.72	5.13	5.39	16.6	57.3	31	**20**	**3**	110	43	200	66	10	24.5	5.96	2.33	0.00320	8.33
W19L177-01	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	10:31	5	0.44	19.59	7.1	6	19	12.4	**20**	**2**	**100**	**20**	215	27	14	8.54	3.01	**0.252**	0.00224	**1**
W19L177-02	Hayden's Meadow rain garden B15 Gresham blend inlet	inlet	12/19/2019	10:58	5	0.44	17.79	7.4	6.3	5.6	6.4	**20**	**2**	**100**	**20**	**200**	23	6	5.14	1.82	**0.145**	0.00224	**1**
W19L177-03	Hayden's Meadow rain garden B11 Gresham blend inlet	inlet	12/19/2019	11:01	5	0.44	17.39	7.29	6.2	13.6	14.5	25	**2**	**100**	**20**	228	21	9	10	3.68	**0.208**	0.00206	**1**
W19L177-04	Hayden's Meadow rain garden B11 Gresham blend outlet	outlet	12/19/2019	11:13	5	0.44	14.23	7.26	8.1	53.8	38.1	**20**	**2**	140	68	293	93	6	44.4	13.9	2.36	0.00386	4.01
W19L177-05	Hayden's Meadow rain garden B15 Gresham blend outlet	outlet	12/19/2019	11:34	5	0.44	18.37	7.32	8.5	31.4	11.3	**20**	**2**	890	67	579	71	3	21.8	6.27	1.48	0.00562	9.39
W19L177-06	Hayden's Meadow rain garden A7 Gresham blend inlet	inlet	12/19/2019	11:55	5	0.44	19.12	7.67	6.5	13.3	18.2	**20**	**2**	**100**	**20**	261	21	5	11	3.98	**0.26**	0.00191	**1**
W19L177-07	Hayden's Meadow rain garden A2 Portland blend inlet	inlet	12/19/2019	12:03	5	0.44	14.38	7.51	7	20	29.5	54	**2**	1010	57	514	103	10	14	4.2	0.858	0.00278	2.92
W19L177-08	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	12:19	5	0.44	12.24	7.04	8.2	18.9	20.5	**20**	**2**	140	34	295	53	4	17	4.95	1.13	0.00440	4.67
W19L177-09	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	12:23	5	0.44	12.46	7.3	6.7	8.1	18.4	**20**	**2**	**100**	**20**	208	28	15	6.88	2.37	**0.233**	0.0015	**1**
W19L177-10	Hayden's Meadow rain garden A7 Gresham blend outlet	outlet	12/19/2019	12:36	5	0.44	13.3	6.84	7.2	12.5	13.9	**20**	**2**	420	94	492	105	4	16.9	5.22	0.936	0.00383	6.7
W19L177-11	Hayden's Meadow rain garden A2 Portland blend outlet	outlet	12/19/2019	12:47	5	0.44	14.64	6.87	6.5	29.6	30.9	**20**	**2**	930	75	623	97	3	22.4	7.14	1.10	0.00486	7.88
W19L177-12	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	13:03	5	0.44	8	6.99	8.1	8.17	22.1	**20**	**2**	**100**	41	449	54	3	15.1	4.33	1.05	0.00358	4.89
W20B027-01	CSWQF Stormdrain Creek	inlet	2/5/2020	8:08	14	0.34	18.65	6.9	9.5	25.2	46.1	104	3	260	26	355	91	25	14.6	3.89	1.19	0.00367	2.09
W20B027-02	CSWQF East Inlet	inlet	2/5/2020	8:17	14	0.34	18.23	6.97	7.8	31.3	48.7	88	3	210	31	343	83	21	20.5	4.92	1.98	0.00395	1.64
W20B027-03	CSWQF Outlet	outlet	2/5/2020	8:32	14	0.34	17.3	7.14	8.3	74.7	32.4	91	4	1240	43	442	79	11	50.5	12.4	4.75	0.00199	3.25
W20B027-04	CSWQF Stormdrain Creek	inlet	2/5/2020	10:40	14	0.34	12.44	7.57	9.2	39.9	39.9	64	2	660	26	358	65	12	24.7	6.49	2.07	0.00338	2.28
W20B027-05	CSWQF East Inlet	inlet	2/5/2020	10:50	14	0.34	12.45	7.5	8.8	46.9	50.8	68	3	350	37	418	87	14	32.2	7.87	3.04	0.00425	2.59
W20B027-06	CSWQF Stormdrain Creek	inlet	2/5/2020	12:43	14	0.34	13.61	7.7	10.2	60.4	28.8	24	2	1430	31	353	61	4	40	10.6	3.30	0.00249	2.44
W20B027-07	CSWQF East Inlet	inlet	2/5/2020	13:00	14	0.34	12.2	7.83	9.8	73.9	26.5	60	2	760	57	443	91	5	50.4	11.9	5.04	0.00241	1.94
W20B027-08	CSWQF Outlet	outlet	2/5/2020	13:19	14	0.34	14.81	7.66	8.5	40.9	35.3	62	2	510	36	338	76	8	25.4	6.45	2.26	0.00246	1.78
W20B027-09	CSWQF Outlet	outlet	2/5/2020	15:15	14	0.34	11.94	7.51	9.2	41.2	34.3	40	**2**	500	27	355	58	7	25.8	6.54	2.29	0.00216	1.70

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria
NA = constituents not sampled due to equipment failure or other extenuating circumstance
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.
FD = Field Duplicate Sample

Table 2-6 Stormwater Green Infrastructure Sampling Data

Sample ID	Site ID	Inlet/outlet	Date	Time	Storm	24-hr Rainfall	Field DO	Cu-Dissolved	Pb-Dissolved	Zn- Dissolved	Cu-Total	Pb-Total	Zn-Total	E. coli	2,4,5-T	2,4-D	2,4-DB	2,4,5-TP (Silvex)	Acifluor-fen	Bentazon	Dicamba	Picloram
						inches	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	MPN/100ml	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
								EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	SM 9223B	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3
								0.2	0.1	0.5	0.2	0.1	0.5	10	0.1	0.2	0.4	0.1	0.2	0.4	0.2	0.2
W19I084-02	Ops yard CB	inlet	9/15/2019	9:33	1	0.72	10.81	1.00	0.106	2.71	6.73	2.46	34.1	**10**	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-01	Ops swale N inlet	inlet	9/15/2019	8:38	1	0.72	12.84	4.52	0.016	33.9	8.19	1.33	61.4	360	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-03	Ops swale S inlet	inlet	9/15/2019	9:45	1	0.72	10.95	2.41	0.106	10.5	3.35	0.341	15.4	990	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-04	Ops swale outlet	outlet	9/15/2019	10:12	1	0.72	9.12	3.08	0.106	2.64	4.18	0.407	5.52	500	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-05	Ops yard CB	inlet	9/15/2019	10:53	1	0.72	9.86	1.92	0.106	8.99	2.15	**0.111**	10.2	41	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-07	Ops swale N inlet	inlet	9/15/2019	11:16	1	0.72	7.91	4.48	0.106	26.4	5.72	0.424	35.8	470	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-06	Ops swale S inlet	inlet	9/15/2019	11:03	1	0.72	9.07	2.42	0.106	9.02	3.24	0.302	14.7	1300	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-08	Ops swale outlet	outlet	9/15/2019	11:35	1	0.72	7.78	2.95	0.106	2.19	3.69	0.208	4.16	240	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-09	Ops yard CB	inlet	9/15/2019	12:21	1	0.72	6.15	5.47	0.106	22.6	11.3	1.35	57.6	820	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-10	Ops swale N inlet	inlet	9/15/2019	12:48	1	0.72	5.58	3.67	0.106	23.2	6.15	0.981	41.6	370	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-11	Ops swale S inlet	inlet	9/15/2019	12:53	1	0.72	7.9	2.35	0.106	9.08	3.66	0.428	24.3	770	NM	NM	NM	NM	NM	NM	NM	NM
W19I084-12	Ops swale outlet	outlet	9/15/2019	13:15	1	0.72	5.13	2.70	0.106	2.06	3.46	0.321	4.82	430	NM	NM	NM	NM	NM	NM	NM	NM
W19L177-01	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	10:31	5	0.44	19.59	0.435	0.106	1.39	1.53	0.241	123	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-02	Hayden's Meadow rain garden B15 Gresham blend inlet	inlet	12/19/2019	10:58	5	0.44	17.79	0.322	0.106	1.18	1.29	0.211	10.6	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-03	Hayden's Meadow rain garden B11 Gresham blend inlet	inlet	12/19/2019	11:01	5	0.44	17.39	0.665	0.106	3.22	1.71	0.156	8.08	120	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-04	Hayden's Meadow rain garden B11 Gresham blend outlet	outlet	12/19/2019	11:13	5	0.44	14.23	2.34	0.106	2.71	3.52	0.519	4.27	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-05	Hayden's Meadow rain garden B15 Gresham blend outlet	outlet	12/19/2019	11:34	5	0.44	18.37	9.02	0.106	2.02	9.59	0.181	2.31	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-06	Hayden's Meadow rain garden A7 Gresham blend inlet	inlet	12/19/2019	11:55	5	0.44	19.12	0.588	0.106	1.63	2.13	0.183	11.7	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-07	Hayden's Meadow rain garden A2 Portland blend inlet	inlet	12/19/2019	12:03	5	0.44	14.38	5.26	0.106	6.80	14.4	0.404	12.3	150	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-08	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	12:19	5	0.44	12.24	2.94	0.106	1.11	4.38	0.291	4.57	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-09	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	12:23	5	0.44	12.46	0.29	0.106	2.51	1.50	0.331	10.6	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-10	Hayden's Meadow rain garden A7 Gresham blend outlet	outlet	12/19/2019	12:36	5	0.44	13.3	3.33	0.108	3.23	4.01	0.308	4.64	**10**	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-11	Hayden's Meadow rain garden A2 Portland blend outlet	outlet	12/19/2019	12:47	5	0.44	14.64	4.97	0.120	2.74	6.33	0.439	6.02	85	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W19L177-12	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	13:03	5	0.44	8	3.07	0.106	2.56	3.91	0.322	2.74	10	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-01	CSWQF Stormdrain Creek	inlet	2/5/2020	8:08	14	0.34	18.65	2.06	0.128	30.6	5.92	1.79	63.7	2200	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-02	CSWQF East Inlet	inlet	2/5/2020	8:17	14	0.34	18.23	1.48	0.106	109	5.51	1.48	166	140	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-03	CSWQF Outlet	outlet	2/5/2020	8:32	14	0.34	17.3	1.48	0.106	26.4	3.47	1.04	44.8	820	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-04	CSWQF Stormdrain Creek	inlet	2/5/2020	10:40	14	0.34	12.44	2.11	0.128	29.6	4.54	1.33	51.6	460	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-05	CSWQF East Inlet	inlet	2/5/2020	10:50	14	0.34	12.45	1.79	0.106	63.8	4.85	1.36	103	460	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-06	CSWQF Stormdrain Creek	inlet	2/5/2020	12:43	14	0.34	13.61	1.77	0.158	23.9	3.40	0.95	38.1	160	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-07	CSWQF East Inlet	inlet	2/5/2020	13:00	14	0.34	12.2	1.31	0.106	34.1	3.08	0.748	69.4	1500	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-08	CSWQF Outlet	outlet	2/5/2020	13:19	14	0.34	14.81	1.53	0.106	24.9	4.24	3.0	45.0	490	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**
W20B027-09	CSWQF Outlet	outlet	2/5/2020	15:15	14	0.34	11.94	1.54	0.106	27.0	3.24	0.896	40.6	280	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria
NA = constituents not sampled due to equipment failure or other extenuating circumstance
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.
FD = Field Duplicate Sample

Table 2-6 Stormwater Green Infrastructure Sampling Data

Sample ID	Site ID	Inlet/outlet	Date	Time	Storm	24-hr Rainfall	Field DO	Dichlorprop	Dinoseb	Pentachloro-phenol	3,5-Dichloro-benzoic acid	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(ghi)perylene	Benzo(k)fluoranthene
						inches	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
								EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 8270-SIM	EPA 8270-SIM	EPA 827	EPA 827	EPA 827	EPA 827	EPA 827	EPA 827
								0.4	0.4	0.04	0.2	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
W19I084-02	Ops yard CB	inlet	9/15/2019	9:33	1	0.72	10.81	NM	NM	NM	NM	**0.02**	0.023	0.06	0.026	0.035	0.052	0.047	0.019
W19I084-01	Ops swale N inlet	inlet	9/15/2019	8:38	1	0.72	12.84	NM	NM	NM	NM	0.1	0.1	0.4	0.014	0.024	0.035	0.051	0.015
W19I084-03	Ops swale S inlet	inlet	9/15/2019	9:45	1	0.72	10.95	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-04	Ops swale outlet	outlet	9/15/2019	10:12	1	0.72	9.12	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-05	Ops yard CB	inlet	9/15/2019	10:53	1	0.72	9.86	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-07	Ops swale N inlet	inlet	9/15/2019	11:16	1	0.72	7.91	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-06	Ops swale S inlet	inlet	9/15/2019	11:03	1	0.72	9.07	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-08	Ops swale outlet	outlet	9/15/2019	11:35	1	0.72	7.78	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-09	Ops yard CB	inlet	9/15/2019	12:21	1	0.72	6.15	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.013	0.03	**0.01**
W19I084-10	Ops swale N inlet	inlet	9/15/2019	12:48	1	0.72	5.58	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.011	0.02	**0.01**
W19I084-11	Ops swale S inlet	inlet	9/15/2019	12:53	1	0.72	7.9	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19I084-12	Ops swale outlet	outlet	9/15/2019	13:15	1	0.72	5.13	NM	NM	NM	NM	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-01	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	10:31	5	0.44	19.59	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	0.021	**0.02**	**0.01**	**0.01**	0.012	0.023	**0.01**
W19L177-02	Hayden's Meadow rain garden B15 Gresham blend inlet	inlet	12/19/2019	10:58	5	0.44	17.79	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	0.021	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-03	Hayden's Meadow rain garden B11 Gresham blend inlet	inlet	12/19/2019	11:01	5	0.44	17.39	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	0.02	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-04	Hayden's Meadow rain garden B11 Gresham blend outlet	outlet	12/19/2019	11:13	5	0.44	14.23	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-05	Hayden's Meadow rain garden B15 Gresham blend outlet	outlet	12/19/2019	11:34	5	0.44	18.37	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-06	Hayden's Meadow rain garden A7 Gresham blend inlet	inlet	12/19/2019	11:55	5	0.44	19.12	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-07	Hayden's Meadow rain garden A2 Portland blend inlet	inlet	12/19/2019	12:03	5	0.44	14.38	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-08	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	12:19	5	0.44	12.24	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-09	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	12:23	5	0.44	12.46	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	0.011	0.015	0.024	**0.01**
W19L177-10	Hayden's Meadow rain garden A7 Gresham blend outlet	outlet	12/19/2019	12:36	5	0.44	13.3	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-11	Hayden's Meadow rain garden A2 Portland blend outlet	outlet	12/19/2019	12:47	5	0.44	14.64	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W19L177-12	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	13:03	5	0.44	8	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20B027-01	CSWQF Stormdrain Creek	inlet	2/5/2020	8:08	14	0.34	18.65	**0.4**	**0.4**	0.262	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	0.017	0.034	0.054	0.01
W20B027-02	CSWQF East Inlet	inlet	2/5/2020	8:17	14	0.34	18.23	**0.4**	**0.4**	0.05	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	0.014	0.022	0.043	**0.01**
W20B027-03	CSWQF Outlet	outlet	2/5/2020	8:32	14	0.34	17.3	**0.4**	**0.4**	0.052	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.011	0.018	**0.01**
W20B027-04	CSWQF Stormdrain Creek	inlet	2/5/2020	10:40	14	0.34	12.44	**0.4**	**0.4**	0.146	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.014	0.024	**0.01**
W20B027-05	CSWQF East Inlet	inlet	2/5/2020	10:50	14	0.34	12.45	**0.4**	**0.4**	0.048	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.015	0.029	**0.01**
W20B027-06	CSWQF Stormdrain Creek	inlet	2/5/2020	12:43	14	0.34	13.61	**0.4**	**0.4**	0.086	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.014	**0.01**
W20B027-07	CSWQF East Inlet	inlet	2/5/2020	13:00	14	0.34	12.2	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.011	**0.01**
W20B027-08	CSWQF Outlet	outlet	2/5/2020	13:19	14	0.34	14.81	**0.4**	**0.4**	0.111	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.014	**0.01**
W20B027-09	CSWQF Outlet	outlet	2/5/2020	15:15	14	0.34	11.94	**0.4**	**0.4**	0.099	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.011	**0.01**

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria
NA = constituents not sampled due to equipment failure or other extenuating circumstance
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.
FD = Field Duplicate Sample

Table 2-6 Stormwater Green Infrastructure Sampling Data

Sample ID	Site ID	Inlet/outlet	Date	Time	Storm	24-hr Rainfall	Field DO	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Butyl benzyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diethyl phthalate	Dimethyl phthalate
						inches	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
								EPA 827	EPA 827	EPA 827	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM
								0.01	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19I084-02	Ops yard CB	inlet	9/15/2019	9:33	1	0.72	10.81	0.047	**0.01**	0.13	**0.02**	0.027	**0.04**	0.14	0.13	**1**	**1**	**1**	**1**	**1**
W19I084-01	Ops swale N inlet	inlet	9/15/2019	8:38	1	0.72	12.84	0.026	**0.01**	0.075	**0.2**	0.021	**0.04**	0.53	0.15	**1**	**1**	**1**	**1**	**1**
W19I084-03	Ops swale S inlet	inlet	9/15/2019	9:45	1	0.72	10.95	**0.01**	**0.01**	0.014	**0.02**	**0.01**	**0.04**	0.032	0.019	**1**	**1**	**1**	**1**	**1**
W19I084-04	Ops swale outlet	outlet	9/15/2019	10:12	1	0.72	9.12	**0.01**	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19I084-05	Ops yard CB	inlet	9/15/2019	10:53	1	0.72	9.86	**0.01**	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	0.012	**1**	**1**	**1**	**1**	**1**
W19I084-07	Ops swale N inlet	inlet	9/15/2019	11:16	1	0.72	7.91	**0.01**	**0.01**	0.01	**0.02**	**0.01**	**0.04**	0.057	0.023	**1**	**1**	**1**	**1**	**1**
W19I084-06	Ops swale S inlet	inlet	9/15/2019	11:03	1	0.72	9.07	**0.01**	**0.01**	0.014	**0.02**	**0.01**	**0.04**	0.023	0.019	**1**	**1**	**1**	**1**	**1**
W19I084-08	Ops swale outlet	outlet	9/15/2019	11:35	1	0.72	7.78	**0.01**	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19I084-09	Ops yard CB	inlet	9/15/2019	12:21	1	0.72	6.15	**0.01**	**0.01**	0.017	**0.02**	**0.01**	**0.04**	0.028	0.036	**1**	**1**	**1**	**1**	**1**
W19I084-10	Ops swale N inlet	inlet	9/15/2019	12:48	1	0.72	5.58	**0.01**	**0.01**	0.019	**0.02**	**0.01**	**0.04**	0.072	0.045	**1**	**1**	**1**	**1**	**1**
W19I084-11	Ops swale S inlet	inlet	9/15/2019	12:53	1	0.72	7.9	0.013	**0.01**	0.019	**0.02**	**0.01**	**0.04**	0.027	0.03	**1**	**1**	**1**	**1**	**1**
W19I084-12	Ops swale outlet	outlet	9/15/2019	13:15	1	0.72	5.13	**0.01**	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-01	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	10:31	5	0.44	19.59	**0.1**	**0.1**	0.025	0.023	**0.01**	0.053	0.043	0.042	**1**	**1**	**1**	**1**	**1**
W19L177-02	Hayden's Meadow rain garden B15 Gresham blend inlet	inlet	12/19/2019	10:58	5	0.44	17.79	**0.1**	**0.1**	0.011	0.025	**0.01**	0.054	0.033	0.015	**1**	**1**	**1**	**1**	**1**
W19L177-03	Hayden's Meadow rain garden B11 Gresham blend inlet	inlet	12/19/2019	11:01	5	0.44	17.39	**0.1**	**0.1**	0.018	0.026	**0.01**	0.049	0.042	0.025	**1**	**1**	**1**	**1**	**1**
W19L177-04	Hayden's Meadow rain garden B11 Gresham blend outlet	outlet	12/19/2019	11:13	5	0.44	14.23	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-05	Hayden's Meadow rain garden B15 Gresham blend outlet	outlet	12/19/2019	11:34	5	0.44	18.37	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-06	Hayden's Meadow rain garden A7 Gresham blend inlet	inlet	12/19/2019	11:55	5	0.44	19.12	**0.1**	**0.1**	0.015	0.021	**0.01**	0.041	0.034	0.025	**1**	**1**	**1**	**1**	**1**
W19L177-07	Hayden's Meadow rain garden A2 Portland blend inlet	inlet	12/19/2019	12:03	5	0.44	14.38	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	0.022	0.011	**1**	**1**	**1**	**1**	**1**
W19L177-08	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	12:19	5	0.44	12.24	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-09	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	12:23	5	0.44	12.46	**0.1**	**0.1**	0.017	**0.02**	**0.01**	**0.04**	0.033	0.033	**1**	**1**	**1**	**1**	**1**
W19L177-10	Hayden's Meadow rain garden A7 Gresham blend outlet	outlet	12/19/2019	12:36	5	0.44	13.3	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-11	Hayden's Meadow rain garden A2 Portland blend outlet	outlet	12/19/2019	12:47	5	0.44	14.64	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W19L177-12	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	13:03	5	0.44	8	**0.1**	**0.1**	**0.1**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**
W20B027-01	CSWQF Stormdrain Creek	inlet	2/5/2020	8:08	14	0.34	18.65	0.025	**0.01**	0.046	**0.02**	0.017	**0.04**	0.042	0.091	**1**	**1**	**1**	**1**	**1**
W20B027-02	CSWQF East Inlet	inlet	2/5/2020	8:17	14	0.34	18.23	0.019	**0.01**	0.039	**0.02**	0.011	**0.04**	0.043	0.083	**1**	**1**	**1**	**1**	**1**
W20B027-03	CSWQF Outlet	outlet	2/5/2020	8:32	14	0.34	17.3	**0.01**	**0.01**	0.017	**0.02**	**0.01**	**0.04**	**0.02**	0.035	**1**	**1**	**1**	**1**	**1**
W20B027-04	CSWQF Stormdrain Creek	inlet	2/5/2020	10:40	14	0.34	12.44	0.013	**0.01**	0.024	**0.02**	**0.01**	**0.04**	0.027	0.053	**1**	**1**	**1**	**1**	**1**
W20B027-05	CSWQF East Inlet	inlet	2/5/2020	10:50	14	0.34	12.45	0.015	**0.01**	0.028	**0.02**	**0.01**	**0.04**	0.033	0.061	**1**	**1**	**1**	**1**	**1**
W20B027-06	CSWQF Stormdrain Creek	inlet	2/5/2020	12:43	14	0.34	13.61	**0.01**	**0.01**	0.016	**0.02**	**0.01**	**0.04**	0.021	0.033	**1**	**1**	**1**	**1**	**1**
W20B027-07	CSWQF East Inlet	inlet	2/5/2020	13:00	14	0.34	12.2	**0.01**	**0.01**	0.014	**0.02**	**0.01**	**0.04**	**0.02**	0.027	**1**	**1**	**1**	**1**	**1**
W20B027-08	CSWQF Outlet	outlet	2/5/2020	13:19	14	0.34	14.81	**0.01**	**0.01**	0.014	**0.02**	**0.01**	**0.04**	**0.02**	0.03	**1**	**1**	**1**	**1**	**1**
W20B027-09	CSWQF Outlet	outlet	2/5/2020	15:15	14	0.34	11.94	**0.01**	**0.01**	0.011	**0.02**	**0.01**	**0.04**	**0.02**	0.027	**1**	**1**	**1**	**1**	**1**

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria
NA = constituents not sampled due to equipment failure or other extenuating circumstance
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.
FD = Field Duplicate Sample

Table 2-6 Stormwater Green Infrastructure Sampling Data

Sample ID	Site ID	Inlet/outlet	Date	Time	Storm	24-hr Rainfall	Field DO	Bis(2-ethylhexyl) phthalate
						inches	mg/L	ug/L
								EPA 8270-SIM
								1
W19I084-02	Ops yard CB	inlet	9/15/2019	9:33	1	0.72	10.81	6.5
W19I084-01	Ops swale N inlet	inlet	9/15/2019	8:38	1	0.72	12.84	6
W19I084-03	Ops swale S inlet	inlet	9/15/2019	9:45	1	0.72	10.95	**1**
W19I084-04	Ops swale outlet	outlet	9/15/2019	10:12	1	0.72	9.12	**1**
W19I084-05	Ops yard CB	inlet	9/15/2019	10:53	1	0.72	9.86	**1**
W19I084-07	Ops swale N inlet	inlet	9/15/2019	11:16	1	0.72	7.91	1.9
W19I084-06	Ops swale S inlet	inlet	9/15/2019	11:03	1	0.72	9.07	**1**
W19I084-08	Ops swale outlet	outlet	9/15/2019	11:35	1	0.72	7.78	**1**
W19I084-09	Ops yard CB	inlet	9/15/2019	12:21	1	0.72	6.15	2.5
W19I084-10	Ops swale N inlet	inlet	9/15/2019	12:48	1	0.72	5.58	3.2
W19I084-11	Ops swale S inlet	inlet	9/15/2019	12:53	1	0.72	7.9	1.2
W19I084-12	Ops swale outlet	outlet	9/15/2019	13:15	1	0.72	5.13	**1**
W19L177-01	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	10:31	5	0.44	19.59	**1**
W19L177-02	Hayden's Meadow rain garden B15 Gresham blend inlet	inlet	12/19/2019	10:58	5	0.44	17.79	**1**
W19L177-03	Hayden's Meadow rain garden B11 Gresham blend inlet	inlet	12/19/2019	11:01	5	0.44	17.39	2.8
W19L177-04	Hayden's Meadow rain garden B11 Gresham blend outlet	outlet	12/19/2019	11:13	5	0.44	14.23	**1**
W19L177-05	Hayden's Meadow rain garden B15 Gresham blend outlet	outlet	12/19/2019	11:34	5	0.44	18.37	**1**
W19L177-06	Hayden's Meadow rain garden A7 Gresham blend inlet	inlet	12/19/2019	11:55	5	0.44	19.12	**1**
W19L177-07	Hayden's Meadow rain garden A2 Portland blend inlet	inlet	12/19/2019	12:03	5	0.44	14.38	**1**
W19L177-08	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	12:19	5	0.44	12.24	**1**
W19L177-09	Hayden's Meadow rain garden B12 Portland blend inlet	inlet	12/19/2019	12:23	5	0.44	12.46	**1**
W19L177-10	Hayden's Meadow rain garden A7 Gresham blend outlet	outlet	12/19/2019	12:36	5	0.44	13.3	**1**
W19L177-11	Hayden's Meadow rain garden A2 Portland blend outlet	outlet	12/19/2019	12:47	5	0.44	14.64	**1**
W19L177-12	Hayden's Meadow rain garden B12 Portland blend outlet	outlet	12/19/2019	13:03	5	0.44	8	**1**
W20B027-01	CSWQF Stormdrain Creek	inlet	2/5/2020	8:08	14	0.34	18.65	1.9
W20B027-02	CSWQF East Inlet	inlet	2/5/2020	8:17	14	0.34	18.23	2.1
W20B027-03	CSWQF Outlet	outlet	2/5/2020	8:32	14	0.34	17.3	**1**
W20B027-04	CSWQF Stormdrain Creek	inlet	2/5/2020	10:40	14	0.34	12.44	1.1
W20B027-05	CSWQF East Inlet	inlet	2/5/2020	10:50	14	0.34	12.45	1.7
W20B027-06	CSWQF Stormdrain Creek	inlet	2/5/2020	12:43	14	0.34	13.61	**1**
W20B027-07	CSWQF East Inlet	inlet	2/5/2020	13:00	14	0.34	12.2	**1**
W20B027-08	CSWQF Outlet	outlet	2/5/2020	13:19	14	0.34	14.81	**1**
W20B027-09	CSWQF Outlet	outlet	2/5/2020	15:15	14	0.34	11.94	**1**

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria
NA = constituents not sampled due to equipment failure or other extenuating circumstance
NM= not measured
ND= not detected
Dup = Duplicate Sample
MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.
FD = Field Duplicate Sample

Table 2-7 Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	Field dup. (BCI1)	BCI2	FCI0	FCI1	Lab dup. (FCI1)	JCI1	JCI2	KCI1	KCI4	KI1	KI2
Units in the columns are individuals of that taxa found and identified																		
Acari	Trombidiformes						17	14	7	2	1	2	3	8		46	46	24
Amphipoda				imm.														1
		Crangonyx					4	6		37	148	138	4	5	80	8	19	
		Hyalella								39								
		Ramellogammarus								1								
Decopoda	Astacidae	Pacifasticus					1			1	1		1	1	1		1	
Hirudinea						tolerant	1			2			1	5		37		
Hydra						tolerant									2	5		
Isopoda	Asellidae	Caecidotea				tolerant	1				5	3	1					
Mollusca																		
Mollusca	Ancylidae	Ferressia			tolerant	tolerant	21	19	9	21	3	2	40	6	59		4	
	Corbiculidae	Corbicula			tolerant	tolerant							3					
	Hydrobiidae	Fluminicola				tolerant	29	41		65			3				5	
		P hemphilli																
		Margaritifera	falcata			sensitive												
	Planoriibae	Helisoma																
		Gyraulus			tolerant	sensitive			1									
		Menetus											1		3			
	Lymnaidae				tolerant	tolerant			2									
	Physidae	Physa				tolerant				1								
	Pleuroceridae	Juga			tolerant	tolerant	18	24	256	30	29	32	88	72	46	1	25	6
	Sphaeriidae						2	1	14	92	63	74		3	18	25	71	14
Nematoda							1	2	3	3	1	2	5	3	2	9	5	
Oligochaeta					tolerant	tolerant	27	14	14	91	185	156	59	15	23	82	102	15
Ostracoda																		1
Turbellaria	Planariidae	Trepaxonemata					2	1	1				2	1	8	1		2
Ephemeroptera	Ameletidae	Ameletus																
	Baetidae			imm				2										
Ephemeroptera	Baetidae	Aentrella		imm.			5	4										
		Baetis	tricaudatus				195	154	98		59	67	39	67	142	2	4	8
		Baetis	favistriga											2				
		Centroptilum				tolerant												
		Diphetor	hageni										5	31				6
		Labiobaetis																
		Proocloeon																
	Heptageniidae																	1
		Cinygma				sensitive												
		Cinygmula																
		Epeous alberta																
		Ironodes																11
	Leptophlebidae	Neo/Paralephlebia					1								1			
	Leptophlebidae	Paraleptophlebia						1	6				84	23			14	21
		Neoleptophlebia																21
Plecoptera	Capniidae			imm.		sensitive												
	Chloroperlidae	Sweltsa							1									37
	Leuctridae			imm		sensitive												
		Perlomyia				sensitive												10
	Perlodidae																	2

Table 2-7 Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	Field dup. (BCI1)	BCI2	FCI0	FCI1	Lab dup. (FCI1)	JCI1	JCI2	KCI1	KCI4	KI1	KI2
Units in the columns are individuals of that taxa found and identified																		
		Isoperla																1
		Skwala																4
	Pteronarcyidae	Pteronarcella																5
	Nemouridae						1											
		Malenka																20
		Soyedina																7
		Zapada	cinctipes										2	19				58
		zapada oregonensis																
Coleoptera									1									
	Elmidae			imm.														
		Ampumixus		larva			1											
		Cleptelmis		adult		tolerant	1											
		Lara		imm.			1			2	2	1	1					6
		Narpus conclor																4
		Optioservus		larva		tolerant				8				44				3
		Optioservus		adult		tolerant			2					3				1
		Zaitzevia		larva		tolerant				1			1	61				2
				adult		tolerant								6				
	Dytiscidae			larva		tolerant												
Coleoptera	Hydrophilidae			larva														
	Hydrophilidae			adult														
	Hyraephilae			adult														
Lepidoptera	Pyralidae					tolerant							1					
Megaloptera		Sialis				tolerant												1
	Sisyridae								5									
Odonata				imm.														
		Aesha				tolerant												
		Cordulegaster																
	Zygoptera							1		3								
		Coengrion/Enallagma				tolerant												
		Argia				tolerant												
Trichoptera				pupa														
	Brachycentridae	Micrasema		larva														2
	Glossosomatidae	Glossosoma		larva	sensitive													9
	Glossosomatidae			pupa														
	Hydroptilidae	Hydroptila		imm.		tolerant	26	29	2						1			
	Hydroptilidae			pupa			5			1								
	Hydropsychidae			larva														
				pupa										1				1
		Cheumatopysyche				tolerant	19	9	5	1			212	44	6		13	
		Hydropsyche				tolerant							1	4				8
		Parapsyche																
		Mystacides		larva			1	3		33		1						
		Mystacides		pupa						1								
	Lepidostomatidae	Lepidostoma		larva panel				2									1	23
		Lepidostoma		larva transverse						3		1						
		Lepidostoma		pupa			1				6	3						
	Limnephilidae	Dicosmoecus							1									
		Onocosmoecus																
		Psychoglypha																
	Philopotamidae	Wormaldia			sensitive								3	45				44
	Polycentropidae	Polycentripus																
				pupa														
	Rhyacophilidae			imm.														10
				pupa														1
		Rhyacophila	betteni											1				7
		Rhyacophila	brunnea															
		Rhyacophila	narvae															5
		rhyacophila	rotunda			sensitive												

Table 2-7 Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	Field dup. (BCI1)	BCI2	FCI0	FCI1	Lab dup. (FCI1)	JCI1	JCI2	KCI1	KCI4	KI1	KI2
						Units in the columns are individuals of that taxa found and identified												
	Uenoidae	Neophylax																2
Diptera															1			1
	Ceratopogoninae			larva														3
				pupa														
	Forcipomyinae		Atrichopogon	larva														5
				pupa														
	Chironomidae			larva			106	189	65	87	45	44	89	52	113	314	212	39
				pupa			7	23	4	7	2	5	8	4	10	6	3	1
		Ablabesmyia				tolerant			1	1								
		Alotanypus								1								
		Boreochlus																
		Brillia							2	2	5	4				6	3	2
		Brundiniella														4		4
		Chironomus				tolerant											1	
		Corynoneura						1	1		2	1				2	1	
		Cricotopus					7	13										
		Cryptochironomus								4							3	
		Dicrontendipes					3	2									2	
		Diplocladius																
		Eukiefferiella	brehmi group											2				
		Eukiefferiella	claripennis group				1	2				1			1			
		Eukiefferiella	devonica grp															
		Eukiefferiella pseudomontana grp					25	73						1				
		Heterotrissocladius	marcidus grp			sensitive				2	3	1					4	
		Limnophyes				tolerant			1	1						6	1	
		Macropelopia																
		Micropsectra					1	1	2	2	5	11		2	26	218	4	10
		Nilotanypus															2	
		Nanocladius																
		Orthocladius						30				1				1		
		Orthocladius (Symposiocladius)																1
		Parametriocnemus											1	2	1		1	8
		Paratanytarsus					5	17										
		Paratendipes				tolerant										1	4	
		Phaenospectra					8	11		2	2		1			5	67	
		Polypedilum					34	13	16	10	4	5	11	23	55	9	80	1
		Procladius				tolerant				7							9	
		Prodiamesa								2	4	3					1	
		Psilometriocnemus																1
		Rheocricotopus											2	1				
		Rheotanytarsus					4	2	33				17	8	16	1		
		Synorthocladius				sensitive												4
		Stempellinella								50							7	
		Stenochironomus																
		Synorthocladius				sensitive		1			1							
		Tanytarsus					1	1	1				46	2	3		2	
		Thienemanniella																
		Thienemannimyia complex					12	7	5	3	7	6	13	7	14	27	11	
		Tvetenia bavarica group						1			10	12	1	1				2
		Zavrelimyia				tolerant											1	5
	Dixidae			pupa														
		Dixa						1									2	14
		Dixella																
		Maurnia		larva														2
		Maurnia		pupa										1				
		Meringodixa																3
	Empididae			imm.														
				pupa			1		1									
		Chelifera												1		3		
		Clinocera		larva								1						
		Clinocera		pupa														
		Hemerdromia		larva				1										
		Neoplasta		larva			1		1							2		
		Neoplasta		pupa														
		Trichiclinocera																
	Ephydridae			larva														
				pupa														
	Muscidae					tolerant												
	Pelecorhynidae	Glutops				sensitive												1

Table 2-7 Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	Field dup. (BCI1)	BCI2	FCI0	FCI1	Lab dup. (FCI1)	JCI1	JCI2	KCI1	KCI4	KI1	KI2
Units in the columns are individuals of that taxa found and identified																		
	Psychodidae																	
		Pericoma																1
		Psychoda																
		Ptychoptera																21
	Sciomyzidae			pupa														
	Simuliidae			imm.														
				pupa										1	1			
		Simulium					32	5	9		4	2	6	4	3			3
	Tabaninae					tolerant												
	Thaumaleidae																	6
	Tipulidae				tolerant													
		Tipulidae			tolerant			1										
		Antocha			tolerant		8	30							1			
		Antocha		pupa	tolerant		1	2										
		Dicanota			tolerant			1					1	5				3
		Dicranomyia																
		Hexatoma			tolerant													1
		Limonia			tolerant	tolerant												
		Limnophila			tolerant													2
		Pedicia			tolerant													
		Tipula (Holorusia hespera)			tolerant		1											1
		Tipula			tolerant											1		
		Tipula (Tipula)			tolerant											1		
		Tricyhoria																
Benthic Index of Biological Integrity (B-IBI)					**Score**		**26**	**26**	**24**	**26**	**24**	**22**	**22**	**30**	**22**	**20**	**22**	**46**
Stream Condition as Level of Impairment from B-IBI							**Moderate**	**Moderate**	**Moderate**	**Moderate**	**Moderate**	**Moderate**	**Moderate**	**Slight**	**Moderate**	**Moderate**	**Moderate**	**None**

Macroinvertebrate analysis protocol is from the Oregon Water Quality Monitoring Technical Guide Book: https://www.oregon.gov/OWEB/docs/pubs/wq_mon_guide.pdf
Score >39= no impairment, 30-39: slight impairment, 20-29: moderate impairment, <20 severe impairment

Figure 2-2 Longterm Instream Monitoring Site Locations

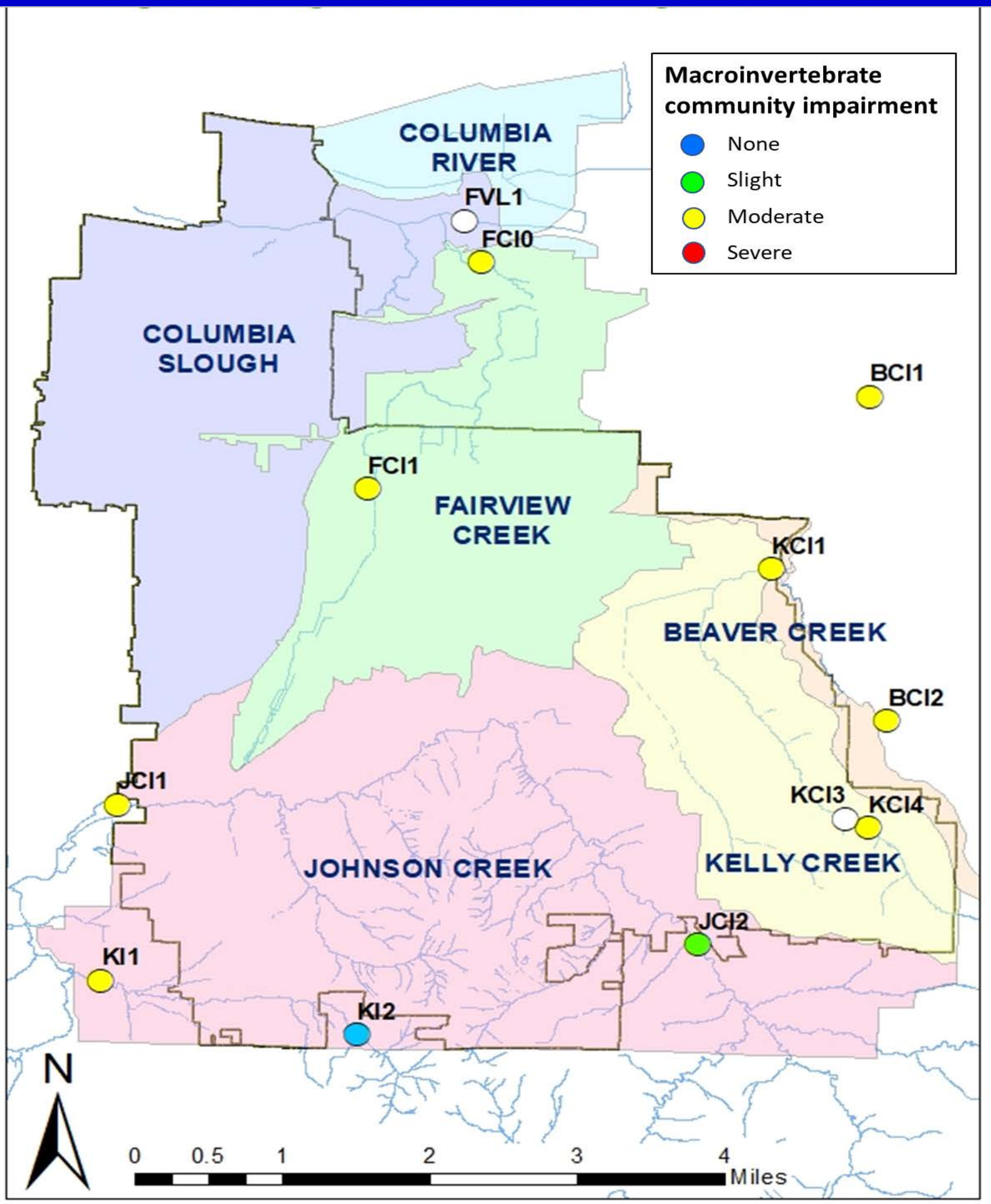


Figure 2-3 Stormwater Green Infrastructure Sampling Locations

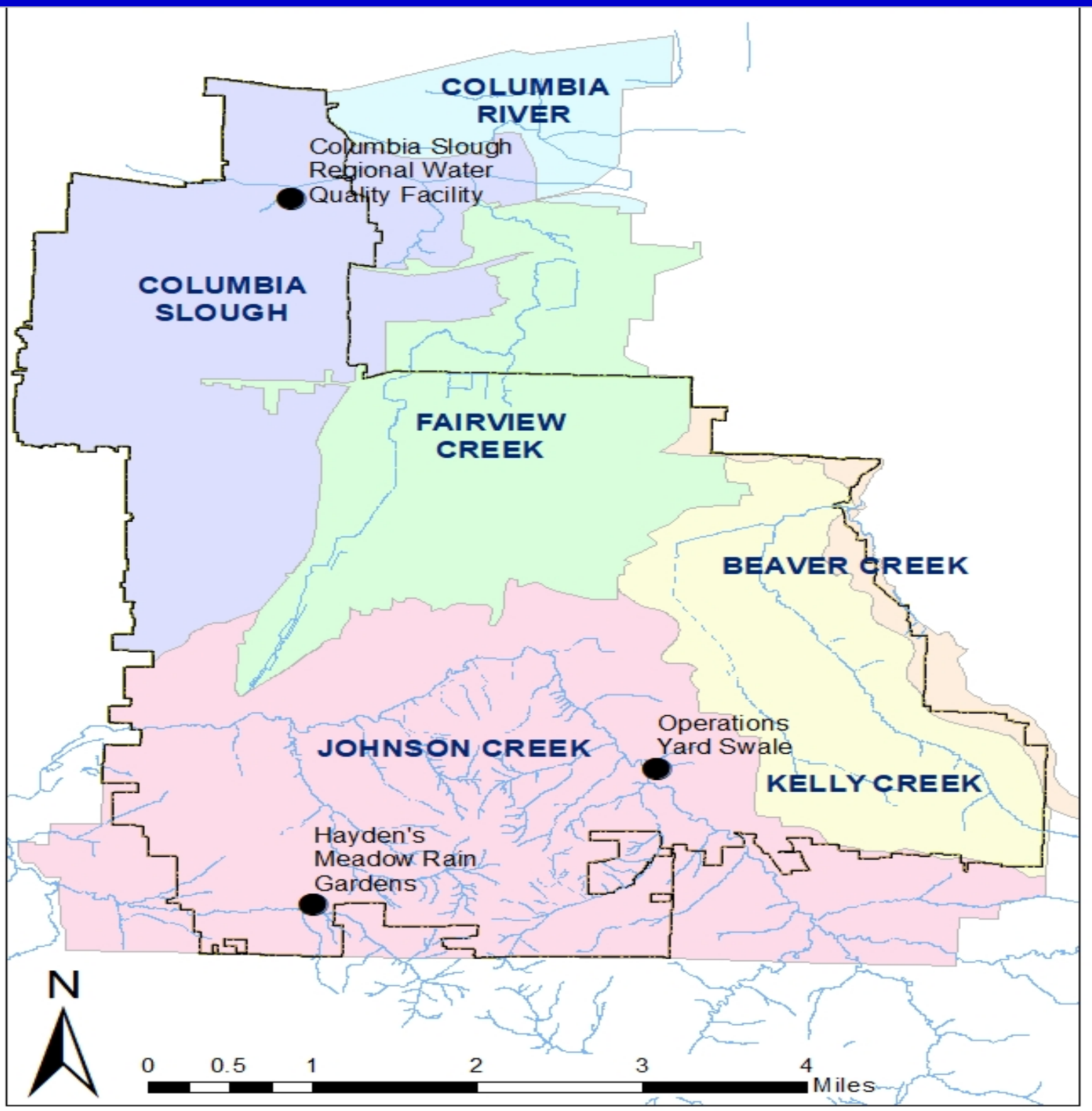
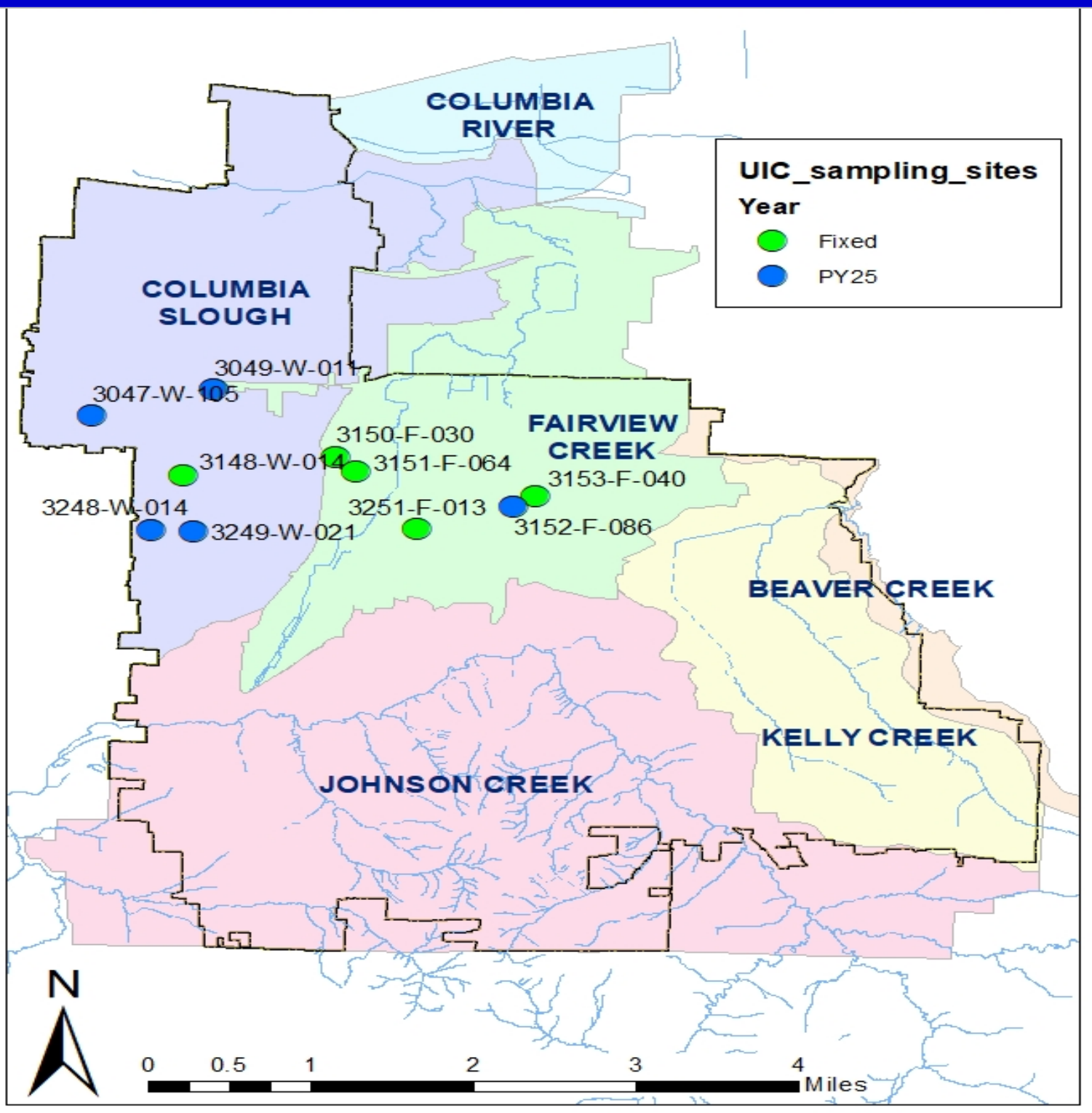


Figure 2-4 Stormwater Fixed and Rotating Monitoring Site Locations



City of Gresham NPDES Annual Stormwater Compliance Report

Section Three: Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
RC 1 Stormwater System Maintenance Plan						
A. Pipe Cleaning	Ongoing	Maintain stormwater system pipes to ensure proper function and limit impacts to water resources.	Clean and inspect 15-20 miles of pipe per year.	Number of pipe miles cleaned. Volume of debris collected.	Stormwater O&M staff inspected 12.5 miles of pipe for routine and new development connections, plus cleaned 3.5 miles identified as needing additional maintenance. During inspections we look for root intrusion, illicit connections, staining from illegal dumping, etc. This approach is more effective and environmentally sustainable because it uses less fuel, produces less emissions and releases less potable water. The purchase of a new Vactor Truck in 2017 with greater computer technology and water controls allows for better tracking and analysis of areas to return more frequently. Additional effort has been given to lateral lines while we are cleaning catch basins. Visually there is evidence that there is reduced sediment entering main lines as we have adapted our focus and procedures for line cleaning.	Stormwater O&M staff inspected 16.6 miles of pipe for routine and new development connections, plus cleaned 34.3 miles identified as needing additional maintenance. During inspections we look for root intrusion, illicit connections, staining from illegal dumping, etc. This approach is more effective and environmentally sustainable because it uses less fuel, produces less emissions and releases less potable water. 2.6 yds of debris were removed.
B. Catch Basin Cleaning	Ongoing	Maintain stormwater system catch basins to ensure proper function and limit impacts to water resources.	Clean or inspect 100% of publicly-owned catch basins that drain to surface water annually.	Number of catch basins cleaned. Volume of debris collected.	6,158 residential cbs cleaned*. 133 cy of debris removed. 1,418 arterial cbs cleaned. 61 cy of debris removed. There is a slightly higher ratio of debris removal per basin for arterial streets, consistent with our monitoring program findings that higher traffic roads generate more pollutants and sediment. Staff are now beginning to use portable data systems to track cbs with higher sediment volumes to analyze how to further optimize sediment control into the future. *Numbers cleaned vary each year because of parked cars. Additionally, the city has begun adding more sedimentation manholes to attempt to capture more sediment, so the total cb inventory has decreased slightly.	6,191 residential cbs cleaned*. 128 cy of debris removed. 1,418 arterial cbs cleaned. 74 cy of debris removed. ~3734 hours of staff time utilized There is a slightly higher ratio of debris removal per basin for arterial streets, consistent with our monitoring program findings that higher traffic roads generate more pollutants and sediment. *Numbers cleaned vary each year because of parked cars. Additionally, the city has begun adding more sedimentation manholes to attempt to capture more sediment, so the total cb inventory has decreased slightly.
C. Maintain Public Water Quality Facilities	Ongoing	Maintain publicly-owned water quality facilities to ensure proper function and limit impacts to water resources.	Maintain an average 20-25 facilities per year over the permit term. (Annual totals may vary).	Number and type of facilities inspected. Number and type cleaned. Type of maintenance conducted. Volume of debris removed.	Inspected 400 ROW rain gardens and 54 publicly maintained detention ponds and swales (includes both public and privately owned but publicly maintained facilities). Routine vegetation maintenance was completed at all ROW rain gardens and at 44 publicly maintained detention ponds and swales using a combination of landscape contractors and O&M staff. Additional maintenance (sediment removal and improvements to structures) was completed at 9 detention ponds and swales. 4,164 of staff hours utilized for green infrastructure maintenance, plus 3,284 contractor hours. In total, staff removed 196 cy of debris from ponds, 12 cy from raingardens and swales and 188 cy from ditches. Privately owned, but publicly maintained, proprietary stormwater systems (31), staff inspected all inlets, manholes, vaults and pipes and replaced 17 water quality cartridges at 4 subdivisions. Staff cleaned 2 flow control manholes and one sedimentation manhole and all associated catch basins. Publicly owned proprietary stormwater systems, inspected all vaults (126), replaced 326 water quality cartridges removing 8.5 cy of debris from 106 structures requiring maintenance.	Inspected 545 ROW rain gardens and 60 publicly maintained detention ponds and swales. Routine maintenance was completed at all ROW rain gardens and at 44 publicly maintained detention ponds and swales using a combination of landscape contractors and O&M staff. Additional maintenance (sediment removal and improvements to structures) was completed at 6 publicly maintained detention ponds with a total of 127 cubic yards of sediment and debris removed. 3,653 of staff hours utilized for green infrastructure maintenance, plus 3,850 contractor hours. In total, 5.5cy from raingardens and swales and 85.5 cy from ditches. Privately owned, but publicly maintained, proprietary stormwater systems (31), staff inspected all inlets, manholes, vaults and pipes and replaced 48 water quality cartridges at 12 locations. All associated appurtenances were inspected and all associated catch basins were cleaned via SCAP. Removed 1.5 cy of debris from 2 sedimentation manholes. Publicly owned proprietary stormwater systems, inspected all vaults (133), replaced 343 water quality cartridges removing 11.6 cy of debris from 78 structures requiring maintenance.
D. System Repair and Maintenance	Ongoing	Maintain and repair pipes, ditches, culverts, inlets, off-road systems, etc. in order to ensure proper function and limit impacts to water resources.	Maintain and repair the stormwater infrastructure as needed.	Number of hours dedicated to R&M activities.	~19,000 hours were allocated to the repair and maintenance of pipes, catch basins, manholes, laterals, outfalls, conducting utility locates, significant rain event infrastructure inspections and emergency response, shop and equipment maintenance, GIS mapping corrections of infrastructure, program administration, and green and grey public facility inspections including the use of the CCTV camera.	~14,400 hours were allocated to the repair and maintenance of pipes, catch basins, manholes, laterals, outfalls, conducting utility locates, significant rain event infrastructure inspections and emergency response, shop and equipment maintenance, GIS mapping corrections of infrastructure, program administration, and green and grey public facility inspections including the use of the CCTV camera.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
E. Manhole/Detention Line Cleaning	Ongoing	Maintain manhole and detention line structures to ensure proper function and limit impacts to water resources.	Inspect 75% of manhole structures annually, as appropriate; clean detention lines only as needed based on inspections.	Track number of structures cleaned/repaired. Report volume of debris removed.	Sedimentation manholes increased from 388 to 500 units. All were inspected removing 59 cy from 75 structures. Flow control manholes increased from 204 to 211. All were inspected removing 45 cy of debris from 46 structures. Detention lines remained at 231 units. All were inspected removing 1.2 cy from 7 lines and 1.2 cy of debris from 5 manholes.	Sedimentation manholes increased from 388 to 500 units. All were inspected removing 40 cy from 59 structures. Flow control manholes: 212 units. All were inspected removing 26 cy of debris from 61 structures. Detention lines: 231 units. All were inspected removing 3.2 cy from 12 lines Detention manholes: 204 units: 3 cy of debris from 12 manholes.
F. Ensure Proper Debris Disposal	On going	City staff decant water to the wastewater system, dry debris & test debris to ensure that it meets disposal requirements.	Ensure that the city utilizes environmentally sound disposal practices and services.	Keep records of annual disposal services utilized. Keep annual debris testing data.	The City contracts with Water Truck Services (purchased by NRC Environmental Services in 2015), a DEQ permitted entity, to recycle the city's leaves and other debris from the maintenance of streets and structures. The city's contract ended on June 30, 2019 and NRC has notified us that it will not renew. The city released a RFB but received no bids. The city has explored options all across the region. Because the debris will not qualify as clean fill that can be transported to Hillsboro, the city (and other agencies) may have to begin hauling debris to Wasco or Arlington landfill as special waste. This is expected to raise the cost of debris removal to $100K-$200K per year.	Debris collected by the City during street sweeping and stormwater facility maintenance is currently being temporarily stored at a City transfer facility prior to being disposed of at the Hillsboro or Wasco landfill. Because the debris does not qualify as clean fill, the city has to haul this debris to landfills that can accept special waste. The City is exploring beneficial use options, but compared to preceding years, the cost of debris removal has increased $100K-$200K per year. Staff has engaged DEQ in conversations around public agency solutions for disposal given the lack of affordable disposal options in the region after NRC shut down its disposal operations.
G. Underground Injection Controls (UIC's) Maint. & Cleaning	As required by UIC Permit	Ensure that the city complies with the required elements of the WPCF permit in order to limit stormwater impacts to groundwater.	Under the City's UIC WPFC permit, report all maintenance and cleaning activities as required.	Keep records of annual maintenance locations and cleaning activities. Reporting not part of the MS4 Annual Report requirements.	Keep records of annual maintenance locations and cleaning activities. Reporting not part of the MS4 Annual Report requirements. Staff cleaned 10 UICs and removed 25.5 cy of material.	Keep records of annual maintenance locations and cleaning activities. Reporting not part of the MS4 Annual Report requirements. Staff cleaned 9 UICs and removed 17 cy of material.
RC 2 Planning Procedures						
A. Water Quality Manual for New and Re-Development	Ongoing	Ensure that the water quality best management practices as described in the city's *Water Quality Manual/Green Development Practices Manual* are implemented by the development community to reduce impacts to local streams from stormwater pollutants.	Implement the *Manual* and bi-annually determine whether updates to the document are necessary. Conduct training to users of the *Manual* if it is updated significantly.	Track #, location, acreage & land use of new and redevelopment projects. Track # and type of private water quality facilities installed to comply with new development stds. Delineate and GIS map the drainage areas of the private facilities installed to comply w/new dev. standards. Track training activities.	See Table 3.1. Staff work with GIS staff to continually ensure a robust and high quality data set of stormwater system assets. As facilities are built, their type and area treated are recorded to aid the City in CIP and retrofit planning and design decisions as needed. This mapping also aids the City's pollutant reduction modeling that is required during the permit renewal submittal. The City adopted a new Stormwater Management Manual (SWMM) and updated related portions of code – both went into effect on January 1, 2019. Extensive internal and external outreach and trainings were conducted in development of the new standards and code. The SWMM includes improvements in facility design, ensures that on-site stormwater management using green infrastructure is prioritized, as well as adding in source control requirements to prevent illicit discharges from high risk businesses – examples include vehicle repair and maintenance facilities, fueling stations, and waste storage for food related businesses. Other improvements include adding information about conveyance requirements for sites where water cannot be fully retained on site, and updating and moving the Erosion Prevention and Sediment Control Manual from Public Works Standards into the SWMM. Minor improvements are being tracked and expected to be integrated into an update that will become effective on January 1, 2020.	The City adopted a new Stormwater Management Manual (SWMM) and updated related portions of code – both went into effect on January 1, 2019. Minor revisions were made and became effective January 1, 2020. The SWMM provides guidance on facility design, ensures that on-site stormwater management prioritizes green infrastructure, and requires source control to prevent illicit discharges from high risk businesses – examples include vehicle repair and maintenance facilities, fueling stations, and waste storage for food related businesses. The SWMM also includes conveyance requirements for sites where water cannot be fully retained on site, and is where the City's updated Erosion Prevention and Sediment Control Manual in located. Minor improvements are being tracked and expected to be integrated into an update that will become effective in early 2021.
B. Promote Low Impact Development (LID) Practices	Ongoing	Utilize city *Water Quality/Green Development Practices Manuals* to incorporate low impact development practices into new and redevelopment projects where applicable.	Implement practices or programs that promote the use of low impact development techniques.	Track location, drainage area & type of LID practices that are implemented.	See **Tables 3.1 and 3.2**.	See **Tables 3.1 and 3.2**.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
C. Private Water Quality Facility Maint. Program	PY 16 and Ongoing	Continue implementing tracking procedures for the installation of privately-owned water quality facilities and policies that ensure that private owners understand their maintenance responsibilities.	Collect and record maintenance agreements for privately-owned facilities that legal code allows. Develop a program to ensure facilities are being adequately maintained.	Track #, type, year installed, & watershed location for all private water quality facilities. Report progress on program dev. related to private facility maintenance annually in PY 16 and ongoing.	There are approximately 220 private stormwater facility locations, some with multiple owners and some with multiple facility types (About 128 vegetated and 92 proprietary underground devices). City's code is utilized to ensure that private owners have legal responsibility for maintaining their facilities and are educated and assisted with regard to facility maintenance. Staff inspects 20-30 vegetated facility locations per year and works with owners to ensure they are properly maintained. Additionally, there are newly constructed lot-level stormwater management facilities located on private lots in new developments. Stormwater management facilities installed include rain gardens, drywells, and infiltration vaults. These facilities were inspected when constructed and staff also conduct ongoing outreach to the homes to ensure they understand proper care, maintenance and function of the facilities. During PY24, staff completed 31 inspections of 31 private multi-owner underground vaults and replaced 17 proprietary filter cartridges. During PY25, staff will notify private single-owner commercial vault owners that proof of maintenance is required for proprietary filter maintenance. Notifications are sent out biennially to private single-owner commercial vault owners.	There are approximately 309 private stormwater facility locations, some with multiple owners and some with multiple facility types (About 133 vegetated and 88 properties with proprietary devices). City's code is utilized to ensure that private owners have legal responsibility for maintaining their facilities and are educated and assisted with regard to facility maintenance. Staff inspects 23 high priority vegetated facilities annually and 20-30 medium priority facilities rotating each year and works with owners to ensure they are properly maintained. Additionally, there are newly constructed lot-level stormwater management facilities located on private lots in new developments. Stormwater management facilities installed include rain gardens, drywells, and infiltration vaults. These facilities were inspected when constructed and staff also conduct ongoing outreach to the homes to ensure they understand proper care, maintenance and function of the facilities. During PY25, staff notified private vault owners that proof of maintenance is required. A total of 28 maintenance reports were received by the end of PY 25 and staff will continue to collect the remainder during the next FY. Notifications are sent out biennially to private single-owner commercial vault owners.
D. Master Plan Update	Ongoing	Develop and update, as appropriate, Stormwater Master Plans for the city.	Include water quality goals in the city's master plans. Complete the Natural Resource Master Plan by PY 11-12.	Report on updates to Master Plans. Master plan project implementation w/water quality benefits are reported in BMP RC4: Water Quality Retrofits.	Consultant has completed citywide stormwater master plan modeling and has put together a list of potential stormwater CIP projects. Staff will work with consultant to finalize the CIP project list and overall stormwater master plan.	The consultant developed infrastructure layouts to facilitate future development in the City’s two large planning districts. The final phase of the Master Plan update will include an update to the City’s SDC methodology.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
E. Urban Canopy Initiatives	Ongoing	Protect and enhance the urban canopy as part of the city's overall stormwater management strategy.	Create and implement an Urban Forestry Management Plan. Utilize Code Enforcement to ensure that urban canopy objectives are supported. Collect fines from tree removal violations that may be used for tree replacement efforts.	1) Report on progress of creating Urban Forestry Mgmt. Plan (UFMP) & annually report on status of Plan's implementation; 2) Report number of code compliance investigations & outcomes related to tree protection objectives; 3) Report outcomes that result from the collection of tree removal fines; 4) Report code changes, as applicable. See MON 2: Legal Authority and Code Review; 5) Report type/number of outreach activities conducted & estimated persons reached. See EDU 1: Stormwater Education Program.	Green Gresham Healthy Gresham grant allowed the County to hire a Gresham tree team leader and six SummerWorks interns to survey the location and health of 500 street trees in the Rockwood and West Gresham neighborhood, pruned over 250 park trees and canvassed the neighborhood for future planting interest and also attended summer outreach events. Gresham recertified as a Tree City USA for the 11th year. Urban Forestry Operations and Education adopted in the annual Council Work Plan with the following update of events: * Researched and coordinated with Planning Commission members to asses tree canopy citywide. * Staff finalized urban forestry education and outreach materials for outreach across the city. * Staff worked with Multnomah County and Friends of Trees on a November 13 Trees and Health Symposium. * Staff collected Tree City USA data for year 12 recertification. * Staff researched some minor structural and content changes to the Tree Code, which will be incorporated into the Development Code and Process Update project timeline for 2019- 2021. * Staff working with the Urban Forestry Subcommittee initiated the process to update the urban forestry management plan to include climate resilient action items.	Green Gresham Healthy Gresham grant allowed the County to hire a Gresham tree team leader and six SummerWorks interns to survey the location and health of 500 street trees in the Rockwood and West Gresham neighborhood, pruned over 250 park trees and canvassed the neighborhood for future planting interest and also attended summer outreach events. Gresham recertified as a Tree City USA for the 12th year. Celebrated Arbor Month with public events Held a Tree Health Symposium for the public Continued to work on tree code evaluation Continued to work with the Planning Commission to plan an urban canopy assessment city wide
RC 3 Maintain Public Streets						
A. Street Sweeping	Ongoing	Continue street sweeping activities to prevent litter and debris from entering the public stormwater system.	Provide 8-10 sweeps of the city per year.	Track & report the number of sweeps per year, total miles swept and total debris collected.	Transportation's contractor conducted 10 residential and 12 arterial sweeps resulting in 5,968 miles and 1,620 cy of materials disposed. ~500 hours of additional sweeps were conducted with the COG sweeper removing 120 cy of debris (including sanding rock during winter ice/snow events). ~3350 hours were conducted for fall leaf removal resulting in 480 tons of debris.	FY 19-20 was challenging as the City's contracted street sweeping services NRC ended its contract with short notice and is no longer accepting waste debris. The City had to fill in with its staff until a new contractor, Green Sweep Asphalt was hired. Contractor's completed 7 residential street sweeps and 12 arterial sweeps and tracked 4,582 miles swept and about 1042 cy of disposed. City staff swept both residential and arterial streets representing 1310 staff hours. Debris collected cannot be tracked because all operations debris is combined. 241 staff hours were used for fall leafy season extra sweeping. Leaves were stored and will not be hauled until next FY.
B. Deicing	Ongoing	Continue to implement standard operating procedures to limit impacts to the environment from sand, gravel, and deicing product application.	Implement deicing practices in a manner that limits impacts to water quality.	Track & report an estimate of sand/gravel & deicing product applied to Gresham roads. Track miles of road to which sand/gravel or deicing products are applied.	4,750 gallons of Magnesium Chloride were applied to 237 miles of anti/deiced roads, plus 6 fifty lb. bags of Freeze Gard pellets. 105 cy of sanding rock applied. 126 hours were used to remove sanding debris. All 17 staff received a 1 hr. safety refresher related to filling tanks, application rate testing and spill response protocols. We have also added the use of granular MgCl for very localized applications. Locations of applications are kept via daily truck work logs.	2200 gallons of Magnesium Chloride applied to high priority roads. The city is switching to a new GPS system and the miles were unable to be tracked during FY. The IT department is working on approving/installing new software.
C. Standard Operating Procedures for Road Maint. Activities	PY 16 and Ongoing	Continue utilizing ODOT's maintenance standard operating procedures, as well as the City's manual titled Standard Operating Procedures for Wetland, Waterway and Habitat Protection in order to guide city staff and contractors in resource protection efforts when working near jurisdictional resources.	Implement a road maintenance program that will limit impacts to water quality. Biennially train appropriate staff. Monitor program implementation and adaptively manage based on feedback and results.	Track & report implementation of training activities. Report changes to SOP's annually, if updated.	Continue to implement road maintenance SOPs for the protection of waterways.	Continue to implement road maintenance SOPs for the protection of waterways.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
RC 4 Retrofit & Restore System for Water Quality						
A. Water Quality Retrofits	Ongoing	The Watershed Engineering group will continue to implement the Stormwater Capital Improvement Projects that include water quality enhancement and pollution reduction elements.	Implement a CIP program that will help mimic the natural hydrologic cycle, treat stormwater, and promote stream protection and enhancement.	Track number, type, watershed location & total drainage area of CIPs constructed for water quality.	**Table 3.1** includes CIPs implemented by departments other than the Watershed Division that include water quality treatment. **Table 3.2** includes projects undertaken as a result of the Watershed and Natural Resource CIP list.	**Table 3.1** includes CIPs implemented by departments other than the Watershed Division that include water quality treatment. **Table 3.2** includes projects undertaken as a result of the Watershed and Natural Resource CIP list.
B. Enhance Riparian Areas	Ongoing	Continue conducting riparian restoration activities to remove invasive species, restore and enhance buffers and encourage multi-story native plant communities, channel stabilization and support of critical habitat.	Continue to seek partnerships/grants to implement riparian enhancement projects that will limit the introduction of stormwater pollutants into streams.	Track and describe riparian enhancement activities by location. Estimate number of volunteers/partners involved, where applicable. Estimate of acreage enhanced and total plans installed or invasives removed.	See **Table 3.3**.	See **Table 3.3**.
RC 5 Monitor Pollutant Sources from Closed or Operating Municipal Waste Facilities						
Pollutant Source Evaluation	Ongoing	The City has reviewed historic records and current operating businesses to determine that, as of the 2010 permit application approval, no pollutant source exists from an operating or closed treatment, storage, or disposal facility for municipal waste. The City conducted an assessment of a closed facility during PY 12 and determined that no threat to stormwater existed from the facility. This report is available upon request.	Ensure that new municipal waste facilities within the City's permitted area are appropriately permitted and designed to limit the potential for pollutants to enter stormwater.	Review business permits annually. (Conducted under the IND 1 & 2 BMP A. Business Inspection Program). Report any new facilities and assessment results.	There are currently no operating treatment, storage or disposal facilities for municipal waste within the city. However, Gresham Sanitary Services who is a solid waste hauler, holds a UIC permit #13410 and is not connected to the City's stormwater system. They also have a DEQ Transfer Permit #1392 for reloading waste. The reloading area is entirely sealed and wastewater is discharged to the sanitary sewer via a licensed contractor.	There are currently no operating treatment, storage or disposal facilities for municipal waste within the city. However, Gresham Sanitary Services who is a solid waste hauler, holds a UIC permit #13410 and is not connected to the City's stormwater system. They also have a DEQ Transfer Permit #1392 for reloading waste. The reloading area is entirely sealed and wastewater is discharged to the sanitary sewer via a licensed contractor.
RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers						
Integrated Pest Mgmt. Program	Ongoing	Limit the introduction of pesticides and fertilizers from city operations by implementing an integrated pest management plan.	Review and implement the IPM Plan biennially and, at a minimum, update at least once per permit cycle. Conduct training. Annually review the list of city approved pesticides.	Track frequency of staff trainings & number of staff trained. Report updates of the plan. Track quantities and types of pesticide, herbicides and fertilizer applications.	See **Table 3-4** of Pesticide/Fertilizer Application Records. Staff applicators follow Oregon education certification requirements to retain their licensure, as applicable. See also EDU 1--Staff/Stakeholder Trainings	See **Table 3-4** of Pesticide/Fertilizer Application Records. Staff applicators follow Oregon education certification requirements to retain their licensure, as applicable. In February 2020, the City organized an onsite OSHA training for all Operations staff. OSHA also inspected the pesticide storage room and provided recommendations to improve storage and mixing. The City updated its eye protection for staff and purchased mixing chaps and gloves for staff. See also EDU 1--Staff/Stakeholder Trainings
ILL. 1 Non-Stormwater Discharge Controls						
A. Control Releases from Fire Training Activities	Ongoing	Limit pollutants to stormwater from fire training activities by implementing standard operating procedures.	Ensure Fire Training is overseen by staff familiar with the SOP for stormwater protection.	Document fire training protocols for stormwater protection and train staff.	SOP is on file and Fire Training staff are familiar with protocol.	SOP is on file and Fire Training staff are familiar with protocol.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
B. Water Line Flushing	Ongoing	Minimize impacts to the stormwater system from water line flushing activities by implementing standard operating procedures.	Ensure Water Line Flushing is overseen by staff familiar with the SOP for stormwater protection.	Train employees on standard operating procedure to minimize impacts to local streams. Annually report gallons flushed.	No water pipe system flushing was conducted this year.	4.2 Million gallons of water were flushed using dechlorination SOP to ensure no impacts to the waterways via discharge.
ILL. 2 & 3 Illicit Discharges Elimination Program						
A. Field Screening and Investigation	Ongoing	Conduct dry weather screening at high priority outfalls, at a minimum of once per calendar year. When appropriate conduct follow up investigation to identify the source (responsible party). If a responsible party is identified work to eliminate the illicit discharge.	Conduct annual dry weather screening at high priority outfalls. Document the procedures the city will follow when an illicit discharge investigation identifies a responsible party.	Track number & location of outfalls inspected. Track number & location of illicit discharges and/or connections identified. Include documentation in 2011 Annual Report. Describe follow-up actions for identified illicit discharges and/or connections in Monitoring Plan.	Staff inspected 30 sites: 8 fixed sites and 22 new rotating sites. See map of locations in Section 2. Two of the fixed sites had turbidity levels slightly above our IDDE action level (15 NTU) requiring additional investigation. One of those sites also had ammonia levels above the action level of 0.15 mg/L. One additional fixed site had pH outside of the typical range of 6.5 - 8.5. All three of these sites have shown similar levels in past years and follow-up investigations did not identify any illicit discharges which drain to the sites. Past investigations indicated that upstream areas contain low-priority abandoned landfills which are likely contributing to these levels. One new rotating site had turbidity and chlorine above the action levels. An investigation found that the water was from excessive lawn watering.	Staff inspected 32 sites: 8 fixed high-priority sites and 24 new rotating sites. The rotating sites were all on 18" pipes. See map of locations in Section 2. The 8 fixed sites were selected based on size and land use of contributing area, and on past illicit discharge issues. The 24 new sites are selected based on size of outfall, starting with the largest. One site had a pH below the normal range, two sites had conductivity above the action levels, two sites had ammonia levels above the action levels, and six sites had turbidity above the action levels. Most of these sites had elevated turbidity due to sediment on the bottom of the pipe which was scraped during sampling. The sites with high ammonia also had abundant iron bacteria and wetland characteristics which likely contributed to the ammonia levels. Follow-up investigations did not produce any illicit discharges from these sites. One site was not sampled for typical screening criteria because it immediately smelled of sewage. E. coli samples were taken and revealed a result of >240,000 MPN. The County Sanitarian was contacted and has taken over the case. She discovered that the overflow pipe of a septic system had incorrectly been switched with the normal flow pipe such that raw sewage from a residence was pouring directly into a ditch which discharged to Kelley Creek. The discharge had likely been occurring for 1-2 months. The City's illicit discharge enforcement response procedures are described in Section 7 of the Stormwater Monitoring Plan on the City's website at: www.greshamoregon.gov/watershed
B. CCTV New Development Stormwater Pipes	Ongoing	Conduct closed-circuit television (CCTV) inspections of new stormwater pipe installations during development projects to eliminate cross-connections.	CCTV at least 80% of all new pipes installed in the city.	Track number of stormwater pipe miles inspected as a percentage of the total stormwater pipes installed.	100% of new development inspected. All CCTV activity is tracked as one number, i.e., in total miles. The amount, in miles, of new development pipe is not specifically known, but is a fraction (~1-2 miles) of the total 12.5 miles, as reported in the pipe cleaning BMP.	100% of new development inspected. All CCTV activity is tracked as one number, i.e., in total miles. The amount, in miles, of new development pipe is not specifically known, but is a fraction (~1-2 miles) of the total 16.6 miles, as reported in the pipe cleaning BMP.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
ILL. 4 Spill Response Program						
A. Spill Response	Ongoing	Respond to reports of spills or illegal dumping using the city's spill response protocol for hazardous and non-hazardous substances.	Implement the city's spill response protocol and conduct periodic review of the document to ensure efficacy.	Track number, type & location of spills that occur & the approx. quantity of material spilled. Track the response activities. Does not include traffic accidents, unless additional assistance is requested from the Watershed Operations staff.	See **Table 3-7**.	See **Table 3-7**.
B. Spill Prevention (Hazardous Waste Mgmt. - City)	Ongoing	Continue to carefully manage hazardous materials to prevent spills on City-owned property from city practices.	1) Ensure safe handling, storage and disposal of hazardous fluids in order to prevent spills and limit pollutant sources to stormwater by training staff appropriately. 2) Provide periodic review of City contractor's safety and environmental violations and disposal permits, where applicable, to help ensure environmental compliance of contractors handling the City's waste products.	Report quantities of hazardous materials disposed annually. Report number of spill incidents and outcomes annually. Request & review contractor's permits, where applicable, at least annually and biennially review appropriate regulatory agency databases for safety and environmental violations.	Quantities of hazardous materials disposed: Used oil filters: (1) 55 gal drum Used oil: 771 gal (Thermo Fluids) Used Antifreeze: 25 gal Used Tires: 339 collected by Goodyear Used batteries are returned to the vendor for recycling to Battery Systems, Advance Auto Parts, and Auto Plus. All other recyclable commodities are recycled.	Quantities of hazardous materials disposed: Used oil filters: (3) 55 gal drum Used oil: 1,258 gal (Thermo Fluids) Used Antifreeze: 90 gal Used Tires: 376 collected by Goodyear Used batteries are returned to the vendor for recycling to Battery Systems, Advance Auto Parts, and Auto Plus. All other recyclable commodities are recycled.
C. Maintain Public Vehicles	Ongoing	Continue to maintain city vehicles and equipment to limit the contribution of stormwater pollutants from leaks and runoff, etc.	1) Maintain City-owned vehicles & equipment and ensure proper handling & disposal of fluids to reduce the likelihood of leaks or spills being released into the MS4 system or the environment. Meet DEQ Permit 1700 A deminimis discharge or seek a permit and/or waiver.	Report annual disposal quantities of all fluids and vendors utilized. Report status of deminimis discharges or Vehicle Wash Water permit implementation and/or waiver.	Quantities included in the BMP: Spill Prevention (Hazardous Waste Mgmt. - City) above. DEQ is currently not issuing Vehicle Wash Water permits. The Fire Department washes less than 8 vehicles per week per fire station and does not use heated water, does not wash the engine, transmission or undercarriages, but does use a phosphate-free soap on the vehicle exterior.	Quantities included in the BMP: Spill Prevention (Hazardous Waste Mgmt. - City) above. DEQ is currently not issuing Vehicle Wash Water permits. The Fire Department washes less than 8 vehicles per week per fire station and does not use heated water, does not wash the engine, transmission or undercarriages, but does use a phosphate-free soap on the vehicle exterior.
ILL. 5 Facilitate Public Reporting						
Facilitate Public Reporting & Respond to Citizen Concerns	Ongoing	Continue to provide an outlet for public concerns regarding stormwater pollutant issues such as illegal dumping, erosion, plugged drains, invasive plants, etc.	Include information about how to report concerns of illegal discharges in various city publications.	Track number of calls/letter received, the issue of the call, and the response to the call.	See **Table 3-8**.	See **Table 3-8**.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
ILL. 6 Facilitate Proper Management Disposal of Used Oil & Toxics						
Facilitate the Proper Mgmt. & Disposal of Used Oil & Toxics	Ongoing	The City uses a variety of approaches to encourage proper solid waste, recycling, and hazardous waste management practices including: GREAT (now called GREEN) Business Education Program, Special Collection Events for the Public, and Curbside Recycling of Oil.	Continue to offer disposal, recycling, and/or collection programs that facilitate the proper management of solid and hazardous waste in the business and residential sectors.	Track quantities of used oil and toxics collected. Estimate the number of persons and/or households reached.	At this year's Earth Day event ~40,000 lbs of shredded paper, fluorescent lights, metal and electronics were collected, as well as 53 ft trailer of Styrofoam, and 40 cy of mixed rigid plastic, cardboard and plastic film. A second shredding event was held collecting another 7525 lbs of paper. ~950 cars/households attended Earth Day and 1700 Earth Day webpage information views on proper waste management and disposal options.	No Earth Day event this year due to COVID-19. A drug takeback and private paper shredding event was held in Oct 2019 resulting in 140 gallons of drugs being collected and 10 large bags of shredded recycling Staff worked with 59 multifamily complexes and delivered 1,352 new recycling sorting bags for their homes to keep help ensure participation and lower contamination. Gresham haulers collected 13,051 of waste oil from residences.
ILL. 7 Limit Sanitary Sewer Discharges						
Limit Sanitary Sewer Discharges	Ongoing	The City's Wastewater Treatment Plant operates under its own NPDES discharge permit. Its programs include a pretreatment inspection program and implementation of Capital Improvement Projects that overall assist the City in meeting the NPDES MS4 Stormwater Discharge Permit objectives.	Continue to implement operations and maintenance programs for the wastewater pipe system that limits the introduction of sanitary sewer waste into the stormwater system.	Track sanitary discharge to the stormwater system, including estimated volume and location. Track follow-up responses to the identification of any sanitary discharges to the stormwater system. Track implementation of the CIP to connect currently unsewered properties to the sanitary sewer system.	The wastewater O&M program and CIP were responsible reducing impacts to stormwater from influx of wastewater in the ground by inspecting 1,316 which equates to ~48 miles of pipe inspected, ~33 miles of pipe cleaned on 792 lines. Additionally, there were 13 pipe patches on lateral lines, 2 main line repairs, and 29 lateral line repairs.	The wastewater O&M program and CIP were responsible reducing impacts to stormwater from influx of wastewater in the ground by inspecting 1,174 which equates to ~46 miles of pipe inspected, ~63 miles of pipe cleaned on 1.620 lines. Additionally, there were 16 main line repairs and 20 other service call related repairs.
IND. 1 & 2 Industrial Inspection & Monitoring						
A. Business Inspection Program	Ongoing	The City's Stormwater Business Inspection Program consists of a variety of approaches including: business license review and technical assistance; prioritized business inspections; review of business classification codes to determine those that may need 1200Z or 1200-COLS permits to submit to DEQ and collaboration with DEQ to ensure 1200Z permit data is adequately reviewed; cross training with the Wastewater Pretreatment and Fats Oils and Grease Inspectors to look for potential stormwater concerns, and a business education program that is implemented by the Solid Waste & Recycling Division staff.	Continue to implement business license review, business inspections and business education efforts to help prevent and reduce the introduction of pollutants into stormwater from business practices.	1) Track number & location of stormwater related issues identified during the business license review and follow-up. 2a) Report status of ongoing program development.	During FY 18-19, staff completed 234 auto related business visits and required 38 corrections and 64 inspections of other manufacturing businesses in the wellfield protection area resulting in 5 corrections. Staff and summer interns inspected 305 restaurant outdoor garbage, recycling and grease areas for stormwater pollution, four locations were required to take corrective actions to clean up their outdoor area/grease containers. New businesses are sent to staff in a monthly email. Business inspection staff can then add them to a planned inspection list or contact via phone to review requirements in more detail. During PY 24, staff have worked with the planning department to review processes to proactively deliver regulatory information to businesses via city applications, forms, and handouts at the counter. A new software system is being adopted by the City for tracking data, so a department wide meeting will be held during PY 25 to review process and efficiencies and gaps in order to make necessary improvements. Finally, Wastewater staff have purchased a new business tracking software called SWYFT for FOG program implementation. Stormwater and wastewater staff are working to enhance the data intake within the software to meet the goals of both programs.	During Permit YR 25, inspections were stalled by COVID-19. Staff completed 88 auto related business visits of which 30 were not in compliance and were brought back into compliance. Due to COVID-19 delays, 7 are being reinspected to ensure compliance during PY 26. Staff conducted 48 visits to manufacturing businesses in the wellfield protection area resulting in 2 stormwater corrections. New businesses are sent to staff in a monthly email. Business inspection staff can then add them to a planned inspection list or contact via phone to review requirements in more detail. During PY 25, staff met to coordinate across the city to plan for a new software system is being adopted by the City for tracking data and will include business licensing. This effort continues in PY 26. Finally, during PY 26, staff will work to develop SOPs for use of SWYFT software for tracking business inspections and QA/QC that effort to ensure efficiency, appropriate notations and corrective response outcomes.
A. Business Inspection Program				2b) Notify DEQ of businesses that may need a 1200-Z or 1200-COLS permit and report actions promised by businesses with which the City is working.	(2b) Staff reviewed the business license applications and did not identify any businesses needing a DEQ 1200-Z or COLS permit. Staff reported food manufacturing businesses within Gresham to DEQ. DEQ has issued a new 1200Z permit to Teeny Foods. DEQ is currently reviewing its reports from permittees and will notify Gresham with any concerns or violations. See **Table 3-10** for a list of 1200Z permits within the city and associated inspections or known violations from DEQ.	(2b) Staff reviewed the business license applications and is further investigating several new firms and will notify DEQ in fall 2020, as applicable. See **Table 3-10** for a list of 1200Z permits within the city and associated inspections or known violations from DEQ.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
A. Business Inspection Program				2c) Track business inspections, including businesses location, outcome and follow-up. Estimate the number and type of businesses to be inspected for the next year. 2d) Report stormwater concerns identified by the wastewater pretreatment program and resolution. 3) Track GREAT (now called GREEN) business program environmental audits and certification annually. (Reported in Public Education--Table 3-8).	During PY 25 staff plan to continue inspecting priority businesses and industries that have a high potential to contribute stormwater pollution. Inspection goals are at least 100 automotive business and at least 50 industries within the wellfield protection area. Staff will also coordinate and co-inspect any DEQ led 1200 Z inspections. Staff will also continue to visit and conduct outreach to restaurants related to proper grease container management and plans to visit at least 50 locations. New: during PY 25, staff are issuing clean and repair notices to businesses with documented unmaintained private catch basins, which applies to over 100 locations. Staff inspected 12 pretreatment program industries.	During PY 26, staff plan to continue inspecting priority businesses and industries that have a high potential to contribute stormwater pollution. Inspection goals are tentative because of COVID-19, we are unsure what staff will be able to do. We will try for half of our PY 24 goal or 50 automotive business and 25 industries within the wellfield protection area. Staff will also coordinate and co-inspect any DEQ led 1200 Z inspections, as applicable. Staff will also continue to visit and conduct outreach to restaurants related to proper grease container management and plans to visit 50 locations unless there are complications because of COVID-19. Staff inspected 16 pretreatment program industries a total of 57 site visits. One pretreatment/1200Z facility had issues with a leaking dumpster which was corrected by working with the staff and waste hauler to obtain a more optimal set up. DEQ was kept informed. See **Table 3-8** for Green Biz program summary.
B. Industrial Monitoring Program	Ongoing	Coordinate with DEQ to ensure adequate notification of potential 1200Z and 1200-COLS permits and review of data submitted by permit holders.	Continue annual inventory of 1200-Z and 1200 COLS businesses within the city's boundaries and review monitoring results submitted to DEQ on an annual basis, if DEQ has not already done so. Report exceedances to DEQ, if applicable.	Track NPDES 1200Z/1200COLS permits issues in Gresham. Track number of violations reported.	Based upon a review of city records and correspondence with DEQ, there are currently 16 permitted facilities within Gresham's jurisdiction. Gresham staff inspected 4/16 industries to ensure wellfield protection area code implementation. Some corrective measures were requested. These are listed in **Table 3-10**.	Based upon a review of city records and correspondence with DEQ, there are currently 16 permitted facilities within Gresham's jurisdiction. Gresham staff inspected 8/16 industries to ensure wellfield protection area code implementation. Some corrective measures were requested. These are listed in **Table 3-10**.
CON. 1 & 2 Construction Site Planning & Controls						
Erosion Prevention & Sediment Control Manual	Ongoing	Continue to update the City's *EPSC Manual* when necessary to reflect current available and accepted technologies and City code and implement the Manual in order to limit impacts to local streams from stormwater.	Implement the EPSC Manual in order to limit stormwater pollutants from construction and development. Review and evaluate the manual biennially to assess changes needed, if any. At a minimum, at least once	Track updates to the Manual.	Staff reviewed and updated the EPSC manual during the process of updating the City's Stormwater Management Manual. The EPSC Manual is now included as Appendix C in the Stormwater Management Manual adopted in January 2019. Updating the EPSC Manual was necessary to develop a manual that can easily be used by the development and construction community, clearly specifies the City's EPSC requirement, and removed outdated BMPs.	No changes were made to the Erosion Manual.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
CON. 3 Construction Site Inspection & Enforcement						
Construction Site Inspection & Enforcement	Ongoing	Continue to implement an EPSC inspection program to ensure adherence to EPSC Manual requirements and 1200-C permit requirements, where applicable.	1) Implement the EPSC inspection program to enforce the EPSC Manual. 2)Ensure proper staff training. 3) Examine tracking parameters such as types of violations, number of active sites and total associated acreage.	Track the number of sites inspected annually. Track training sessions conducted for staff. Report parameters assessed and program adaptive management that result, if applicable.	A total of 399 sites were inspected: 374 with residential or commercial building permits and 25 sites with grading permits. There were 21 disapproved inspections affecting 21 sites. Correction notices were related to installing/maintaining perimeter control, providing adequate cover for denuded soil, protecting stockpiles, improving construction entrances, and sweeping streets. All sites were corrected within the given period, so no civil penalties or other enforcement actions were needed. During PY24, Stormwater staff attended the International Erosion Control Association Regional Event on 6/19/19.	A total of 400 sites were inspected: with 375 residential or commercial building permits and 25 sites with grading permits. There were 18 disapproved inspections affecting 18 sites. Correction notices were related to installing/maintaining perimeter control, providing adequate cover for denuded soil, protecting stockpiles, improving construction entrances, and sweeping streets.
Stormwater Education Program	Ongoing	Provide notice to construction site operators concerning where education and training to meet EPSC requirements can be obtained.	Ensure developers and construction permit holders are adequately informed of the city's EPSC Manual BMPs and requirements to limit impacts to streams from stormwater.	Report training and communication efforts to the construction community.	See **Appendix D**: Wet Weather Notification Letter Notice to Contractors.	See **Appendix D**: Wet Weather Notification Letter Notice to Contractors.
EDU. 1 Stormwater Education Program						
A. Ensure Staff/Stakeholder Training	Ongoing	Continue to train new or existing employees as appropriate on all documents that regulate stormwater pollutant control activities such as: IPM Plan, Water Quality Manual, EPSC Manual, and Spill Response Protocol, etc.	Continue to train new personnel and existing personnel, as appropriate on stormwater regulatory documents and conduct trainings for stakeholders, when applicable.	Track the number of personnel & contractors who receive training by topic.	A variety of staff across operations & maintenance, inspections, and policy positions attended trainings in the following areas: Environmental Chemistry and Pollutant Transport, staff and contractor training on the new Stormwater Management Manual, pesticide license renewal, APWA short school, ACWA Conferences	A variety of staff across operations & maintenance, inspections, and policy positions attended trainings in the following areas: Environmental Chemistry and Pollutant Transport, staff and contractor training on the new Stormwater Management Manual, pesticide license renewal, APWA short school, ACWA Conferences
B. Educate Residents	Ongoing	Continue to create and deliver programs and/or messages to educate the public regarding non-point sources of pollutants of concern.	Continue to educate the public regarding their personal contributions to stormwater pollutant sources and impacts to water bodies, as well as the steps or actions they can take to reduce pollutants.	Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes. Annually report the Public Education program priorities and plans for the following year.	See **Table 3-9**. Education priorities for programs implemented by the City of Gresham include reduction of yard and garden chemical use. This effort is conducted by partnering with Audubon and Columbia Land Trust to deliver the Backyard Habitat Certification Program in Gresham (and Fairview via IGA). Staff also support watershed councils within our boundaries and help conduct invasive removal, native plant restorations, demonstration gardens, litter clean ups, and storm drain marking by community groups. Gresham also funds the Columbia Slough "Slough School" program which serves schools in the Gresham/Fairview area. During FY 18-19, staff produced a local wildlife calendar with a Gresham resident (retired photographer) and the watershed councils that helped the councils fundraise and engage the public. The calendars were well received and we plan to reproduce them in FY 19-20 for the councils. City communication vehicles continue to focus on promoting local workshops by EMSWCD, earth day, proper recycling and debris disposal and safe snow and ice techniques.	See **Table 3-9**. Education priorities for programs implemented by the City of Gresham include a continued focus on reduction of yard and garden chemical use. This effort is conducted by partnering with Audubon and Columbia Land Trust to deliver the Backyard Habitat Certification Program in Gresham (and Fairview via IGA). Staff also support watershed councils within our boundaries and help conduct invasive removal, native plant restorations, demonstration gardens, litter clean ups, and storm drain marking by community groups. Gresham also funds the Columbia Slough "Slough School" program which serves schools in the Gresham/Fairview area. During FY 19-20, staff produced a local wildlife calendar with a Gresham resident (retired photographer) and the watershed councils that helped the councils fundraise and engage the public. Staff also sits on the tri-county Regional Coalition for Clean Rivers and Streams to deliver metro-area water protection messages and sits on the Clean Rivers Coalition steering committee to develop a statewide water health campaign. Over the past two years, staff assisted with research and development of a programmatic priority toxics list for Oregon's waters as well as a statewide baseline survey of Oregonian's opinions on water health and two regional focus groups of pesticide users. Staff assisted with writing a $200K EPA Columbia River Toxic Reduction grant which has been funded. Campaign development will take place in FY 20-21.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
C. Educate Businesses	Ongoing	Continue to create and deliver programs and/or messages to educate businesses regarding non-point sources of pollutants of concern.	Continue to educate the public regarding their personal contributions to stormwater pollutant sources and impacts to water bodies, as well as the steps or actions they can take to reduce pollutants.	Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes. Annually report the Public Education program priorities and plans for the following year.	See **Table 3-9**. For PY 25, staff will continue to support the implementation of the GREAT (now GREEN) Business Program, the EcoBiz Program, the SCAP program, the EPSC contractor outreach and will continue technical assistance to restaurants and automotive sectors. During PY 24, staff and interns documented private drains in need of repair. Staff will focus on outreach and compliance in this area during PY 25.	See **Table 3-9**. During PY 25, staff continued to work with Ecobiz and Gresham's Green Biz program to provide technical assistance focusing on restaurants and industrial and automotive. Staff began sending notices to businesses with broken and unmaintained catch basins requiring them to do cleaning and repairs. This resulted in 50 sites coming into compliance. Additional compliance work was halted because of Covid-19. Because of pending recession impacts to businesses staff decided to continue offering SCAP as a voluntary program for fall 2020 and will determine at a later time when to take up compliance efforts again relative to private drains.
Program Management & Monitoring						
MON 1 Annual Report Writing	Ongoing	Coordinate across the city to review program commitments, gather data, and where appropriate, assist with program evaluation and additional goal setting or BMP enhancements.	Submit the Annual Report to DEQ on behalf of Gresham and Co-Permittee, as required by the permit.	Each year provide a report that includes the following components: * a description of the public comment notice method; *status of the SWMP implementation and SWMP program elements, progress in meeting the measurable goals; *status and/or results of any public education program effectiveness evaluation conducted during the reporting year and a summary of how the results were or will be used for adaptive management.; *a summary of the adaptive management. process during the report year, including any proposed changes to the SWMP identified through implementation of the adaptive mgmt. process; *proposed changes to SWMP elements designed to reduce TMDL pollutants to the MEP;	This year's Annual Report included a public comment period from October 15-27, 2019. Notices ran in the Oregonian and on Oregonlive.com. The City placed a notice on its website and also issued a press release to all media. A notice was also published in the City's e-newsletter which is emailed to ~900 households. A notice was emailed to the local active Watershed Councils and East Multnomah Soil and Water Conservation District. The status of the SWMP implementation and progress meeting measurable goals is described throughout this report. The Adaptive Management Process is described in Section 1 and a summary of the adaptive management process and resulting proposed changes may be found in the Summary and Date of Proposed Adaptive Management Column for the respective BMPs effected. A summary of total expenditures is included as **Table 3-11**.	This year's Annual Report included a public comment period from October 12-25, 2020. Notices will run in the Oregonian and on Oregonlive.com. The City placed a notice on its website and also issued a press release to all media. A notice was emailed to the local active Watershed Councils and East Multnomah Soil and Water Conservation District. No comments were received. The status of the SWMP implementation and progress meeting measurable goals is described throughout this report. The Adaptive Management Process is described in Section 1 and a summary of the adaptive management process and resulting proposed changes may be found in the Summary and Date of Proposed Adaptive Management Column for the respective BMPs effected. A summary of total expenditures is included as **Table 3-11**.
				*a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year	A summary of the Environmental Monitoring Plan implementation for Gresham and Fairview is included as Section 2 of this report with a separate Appendix A, B & C of supporting raw data collected during PY 24.	A summary of the Environmental Monitoring Plan implementation for Gresham and Fairview is included as Section 2 of this report with a separate Appendix A, B & C of supporting raw data collected during PY 25.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
				*proposed changes to SWMP elements designed to reduce TMDL pollutants to the MEP;	A summary of the Illicit Discharge Detection & Elimination Program (Dry Weather Screening and Spill Response) may be found in **Tables 3-5 and Figure 3-6**. A summary of concept planning, land use changes and new development activities for UGB expansion areas may be found in **Appendix B**. A summary of development permits issued within the City of Gresham is included in **Table 3-1**.	A summary of the Illicit Discharge Detection & Elimination Program (Dry Weather Screening and Spill Response) may be found in **Tables 3-5 and Figure 3-6**. A summary of concept planning, land use changes and new development activities for UGB expansion areas may be found in **Appendix B**. A summary of development permits issued within the City of Gresham is included in **Table 3-1**.
MON 2 Legal Authority and Code Review	Ongoing	Review existing code to ensure that the city maintains adequate legal authority and other requirements as stated in the NPDES MS4 permit.	Maintain adequate legal authority, as required by the permit.	*a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year	See **Appendix A.**	See **Appendix A.**
MON 3 Program Evaluation/Monitoring	PY 17 or as otherwise dated in the permit.	Review the 303(d) list to determine whether there is a reasonable likelihood of stormwater from the MS4 to cause or contribute to water quality degradation of receiving waters. Utilize the city's GIS mapping staff to enhance program evaluation efforts.	Conduct a 303 (d) pollutant evaluation, as required by the permit.	Submit a report summarizing the results of the 303(d) list review and evaluation and any proposed SWMP modification or updates necessary to reduce applicable 303(d) pollutants to the MEP: Submit a Waste Load Attainment Assessment; Submit a TMDL Pollutant Load Reduction Evaluation; Track significant mapping efforts that help evaluate, enhance or support the SWMP BMPs.	Significant mapping projects included: * GIS layers reviewed and updated to support Stormwater Master Plan project * Dry weather screening site location map * Operations and Maintenance system inspection and cleaning route maps * Public Education maps of participants by zip code for watershed councils and Big Float collaboration, as well as Backyard Habitat Participants * Business Inspection Maps of wellfield, 1200Z, pretreatment, and automotive locations. * UIC maps for WPCF permit reporting *Input of stormwater assets from development and update of city annexation into boundaries and associated watershed maps	Analysis of Fairview's SCAP business locations and participation Mapping of intern stormdrain inspections by quadrant DEQ UIC mapping updates Street sweeping maps for city crews Backyard Habitat Participant map Wellfield protection business mapping Stormwater maintenance easement mapping Wastewater & Stormwater accounts mapping for septic tank analysis project Impervious surface mapping calculations
MON 4 Public Involvement	Ongoing	Conduct public involvement activities as required by the permit, such as annual reports, retrofit strategy, and Permit Renewal Submittal elements.	Conduct public involvement activities and report outcomes.	Report the number of people reached during public involvement activities.	The Annual Report is also released for public comment which is described in MON 1: Annual Report Writing. Below is a summary of potential reach utilizing the typical methods for making public announcements. Gresham's population is about 105,000 (2010 U.S. Census). The Oregonian daily readership in the Portland-Metro area is about 200,000, and Oregonlive.com receives 9M unique visitors annually. The City's Website Home Page this past year received ~9,000 visitors per month and 66,400 unique visitors and 7,000 returning visitors. The City's DES and Water Resources Division web pages, where public comment documents are housed electronically, receives ~1,000 and 500 views annually, respectively. City Newsletter mailed quarterly to 50,000 households.	The Annual Report is also released for public comment which is described in MON 1: Annual Report Writing. Below is a summary of potential reach utilizing the typical methods for making public announcements. Gresham's population is about 105,000 (2010 U.S. Census). The Oregonian daily readership in the Portland-Metro area is about 200,000, and Oregonlive.com receives 9M unique visitors annually. The City's Website Home Page was visited ~125,000 times. The City's DES and Water Resources Division web pages, where public comment documents are housed electronically, receives ~1,500 and ~700 views annually, respectively. City Newsletter mailed quarterly to 50,000 households.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2018-2019	2019-2020
MON 5 Permit Renewal Submittal	PY 17-18 or as appropriate to meet permit deadlines.	At least 180 days prior to permit expiration, prepare and submit the Permit Renewal Submittal package to DEQ.	Submit the Permit Renewal Package to DEQ.	Submittal includes as required by permit but is not limited to: Proposed modifications, including additions and removals of MBPs and measurable goals; Information allowing the Dept. to make an independent assessment that the SWMP proposed meets the requirements of the permit to the MEP; Updated pollutant loads for TMDL pollutants and BOD5, COD, nitrate, total phosphorus, dissolved phosphorus, cadmium, copper, lead & zinc; Establishment of TMDL Pollutant Reduction Benchmarks, if not achieving the WLA; A proposed monitoring program; A description of service area expansions; A fiscal evaluation summarizing expenditures for the current and next permit cycle; Updated MS4 maps.	The City of Gresham submitted its permit renewal package to DEQ on December 15, 2015. This included an updated Stormwater Management Plan and Monitoring Plan that went out for public comment on Nov 30 thru Dec 13, 2015. No comments were received. The City's permit expired on December 29, 2015 and was administratively extended by DEQ in a letter dated February 25, 2016. The City, therefore, is following the SWMP dated April 2011 and adaptively managed in April 2013. The City's permit allows for the Monitoring Plan to be adaptively managed by reporting changes in the annual report to DEQ. As such, minor changes to the City's Monitoring Plan were proposed last year and this**.** All documents are located at GreshamOregon.gov Watershed Documents.	The City of Gresham submitted its permit renewal package to DEQ on December 15, 2015. This included an updated Stormwater Management Plan and Monitoring Plan that went out for public comment on Nov 30 thru Dec 13, 2015. No comments were received. The City's permit expired on December 29, 2015 and was administratively extended by DEQ in a letter dated February 25, 2016. The City, therefore, is following the SWMP dated April 2011 and adaptively managed in April 2013. The City's permit allows for the Monitoring Plan to be adaptively managed by reporting changes in the annual report to DEQ. The city anticipates its renewed permit by Dec 2020. All documents are located at GreshamOregon.gov Watershed Documents.

Table 3-1: Total New and Redevelopment Acreage

Project Name	Land Use Type	Development Type	Location	WQ Treatment	Owner-ship*	Drainage	Project Size/Area Treated (acres)	Construction Disturbance (acres)	Percent Impervious
7-11 Store and Gas Station	MC	Commercial	2869 NE 181st Ave	2 Vegetated Swales	Private	Columbia Slough	0.79	0.94	84%
Archibald Apartments	CMF	Multi-Family	404 SE 202nd	2 Stormwater Planters	Private and Public	Fairview Creek	0.88	1.53	57%
Blue Lake Corporate Park	GI	Industrial	19790 NE Riverview Parkway	2 Vegetated Bioswales, Contech Filter Vault	Private	Columbia Slough	22.69	31.97	71%
Clackamas County Bank	DCL	Commercial	1101 NE Burnside Rd	2 Vegetated Swales, 8 Tree Wells	Private and Public	Fairview Creek	0.51	0.82	63%
Del Boca Vista 14-Lot Subdivision	LDR-PV	Residential	18637 SE Giese Rd	9 Street-side Stormwater Planters	Public	Johnson Ck	1.81	2.48	73%
Douglas Grove Apartments	MDR-24	Multi-Family	20220 NE Glisan St	2 Stormwater Planters, Grassy Swale, 2 Tree Wells	Private and Public	Fairview Creek	0.54	1.04	52%
East Gresham Elementary	LDR-5	Commercial	900 SE 5th St	Vegetated Swale	Private	Johnson Ck	3.81	10.11	38%
Eastside Timbers Soccer Complex	GI	Commercial	4710 SE 174th Ave	6 Street-side Stormwater Planters and 2 Vegetated Swales	Private and Public	Johnson Ck	8.42	10.26	82%
Element Six Technologies	GI	Industrial	23055 SE Stark St	Vegetated Swales	Private	Fairview Creek	4.85	7.64	63%
Gresham High School	MC	Commercial	1200 N Main Ave	2 Stormwater Planters, Modular Wetland, Contech Stormwater Filter	Private	Fairview Creek	6.17	9.01	68%
Hall Elementary Classroom	LDR-5	Commercial	2505 NE 23rd St	Vegetated Swale	Private	Johnson Ck	0.95	1.40	68%
Hollydale Elementary Classroom Addition	LDR-7	Low Density Residential	505 SW Birdsdale Dr	Infiltration Rain Garden	Private	Johnson Ck	0.50	0.90	56%
Kelly Central Senior Living Center	DTM	Commercial	813 NE Kelly Ave	Pervious Pavers, Pervious Asphalt, Stormwater Planters	Private	Johnson Ck	0.33	0.48	69%
Courtyard By Marriott Hotel	CMU	Commercial	2811 NE 181st Ave	Vegetated Swales, Stormwater Planters	Private	Columbia Slough	1.26	1.99	63%

Project Name	Land Use Type	Development Type	Location	WQ Treatment	Owner-ship*	Drainage	Project Size/Area Treated (acres)	Construction Disturbance (acres)	Percent Impervious
Pediatric Therapy Building Phase 2	DCC	Commercial	338 NE Hood Ave	Stormwater Planter, Pervious Pavers	Private	Johnson Ck	0.47	0.47	100%
Pleasant View Estates 10-Lot Subdivision	R-5	Residential	2525 SW Pleasant View Dr	Dry Detention Pond	Public	Johnson Ck	1	2	50%
Waterside Apartments	CMF	Multi-Family Residential	16539 NE Halsey St	Dry Detention Pond	Private	Columbia Slough	1.60	1.60	100%
Tanglewood East 17-Lot Subdivision	LDR-7	Residential	185 NE Williams Rd	Dry Detention Pond	Public	Johnson Ck	4.51	5.50	82%
Total Disturbed Acreage								**90**	

*Public ownership is City of Gresham only, Private refers to all projects owned by entities other than City of Gresham.

Table 3-2 Examples of City of Gresham Watershed/Natural Resource Program Projects with Water Quality Benefits

Project Name/Watershed	Watershed	Project Status	Stormwater Mitigation Measures/Area Treated	Funding Mechanism
Private/Public Partnership Projects				
McKinley Trunk Line Project	Kelley Creek	Construction completed in 2019. Site is currently under restoration.	Reduces possibility of overflow discharge of sewage to Jenne Creek headwater wetland and associated stream.	Wastewater CIP
Kane Road Culvert Repair	Kelly Creek	Designed and bid. Construction to be completed during the next reporting year.	Replaced road and 12' wide non-fish passable culvert with a 34' wide fish passable culvert and natural stream bed. Introduced treatment to .86 acres of previously untreated arterial roadway surface.	Watershed CIP fund and FHWA emergency grant
Mt. Hood Community College Salmon Safe Campus	Kelly Creek	Designed and bid. Construction of rain gardens to be completed during the next reporting year. Additional projects have been identified to pursue over a five-year period.	The city partnered with EMSWCD, Sandy River Watershed Council, and Metro to 'green' the college campus by improving water quality and improving habitat by the reduction of impervious surfaces and the installation of rain gardens and native plants.	Watershed Operating Fund
Forest Restoration	Johnson Creek Basin	Restoration using the City's Tree Fund to interplant for forest stand succession on 80 acres of Gresham Butte at 4 sites.	Will aid headwater stream conditions	City's Tree Fund
Riparian and Upland planting	Fairview Creek, Johnson Creek, Kelly Creek, Butler Creek, and Chastain Creek.	Restoration is occurring along Johnson Creek main stem (9 sites), Jenne Creek (1 site), Kelly Creek (1 site), Butler Creek (1 site), Chastain Creek (1 site) and Fairview Creek (3 sites). Each of these sites are under active management for invasive species control. A subset of these sites will be selected for additional native plantings including Johnson Creek (3 sites), Jenne Creek (1 site), and Kelly Creek (2 site). The Natural Resource program also started its Upper Butler Creek CIP project and will be implementing the baseline report and restoration plan in Fall 2019 and continue through Fall 2022.	Water quality, stream shade, invasive control, forest health, stream function, wetland function, and habitat improvements.	Natural Resources Operating Funds
Invasive Weed Survey & Control	All	Active, ongoing invasive control. EDRR weeds are addressed as they are reported, anywhere in the city. Routine riparian weed treatment areas are detailed in Table 3.3. Where manual methods aren't used, only licensed herbicide applicators are used for chemical treatment.	Spot treatment for controlling aggressive invasives that lead to bank failures, including Japanese knotweed, Himalayan blackberry, purple loosestrife, and yellow flag iris.	Natural Resources Operating Funds
Fairview Creek Wetland Mitigation Bank	Fairview Creek/Columbia Slough	City remains site owner and continues to look for project funding. Projected to need $9M.	Water quality, stream function, wetland function, and habitat improvements.	Stormwater CIP and external partner funding (Port of Portland and Cowlitz Tribe)

Project Name/Watershed	Watershed	Project Status	Stormwater Mitigation Measures/Area Treated	Funding Mechanism
Environmental Overlay Project (ongoing)	All	In partnership with Planning and Development Engineering, embarked on buffer code update to simplify and clarify code requirements, mitigation standards, and floodplain rules to enhance compliance and improve performance over existing code which has been found to be extremely complex in interpreting and applying. City will ensure changes still meet intent of state Goal 5 & 7 and Metro Title 3 and 13. The project also provides more accurate resource mapping. Expecting City Council approve by end of 2020.	Water quality, tree preservation, stream shade, bank stabilization, and erosion control	Natural Resources CIP funding
Slope stabilization projects	1st and 2nd order streams on east buttes	Working with environmental engineers, geomorphologists and modelers to identify and rank at-risk drainages where we have most significant signs of likely bank instability. This will result in new CIP project where we will address proactively (ideally, prior to failure) the prioritized list of bank stabilization needs. Prioritization work will be complete by end of 2020. Concept development and permitting in progress for Nechacokee stabilization (2nd order stream; Johnson Creek tributary)	Water quality, riparian function erosion control	Stormwater CIP funding
Palmquist culvert	Kelly Creek	final design and permitting of a culvert replacement to alleviate flooding and allow for fish passage	Conveyance and fish passage	Stormwater CIP funding
Pipe repair and rehab projects (ongoing)	All	55 unique sites were repaired & rehabilitated for conveyance and public safety, as well as two emergency repairs to manholes	Maintain system function, prevent erosion, prevent sinkholes or other safety concerns	Stormwater CIP funding

Table 3-3: Restoration Activities

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
SW 14th West/Gresham Woods (Johnson Creek)	NYC, Private contractor	160	10.0	1.5	1,000	Fourth year of restoration at this location. Planted area (2 acres total) includes 2 sites that parallel Johnson Creek. Site planted winter 2020. Intensive invasive weed removal and spraying this past year was completed by the City for Yellow-flag iris, reed canary grass, lesser celandine, Himalayan blackberry, and Japanese knotweed throughout the 5-acre combined area of SW 14th Street/Gresham Woods locations. NYC interns assisted with planting and weeding. Private contractor performed site spraying.
SW 14th Street East (Johnson Creek)	JCWC	100	2.0	1.0	500	JCWC in partnership with City of Gresham continued the previous work of FOTs on this site. They used a grant from EMSWCD and a City match to complete the work on the site (Year 3 of 3). Planting of the site was completed on 1.0 acres in winter 2020. Intensive weed management focused on reed canary grass, Himalayan blackberry, and yellow-flag iris. JCWC used volunteer events to plant the site. A contractor was used to complete the herbicide treatments.
Ochioto (Johnson Creek)	AC, NYC, Private contractor	550	10.0	2.0	2,400	Multiple sites within the area are under active restoration over different periods of time (1-5 years of restoration activities). A total of 2 sites were planted with a mix of shrubs and trees and live stakes. Site was planted in winter 2020. Intensive weed removal via hand pulling and spraying occurred throughout the project site with a focus on jewel weed, Himalayan blackberry, reed canary grass, Japanese knotweed, garlic mustard, and other weedy species. Site herbicide treatments completed by a contractor.

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Wisteria Way at Dowsett (Johnson Creek)	AC, NYC, Private Contractor	80	1.2	1.2	500	Third year restoration site along Johnson Creek. Site was previously a wisteria and Himalayan blackberry monoculture. Planted winter 2020 with mixture of trees/shrubs and live willow/dogwood stakes. Intensive weed treatment included wisteria, Himalayan blackberry, English ivy, holly, and reed canary grass. Site was used for JCWC 2018 Watershed Wide and other citizen events. Site herbicide treatments completed by contractor.
7th Street Bridge (Johnson Creek)	AC, NYC, JCWC, Citizens volunteers	240	3.0	3.0	1,300	Third year restoration site along Johnson Creek. Site was previously a blackberry monoculture. Planted winter 2020. Site was planted with a mixture of bare root trees/shrubs and live stakings along the bank. Site was used for Watershed Wide with JCWC and other citizen events. AC and NYC helped weed and plant the site. Private contractor helped plant the site and provide pesticide application for invasive weeds.
Main City Park (Johnson Creek)	JCWC, Citizen Volunteers, AC	180	3.0	3.0	600	First year restoration site along Johnson Creek. Site had reed canary grass monoculture and a lack of tree and shrubs in the riparian area. Planted winter 2020. Site was planted with a mixture of bare root trees/shrubs and live stakings along the bank. Site was used for Watershed Wide with JCWC and other citizen events. AC and NYC helped weed and plant the site. Private contractor helped plant the site and provide pesticide application for invasive weeds.
Miller Creek (Johnson Creek)	NYC, Private contractor	80	5.0	5.0	1,100	Miller Creek restoration begun in fall 2018 and was planted in winter 2019. Plantings consisted of shrubs and trees. Invasive weed treatments focused on Himalayan blackberry. Site in good shape but required underplanting of conifers in the riparian area and clear cut area. 900 plants were placed in the riparian area and 200 in the clear cut. NYC students helped plant and weed the site. Site herbicide treatments completed by contractor.

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Columbia Slough Water Quality Facility (Columbia Slough)	Private contractor	40	10.0	10.0	0	Site maintenance is ongoing on invasive weeds. Area was cut and treated in summer/fall 2018 and planted winter 2019. Ongoing site spraying will continue as restoration plants establish. Site herbicide treatment completed by contractor. Control of invasive weeds in the regional stormwater facility will help site convey and treat stormwater.
Kane Road (Kelly Creek)	Private contractor	40	1.5	1.5	800	Restoration activity at this location resulted from a transportation/stormwater project to completed the repair & restoration from an emergency road washout in 2015. Site is in its second year of restoration. Site was planted with shrubs and trees and live stakes. Invasive weeds included reed canary grass, Himalayan blackberry, English ivy, and Scotch broom. Site planting and herbicide treatment completed by contractor.
Fairview Creek Headwater Wetlands (Columbia Slough via Fairview Creek)	AC, RLA, NYC	450	2.0	1.0	1,500	Ongoing restoration site for reed canary grass control and restoration of headwater wetlands. Restoration has been going for 10 years. Site work consists of spreading mulch and live staking (700 willow/dogwood/black cottonwood) through it to reduce reed canary grass growth. All work completed by RLA students and AC. No herbicide use.
Fujitsu Wetland Mitigation on Birdsdale (Columbia Slough via Fairview Creek)	Private Contractor	40	6.0	0.0	0	Site is currently under maintenance activities which include weed control using hand pulling and spraying activities. Site herbicide treatments completed by contractor.

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Border Way (Kelley Creek via Jenne Creek)	Private Contractor	240	5.0	2.0	3,200	Two different site restoration. Greater Jenne Creek headwater under active weed management after 5 years of planting activities. Site underwent infrastructure development in 2019-2020 with a wastewater pipeline being installed within the area. Planted in Winter 2020. Site planting and herbicide treatments done by a contractor.
Brookside (Kelley Creek)	Private contractor	160	4.0	4.0	1,250	This is the forth year of work at this location, which includes invasive removal a through hand pulling and spraying and native plantings. Weed treatment focuses on Canada thistle, scotch broom, Himalayan blackberry, and other weedy species. Native plantings included a mix of shrubs and trees. Site herbicide treatments and plantings completed by a contractor.
Jenne Butte (Johnson Creek)	Private contractor and NYC	260	20.0	0.0	0	Included extensive work on removal of garlic mustard through a series of hand pulling events with assistance from NYC students and some herbicide spraying by contractors. Impacted area was not planted this year. Site will continue to receive garlic mustard treatment until it is under control.
Gresham Butte (Johnson Creek)	Private contractor	400	40.0	40.0	14,000	Using funds provided by the City tree fund a large scale understory planting was starting in winter 2020 and will continue for 5 years. A total of 4 sites over 40 acres were planted. Site was planted with a mixture of evergreen species where recruitment of these species is low in predominantly deciduous forest. private contractor completed the planting work.
Hogan Butte Nature Park (Johnson Creek)	AC, NYC, Private contractor	300	8.0	0.5	350	This nature park was completed in 2017. Restoration activities included invasive species removal via hand pulling and spraying. Invasive species include Himalayan blackberry, reed canary grass, thistle, teasel, tree saplings and other species. Planted various locations on the butte. NYC students assisted with weeding and planting. AC helped monitor for invasive species and plant survival separate locations on the butte. Spraying of the site provided by a private contractor.

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Meadowlands Wetland Preserve (Kelly Creek)	Wetland Conservancy, Wisdom of the Elders, Private contractor	180	2.0	2.0	1,200	First year of restoration at this location. Site wetland had become a reed canary grass monoculture with Himalayan blackberry in its uplands. Planted area of about 2 acres total. Site planted winter 2020 with a mixture of upland and wetland plants. Intensive invasive weed removal and spraying this past year was completed by the City for reed canary grass and Himalayan blackberry. NYC interns assisted with planting and weeding. Wisdom of the Elders provided weed control and planting. Private contractor provided support.
Total		**3,500**	**133**	**78**	**29,700**	

CSWC =	Columbia		
FOT =	Friends of Trees	STHS =	Springwater Trail High School
GHS =	Gresham High School	NYC =	Northwest Youth Corps
JCWC =	Johnson Creek Watershed Council	RLA =	Reynolds Learning Academy
AC =	AmeriCorps		

**All spraying was completed by a hired (licensed) City contractor and not included in volunteer hours.

Table 3-4 City of Gresham Pesticide/Fertilizer Applications

Department	Product Utilized	Quantity
Facilities Maintenance		
	Ranger Pro (isopropylamine salt of glyphosate)	4.53 oz.
	Spray-Rite (water safe adjuvant)	2 oz.
	Snapshot (isoxaben, trifluralin)	70 lbs.
Transportation	Esplanade EZ (indaziflam, diquat dibromide, glyphosate isopropylamine salt)	106 oz.
	SureGuard (flumioxazin)	198 oz.
Wastewater	none	NA
Watershed	Rodeo (isopropylamine salt of glyphosate)	294 oz.
	Vastlan (triclopyr choline salt)	51.5 oz.
	Garlon 3A (triclopyr)	7 oz.
Natural Resource Program	Vastlan (triclopyr choline salt)	1,931 oz.
	Rodeo (isopropylamine salt of glyphosate)	2,419 oz.
	Milestone VM Plus (Triclopyr)	16 oz.
	Transline (clopyralid)	71.25 oz.
	Bronc Max (adjuvant. ammonium sulfate)	2 oz.
Water	Roundup pro (isopropylamine salt of glyphosate and ethoxylated tallow amine)	139 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	68 oz.
	SureGuard (flumioxazin) & Roundup (glyphosate)	210 oz.
Parks	Roundup pro (isopropylamine salt of glyphosate and ethoxylated tallow amine)	240 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	126 oz.
	Weed and Feed (glyphosate and 2,4-D)	2,750 lbs.
	Nufarm Double O SPC (oryzalin)	20 oz.
	Loveland Signature fertilizer	1820 lbs
	liquid totals	**46.14 gallons**
		(wo adjuvants or dye)
	dry totals	**4,570 lbs**

Table 3-5: Illicit Discharge Detection & Elimination--Dry Weather Screening Results and Follow-up

Basin	Site Code	Date	Flow	Odor	Color	Clarity	Float-ables	Deposits/ Stains	Veg Cond	Structural Cond	Biolo-gical	Last Rain	DO (mg/L)	pH	Temp (*C)	Conduc-tivity (µS/cm)	Turbidity (NTU)	Total Chlorine (mg/L)	Ammonia Nitrogen (mg/L)	Observations and Outcome
Pollutant Parameter Action Levels (Table 15 of the Gresham/Fairview Monitoring Plan)													**NA**	**<6.5, >8.5**	**NA**	**>300 µS/cm**	**>15 NTU**	**>0.5 mg/L**	**>0.5 mg/L**	
Johnson Creek	3649-J-634	8/15/2019	No																	
Johnson Creek	3650-J-603	8/15/2019	No																	
Johnson Creek	3650-J-613	8/15/2019	No																	
Johnson Creek	3651-J-615	8/15/2019	No																	
Johnson Creek	3651-J-760	8/15/2019	No																	
Johnson Creek	3652-J-605	8/15/2019	No																	
Johnson Creek	3654-J-612	8/15/2019	No																	
Johnson Creek	3655-J-652	8/15/2019	No																	
Kelly Creek	3657-K-725	8/15/2019	No																	
Kelly Creek	3657-K-740	8/15/2019	No																	
Johnson Creek	3749-J-602	8/15/2019	No																	
Johnson Creek	3749-J-649	8/15/2019	No																	
Johnson Creek	3749-J-653	8/15/2019	No																	
Johnson Creek	3754-J-612	8/15/2019	No																	
Johnson Creek	3852-J-604	8/15/2019	No																	
Johnson Creek	3853-J-603	8/15/2019	No																	
Columbia Slough	2748-W-009	8/16/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	6.44	7.22	17.8	197.2	32.6	0	0	Scraped sediment from bottom of pipe.
Columbia Slough	2749-W-646	8/16/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	7.58	7.19	17.1	204.3	3.28	0	0	
Columbia Slough	2750-W-066	8/16/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	6.46	7.25	19.4	244.3	2.28	0	0	
Fairview Creek	3250-F-004	8/16/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	6.28	7.31	19.6	130.9	11.4	0	0	
Johnson Creek	3353-J-601	8/16/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	6.8	6.84	16.9	223.3	8.6	0	0.25	More flow than observed in past years
Johnson Creek	3451-J-685	8/16/2019	Yes	None	Orange	Fair	None	Rusty sedi	Normal	Normal	Iron bacteri	3-6 Days	7.33	7.04	16.2	198.8	23.5	0	1	Iron bacteria staining. Turbidity and ammonia were likely from natural bacteriological activity.
Johnson Creek	3453-J-621	8/16/2019	Yes	None	Orange	Fair	None	Rusty sedi	Normal	Normal	Iron bacteri	3-6 Days	6.38	6.86	17.4	240	32.9	0	0.25	Iron bacteria staining. Turbidity and ammonia were likely from natural bacteriological activity.
Johnson Creek	3453-J-698	8/16/2019	Yes	None	Orange	Fair	None	Rusty sedi	Normal	Normal	Iron bacteri	3-6 Days	6.21	6.86	18.3	324.9	35.5	0	1	Iron bacteria staining. Turbidity and ammonia were likely from natural bacteriological activity.
Kelly Creek	3657-K-609	8/15/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	5.94	6.98	21.6	169	4.11	0	0	
Kelly Creek	3657-K-628	8/15/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	7.62	7.04	21	161.2	1.47	0	0	
Johnson Creek	3749-J-695	8/15/2019	Yes	None	Green	Fair	None	None	Normal	Normal	None	3-6 Days	8.7	5.86	17.8	166.8	34.3	0.3	0.25	Iron bacteria staining. Turbidity and ammonia were likely from natural bacteriological activity.
Johnson Creek	3751-J-631	8/15/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	11.09	6.6	16.6	93	13.8	0	0	
Johnson Creek	3753-J-602	8/15/2019	Yes	None	Clear	Fair	None	None	Normal	Normal	None	3-6 Days	8.66	6.63	18.8	180.5	65.6	0	0	Conductivity likely from groundwater.
Johnson Creek	3848-J-603	8/15/2019	Yes	Sewage	Grey	Poor	Film	Film	Normal	Normal	None	3-6 Days	NM	NM	NM	NM	NM	NM	4	Strong smell of sewage; E. coli >240,000. County Sanitarian found an illicit connection from a septic tank and owners corrected the issue.
Johnson Creek	3852-J-603	8/15/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	3.93	6.57	18.7	170.1	14.2	0	0	
Johnson Creek	3853-J-601	8/15/2019	Yes	None	Clear	Clear	None	None	Normal	Normal	None	3-6 Days	8.8	6.8	178.4	343	1.53	0	0	Conductivity likely from groundwater.

Key: Shaded cells are above the action level and staff conducts additional upstream investigation.

NTU=Nephelometric Turbidity Units Clean drinking water is 1NTU or less. 50 NTU would be slightly cloudy.

DO=Dissolved Oxygen Stormwater is typically >5 mg/L which rarely poses a direct threat to instream conditions. This measurement is taken in order to collect pH and conductivity.

Temperature is not associated with stormwater as a pollutant, because typically rain fall does not occur in summer months. However, temperature is measured because release of heated water is a violation of City Code. In general, summer flow in pipes is either associated with high groundwater, incidental releases of potable water such as irrigation runoff which is allowed by DEQ, or is indicative of illegal discharges.

Figure 3-1 Dry Weather Screening Monitoring Site Locations

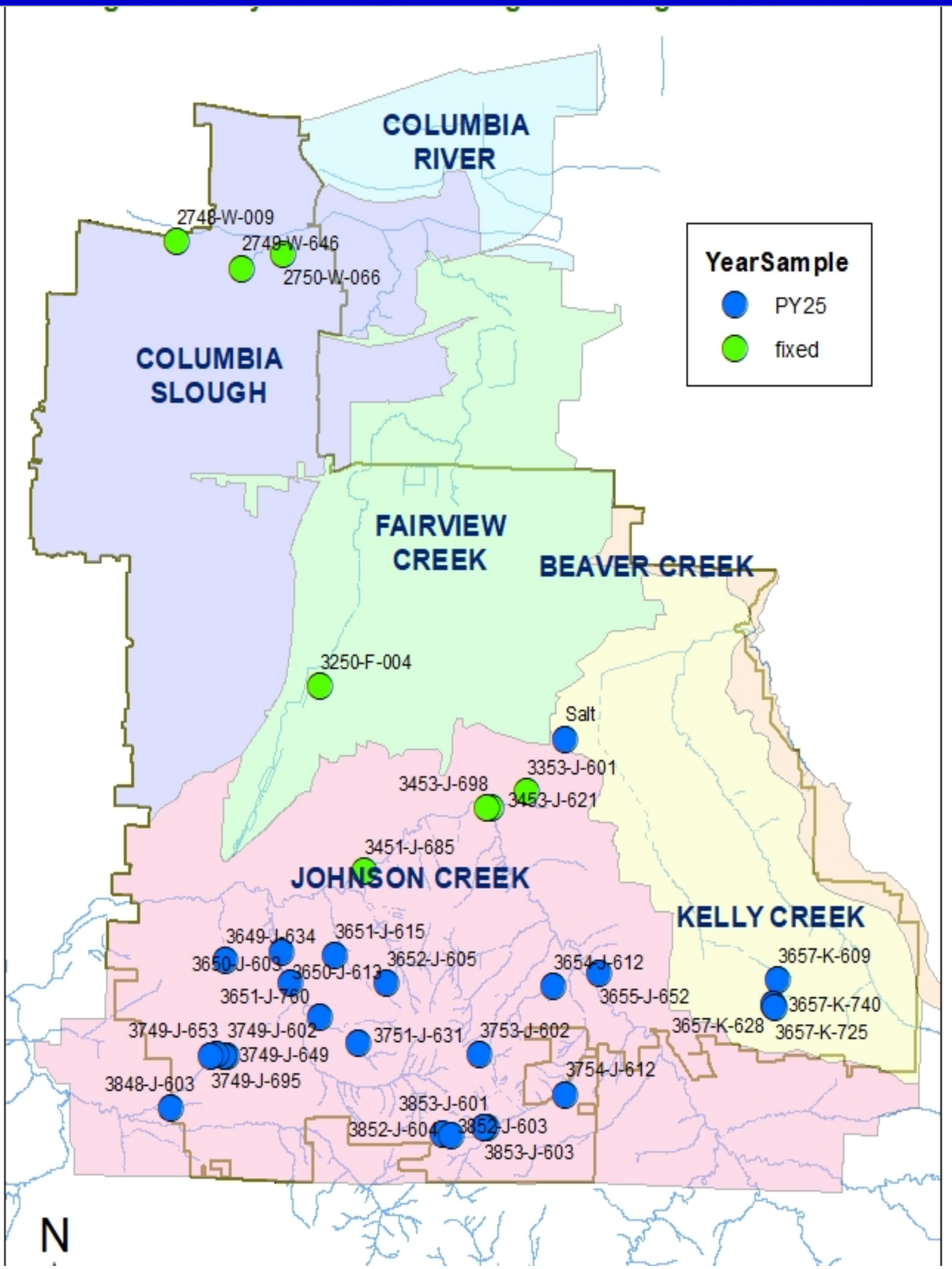


Table 3-7: Spill and Illicit Discharge Response

Category	Type	Watershed	Issue	Resolution	Outreach
Illegal dumping	Business	Kelly Creek	Staff observation of many cigarettes in a stormdrain.	Staff requested the drain be cleaned and that residents be notified about proper disposal and signs used as needed.	Courtesy information provided.
Motor oil	Residential	Johnson Creek	Staff observed leaking fluid from home car repair.	Staff visited and spoke to the owner. Staff inserted a filter in the catch basin to capture the oil and the owner cleaned onsite.	Outreach information provided on best practices for spills, drips and disposal.
Transmission fluid	Business	Columbia Slough/Ground water area	Trimet Park and Ride	A vehicle hit a bollard which damaged the undercarriage resulting in auto fluids being released onto a large area of the parking lot as they pulled over. Gresham assisted and Trimet completed the cleanup.	NA
Stormwater	Residential	Columbia Slough	Resident reported flooding water from apartment being pumped onto city street.	Staff inspected and found that the apartment complex had a clogged drainage system and failing drywells. No sewage was involved. Owner was required to clean the system and dispose of the turbid water into the wastewater system.	NA

Table 3-7: Spill and Illicit Discharge Response

Category	Type	Watershed	Issue	Resolution	Outreach
Motor oil	Residential	Kelly Creek	Complaint of illegally parked vehicle leaking oil on the street.	Staff inspected cleaned the street.	Staff requested the vehicle be moved to private property and send best practices for managing oil leaks, repair, and disposal.
Unknown white substance	Residential	Johnson Creek	Resident reported that the neighbor dumped a white liquid onto the ground at the end of their driveway.	Staff inspected, the substance had dried onto to the street and did not enter the stormwater system. Staff cleaned off the street.	The owner and the renter were notified that this is a code violation and that it must not happen again.
Illicit discharge	Residential	Johnson Creek	Resident reported a concern over water being released from the neighbor's yard into the stormwater system.	Staff inspected and found leaching from weepholes and presence of algae. There was no evidence of illegal dumping or harm to the public system. This area is known for high groundwater leaching.	Staff contacted the resident of the home to verify that no other water was being dumped or drained at that property.
Sewage	Residential	Columbia Slough/Ground water area	Resident of a mobile home/RV park contacted the city about potential illicit connection of wastewater pipe.	Staff worked with wastewater and building inspection staff to investigate and CCTV the city's pipes. Staff found evidence of malfunctioning private pipes and ordered the owner to CCTV and repair the pipe.	Owner complied--a missing clean out lid was allowing blackwater to seep onto the ground.
Auto fluids	Business	Columbia Slough/Ground water area	Report of fluids spilled at a business.	Staff inspected and required the spill to be cleaned and the existing Oil Water separator and drains to cleaned out as well.	Owner complied.

Table 3-7: Spill and Illicit Discharge Response

Category	Type	Watershed	Issue	Resolution	Outreach
Auto fluids	Residential	Fairview Creek	Staff observed leaking fluid from home car repair.	Was not impacting the stormwater system.	Staff contacted the owner and resident about best practices and management of drips, spills and proper disposal.
Illicit discharge	Residential	Fairview Creek	Water discharging from a pipe on private property to a yard drain.	Staff contacted the resident to ensure the water was rain water and was not from a hot tub or washer.	Owner was advised of drainage control techniques such as rain gardens and French drains.
Pressure washing	Residential	Johnson Creek	Staff observed a facilities manager pressure washing a parking lot into the public system causing sediment to move.	Staff spoke to the person, advised of a drain filter protection and where to buy it.	The owner was contacted and notified with regard to future planned work.
Pressure washing	Residential	Johnson Creek	Resident observed pressure washing driveway	NA	Courtesy letter sent to resident.

Table 3-8: Citizen Complaints*	
Issue and Resolution	
MyGresham App	An application that allows for phone, computer, or voice recorded complaints or concerns to come into the city and be tracked by topic. During 19-20 over 6,028 inquiries and follow ups were in the system. 36 were assigned as water, stormwater, sewer and drainage problems and 24 were followed up and resolved by stormwater or wastewater staff. These issues range from potential illegal dumping or spills, to minor home flooding, neighbor to neighbor drainage, street manhole lids ajar, etc. Other complaints addressed that protect stormwater include piling debris in the right of way, and various improper outdoor storage or garbage/refuse stockpiling.
Fee Reduction	Staff inspect properties and process requests for stormwater fee reductions based upon on-site stormwater management, typically from a resident having a private drywell or disconnected downspout from the city's infrastructure. 8 applications were processed in PY 25.
Pesticide application/water quality/stormwater management concerns	Typical issues that staff assist with include questions about invasive plant control, onsite stormwater management techniques, pesticide safety questions, etc.
Private Facility Maintenance	Staff spend time providing research documents to residents about who owns a particular facility and providing guidance for facility maintenance. When residents have a concern about the condition of a public facility, staff are sent to inspect and respond accordingly.
Minor Drainage	Staff assisted on 5 minor drainage issues. Operations completed several road repairs to assist property owners with drainage improvement. One issue was referred to the Building Dept for future inspection of private plumbing work to resolve a drainage issue.
*Many citizen calls are also reported in the illicit discharge categories. These combined tables provide a representation of the nature of issues addressed by the stormwater program staff.	

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
For Residents			
Backyard Wildlife Habitat home visits	All	17 residences (COVID-19 shut down program for 4 months) Gresham plant incentive gave 100 total native plants to summer 2019 new enrollees	Consultation visits with homeowners regarding qualifying for "Backyard Wildlife Habitat" status thru a partnership with Audubon/Columbia Land Trust Includes stormwater management, pesticide reduction, and tree education elements among others.
Presentations	All	60 residents	2 Public wildlife talks --one "Who are Gresham's Beavers" and "Wild Gresham" and 2 neighborhood association meetings: backyard habitat program and promotion of watershed councils
JCWC E-bulletin, monthly	Johnson	JCWC e-list to over 700 Gresham contacts; list goes to over 3,000	General watershed education, city public comment meetings/open houses, city natural resource workshops/events.
WMD Fish-Friendly Car Wash program	All	Kits continue to be used at various Gresham certified sites. Total number of contacts unknown.	Soap, grease and heavy metal pollution prevention. Education on use of professional car washes as an environmentally friendly alternative.
Johnson Creek Watershed Council Collaboration	Johnson	~50 volunteers for Watershed Wide Event Service learning events at West Gresham, Pleasant Valley and Hollydale Elementary: 214 students	Assisted city with 1.65 acres, .11 stream miles, 1,300 native trees and shrubs planted
JCWC wildlife surveys	Johnson	304 Volunteers from Gresham/Portland area surveyed 12 miles of Johnson Creek 336 Bird surveyors	Survey findings 37 Beaver dams, 11 lodges 23 species of dragon fly 7 lamprey, 11 lamprey redds 2 steelhead, 1 unknown redd Birds: 457 species

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
Wildlife Calendars	All	300 local wildlife calendars distributed to community members	Gresham partnered with a local photographer who donated photos of wildlife and calendar layout to print 300 calendars. 100 calendars were given to Sandy, Columbia Slough, and Johnson Creek Watershed Councils for fundraising and distribution. The calendars feature places to recreate, each council's premier events by month, and a variety of facts on wildlife.
School Outreach	All	~215 students reached	Staff presented on water pollution and wildlife at the following schools: Rosemary Anderson, West Orient Middle, Home School Co-Op science class, Sam Barlow High, MHCC, West Gresham Elementary, and Saturday Academy Spring Break Camp at MHCC.
Columbia Slough Watershed Council--Gresham and Fairview support of Slough School program	Fairview/Columbia Slough	91 programs were delivered to ~2,015 student contacts in the Gresham Barlow and Reynolds School Districts serving Gresham and Fairview students.	General education of watershed protection, native plants, ecosystems, wildlife and pollutant prevention measures.
Columbia Slough Watershed Council--*Explorando de Slough* event for LatinX community	Fairview/Columbia Slough	Over 300 attendees.	Gresham/CSWC staff promoted this event at a variety of LatinX businesses within Gresham. General education of watershed protection and pollutant prevention measures.
Regional Coalition for Clean Rivers and Streams Metro area water health campaign	All	500 contacts at the Watershed Village of the Big Float from across the tri-county area Launched a Student Video Contest and YouTube page 36 films campaigned and received 11,000 views from 4,000 individuals and 1,800 engagements Riverstartshere.org 2,500 visits Facebook 1,600 followers	This work is primarily digital advertising that promotes the work of local watershed councils and community volunteer events as well as tips and news articles that inform the public about actions they can take to reduce pollution. The group is also beginning to look at the lens of the intersectionality of racial, social and environmental issues and the disproportionate impacts to historically marginalized populations.

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
City of Gresham and Regional partners with KPTV--"It's Our Water" campaign	All	Clean Water Partners Campaign: https://www.kptv.com/water/ Page was visited ~5,400 times 12 months of residential water protection messages that aired 713 times and resulted in 13.5 M impressions Total impressions from all TV, social media and website: 16.6M	Topics: plant natives & trees, lawn care, avoid pesticides, RV and Spa/Pool disposal, car washing, fall leaf disposal, pressure washing, auto fluid disposal/handling
City of Gresham e-newsletter, City newsletter, DES News to Reuse, social media, and website: greshamoregon.gov/watershed This represents the variety of approaches that Gresham uses for environmental education messaging to the public	All	e-newsletter: ~1220 monthly City news (print): 50,000 X quarterly Facebook: ~10,400 fans Instagram: ~2,143 Twitter: ~2,500 MyGresham: ~2,000 GoCart:~ 1000 (cancelled for PY 25) Entire city website: ~420,000 annually Web Watershed page: ~ 1,000 annually Utility bill stuffer 22,000 print Y.O.U. digital utility bill ~13,368 Next Door: ~16,561 DES webpage: -1,500 annually Water Resources webpage: ~700 annually	Pesticide and fertilizer reduction, naturescaping, recycling, sustainability, and private on lot stormwater management education information. Most popular Water Resources webpages by hits: Backyard Habitat Page (244 unique visits (uv)), Stormdrain Cleaning Program (432 uv), Stormwater Documents (700 uv), Natural Resources (313 uv) Report Spills (212 uv)
Interpretive panels and public rain gardens, COG Watershed Division	Johnson/Fairview/ Columbia Slough	Total contacts unknown	All residents: City oversees volunteer stewardship of public demonstration gardens at Vance Garden, Main City Park, Nadaka Park, Hollydale Elementary, St. Henry's Church, Covenant Baptist Church, West Gresham Elementary, Snowcap Charities and Gresham High School.
Rain garden education and outreach to Pleasant Valley on-lot rain garden owners	Johnson	Hand delivered ~30 flyers to new owners in the existing neighborhoods	Lot-level rain garden education

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
For Businesses			
City of Gresham GREAT Business E-Newsletter (Has changed name to GREEN Business Program this year)	All	20 issues/yr. 1200+ subscribers	Stormdrain Cleaning Assistance Program, General Best Practices, Sustainability
City of Gresham Stormdrain Cleaning Assistance Program (SCAP)--offered to City of Fairview businesses as well (spring and fall)	All	474 Businesses, ~1,800 drains cleaned	Pollution prevention via removal of sediment and debris.
GREEN Business Coffee Hour Outreach	All	~68 Businesses	Staff coordinated 6 business outreach events over the year that featured a variety of sustainable practice talks and idea sharing from peer to peer. Fewer than previously due to COVID-19.
EcoBiz program partnership	All	4 reports delivered for new audits 1 recertification 1 new certification	Technical assistance in the areas of recycling, energy, waste reduction, and stormwater management for landscaping, automotive, and manufacturing businesses. Two businesses recertified. Coordination/training with new Ecobiz staff and Gresham staff. Ecobiz partners also helped run advertising of certified auto firms and landscaping firms in the Chinook Book.
City of Gresham GREAT Business technical assistance visits (Has changed name this year to GREEN Business Program)	All	~130 Outreach assistance related to stormwater/water concern	5 new certifications and 11 recertifications and 3 still in progress -GREEN businesses. 49businesses are composting food waste and 20 schools. Supported 98 businesses working with historically marginalized communities. During COVID-19 supported 50 non-English speaking businesses using 'language line' to inform them of available financial assistance, food donation, and waste reduction. Marked 15 stormdrains. Green Biz visits include: education on good housekeeping to limit stormwater pollutants; SCAP drain cleaning referrals; recommendations to fix broken elbows on oil/water separators; maintenance of stormwater facilities; follow spill response procedures; label storm drains; use native plants in landscaping, and reduce pollution from dumpsters.

Table 3-10
(1200-COLS & 1200-Z) in Gresham's Jurisdiction

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	Gresham/DEQ Inspections
Arnprior Aerospace Portland	17383 NE Sacramento	Portland	97230	125726	Gen. 1200-COLS	Issued July 2018	Gresham WFPP inspected 9/3/19, deficiencies in floor coating, secondary containment, and catch basins. Floor covering correction in progress as of 11/3/19, others corrected.
Portland Specialty Baking	3423 NE 172nd Place	Portland	97230	125551	Gen. 1200-COLS	Issued Jan 2018	Gresham required catch basin cleaning, compliant 10/31/19.
Albertsons (ABS OR-O DC LLC)	17505 NE San Rafael St	Portland	97230	104374	Gen. 1200-COLS	Issued Aug 2017	DEQ issued QC violation for sampling.
Denton Plastics Inc.	18811 NE San Rafael	Portland	97230	113915	Gen. 1200-COLS	Issued Aug 2017	DEQ inspected. Failed to submit a DMR. Gresham WFPP inspection 1/30/19, compliant.
Pella Vinyl Northwest Inc.	18600 NE Wilkes Rd	Portland	97230	120478	Gen. 1200-COLS	Issued Aug 2017	DEQ inspected. Gresham WFPP inspected, compliant as of 11/20/19.
McDonald & Wetle Inc.	2020 NE 194th Ave	Portland	97230	119535	Gen. 1200-COLS	Issued Aug 2017	Gresham WFPP inspected 9/17/19, noncompliant for missed report filing.
Owens Corning Foam Insulation, LLC	18456 NE Wilkes Rd	Portland	97230	113153	Gen. 1200-COLS	Issued Aug 2017	None.
Cascade Corporation	2201 NE 201st Ave	Fairview	97024	100491	Gen. 1200-COLS	Issued Aug 2017	None.
The Boeing Company	19000 NE Sandy Blvd.	Portland	97230	9269	Gen. 1200-COLS	Issued Aug 2017	None.

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	Gresham/DEQ Inspections
Rolling Frito Lay Sales LP	4300 NE 189th Ave	Portland	97230	113285	Gen. 1200-COLS	Issued Aug 2017	None.
International Paper Company	1601 NE 192nd Ave	Portland	97230	107744	Gen. 1200-COLS	Issued Aug 2017	Gresham WFPP inspected 10/28/19, compliant.
Northwest Retreaders	19004 NE San Rafael	Portland	97230	111262	Gen. 1200-COLS	Issued Aug 2017	Gresham required catch basin cleaning, compliant 10/31/19.
First Student, Inc.	1625 SE Hogan Rd	Gresham	97080	112646	Gen. 1200Z	Issued Aug 2017	None.
Mutual Materials Company	2300 SE Hogan Rd	Gresham	97080	108092	Gen.1200Z	Issued Aug 2017	None.
Teeny Foods	NE 170th	Gresham	97080	126120	Gen 1200Z	Issued June 2019	Gresham stormwater issued NOV re: leaking trash compactor. Compliant 2/28/20.
Pioneer Sheet Metal	19591 NE San Rafael St.	Portland	97230	120503	Gen. 1200-COLS	Issued Aug 2017	Gresham stormwater inspection 9/6/19, compliant. Required catch basin cleaning, compliant

Wellfield Protection Program (WFPP)	Where noted, these businesses lie within the City's designated wellfield areas and have additional required pollution protection controls to protect future drinking water sources.

Table 3-11: City of Gresham Water Resource Division--Stormwater Budget Allocation (including staff and operating)

Program Area	PY 25 FY 19-20 (actual)	PY 26 Budget FY 20-21 (projected) year four of a five year rate package
Water Quality: Policy Development Stormwater/Erosion Manual Oversight Permit Compliance Monitoring and Analysis Spill Response Public Education & Outreach Private Water Quality Facility Program Inspection & Enforcement Erosion Control Inspection & Enforcement TMDL Compliance Stormwater Assets Management Training	$ 935,374	$ 1,039,987
Natural Resources: Restoration Capital Improvements Master Plan Updates Invasive Species Control TMDL Compliance Green Space Acquisition	$ 509,728	$ 622,137
Engineering: Capital Improvements Minor Drainage/Flood Control Public Works Standards Stormwater Manual Oversight Master Plan updates Mapping Stormwater Assets Management Training	$ 520,419	$549,790 $7.7M CIP
Operations & Maintenance: Systems Maintenance & Repair Equipment Repair & Replacement Spill Response Inspection IMP implementation Mapping Training	$ 2,981,607	$ 3,316,500
Infrastructure Development (Development Engineering, Surveying, Public Works Inspections, Commercial Erosion Control Inspections)	$ 454,000	$ 480,300
City Admin Support, GIS Support, Management, Overhead	$ 2,500,000	$ 3,039,554
Total	**$9M Operating/Salary $1.6M CIP***	**$9M Operating/Salary $7.7M CIP***

*Funds are budgeted over a multiyear projection for pipe repair and upsizing ($4M), wetland mitigation($5M) and regional facility enhancements ($400,000) and are not intended to reflect FY 19-20 solely. Kane Road repairs reflected $5.2M to date with another $1M still budgeted for future potential work needed.

Section Four – City of Fairview Summary of Program Monitoring

Municipal National Pollutant Discharge Elimination System Annual Report for Permit Year 25, Permit #101315, November 1, 2020

Executive Summary

The City of Fairview (City) manages the stormwater system with the goal of reducing pollutants to the maximum extent practicable, preventing flooding and enhancing natural resources. The City is a co-permittee with the City of Gresham on the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (#101315).

DEQ reissued the Permit on December 30, 2010 requiring the City to modify the SWMP to reflect the new permit conditions. The City's 2011 SWMP incorporates the new Permit conditions and includes best management practices (BMPs) and other elements intended to reduce the introduction of pollutants to the maximum extent practicable (MEP). The Stormwater Management Plan (SWMP) was modified on December 29, 2015 in accordance with Schedule B.6.a of the City's NPDES MS4 permit requirement for updates.

This Permit Year (PY) 25 Annual Report documents implementation activities from July 1, 2019 through June 30, 2020 within the city limits of Fairview. Activities include, but are not limited to, the Best Management Practices (BMP) contained within the Stormwater Management Plan (SWMP). The status of the BMPs and adaptive management are summarized in the table that follows. Table 4-2 (Prioritization Criteria) summarizes the time period July 1, 2019 to June 30, 2020 implementing the 2011 SWMP. Section 2 of this report summarizes the Environmental Monitoring Program that is conducted by the City of Gresham on behalf of the City of Fairview.

As part of the annual adaptive management process, data and feedback were collected from staff responsible for implementing/reporting on each BMP. Factors considered include but are not limited to: Was the BMP measurable goal attained? If not, describe circumstances why, and how progress will be made toward future attainment. For multi-year BMPs, were milestones or timelines met? Can we feasibly refine or improve the BMP to gain efficiency or effectiveness in removing stormwater pollutants? In addition to assessing the implementation of each BMP, staff weighed resource availability and needs related to the overall stormwater program, including consideration of budget/funding, training needs, new technology and available equipment. The annual adaptive management process will inform any alterations to the stormwater program or future modifications to the SWMP.

There are no Urban Growth Boundary expansion areas contiguous to the City of Fairview. Consequently there are no associated concept planning, significant land use changes or significant development activities to report for PY 25.

Stormwater Management Program Budget

City of Fairview Stormwater Management program costs for Permit Year 25 are primarily associated with the Department of Public Works.

Stormwater fund expenditures and anticipated budget allocations incorporate wages and benefits, operating materials, equipment repair/maintenance, water testing (NPDES compliance), storm water disposal (NPDES permitting), improvements, and general administration.

Street fund expenditures and anticipated budget allocations incorporate wages and benefits, operating materials, maintenance services (including IGA with Multnomah County), equipment repair/maintenance, improvements, traffic calming, footpaths and bike trails, and general administration.

The table below outlines fund expenditures for PY 25 and provides the anticipated budget for Permit Year 26.

Table 4-1	2019-2020	2020-2021
Program Area	PY 25 Expenditures	PY 26 Anticipated Budget
Stormwater Fund	$604,123	$860,003
Street Fund	$389,246	$603,108

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #1- Illicit Discharge Detection and Elimination							
Illicit Discharge Enforcement	Ongoing	Implement City code sections 13.40.050 and 13.40.110: • City code section 13.40.050 prohibits constructing, using, maintaining, or continuing an illicit connection to the storm drain system. • City code section 13.40.110 discusses enforcement actions for failing to comply with control of non-stormwater discharge. The penalty for a first violation is $250. A penalty of $1,000 may be imposed for each subsequent failure to comply and each day of a continuing violation shall constitute a separate offense. The City may order compliance by written notice that includes performance of monitoring, analysis, and reporting; elimination of illicit connections or discharges; abatement or remediation; payment of fines; and implementation of source control or treatment BMPs. The public works director may also exercise authority to enforce a construction permit or NPDES permit through a stop work order if necessary.	For identified illicit discharges conduct appropriate enforcement actions.	Track number, location and resolution of enforcement actions.	Therer were no reported illicit discharges in PY 25, therefore there were no illicit discharge investigations, enforcements or cleanup.	No modification	Civil Engineer Engineering Technician
Illicit Discharge Field Screening Procedures	Ongoing	Conduct dry weather inspections of accessible outfalls following the procedure in the Stormwater Operation and Maintenance (O&M) Manual to search for, detect, and prevent illegal dumping of pollutants and illicit connections (including connections from sanitary sewers and commercial and/or industrial wastewater sewers) to the storm sewer system. Any dry weather flows identified will be reported to the public works department. Annually update maps as necessary to indicate field screening locations.	Inspect accessible outfalls annually. Maintain maps of outfall inspection locations.	Track number and percent of outfalls inspected.	The City of Fairview has reviewed its outfall inventory and identified a total of 38 outfalls; 8 of which are categorized as high priority outfalls. Inspected 34 out of 38 outfalls (89%) this PY 25. The 4 outfalls not inspected were inaccessible at the time of inspection. Records are maintained in paper and elctronic form. The City will continue to update its GIS map as needed.	No modification	Storm Lead Worker Engineering Technician
Illicit Discharge Investigation Procedures	Ongoing	Implement follow-up actions on a prioritized basis when problems are reported to the public works department. Follow up actions may include sampling for pH, dissolved oxygen, temperature, conductivity, ammonia, and total chlorine. If elevated results or poor water quality are detected, additional samples could be collected for lab analysis. If screening results indicate a potential problem, staff will conduct upstream investigations. The City will revise and document standard operating procedures to address new permit requirements and to document and update the details of the illicit discharge field screening and investigation procedures by June 30, 2012.	Annually review and update Illicit Discharge and Investigation Procedures related to mapping, enforcement response and pollutant parameter action levels. Respond to illicit discharges within 5 days of source identification..	Track number and type of problems reported, and track problem resolutions. Track status of revisions to procedures.	There were no IDDE investigations conducted this PY 25, which resulted to no enforcement actions. There were no samples taken.	No modification	Civil Engineer

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Spill Prevention	Ongoing	**Wellhead Protection Program.** The wellhead protection program serves to prevent spills and illegal dumping. The City will work to maintain its existing agreement with the City of Gresham for wellhead inspection in the Columbia South Shore Well Field Wellhead Protection Area and continue to implement wellhead protection throughout Fairview for the protection of groundwater. This program is included here because of its residual benefits to stormwater. **Wellhead Protection - Intergovernmental Agreement.** The City of Gresham and the City of Portland entered into an intergovernmental agreement for the Implementation of the Columbia South Shore Well Field Wellhead Protection Program in 2003 (City of Gresham contract number 1609). This agreement provides protection of the Columbia South Shore Well Field Wellhead Protection Area lying within Gresham and Fairview from contamination by hazardous substances generated at industrial and commercial facilities. Fairview has adopted Ordinance #12-2002 to protect the Columbia South Shore Well Field Wellhead Protection Area from contamination by hazardous substances by establishing an inspection and enforcement program governing the utilization, storage and transportation of hazardous materials in Fairview's portion of the Columbia South Shore Well Field Wellhead Protection Area. A wellhead inspection is performed at commercial and industrial facilities by the City of Gresham. The entire city, except for a residential area, high school and park, is included in the wellhead protection program. Fairview, Gresham and Portland Staff meet at least annually to discuss any changes to code provisions and any rules promulgated thereunder by either party. Wellhead Protection - City Code and Reference Manual. Wellhead protection is discussed in City code chapter 16.10. A wellhead protection program reference manual has been developed that establishes the wellhead protection boundaries. The code also includes requirements for reporting, standards, and inspections related to the storage, handling, use and transportation of hazardous materials; penalties for violations and enforcement actions; compliance requirements; building and site permit review and approval requirements; and inspection fees.	Coordinate witht the City of Gresham to conduct inspections once during the permit term of all businesses with regulated quantities of hazardous materials in the well field.	Track the number of inspections conducted.	City of Fairview encompasses and area of 3.5 square miles and is located in the Columbia South Shore Wellfield Protection Area. City of Fairview maintains the existing Intergovernmental Agreement with the City of Gresham established in 2003 for inspection of the regulated and monitored industrial/commercial facilities in the Columbia South Shore Wellfield Protection Program, (Zone 1). The City of Gresham conducts inspections in Gresham and Fairview in alternate years on the behalf of the City of Fairview. No commercial and industrial inspections were conducted in Fairiview within the Columbia South Shore Well Field Wellhead Protection Area in PY 25. They will be conducted in PY26. The Columbia South Shore Well Field Protection Program Committee meets quarterly to discuss any changes to code provisions and updates of the Wellhead Protection Program Reference Manual.	No modification	Civil Engineer Engineering Technician City of Gresham (IGA)
Spill Clean-up	Ongoing	Maintain agreement with the City of Gresham Fire Department for clean-up after structural fires and vehicular accidents to prevent pollutants and debris from being washed into the storm drain system. When there is a hazardous spill or a spill of any other substance that: • Is hazardous in any quantity • Is non-hazardous and greater than 42 gallons on the ground • Or is any quantity that has entered a waterway or a dry well. The City of Gresham Fire Department staff notifies the Oregon Emergency Response System (OERS). OERS then notifies the Oregon Department of Environmental Quality (DEQ) and other state and local agencies that may be affected. The responsible party, if identified, is required to contact an environmental clean-up company and pay for clean-up costs. Examples could include spillage of a 55-gallon-drum of restaurant grease or sanitary sewer overflows on private property, resulting in or having the risk of resulting in, discharges to the public stormwater system. DEQ remains the enforcement authority in these cases. DEQ may choose to enforce against the responsible party under the following conditions: 1) the party has acted maliciously; 2) the party is a repeat offender; or 3) the party has failed to report the incident to DEQ.	Maintain agreement with City of Gresham Fire Department. Investigate spills and provide emergency containment and clean-up as necessary.	Track spill locations, type of materials and response activities.	There were no reported or recorded spill incidents that took place during PY 25 within the City of Fairview's jurisdiction.	No modification	Gresham Fire Civil Engineer PW Superintendent

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
		Non-Hazardous Substances Public Works staff will investigate and provide emergency containment and clean-up as necessary. If the responsible party can be identified, he or she is directed to provide containment and site clean-up. If the spill is an imminent threat to waters of the state, the City reserves the right to provide clean-up and bill the responsible party for the work. The responsible party will be invoiced for any response and clean-up provided by the City. Examples include spills or dumping of paint, auto fluids, carpet cleaning wastes or concrete, etc. into catch basins or onto the street. In non-emergency situations, such as dumping of debris on private property near a stream bank, Public Works staff will notify the responsible party, verbally and in writing, and specify a timeframe for clean-up. Staff will refer the incident to Code Enforcement if the responsible party does not respond within the specified time frame. Code enforcement has the authority to issue Abatement Procedures, Violations or Civil Actions.			None, see above report.		
Municipal vehicle monitoring and maintenance	Ongoing	Ensure that materials from municipal vehicles do not leak, spill, or otherwise release contaminants onto roadways or open spaces where they may be washed into storm drains or waterways. Municipal vehicles are inspected by the driver during loading and unloading. If any leaks are observed between the regular maintenance the vehicles are repaired immediately.	Maintain vehicles on a 6-month schedule.	Track status of municipal vehicle maintenance.	All City fleet vehicles (Public Works and Administration) were regularly miantained and serviced as scheduled (every 6 months) with auto service providers. No vehicular leaks were detected.	No modification	PW Superintendent
Water Line Flushing	Ongoing	The City periodically flushes all public water lines to ensure the reliability and quality of the domestic water system. To minimize impacts to the storm system, discharges are dechlorinated with the use of ascorbic acid (vitamin C). The flushing crew periodically tests the chlorine levels of the discharge prior to entering the storm system.	Dechlorinate waterline flushing with vitamin C.	NA	All lines flushed according to preocedures. No chlorine detected.	No modification	Water Lead Worker

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #2- Industrial and Commercial Facilities				1200Z			
Industrial and Commercial Facility Inspections	Ongoing	Implement the City's Industrial and Commercial Facility Inspection procedure that is included in the Stormwater Operation and Maintenance Manual to control the discharge of pollutants in stormwater from industrial and commercial facilities to the municipal separate storm sewer system.	Spend 40 hours implementing commercial and industrial inspection procedures. Review and/or inspect all applicable facilities once during the permit term.	Track number of facility inspections and follow-up.	The City inspected four (4) regulated industrial/commercial facilities during this PY 25. Inspection procedures were in conformance and compliance with the City of Fairview's Stormwater Operation and Maintenance Manual and the Columbia South Shore Wellfield Protection Program Reference Manual. A total of 30 inspection hours (pre-documentation, inspection / photos, final documentation and follow up) were spent this PY 25. The City coordinated with a large development to have all of their swales maintained.	No modification	Civil Engineer Engineering Technician
Screen Industries/Busi-nesses and Track NPDES Stormwater Permits	Annually	Annually, the City will review their business license inventory to determine whether any new facilities would be subject to an industrial stormwater NPDES permit. This determination will occur based on a review of the applicable SIC codes related to the 1200-series NPDES permit. If a facility is identified that would be subject to an industrial stormwater NPDES permit, the facility and DEQ will be notified within 30 days. During industrial and commercial inspections staff will obtain a copy of the facility's permit or work with the facility to either obtain a permit, or eliminate the potential for contact of pollutants with stormwater, thereby eliminating the need for a permit. In cases where discharges appear contaminated, the City will send a copy of the inspection report to DEQ.	Annually notify DEQ of any existing or new industrial facilities within the City's jurisdiction that may potentially be subject to an industrial stormwater NPDES permit.	Track number and type of new facilities identified as needing permits.	Screening process of applicable Industrial/Commercial SIC codes reflecting the 1200-series NPDES permit is being conducted during pre-application review process of land use permit. There were no new developments requiring 1200-Z permits during this PY 25.	No modification	Civil Engineer Engineering Technician

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #3 - Construction Site Runoff Control				1200C			
Erosion Control Activities	Ongoing	Ordinance 3-1993 adopts an erosion control plan. The ordinance includes an Erosion Control Technical Guidance Handbook (Technical Guidance) that describes regulations, standards and provisions for erosion control as well as fees and penalties for violation. The City enforces the erosion control requirements through a permitting process required for sites disturbing 500 ft^2 or more as discussed under the BMP, Development Review. The Technical Guidance prescribes the following four steps to consider in planning for erosion control: Step 1: Identify Site Characteristics Step 2: Lay Out Preconstruction Plan and Proposed Base Measure Step 3: Measures During Construction Step 4: Post Construction Measures The Technical Guidance also has requirements for single-family homes and duplexes on existing lots of record, private developments construction, private construction in public rights-of-way, public works construction, erosion control measures, inspections and enforcements, and penalties. Non-stormwater wastes on construction sites are also addressed through the City's nuisance ordinance in Chapter 8 of the municipal code.	Inform all construction site owners that have 1 acre or more of disturbed land that they are required to obtain a 1200-C permit from DEQ. Projects that disturb more than 500 ft^2 are required to obtain a City erosion control permit. Review development sites required to meet City erosion control requirements.	Track the number of erosion control permits issued annually.	Resolution 49-2013 approved compliance order agreement with Environmental Protection Agency to implement reporting requirements and standards associated with the NPDES stormwater permit which includes adoption of the Erosion Prevention and Sediment Control (EPSC) Manual from the City of Gresham (Ordinance 2-2014). The City developed a standard operating procedure for implementation of Erosion and Sediment Control Standards. A total of 4 1200-C Construction General NPDES Stormwater permits were issued by DEQ during PY 25 for sites disturbing more than 1 acre. No erosion and sediment control permits were issued for sites disturbing less than 1 acre.	No modification	Permit Tech Civil Engineer
Erosion Control Program Training	Ongoing	The Erosion Prevention & Sediment Control Technical Guidance describes regulations, standards and provisions for erosion control as well as fees and penalties for violation.	Provide a copy of the Technical Guidance to all developers and contractors.	N/A	Erosion Prevention and Sediment Control (EPSC) manuals are made available with the erosion control permit applications during the planning development review process.	No modification	Permit Tech Civil Engineer Engineering Technician
Construction Site Inspections	Ongoing	The City currently reviews plans and inspects construction sites required to meet the City's erosion control standards using the following procedures: 1. Visit every site over 1 acre after the first significant rainfall event and periodically thereafter. If time is limited, the City prioritizes inspections by visiting problem sites first, then visiting facilities that would have the highest environmental effect if the erosion control failed.	Inspect all construction sites required to meet City erosion control standards. Make the Erosion Prevention & Sediment Control (EPSC) manual available online. Annually review code provisons.	Track the number of sites that were permitted and inspected. Report the number and type of enforcement actions.	Four new Erosion Prevention & Sediment Control permits were issued and inspected during PY 25. All were in compliance with the City's Erosion Prevention & Sediment Control (EPSC) standards. No violations were noted this PY 25. A total of 60 EPSC inspections were performed on 15 sites with 1200-C permits in PY 25. Sites with active 1200-C Permits were inspected following 1/2" of precipitation. The municipal code is reviewed for complaince with stormwater requrements on an annual/ongoing basis.	No modification	Permit Tech Civil Engineer Engineering Technician

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #4 - Education and Outreach							
Educational Activities	Ongoing	The City supports community programs, publishes articles in the City newsletter and coordinates with the City of Gresham where appropriate. Current City public education programs that are related to stormwater include educational programs on stormwater quality and the use of nonpolluting alternative garden products, including low-volume uses of pesticides, herbicides, and fertilizers (e.g., household uses). The City also supports the following programs: • Programs with local area schools • Programs with volunteer groups • Columbia Slough Watershed Council activities • Business Assistance Program – Private Catch Basin Cleaning • Spring Clean-up • Metro Hazardous Waste Clean-up • Informational kiosks at City events and City Hall • Doggy Don't waste bag	Publish stormwater related articles in the City newsletter. Support local education programs.	Track newsletter articles produced annually. Track activities conducted to support local education programs.	Large scale public education campaigns: • City of Fairview participated in Public Service Announcement (Do the right thing campaign through an IGA with the City of Gresham) with KOIN 6 TV for broadcast to provide public education services on stormwater quality program. Campaign messages addressed best practices for: • Car Washing • Lawn Products • Be Rain Ready • Water Conservation • Sweep, Don't Wash Local Outreach Effort: City of Fairview Public Works staff maintained a booth at the "Fairview On The Green" event during the month of September. The booth displayed Groundwater/Aquifers, Rainfall/Water Cycle and Surface Water Models and distributed brochures on stormwater education, healthy streams, low impact development programs, use of pesticides, natural lawn care/gardening techniques, erosion control best management practices, water conservation kits and other stormwater related educational subjects. City of Fairview is currently participating in the Storm drain Cleaning Assistance Program (SCAP) (schools, apartments, industrial/commercial facilities) and the Backyard Habitat Program hosted by the Audubon Society through the City of Gresham. Other agencies that are affiliated with this program are: City of Wood Village and City of Troutdale.	No modification	Civil Engineer Engineering Technician Development Analyst
					Educational Outreach Articles: The City of Fairview utilizes the local monthly newsletter "Fairview Point" to provide educational materials related to stormwater. Applicable articles are as follows: 1. Fairview on the Green 2. Prevent Flooding of Fairview Streets Spring Clean Up 3. Levee Ready Columbia Public review and comment		
Report Illegal Dumping and Illegal Connections	Ongoing	Continue to facilitate efforts by the public to report illegal dumping, illicit connections, and other incidents. Implement public reporting program as described in the Stormwater Operation and Maintenance (O&M) Manual.	Respond to reports and/or complaints from citizens regarding observed water quality problems.	Track the number of reports/complaints received, and the follow-up actions conducted (including the timing of the follow-up action).	There were no reported events and/or complaints from citizens reflecting illegal dumping or illegal connections during this PY 25.	No modification	Civil Engineer PW Superintendent Code Compliance

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Illegal Dumping and Illegal Connections, Public Education	Ongoing	Educate the public about the harmful effects of dumping oil, antifreeze, pesticides, paints, solvents, and other potentially harmful chemicals into storm sewers or drainage channels.	Support recycling and disposal programs; programs that provide convenient means to dispose of materials, existing solid waste management programs. Educate the public regarding the stormwater pollution that results from dumping and illegal connections.	Track the number of public recycling and disposal programs conducted annually.	The Fairview Point contains outreach articles educating the public about harmful effects of dumping hazardous materials and waste into storm sewers or drainage channels as well as public recycling and disposal information. The City's website posted contact information as well about reporting illegal dumping and illegal connections (BMP 4.3). Staff also track public complaints, reports, and inquiries regarding illegal dumping, connections. There were 7 news letter articles published during PY 25 about educational outreach on healthy environment.	No modification	PW Assistant Metro Recycling
Participate in a Public Education Effectiveness Evaluation	Ongoing	By November 1, 2014, the City of Fairview will coordinate with other local, Phase I jurisdictions to provide information related to an effectiveness evaluation. The effectiveness evaluation information will focus on assessing changes in targeted behaviors and will allow for additional information that can be used in adaptive management of the City's education and outreach strategy.	Coordinate with other local jurisdictions in providing/compiling information regarding a public education effectiveness evaluation by November 1, 2014.		City of Fairview submitted "Public Education Effectiveness Evaluation" report (Schedule A.4, NPDES Permit Term 2010-2015) to DEQ on November 1, 2015.	No modification	Civil Engineer
Staff Education and Training	Ongoing	Conduct training for new employees and contract employees on stormwater requirements and train existing employees when there is a significant update to the documents used by the City that regulates stormwater pollution control activities.	Provide annual training to personnel involved in stormwater management.	Track personnel receiving training annually and document the trainings received.	City of Fairview's engineering staff conducted (1) in-house training with seven (7) Public Works Operation & Maintenance staff during PY 25. Topics discussed included instruction on how to install a Catch Basin insert and what maintenance issues to look out for. The Civil Engineering Technician has attended 1 training during PY 25 (July 1, 2019 to June 30, 2020). 1. 08/22-23/2019 - Eco-3 New CESCL Training	No modification	Civil Engineer Civil Engineering Technician PW Superintendent Development Analyst

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #5 - Public Involvement and Participation							
Provide for Public Participation with the annual report, SWMP and Benchmark Submittals	Annually by November 1	Co-permittees must submit an annual report for the portion applicable to its jurisdiction by November 1 of each year. SWMP revisions and pollutant load reduction benchmarks are required for submittal to DEQ at the permit renewal submittal (180 days prior to permit expiration). Prior to submittal of these items, the City will provide the public with an opportunity to comment on the annual report, revisions to the SWMP and proposed pollutant load reduction benchmarks. The documents will be made available on the City's website or through web links. Comments on the documents will be collected and considered and a response to comments will be provided.	Provide for public participation with the annual report, SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline.	N/A	Public review and comments were solicited for public participation through publication on the City's website during PY 25.	No modification	Civil Engineer
SWMP Element #6 - Post-Construction Site Runoff							
Development Review for Private Projects	Ongoing	Implement and enforce regulations which give legal authority to: 1) require site-drainage designs and systems which address water quality; and/or 2) minimize the total volume of runoff and the peak rate of runoff, where local conditions permit. The City implements these regulations through its Community Development Department and Public Works Department. New development and redevelopment projects are reviewed for conformance to the following existing City regulations: • Fairview Comprehensive Plan, June 2004 – provides the guiding direction to protect the natural environment and ensure that long-term growth does not adversely affect the natural resources. • Community Development Department–Land Use and Building Permits; Land Use Code Enforcement. • Title 19, Development Code–requires accommodation and treatment of stormwater runoff and system installation conforming to standards and specifications adopted by the City. • City of Fairview Standard Specifications for Public Works Construction	Review development plans for conformance with standards. Maintain map of private water quality facilities	Track acreage of new and re-development activities requiring stormwater treatment annually. Track the number and type of private water quality BMPs built.	There were 7 development reviews for private stormwater management facilities and no development reviews for public stormwater management facilities in PY 25. Private Stormwater Management Facilities: • Ceely-Mixed 33 Units/Commercial-continued (1.05 Acres) • Halsey Crossing • Raze/Haq (Halsey and 207th)-continued (4.16 Acres per m.sail.multco.us) • Logistic Center (14.35 Acres) • Village Place (4.80 Acres) • Halsey Commons (0.37 Acres) • Fairview Villa (0.78 Acres) The City will continue to update its GIS mapping	No modification	Permit Tech Civil Engineer

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Review Applicable Code and Development Standards related to Stormwater Management	1-Jan-14	Review and the City's current stormwater treatment standards for compliance with new MS4 NPDES permit language by January 1, 2014. Update the City's post-construction stormwater design standards and code language. Document the City's post-construction inspection and enforcement response procedures by January 1, 2014	Update the municipal code, design standards and enforcement procedures to eliminate barriers to LID and to implement stormwater management requirements.	Track progress related to the review of the City's code and development standards per provisions in the MS4 NPDES permit.	This requirement has been completed. The City continues to review and update its code and development standards as needed to meet the requirements of the permit.	No modification	Civil Engineer Senior Planner PW Director
Design Standards for Public Projects	Ongoing	Follow the Standard Specifications for Public Works Construction which requires treatment of stormwater runoff through the use of BMPs. Maintain database of BMPs that are implemented.	Ensure that public works stormwater related projects address treatment of runoff as appropriate.	Number and type of public stormwater quality BMPs built.	The following CIP stormwater related projects are identified in the project list of the Consolidated SW Master Plan (CSMP) and were designed/constructed this PY 25: • New Public Work Shop constructed in PY 25 consisted of new catch basin and storm line coming from PW Shop is allowed to discharge into landscape to be infiltrated and constructed roof stormwater connection to existing storm main line on 1st street.	No modification	Civil Engineer Engineering Technician

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #7 - Pollution Prevention for Municipal Operations							
O&M Plan	Ongoing	Use the O&M Plan as a guide for designing and maintaining public storm facilities in order to maximize water quality benefits while maintaining flood capacity. The O&M Plan is intended to help locate and eliminate pollutants and provides a framework for maintaining field inspections records.	Implement the procedures in the O&M Plan. Review the O&M Plan by November 1, 2013, and update as necessary to maximize water quality benefits while maintaining flood capacity.	Track annual changes made to the O&M Plan	O&M Plan updated. Permit requirement met. No updates were made to the procedures in the O&M Plan in PY25.	No modification	Civil Engineer PW Superintendent Storm Lead Worker
Right of way – O&M	Ongoing	The City contracts with Multnomah County for road maintenance that includes street sweeping, roadside mowing, brushing and pavement maintenance. The maintenance program is substantially similar to, and at least as protective as, the ODOT Routine Road Maintenance program approved under the current 4(d) limit.	Maintain contract with Multnomah County for road maintenance.	N/A	City of Fairview maintains an IGA with Multnomah County for road maintenance activities. Road maintenance activities performed at county roads this PY 25, are as follows: • Catch basins cleaning - two times: September 17, 19, 24. • Roadside mowing - As needed • Route sweeping - 4 times: October 7, April 15,16 and 18. • Misc. sweeping (snow gravel pick up) • Crack Sealing Pavement Preventive Maintenance - None this PY 25, due to severe weather conditions. • Pavement Marking Restoration - None this PY 25	No modification	PW Superintendent
Street Sweeping	Ongoing	The City contracts with Multnomah County for street sweeping (approximately 6 times per year). The frequency is based on weather conditions, road conditions and funding.	Maintain contract with Multnomah County.	Track frequency of sweepings.	Multnomah County conducted a total of 4 street sweepings this PY 25. Please see details above, Right of Way operation and maintenance.	No modification	PW Superintendent
De-icing and Yard Debris Activities	Ongoing	Sand and gravel are applied to roadway surfaces to assist with traction during inclement weather. The sand is removed and recycled as soon as possible after the snow or ice event. Yard debris is picked up from residents weekly by the City's solid waste provider.	As weather permits, remove gravel when it is no longer needed.	Track processes conducted for sand and gravel removal.	There was no de-icing events this PY 25	No modification	PW Superintendent
Native Vegetation	Ongoing	Encourage the use of native vegetation in riparian areas on private and public property to reduce the need for fertilizers, pesticides, and herbicides. Planting and landscape policies for riparian buffer areas encourage use of vegetation (indigenous or imported) that is self-sustainable without the need for pesticides or herbicides. Riparian buffer permits are issued for alterations to the landscape within 50 feet of Fairview Creek, Fairview Lake, the Columbia Slough and their tributaries (City code chapter 19.106).	Review planting plans associated with riparian buffer permits.	Track number of riparian buffer permits.	Applicants for riparian buffer permits were encouraged to use native vegetation that is self sustainable without the need for pesticides or herbicides and to be in compliance with FMC chapter 19.106. This is implemented during the Natural Resources Land Use permitting process. There were no dock and riparian buffer permits issued this PY 25.	No modification	Associate Planner

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Integrated Pest Management	Ongoing	The City encourages use of the Portland Parks and Recreation Pest Management Guide. This guide emphasizes controlling pests that are harmful to the health or aesthetic value of park plantings in a manner that is cost-effective, safe, and environmentally responsible. It is an approach that uses multi-faceted strategies that minimize negative impacts on the environment and on human health. The controls used in this program include manual, mechanical, cultural, biological and chemical methods. Often a combination of methods is used. Examples of Integrated Pest Management include: • Timing of chemical applications to avoid runoff. • Mowing high grass and brush to reduce weed seed crops in rough areas. • Pruning of trees and shrubs to increase air circulation to reduce susceptibility to disease and insect problems. • Appropriate fertilizing to encourage plant health and resistance to pests (i.e., weeds, insects and disease). • Using plants with natural resistance to pests. • Combining turf aeration and over-seeding along with any application of broadleaf weed control to eliminate the cause of the problem, and therefore the need for repeated applications.		Track City planting projects that incorporate native plants.	There are 27 City of Fairview neighborhood parks and recreation areas encomassing 443.56 acres that were treated with approved Portland Parks and Recreation pesticides, this PY 25. There are 4 Metro parks and 3 Reynolds School District parks in the City of Fairview. Most of these parks were only treated with a mixture of herbicides as needed for invasive or unwanted native vegetation and target spray practices were utillized. Native vegetation was also incorporated in the City planting projects and during maintenance activities. The City's Parks & Recreation Lead worker is a licensed applicator and. attends seminars and trainings related to Parks and Recreation Pest Management. Private stormwater facilities incorporated native plants this PY 25	No modification	Parks Lead Worker
Chemical Applicator Licensing	Ongoing	Maintain staff certification in public pesticide application and follow Oregon Department of Agriculture (ODA) requirements related to herbicide application.	All chemical applications will be supervised by an ODA Certified Applicator.	N/A	The City of Fairview's Parks Lead Worker is a certified Oregon Department of Agriculture (ODA) chemical applicator who updates his certification on biennial renewal period. All events involving chemical applications are supervised by the Park Lead Worker.	No modification	Parks Lead Worker
Track Municipal Facilities	Ongoing	The City has one facility that includes the treatment, storage or transport of municipal waste. This facility is the Corporation Yard Dumpster. Collection of waste from municipal litter receptacles is collected and stored in a dumpster at this site until the City's garbage hauler collects the waste on a weekly basis. The dumpster has a cover on it and runoff from the site is treated by a structural stormwater filter. No additional stormwater management practices are deemed necessary for this site. Update SWPPPs for two municipal facilities and conduct annual inspections.	Annually inspect two municipal facilities (Crestwood and Public Works Shop)	N/A	Public Works crew regularly monitored our Corporation Yard Dumpster facility known as the Crestwood Shop. Waste from municipal litter receptacles is collected and stored in this covered dumpster and collected by City's garbage hauler on a weekly basis. Storm run-off from the site is treated by an Oil-Water separator / Concrete Structural Containment Vault (filter cartridges by Contech). Stockpiles of construction materials needed for maintenance activities are covered and bermed to protect against migration run-off and wind erosion. The City completed a new Public Works Shop this permit year, however, it is primarily used for vehicle parking and offices. Thr Engineering technician eill be taking on the role as the inspector for the Public Works Shop and Crestwood Shop as of PY 26	No modification	Civil Engineer Engineering Technician

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Litter Receptacles	Ongoing	Provide, collect, and maintain litter receptacles in strategic public areas and during major public events to provide disposal of pet waste bags and prevent trash from entering the stormwater system.	Maintain at least one litter receptacle at all public parks greater than 1 acre. Provide collection a minimum of once per week.	Track number of litter receptacles.	There are 43 litter receptacles that are maintained and collected once a week and after significant events. The City of Fairview conducts public outreach through Fairview Outlook monthly magazine on healthy watershed campaign. One of the topics is about "Dog Waste Scooping" and dog waste bag receptacles are provided in every City Park.	No modification	Parks Lead Worker
Sanitary Sewer System Program	Ongoing	Limit wastewater infiltration through the operation, maintenance and construction of the sanitary sewer infrastructure based on existing conditions and projected sanitary flows.	Respond to pump station failures. Perform cleaning of the problem areas of the City's sanitary sewer system. Construct pipe restoration projects to replace defective pipe and reduce inflow and infiltration.	Track identified sanitary problems and resolutions related to the storm system each year.	The City had no pump station failures or sanitary sewer system problems this PY 25. A high profile sanitary sewer rehabilitation project (Interlachen Sanitary Sewer Pipe Rehabilitation) took place in PY 25 for UV-Cured in Place Piping liner to line over 11,000 LF of 50-yr old sewer piping system and eliminated Inflow and Infiltration (I & I) issues.. Project completion took place in PY 25. Another significant sanitary sewer pipe CIPP rehabilitation project was completed during the PY 25 year titled "Halsey Sewer Rehabilitation" lined over 1,600 LF of pipe. This project addressed capacity and eliminated Inflow and Infiltration (I & I) issues.	No modification	Civil Engineer Engineering Technician
Consolidated Stormwater Master Plan (CSMP)	Ongoing	The Consolidated Stormwater Master Plan (CSMP) adopted in 2007 combines infrastructure improvements including retrofit opportunities with federal and state water quality requirements. Projects were developed to address water quantity and quality issues, utilizing hydrologic and hydraulic modeling as well as information from the TMDL regulatory program and the NPDES stormwater discharge permit.	Continue to make progress in the implementation of the CSMP. Update CSMP within one year of permit issuance.	Track the number, type and watershed location of projects that are completed.	The Consolidated Stormwater Master Plan (CSMP), CIP project list was updated by the City of Fairview and Brown and Caldwell in 2016. The following projects related Consolidated SW Master Plan (CSMP) and were designed/constructed this PY 25. • NE 1st St. (Main to Depot) Half-Street Right-of-Way Improvement Project: AAI Engineering (Consultant) completed the design and construction began on April 23, 2020 PY 25 that consisted of 2 catch basin installations and connection to an existing storm main line. . • New Public Work Shop constructed in PY 25 consisted of new catch basin and connection to existing storm main line in 1st street.	No modification	Civil Engineer PW Superintendent

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2019-2020 (PY 25)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #8 -Structural Stormwater Facility Operations and Maintenance							
Inspect and Maintain Public Storm Facilities	Ongoing	Perform inspection and required maintenance as stated in the O&M Plan–clean catch basins and storm pipe, sedimentation manholes, channels and stormwater detention basins in areas where sediment and/or debris tend to accumulate.	Inspect 50 percent of detention lines, ponds, swales and outfalls. Inspect natural stream channels from bridge and road crossing. Clean catch basins and inspect adjacent pipes in one third of the City annually. Clean all water quality manholes (5). Update maps of City Structural Stormwater Facilities.	Track facilities inspected and maintained. Track number of catch basins cleaned. Estimate quantity of sediment removed from catch basins and water quality manholes.	The following are City of Fairview's stormwater quality facilities that are structurally inspected and operationally maintained annually: • Catch Basins: A total of 490 catch basins are divided into 3 zones for maintenance purposes. Zone 1 (189 CBs), Zone 2 (176 CBs) and Zone 3 (125 CBs). One zone is inspected and maintained annually. Zone 2 was inspected by city staff and cleaned by Multnomah County crew, this PY 25. The City of Fairview has an Inter-Governmental Agency (IGA) with Multnomah County with respect to catch basin cleaning; however, inspection and monitoring is done by Fairview O & M staff. • Outfalls: 34 out of 38 total outfalls were insnpected (8 High Priority Outfalls) in PY25. • Underground Injection Control Facilities (UICs) / Sumps and Sedimentation Manholes: 3 total • Detention Ponds: 3 out of 4 detention ponds were inspected in PY25.	No modification	Civil Engineer Storm Lead Worker PW Superintendent Engineering Technician
Private Water Quality Facilities Inspection and Maintenance	Ongoing	Require plans conforming to the requirements of City of Fairview Standard Specifications for Public Works Construction and City of Portland Stormwater Management Manual at the time of permitting for stormwater facilities related to new private development and redevelopment/retrofitting. Include recording of operations and maintenance plans for stormwater quality facilities.	Ensure new private stormwater facility plans conform to City requirements. Inspect new facilities for conformance to approved O&M plans. Develop a private facility maintenance Standard Operating Procedure within one year of permit issuance.	Track number of inspections conducted and inspection results.	City of Fairview engineering staff participates during pre-application and engineering review routing process for permit acquisition on new private and public agency development and re-development. The reporting staff manages review, comments and feedback on plans, specifications, stormwater reports and calculations during the review process. It is one of the requirements from the consultants and project owners to include submittal of an Operations and Maintenance Agreement, recorded with Multnomah County, for stormwater facility maintenance activities post-construction. A total of 3 private developments inspected this PY 25. All 3 were not conforming to maintenance of their faciliteis. All three are in progress of addressing their stormwater facilities.	No modification	Civil Engineer Engineering Technician

Appendix A—Legal Authority

City Attorney's Office | City of Gresham
1333 NW Eastman Parkway
Gresham, OR 97030
503-618-2507
GreshamOregon.gov

October 1, 2020

Oregon Department of Environmental Quality
Water Division
811 S.W. 6th Ave.
Portland, OR 97204

Re: Adequate Legal Authority – 40 CFR 122.26(d)(2)(i)

To Whom It May Concern:

I am a Senior Assistant City Attorney for the City of Gresham and provide legal counsel to the Department of Environmental Services, which includes the Watershed Management Division. In that capacity, I am familiar with the provisions of the Gresham Revised Code that address stormwater issues, including but not limited to GRC Articles 3.20 to 3.60. These code provisions can be accessed at www.greshamoregon.gov/code.

I have reviewed these code provisions and have determined that the provisions provide the City of Gresham with adequate legal authority as required in 40 CFR 122.26(d)(2)(i). Enclosed please find the table that summarizes these requirements and the applicable Gresham Revised Code provisions.

Sincerely,

David J. Ross
Senior Assistant City Attorney

Enclosures

c: Keri Handaly

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
Schedule A. 1. Prohibit Non-Stormwater Discharges	…effectively *prohibit non-stormwater discharges* into the MS4 unless such discharges are otherwise permitted under Subsection A.4.a.xii., another NPDES permit or other applicable state or federal permit, or are otherwise exempted or authorized by the Department.	GRC Articles 3.23.010-030 contain the **Discharge of Pollutants** and **Waste Disposal and General Discharge Prohibitions** Regulations which prohibit non-stormwater discharges except as exempted per the City's permit. Non-stormwater discharge is defined as *Any discharge to the public system not comprised entirely of stormwater.*
Schedule A. 4. A. i.	*Prohibit* through ordinance or other regulatory mechanism, *illicit discharges* into the permittee's MS4. [Illicit discharges are any release/spill not composed entirely of stormwater.]	GRC Articles 3.23.020 and 3.24.030-040 contain the Discharge Regulations which prohibit **Illicit Connections and Illicit Discharges, Requirement to Eliminate, Remediate, and Monitor and Analyze.**
Schedule A. 4. A. ii.	Include documentation in an enforcement response plan or similar document… *describing the enforcement procedures* the permittee will implement when an illicit discharge investigation identifies a responsible party.	GRC Article 3.99.040 **Enforcement Tools,** Council Resolution 3041 **Establishing Civil Penalties** and Stormwater Pollution Prevention for Business Standard Operating Procedures and/or Stormwater Monitoring Plan
Schedule A. 4. C. i.	Include ordinances or other enforceable regulatory mechanisms that *require erosion prevention and sediment controls be designed, implemented and maintained* to prevent adverse impacts to water quality and minimize the transport of construction-related contaminants to waters of the State. …the regulatory mechanism must apply to construction activities that result in land *disturbance of 1,000 square feet or greater.*	GRC Articles 3.28.010-015 **Erosion Prevention** contain the requirements for erosion control compliance with the City's Erosion Prevention and Sediment Control (EPSC) Manual and authority to inspect for compliance. The City's EPSC Manual contains the threshold for the implementation of erosion control practices.
Schedule A. 4. C. ii.	Require construction site operators to	GRC Article 3.22.020

	develop erosion prevention and sediment control site plans, and to implement and to maintain effective erosion prevention and sediment control best management practices.	**Stormwater Manuals** and GRC 3.28 **Erosion Prevention** and is described in the EPSC Manual and Article 3.28.015 **Authority to Inspect**
Schedule A. 4. C. iii.	Require construction site operators to *prevent or control non-stormwater waste* that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste.	GRC Article 3.23.025 **Waste Disposal Prohibitions** and 3.22.020 **Stormwater Manuals** and is described in the EPSC Manual
Schedule A. 4. C. vi.	Describe… the *enforcement response procedures* the permittee will implement. The enforcement response *procedures must ensure construction activities are in compliance with ordinances* or other regulatory mechanisms.	GRC Article 3.22.020 **Stormwater Manuals:** enforcement authority is described in the EPSC Manual. Enforcement procedures are described in the EPSC Standard Operating Procedure and utilize 3.99.040 **Fines, Penalties and Other Enforcement Tools**, 750.100 **Stop Work Order**, and 7.50.200 **Abatement**.
Schedule A. 4. F. iii	…co-permittees must develop or reference an enforceable post-construction stormwater quality management manual…	GRC Article 3.22.020 **Stormwater Manuals** and Article 3.24.045 **Stormwater Treatment**
Schedule A. 4. F. v.	Where a new or redevelopment project site is characterized by factors limiting the use of on-site stormwater management methods to achieve the post construction site runoff standards… the Post-Construction Stormwater Management Program must require equivalent pollutant reduction measures, such as off-site stormwater quality management.	GRC Article 3.22.020 **Stormwater Manuals**
	Control through ordinance, permit contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water *discharges associated with industrial activity* and the quality of storm water discharged from sites of industrial activity.	GRC Article 3.23.025 **Waste Disposal Prohibitions** (2) and GRC Article 3.24.010 requires **Compliance with Industrial NPDES and WPCF Permits**
Schedule A. 4. H. 1.	Legal authority to inspect and require effective operation and maintenance [of	GRC Article 3.20.035 **Policy**. (2) Requires stormwater

	stormwater structural facilities]	facilities to comply with the City's development standards and stormwater manual. It further requires that these facilities be located on private properties and shall be owned and maintained by the benefited property, as applicable. GRC 3.20.055 Describes **Private Responsibilities** for stormwater facility maintenance. GRC 3.24.050 **Design and Performance Criteria** Provides the City's right to inspect and require maintenance.
Code of Federal Regulations 122.26 (A)	Control through ordinance, permit, contract or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.	GRC Article 3.30 requires a **Stormwater User Permit.** Includes new connections and the alteration, modification or increase in discharge from existing development. GRC Article 3.23.025 **Waste Disposal Prohibitions** (2) prohibits industrial washing/activities without sufficient BMPs. Article 3.24 requires compliance with **NPDES Stormwater and WPCF Permits.** Article 3.24.021 **Accidental Spill Prevention and Control and 3.24.025 Notification of Spills and 3.24.03-040 Remediation and Monitoring** requires the following: spill containment and kits, non-leaking disposal/recycling/product storage containers, spill prevention plans upon request, notification of spills, elimination of illicit connections, remediation of pollution and restoration of

		property and the monitoring, analysis, and reporting to demonstrate compliance.
(B)	Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.	GRC 3.23.02 **Illicit Connections and Discharges** GRC 3.23.025 **Waste Disposal Prohibitions** GRC 3.23.030 **General Discharge Prohibitions.**
(C)	Control through ordinance, order or similar means the discharge to municipal separate storm sewer of spills, dumping or disposal of materials other than storm water.	GRC 3.23.010 **Discharge of Pollutants** GRC 3.23.025 **Waste Disposal Prohibitions** GRC 3.23.030 **General Discharge Prohibitions.**
(D)	Control through interagency agreements among the co-permittees the contribution of pollutants form one portion of the municipal system to another portion of the municipal system.	A cooperative monitoring and stormwater management program exists between the Cities of Gresham and Fairview, and Gresham and Multnomah County, based on historical arrangements that were formalized in June 2004.
(E)	Require compliance with conditions in ordinances, permits, contracts or orders; and	GRC Article 3.99 **Enforcement** and GRC Article 7.50 **Stop Work Order and Abatement**
(F)	Carry out all *inspection, surveillance and monitoring* procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.	GRC Article 3.24.040 **Requirement to Monitor and Analyze** Article 3.24.010 **Compliance with Industrial NPDES Stormwater and WPCF Permits** Article 3.24.050 (5) Authority to Inspect Private stormwater facilities **and 3.28.015** Authority to inspect construction sites Article 3.99.020 **Authority to Inspect**

Beery Elsner & Hammond LLP
ATTORNEYS AT LAW

MEMORANDUM

TO: Allan Berry, Public Works Director, City of Fairview

FROM: Heather R. Martin, City Attorney's Office HRM

SUBJECT: Legal Authority to Implement and Enforce NPDES MS4 Permit

DATE: October 16, 2020

Fairview's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit requires it to "maintain adequate legal authority through ordinance(s), interagency agreement(s) or other means to effectively implement and enforce" the permit's provisions. See NPDES MS4 Permit No. 101315 at Schedule D(1).

For the reasons listed in the attached memo from our office dated October 12, 2015 (Exhibit A), the City has maintained and currently possesses legal authority to implement and enforce the NPDES MS4 permit. None of the Fairview Municipal Code (FMC) provisions cited in Exhibit A have changed or been deleted. They are all still in effect as is the intergovernmental agreement the City has with Gresham.

I believe, given that information, the City continues to possess adequate legal authority required by its NPDES MS4 permit.

Please let me know if you have any questions.

HRM/yh
Attachment

t 503.226.7191
f 503.226.2348
e info@gov-law.com
1750 SW Harbor Way Suite 380
Portland OR 97201-5106
www.gov-law.com

Exhibit A

Beery Elsner & Hammond LLP
ATTORNEYS AT LAW

MEMORANDUM

TO: Allan Berry, Public Works Director, City of Fairview

FROM: David F. Doughman, City Attorney's Office

SUBJECT: Legal Authority to implement and enforce NPDES MS4 permit

DATE: October 12, 2015

Fairview's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit requires it to "maintain adequate legal authority, through ordinance(s), interagency agreement(s) or other means, to effectively implement and enforce" the permit's provisions. *See* NPDES MS4 Permit No. 101315 at Schedule D(1). You asked our office to confirm that Fairview is maintaining such authority.

As outlined below, we are confident that Fairview has maintained and currently possesses adequate legal authority to implement and enforce the NPDES MS4 permit.

The legal authority must enable the City to:

(a) *Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.*

In 2004, the City adopted a comprehensive ordinance to control non-stormwater discharge into its storm sewer system, codified at Fairview Municipal Code (FMC or Code) Chapter 13.40. It applies to "all water entering the city of Fairview storm drain system and generated on any developed and undeveloped property unless specifically exempted." FMC 13.40.020.

The Code, at FMC 13.40.070, regulates industrial discharges into the storm sewer system. It requires an industrial discharger to prove it is complying with any NPDES permit it may possess for industrial discharges and allows the Fairview public works department to inspect a discharger's facility. It grants the public works department the authority to install monitoring devices at a facility to control the quality of storm water discharged from the site and provides for penalties for dischargers who fail to comply with FMC 13.40.070's terms.

For industrial dischargers that are not required to possess a NPDES permit, the City is able to require a reporting form and establish a schedule of monitoring discharges from such facilities.

(b) *Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer*.

The Code specifically prohibits illicit discharges to the system at FMC 13.40.040. Any materials that are not "stormwater" – defined as rain runoff, snowmelt runoff, and surface water and drainage – are not allowed to be discharged into the system, subject to certain exceptions. Penalties may be imposed upon persons illicitly discharging prohibited materials, including fines and suspending access to the system, among others. *See* FMC 13.40.060 and 13.40.110.

(c) *Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water*.

In addition to explicitly prohibiting non-stormwater discharges into the system as discussed above, the Code controls the discharge of materials other than stormwater by utilizing best management practices (BMPs) identified in Fairview's Stormwater Management Plan. *See* FMC 13.40.080. Further, the Code allows for monitoring of discharges at the public works department's discretion. *See* FMC 13.40.070.

The Code also requires dischargers to immediately report spills or disposal of materials other than stormwater and provides for penalties for those who may fail to report such spills. *See* FMC 13.40.100 and 13.40.110.

Other Code sections control the discharge of materials other than stormwater. FMC 19.106.040(B) prohibits alterations to wetlands that would appreciably diminish the values or functions of the water body or wetland. FMC 19.106.040(C)(9) requires construction sites adjacent to wetlands to install erosion/sedimentation control devices between the land area to be disturbed and any wetlands. The devices must conform to the specifications and procedures of the City's erosion control standards

FMC 19.106.040(C)(10) requires developments with significant impervious surface areas adjacent to wetlands to have storm water detention and filtration facilities as part of their approved design. The design of such facilities must conform to the BMPs described in the City's standard specifications for public facilities and related ordinances and technical/guidance manuals.

(d) *Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.*

The City has an intergovernmental agreement (IGA) with Gresham, a co-permittee for the duration of the permit term. The jurisdictions agree to minimize their contribution of

pollutants to each others' stormwater systems to the maximum extent practicable through implementation of an approved Stormwater Management Plan. In addition, each jurisdiction may provide services related to water quality protection to the other upon mutual agreement, at full cost.

(e) *Require compliance with conditions in ordinances, permits, contracts or orders*.

All of Fairview's ordinances are subject to enforcement actions, either specific to a given ordinance (e.g. FMC 13.40.110) or generally through a violation citation in municipal court. Land use/development permits routinely condition approval upon satisfying various Code criteria and such permits may similarly be enforced in court. Naturally, if a contract pertaining to stormwater management is breached the City has the right to enforce the contract in court.

(f) *Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.*

Fairview's comprehensive ordinance controlling non-stormwater discharges into its system explicitly:

► Permits the public works director to prohibit a discharger from engaging in activities that are, were or may be a significant source of non-stormwater discharge. FMC 13.40.040(B)(2).

► Prohibits illicit discharges into the system and illicit connections to the system. FMC 13.40.040(A).

► Permits the public works department to suspend MS4 discharge access if necessary to prevent an actual or threatened discharge that will harm the public, the system or the environment. FMC 13.40.060(A).

► Permits the public works department to enter and inspect a discharger's facilities, establish monitoring of the discharge, and require regular reporting to the City. *See* FMC 13.40.070.

For all of the above reasons, we believe the City continues to possess the adequate legal authority required by its NPDES MS4 permit. Please let me know if you have any questions.

Appendix B—Summary of Urban Growth Boundary Activities

July 2019 - June 2020 Planning Permits

File Type	File No.	Date Filed	Project Description & Location			Comments
AX	20-081	3/6/20	Searles Expedited Annexation; 17339 & 17311 SE McKinley Rd			**Approved 8/28/20** **Pleasant Valley**
MIS	19-375	10/2/19	Sunset Village; 18221 Richey Rd.			**Approved 12/23/19** **Pleasant Valley**
DRC	19-392	10/11/19	Springwater HS Shelter; 1440 SE Fleming Ave			**Approved 12/19/19** **Springwater**
MIS	19-354	8/29/19	Renaissance Homes; 6925 SE Hogan			**Approved 10/02/19** **Springwater**

No new annexations this year.

Appendix C—City of Gresham Supporting Education and Outreach Documents

Gresham
Trees and Health
Symposium

Learn about the connection between trees, green spaces, and public health.

FREE CHILD CARE **LANGUAGE TRANSLATION SERVICES UPON REQUEST** **LIGHT REFRESHMENTS**

We all know that trees provide benefits to people and the communities where they grow, but do you know how to care for trees to help them thrive? Did you know that you can add to Gresham's tree canopy at home or in your neighborhood?

At the symposium, hear from lead researcher, Dr. Vivek Shandas and find answers to these questions, and learn about the City of Gresham's "Green Gresham, Healthy Gresham" tree project in Rockwood. Enjoy:

- **SPEAKERS**
- **EXHIBIT BOOTHS**
- **DISCUSSION**
- **THE CONNECTION BETWEEN TREES AND HEALTH OUTCOMES**

November 13, 2019
6PM - 8PM

Rockwood Boys & Girls Club

454 Southeast 165th Avenue
Portland, OR 97233

RSVP
bit.ly/GreshamTrees
or call 503-618-2392

Sponsored by grant funding from East Multnomah Soil and Water Conservation District.

Multnomah County

FRIENDS of TREES

CITY OF GRESHAM OREGON

Green Gresham, Healthy Gresham

WILD IN THE CITY

2020

A calendar of local watershed wildlife.

100% of purchase price goes to support these councils:

Columbia Slough
Johnson Creek
Sandy River

Main animal photography by
Gresham resident Caz Zyvatkauskas

CITY OF GRESHAM

TREE CITY USA®

"Planting a tree today creates a legacy for Gresham's future."

-Councilor David Widmark

Celebrate Arbor Month in April as we begin our 11th year as a Tree City USA. Help us plant and maintain trees at these fun, free events.

Refreshments provided. Please bring gloves and pruning tools. No RSVP required.

- **Saturday, April 6**
  Gradin Arboretum Tree Planting and Care
  10 a.m. to noon
  Gradin Arboretum
  2303 SE Palmquist Road

- **Saturday, April 13**
  Neigborhood-wide and Nadaka Tree Planting
  9 a.m.-1 p.m.
  Nadaka Nature Park
  17615 NE Glisan St.
  (potluck lunch provided)

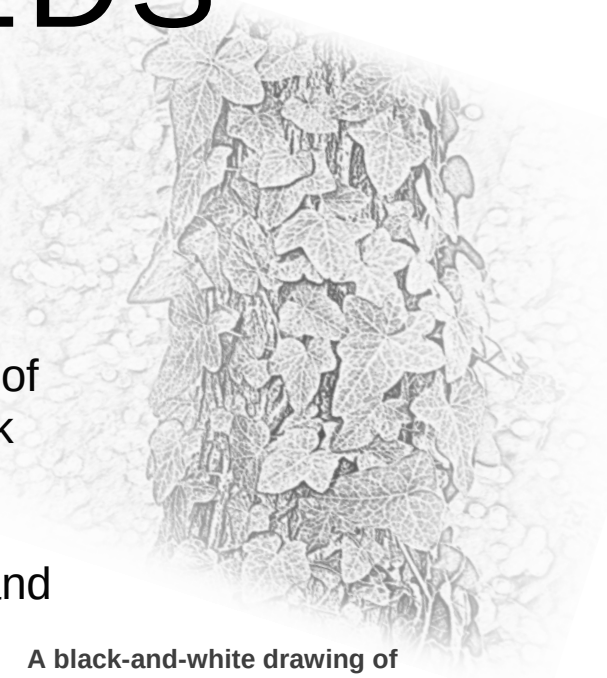
Sign up at
friendsoftrees.org/gresham

For more information about tree plantings, call Tina Osterink, Natural Resources Planner, 503-618-2392.

CITY OF GRESHAM

URBAN WEEDS WORKSHOP

Weeds – we all have them. Learn how to identify common garden and landscape weeds along with other more notorious plant invaders of the region in this FREE Workshop. We will walk you through how these aggressive plants take over in your yard and provide some simple yet effective tips that will help you get the upper hand without turning to synthetic herbicides.



A black-and-white drawing of invasive English Ivy climbing up a tree.

Date: Wednesday, April 17th
Time: 6:00pm – 8:30pm
Location: Gresham City Hall
Address: 1333 NW Eastman Pkwy, Gresham

Register online at:
www.emswcd.org/workshops

EMSWCD is committed to accessibility, diversity, and equity. To request accommodation, please contact us at least ten days in advance at: (503)222-7645 or brandi@emswcd.org.

Brought to you by:

East Multnomah Soil and Water Conservation District

Hosted by:

City of Gresham

POST THIS NOTICE: REGIONAL STORMWATER REGULATIONS FOR MOBILE CARPET CLEANERS

ALL EMPLOYEES MUST FOLLOW PROPER DISPOSAL PROCEDURES

This is a notice regarding regional regulations for disposal of carpet cleaning fluids from your business. **It is against the law to allow anything other than rain water to enter the public storm system.** Violations that allow cleaning water to enter the stormwater system, like draining wash water to the street or an outdoor drain, are subject to enforcement action including **fines of up to $5,000**.

PROPER DISPOSAL OPTIONS:

1. Use **bathtubs or utility sinks** and a filter over the drain inside the homes that you are cleaning.
2. Use the **wastewater cleanout** at the home which you are cleaning. These are commonly located near the home's foundation.
3. Collect the wash water in a **tank on your vehicle** and pump it into a utility sink or wastewater cleanout at your home or place of business.
4. Check **sanidump.com** for disposal locations.
5. Contact the City or County to **request permission** to use a sanitary system manhole. The sanitary system is a closed system that must be accessed by removal of a manhole lid.


Wastewater cleanout

DO NOT:

1. Pour chemical-laden water onto the ground or into an outdoor drain.
2. Discharge wash water with chemicals in a home with a septic system.

For questions or assistance, call 503-618-2525 or email WaterResources@GreshamOregon.gov.

These agencies enforce stormwater pollution laws:

Clackamas County
Clark County
City of Fairview
City of Gresham
Oak Lodge Water Services
City of Milwaukie
Multnomah County
City of Oregon City
City of Portland
City of Troutdale
City of Vancouver
City of Wilsonville
City of Wood Village

PUBLICAR ESTE AVISO:
REGULACIÓN REGIONAL DE AGUAS PLUVIALES PARA LIMPIADORES MÓVILES DE TAPETES
TODOS LOS EMPLEADOS DEBEN SEGUIR LOS PROCEDIMIENTOS DE DESECHO ADECUADOS

Este es un aviso sobre las regulaciones regionales para la eliminación de fluidos usados en su negocio para la limpieza de alfombras. **Es contra la ley permitir que cualquier otro tipo de líquidos que no sea agua de lluvia ingrese al sistema público de tormentas.** Las violaciones que permiten que lo ingrese al sistema de aguas pluviales, como drenar el agua de lavado a la calle o un desagüe al aire libre, están sujetas a medidas de cumplimiento que incluyen **multas de hasta $ 5,000.**

OPCIONES DE ELIMINACIÓN ADECUADA:


limpieza de agua residual

1. Utilice **bañeras o lavaderos y un filtro** sobre el drenaje dentro de los hogares que usted esté limpiando.
2. Utilice **la limpieza de agua residual** en el hogar que usted esté limpiando. Por lo general, se encuentran al lado o en la parte trasera de los hogares.
3. También podrá recoger el agua de lavado, dentro de un **tanque de su vehículo** y bombearla hacia un lavadero o aguas residuales en su hogar o en su negocio.
4. Vea **sanidump.com** para encontrar las ubicaciones de eliminación.
5. Usted también puede comunicarse con la ciudad o el condado para **solicitar permiso** para utilizar una boca de drenaje del sistema sanitario que le quede cerca. El sistema sanitario es un sistema cerrado, al que se debe acceder removiendo la tapa del drenaje o alcantarilla.

NO:

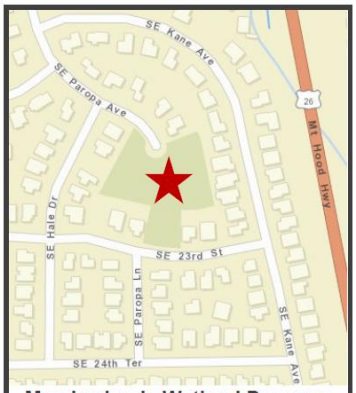
1. Vierta agua con sustancias químicas en el suelo o en un drenaje o desagüe al aire libre.
2. Descargue agua de lavado con sustancias químicas en un hogar que tenga sistema séptico.

¿Tiene preguntas? WaterResources@GreshamOregon.gov o en el 503-618-2525

Estas agencias hacen cumplir las leyes de contaminación de aguas pluviales:

Clackamas County
Clark County
City of Fairview
City of Gresham
Oak Lodge Water Services
City of Milwaukie
Multnomah County
City of Oregon City
City of Portland
City of Troutdale
City of Vancouver
City of Wilsonville
City of Wood Village

Did you know that you live near a wetland preserve?

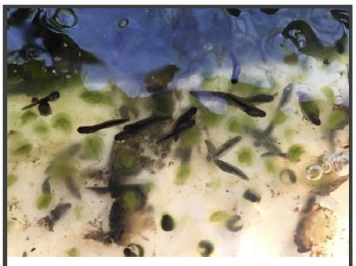


Meadowlands Wetland Preserve

Gresham Meadowlands is a Wetlands Conservancy preserve that is maintained with help from the City of Gresham.

This small area in your neighborhood serves as important habitat for local species like the Pacific chorus frog, red-winged blackbird, and the state-listed sensitive species Northern red-legged frog.

In addition, the area's healthy, mature wetland plants filter pollutants out of the neighborhood's stormwater runoff, protecting our rivers, lakes, and drinking water. So next time you take a drink of clear, refreshing water, remember to thank your local wetland!


Northern red-legged frog hatchlings

You can help protect this private preserve. We ask that you:

⇒Appreciate the sensitive plants and wildlife from outside the preserve.
⇒Keep your dog on a leash and out of the preserve.
⇒Refrain from dumping yard debris and other litter in the preserve.

Questions? WaterResources@GreshamOregon.gov or 503-618-2525

CITY OF GRESHAM
1333 NW Eastman Pkwy
Gresham, OR 97030


Pacific chorus frogs at Gresham Meadowlands

The Wetlands Conservancy

Frog 'n salamander fun

Looking for something unique to do after the busy holidays that gives back to nature? Leap (frog) into action and help our Natural Resources Program survey local amphibians. Free training is on Saturday, Jan. 18. Learn more.

Beesponsible

It doesn't take much to create a buzz for pollinators. Make your yard a natural habitat for birds, bees and more. Gresham residents who sign up by Aug. 15 receive $35 in free plants! Learn more.

Gresham trees and health

Get tree care information and learn how you can add to Gresham's tree canopy at home or in your neighborhood. We're holding a public tree symposium on Wednesday, Nov. 13, featuring speakers, film, discussion, tree and health care booths, etc. RSVP and details.


STUDENT
VIDEO CONTEST
WIN $500
THE RIVER STARTS HERE

STUDENT VIDEO CONTEST FOR CLEAN RIVERS

WIN $500

Dear Portland-Metro Area School Administrator:

The Regional Coalition of Clean Rivers and Streams (RCCRS), a partnership of public agencies in the Metro region, works to educate the public about how stormwater pollution impacts our rivers and streams and steps we can all take to protect our water.

We invite your students to enter our *first ever* **Portland-Metro[*] area middle and high school video contest.** To learn more about the RCCRS, visit **facebook.com/cleanrivers** or **theriverstartshere.org**.

Contest details:

Contest entries will consist of 25 or 55 second videos about water pollution. Multiple entries allowed with separate application forms. All Portland-Metro area middle and high school students are invited to participate. Public, private, charter, and home school students in grades 6 to 12 as of September 2019 are eligible to enter.

A **$500 first prize** will be awarded in each of these categories:

- Best Long Video (55 seconds)
- Best Short Video (25 seconds)
- People's Choice (overall favorite, short or long)

Students may enter as a school group or club (e.g. Gresham High School technology class or Beaumont Middle School Green Club) or as an individual. Prize money will be awarded based on the category selected.

Video entries must focus on one of the following stormwater pollution prevention topics:

A. Leave no trace: protect rivers while enjoying the outdoors
B. We all live downstream: what connects *you* to Oregon's water?
C. Everyday pollution prevention: how daily routines at home can pollute stormwater
D. Cars: minimize water pollution from driving and maintaining vehicles
E. Watershed councils: make a commercial promoting your local council

Videos will be evaluated based on factual accuracy, educational value, and entertainment factors.

Application and video factsheets are available at theriverstartshere.org

If you plan to enter, please email info@theriverstartshere.org so we can send you updates and reminders**.** Your email address will not be shared.

[*]*Students in grades 6 to 12 in Washington, Clackamas, and Multnomah counties are eligible to enter.*

The Regional Coalition for Clean Rivers and Streams is a partnership of Multnomah County, Clean Water Services, Clackamas County Water Environment Services, Oak Lodge Water Services, and the Cities of Lake Oswego, West Linn, Gladstone, Troutdale, Fairview, Gresham, Wilsonville, and Milwaukie.

Appendix D—Erosion Prevention Sediment Control Program Wet Weather Notice to Contractors

Attention Builders and Contractors

Wet Weather Construction Season is October 1st – May 31st

The City of Gresham conducts frequent inspections of construction sites during the wet weather season to ensure that soil remains on site and erosion protection is properly installed and maintained. Contractors with failing erosion control are liable for civil penalties.

IT IS YOUR RESPONSIBILITY TO:

- Properly install perimeter protection (fiber roll/wattle or silt fence) to keep soil on site.

- Tarp stockpiles and protect exposed soil with straw or hydroseed to prevent runoff.

- Prevent sediment tracking into street with rocked construction entrance and protect catch basins with inserts.

- Maintain a clean construction site:

- Sweep dirt and debris from streets
- Do not stockpile dirt or materials in the street
- Keep trash contained

Thank you for building responsibly and helping to protect Gresham's water resources by minimizing erosion.

More information about erosion prevention and sediment control can be found online at:
http://greshamoregon.gov/publicworksstandards/

Questions about Gresham's erosion protection requirements?

Please call Karen Bromley at 503-618-2289 or email karen.bromley@greshamoregon.gov

Appendix E—City of Gresham TMDL Report

Implementation Plan

NONPOINT SOURCE TMDL IMPLEMENTATION PLANS

																Watershed					Regulatory Program					
Best Management Practice or Activity	**Strategy Commitments**	**Proposed Actions**	**2018-2023 Milestones**	**2020 Status**	**Proposed Adaptive Management**	Nutrient Related*	Bacteria	Temperature	DDT/DDE	Dieldrin	Dioxin	PAHs	Mercury	Lead	PCBs	Johnson Creek	Fairview Creek	Columbia Slough	Sandy River	Columbia River	NPDES--MS4	Nonpoint Source	UIC (drywells)	NPDES--WWTP	Limit 10	Goal 5/Title 13
Temperature Management																										
NPT-1 Natural Resource CIP Implementation	**Program Commitment:** Implement Capital Improvement Projects within prioritized critical areas to protect or improve water quality, bank storage and aquifer recharge, and salmonid habitat	**Environmental Overlay Project (EOP):** Update City critical area overlays to integrate best available data for resource locations and implement more understandable buffer strategy for streams and wetlands in order to increase administration, implementation, and enforcement of floodplain, riparian, and slope protections	2019: • Floodplain Overlay Update adopted • Develop new hillside/slope model to better convey and mitigate landslide risk 2020: • Final drafts of Hillside and Riparian Buffer codes presented for public outreach • Draft Technical Guidance Companion Document • Programmatic Permit Option developed for large land managers to improve buffer compliance (PGE, Metro, Parks, Natural Resources) • Final versions of Code, Tech Guidance, Cash-in-Lieu mitigation option approved by DLCD, Metro, Gresham City Council 2021 • Outreach and Training • Post adoption clean up of code; refinements to Guidance Manual 2022: • Outreach, Training, Guidance Refinement • Update Floodplain Overlay with refined ESA provisions (additional protections for salmon habitat)	Public Outreach began in February, and halted in March with the initial Covid pandemic response. Method for large group outreach reinitiated in 2021 Permit Year and will be presented in the 2021 report. Programmatic Permit terms drafted, including vetting with Fire and geotechnical engineering specialists to combine wildfire prevention for riparian resource area, and landslide protection. Additional mitigation options developed to fit scnearios such as under power lines. Cash-in-lieu mitigation option drafted to ensure no loss of mitigation when inadequate space or other constraints exist for an applicant. In those intances, they'll now pay a fee supporting Gresham Natural Resources efforts to install more shade in highest priority Temp TMDL buffer areas.	Accelerated schedule in Summer and Fall 2020 to recover lost progress from Covid delays. Adoption of hillside and buffer codes, technical guidance, and cash-in-lieu fund anticipated December 15, 2020.			ó								P	P	P	P	P		X				X
		Update of 2010 Natural Resources Master Plan to reflect best available data, the new regulatory buffers developed through the EOP, new community area project opportunities and acquisition/easement targets	2018: • Initiate Forest Health Study 2019: • Continue Forest Health Study • Continue Headcut Risk Assessment on East Buttes • Shade Classification Update 2020: • Finish Forest Health Study 2021: • Update all project descriptions and add new projects developed since 2010	Covid response postponed field work completion of Forest Health Study. This also delayed field work for headcut risk assessment and NRMP project site visits; the Shade Classification Update was delayed in 2019 due to staff shortages related to EOP obligations.	Increase project budgets for consultant support of delayed field work will allow for accelerated progress in Fall 2020 and Winter 2021. Draft NRMP anticipated in March 2021. This will include integration of new shade buffer geometries as modeled in the EOP effort and as adopted by City Council in December 2021 as a component of the City's official riparian buffer layers.			ó																		
		Develop local wetland mitigation bank opportunities within 5th/6th field HUCs in order to maintain existing hydrologic function within DEQ-regulated basins. The only wetland mitigation bank approved in the region is in a different 4th field HUC and is hydrologically disconnected from all of Gresham's regulated waterways, thus use of this existing bank would allow export of high value wetland functions out of the Johnson Creek watershed.	2019: • Initiate discussions with DES work groups on need for co-funded wetland mitigation bank(s) to serve local watersheds at same scale as our DEQ regulations • Start scoping smaller scale options for Fujitsu Ponds to address heat loading in advance of the needed larger scale work 2020: • Funding in DES CIPs Aerial assessment of properties. Start negotiations for acquisition 2021: • Acquisition and permitting in either Pleasant Valley or Springwater new comm. area. for umbrella mitigation bank to keep mitigation within affected watershed.	Covid response postponed outreach to property owners. Site visits will occur late 2020, acquisition of property targetted in 2021. Re-scoping of the Fujitsu Ponds project to reduce heatloading initially with an earlier phase, smaller project being accomplished with the late 2020 Natural Resources Master Plan update.	Attempt to regain lost time from Covid through accelerated schedule in late 2020. Milestones may be 1 year delayed.			ó																		
NPT-2 Riparian Planting	**Program Commitment:** Work with contractors, community, volunteers, and private landowners to install a native riparian canopy in identified shade target areas. Fast growing pioneer species may precede System Potential Vegetation species, depending on site conditions, in initial phases of restoration projects	**Annual riparian restoration within both Sandy Basin subwatersheds as well as Willamette Basin subwatersheds**. Staff will develop improved reporting criteria to demonstrate additional details. Beyond # of sites, details will include volunteer hours (if any), project site acres including linear feet of stream bank either treated for invasive control or where planted, and plants installed. With update of shade classifications in 2020, acreage will be provided of pre-project shade conditions at individual sites and projected post-project shade targets, using OWEB stream shade classification categories of 1 (poor shade cover), 2 (moderate), or 3 (good shade cover). Work with City Planning and Code Enforcement to **improve administration & enforcement of riparian buffer ordinances**.	2019: • As findings become available, incorporate forest health study results into riparian restoration site prioritization. • Review health impacts of climate change on typical suite of species used in restoration and develop more climate resilient planting pallete • Develop initiative to improve response to private encroachments, typically dumping and yard expansion, that negatively impact riparian shade conditions 2020: • Incorporate additional native species into riparian restoration projects • Work with forest health specialists, arborists, and/or wildfire risk reduction specialists to develop approach to addressing alder die off where use of heavy equipment would negatively impact soils from compaction, bank stability, and the health of retained trees. 2021: • Incorporate new shade classification findings	NR staff began growing stocks of Pacific yew and Pacific madrone, and continued researching alternatives to red alder, the species continuing to demonstrate significant decline throughout the city. Other native species, including western redcedar are showing stress, but not resulting in massive die off yet. Existing restoration projects continued, almost entirely with professional crews instead of volunteers due to Covid social distancing requirements: **Sandy Basin**: Kelly Creek (2 sites) **Willamette Basin**: Johnson Creek main stem (9 sites), Jenne Creek (1 site), Butler Creek (1 site), Chastain Creek (1 site) and Fairview Creek (3 sites). Each of these sites are under active management for invasive species control, with a subset of these sites receiving additional native plantings including Johnson Creek (3 sites), Jenne Creek (1 site), and Kelly Creek (2 sites). The Natural Resource program also started its Upper Butler Creek CIP project and will be implementing the baseline report and restoration plan in Fall 2020 and continue through Fall 2023. 2020 additions to the draft new riparian buffer code included improved code enforcement provisions related to overly common practice of dumping yard debris materials into riparian open spaces. Enforcement will begin when new code is effective in January 2021.	Temp TMDL Buffer Model and related Natural Resources Master Plan to be updated in 2020-1 to reflect new riparian buffer geometry. This update will include proposed changes to how NPT -2 activities are tracked and reported and will incorporate reporting of results by shade classification where relevant.			ó								P	P	P	P	P		X				X
			into restoration project site prioritization 2022: • Implement restoration in prioritized forest die off areas to prevent landslides, bank slumping, and infrastructure failure. All years: continue existing riparian restoration projects.																							
NPT-3 Monitoring and Reporting	**Program Commitment:** Annually report on implementation of projects; every 10 years provide an analysis of change in shade conditions based on aerial photo analysis.	**Implementation reporting:** annually provide projects implemented projects under Performance Measures for NPT-1 and NPT-2. **Shade reporting:** At roughly 10 year intervals conduct an aerial photo analysis to assess changes (from the 2008 baseline) in near-stream canopy cover using OWEB stream shade classifications of 1 (poor shade cover), 2 (moderate), or 3 (good shade cover). Resulting statistics will be presented for city-wide riparian canopy cover, AND for individual planting project sites reported on under NPT-1 and NPT-2 where planting efforts were started at least 5 years prior to this aerial photo analysis.	2019: • Shade classification update 2020: • Natural Resources Master Plan project prioritization schema updated	The Shade Classification Update was delayed in 2019 due to staff shortages related to EOP obligations. Shade Classification update is being initiated in late 2020 and will be finalized in 2021, with results provided in next year's Temp TMDL report. Covid related delays to NRMP field work update has shifted this work to late 2020/early 2021. Results will be included in next year's Temp TMDL report.	Temp TMDL Buffer Model and related Natural Resources Master Plan to be updated in 2021 to reflect new riparian buffer geometry per anticipated City Council adoption in December 2020.			ó								P	P	P	P	P		X				X

Table 4. TMDL Implementation Plan Commitments

NONPOINT SOURCE TMDL IMPLEMENTATION PLANS						Pollutant											Watershed					Regulatory Program					
Best Management Practice or Activity	**Commitment**	**Performance Measure**	**Status and Additional Goals, TMDL Year July 2018 through June 2019**	**Status and Additional Goals, TMDL Year July 2019 through June 2020**	**Proposed Adaptive Management**	*Nutrient Related**	*Bacteria*	*Temperature*	*DDT/DDE*	*Dieldrin*	*Dioxin*	*PAHs*	*Mercury*	*Lead*	*PCBs*	*Johnson Creek*	*Fairview Creek*	*Columbia Slough*	*Sandy River*	*Columbia River*	*NPDES--MS4*	*Nonpoint Source*	*UIC (drywells)*	*NPDES--WWTP*	*Limit 10*	*Goal 5/Title 13*
Private Sanitary Waste Systems																											
NPB-1 New and Redevelopment Requirement	**Program Commitment:** Ensure that new and redevelopment connect to the public sanitary system.	Number of new connections to the City system	City billing records show 24,860 total active accounts. 24,454 are wastewater accounts. An addition of 42 wastewater accounts. City code requires hookup to the city system when septic systems fail (for historically operating septic tanks) if a city wastewater pipe is located within 300 feet. *Last year's report to DEQ contained an error. We reported 24,803 active and inactive wastewater accounts--but the 24,803 was actually total accounts. However, when assembling this year's account data, we are amending that figure to 24,412 active and inactive wastewater accounts, an addition of 150 accounts, not the 541 previously reported.	City billing records show 25,173 total active accounts. 24,583 are wastewater accounts. An addition of 129 wastewater accounts. City code requires hookup to the city system when septic systems fail (for historically operating septic tanks) if a city wastewater pipe is located within 300 feet.	None proposed.	ó	ó									P	P	P	P	P		X				
NPB-2 Require Failed Systems to Connect to Public System	**Program Commitment:** Ensure that failing onsite systems are replaced by connection to City system, where City system is available.	Number of onsite properties that connect to public system	County sanitarian data shows that 5 septic tanks were decommissioned in Gresham.	County sanitarian data shows that 18 septic tanks were decommissioned in Gresham.	None proposed.	ó	ó									P	P	P	P	P		X				
NPB-3 Ensure Spills from Private Piped Systems are Resolved	**Program Commitment:** Respond to reports of private system spills to ensure prompt cleanup and repair	Number of failures reported, and outcome	There were two incidents of private sanitary waste overflows being investigated and remedied using the city's spill response and operations staff. See Table 3-7 of the NPDES report for the details. Staff continue to conduct proper RV waste dumping education and outreach as a measure of prevention.	There was one incidence of a private system overflow onto land that was resolved by City staff and enforement to the property owner requiring a cctv of the private line and repair. No sewage entered the public system.	None proposed.	ó	ó									P	P	P	P	P		X				