

<http://www.ecy.wa.gov/programs/wq/stormwater/manual.html>

Manual copies on CD and in printed form may be ordered from the WSDOE web site.

The above web site also contains a link for Technical Assistance.

There are numerous guidance sources that supply support information relating to Controlling Runoff from New Development and Redevelopment, and Construction Sites

Construction SWPPPs from A to Z: Everything You Ever Wanted to Know and More! at http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=308&schedule_id=962

Stormwater Phase II: Developing an Effective Municipal Stormwater Management Program For Construction Sites (Construction 101) at http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=284&schedule_id=927

7 POLLUTION PREVENTION, AND OPERATION AND MAINTENANCE FOR MUNICIPAL OPERATIONS

7.1 PERMIT REQUIREMENTS

Permit Section S5.C.5 requires that the City develop a Pollution Prevention, and Operation and Maintenance Program, and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations:

7.1.1 Maintenance Standards

- Establish maintenance standards that are as protective or more protective of facilities function than those specified in Chapter 4 of Volume V of the 2012 WSDOE Stormwater Manual for Western Washington, and/or develop maintenance standards for facilities that are not covered by the 2012 Manual.
 - Using the above maintenance standards, perform inspections of municipally owned water quality treatment, collection, conveyance and flow control facilities to determine if maintenance is required and to determine the frequency of maintenance required
 - When inspections identify exceedence of maintenance standards, maintenance shall be performed as follows:
 - Within 1 year for wet pool facilities and retention/detention ponds
 - Within 6 months for typical maintenance
 - Within 9 months of maintenance requiring re-vegetation
 - Within 2 years for maintenance that requires capital construction of less than \$25,000
 - For each exceedence of the required timeframe, the Permittee shall document the circumstances and how/why they were beyond their control.

7.1.2 Inspections

- Annually inspect all municipally owned or operated permanent stormwater treatment and flow control facilities, other than catch basins.
- Spot check all potentially damaged permanent treatment and flow control facilities (other than catch basins) after major storm events (greater than 10 YR/24 HR recurrence interval rainfall). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspection.
- Inspect all catch basins and inlets owned or operated by the Permittee at least once before the end of the Permit term. Clean catch basins, if the inspection indicates cleaning is needed to comply with maintenance standards established in the WSDOE 2012 Stormwater Management Manual for Western Washington. Decant water shall be disposed of in accordance with Permit Appendix 6, Street Waste Disposal of the Permit.

- Comply with above inspection requirements via an established inspection program designed to inspect all sites and achieve minimum inspection of 95% of all sites.

7.1.3 Reduce Stormwater Impacts

- Continue to implement practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the Permittee and road maintenance activities conducted by the Permittee including:
 - Pipe Cleaning
 - Cleaning culverts that convey stormwater in ditch systems
 - Ditch maintenance
 - Street Cleaning
 - Road repair and resurfacing, including pavement grinding
 - Snow and ice control
 - Utility installation
 - Pavement striping maintenance
 - Maintaining roadside areas, including vegetation management
 - Dust control
- Continue to implement policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the Permittee and subject to this Permit, including parks, open spaces, road rights of way, maintenance yards, stormwater treatment and flow control facilities and other associated facilities, addressing:
 - Application of fertilizer, pesticides, herbicides, fungicides, including the development of nutrient management and integrated pest management plans
 - Sediment and erosion control
 - Landscape maintenance and vegetation disposal
 - Trash management
 - Building exterior cleaning and maintenance

7.1.4 Training

Continue to implement an on-going training program for employees of the Permittee with construction, operation and maintenance job functions that may impact stormwater quality. The training program shall address the importance of protecting water quality, the requirements of this Permit. Operation and maintenance standards, inspection procedures, selecting appropriate BMP's, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including illicit discharges. Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements. Permittees shall document and maintain records of training provided.

7.1.5 Stormwater Pollution Prevention Plan (SWPPP)

Continue to implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or

operated by the Permittee in areas subject to this Permit that are not required to have coverage under the Industrial Stormwater General Permit

- Implement non-structural BMP's immediately after the pollution prevention plan is developed
- Include a schedule for implementation of structural BMP's
- Include periodic visual observation of discharges from facilities to assess the effectiveness of the BMP' applied

7.1.6 Records

Maintain records of inspections and maintenance or repair activities conducted by the Permittee in accordance with Permit Section S9 - Reporting Requirements.

7.2 PROGRAM ACTIVITY

The City presently has a limited operation and maintenance effort as related to Pollution Prevention. During the 2014/15 program year the City will be implementing programs to achieve compliance with the above described permit requirements.

7.2.1 Maintenance Standards

As mentioned previously, the City site review staff is familiar with the application of the WSDOE 2012 Stormwater Manual, including Chapter 4 of Volume V including its application to City owned and maintained facilities.

Based on the contents of Chapter 4, an abbreviated booklet of facilities maintenance standards will be assembled. Specially, developed standards for City facilities that are not covered by the published standards found in the WSDOE 2012 Manual will be prepared and added to the booklet.

The abbreviated booklet will cover all municipally owned water quality treatment, collection and flow control facilities.

7.2.2 Inspections

Upon completion of the municipal facilities map required under the Illicit Discharge Elimination portion of the permit, a listing of municipal facilities with written descriptions of the type of facilities, their intended purpose and general operating requirements will be prepared for use as the base document for facilities record keeping. This document will be used to develop an inspection checklist.

Annual Inspections - All municipally owned and operated permanent stormwater facilities, except catch basins will be inspected annually.

Spot Checks – At present there are two City owned stormwater treatment or flow control facilities, however, the City will be installing more stormwater treatment devices upon

the anticipated grant funding cycle in 2015. These treatment devices will be maintained per the manufactures requirements to ensure proper functionality. City owned facilities consist mainly of catch basins, manholes, pipelines and culverts. As such, spot checks will be performed at culvert crossings along Leach Creek after each major storm event (10 YR/24 HR Event).

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

7.2.3 Reduce Stormwater Impacts

Reduction of stormwater impacts within the City of Fircrest will be accomplished by February 2015 through the following:

- Clean existing pipelines in accordance with the findings of the facilities inspection program described above
- Clean existing ditches in accordance with the findings of the facilities inspection program
- Perform roadside ditch maintenance (cleaning, reshaping, regarding and replanting if necessary)
- Perform stream cleaning
- Perform street sweeping on a schedule that will service all of the City streets at least once per month
- Perform road repair and resurfacing, including pavement grinding as required to prevent pavement raveling and contribution of sediments into the stormwater system
- Perform snow and ice control as required, using manufacturer’s application rate for minimally environmentally toxic deicing chemicals
- Strict control of utility installation, encouraging the use of trenchless procedures, such as directional drilling, pipe bursting, slip lining and other techniques that minimize surface cuts and excavation
- Maintain pavement striping by minimizing paint application and using reflective pavement buttons
- Maintain roadside areas and vegetation
- Dust control

7.2.4 Training

As described above, pollution prevention training will be continued by sending appropriate staff to training courses related to the 2012 WSDOE Stormwater Manual during the 2014/15 permit year.

Ongoing facilities review staff training will follow-on from the initial training, consisting of more advanced courses related to the stormwater manual, manufacturer's courses relating to proprietary products, and specialized courses in source control BMP's, low impact stormwater designs, and permanent and temporary erosion control over the next 3 years.

Public works operation and maintenance staff have been trained in the preparation of Stormwater Pollution Prevention Plans (SWPPP) for heavy equipment maintenance or storage yards and material storage facilities for all City facilities.

7.2.5 Stormwater Pollution Prevention Plan (SWPPP)

Staff will prepare a SWPPP for the City's main maintenance/storage facility located on Ramsdell Street (see Figure 2) in 2014.



Figure 2

The plan will include:

- Immediate implementation of non-structural BMP's in the form of training and education, good housekeeping through the use of Source Control BMP's, maintenance of native vegetation, and development of buffer as examples.
- Schedule the implementation of the structural BMP's listed under Paragraph 7.2.3 Reduce Stormwater Impacts above.

During 2014, prepare summaries of non-structural BMP's applied and their impacts for inclusion in each annual report.

Immediately, develop a maintenance action checklist from the structural BMP implementation schedule. Prepare records for each action implemented with before and after photographs, plans for improvements, narrative summary of action taken and final results for inclusion in annual reports.

During major rainfalls between 2013 and 2014 observe major outfalls listed above to develop bench mark condition, observations and photo summaries for each location as well as follow up summaries. Record observations for inclusion in the annual report.

7.3 GUIDANCE DOCUMENTS AND WEB CASTS

Support information for Pollution Prevention, Operation and Maintenance for Municipal Operations is available from state and federal sources, specifically:

Tools and Guidance for Developing Your Post-Construction Stormwater Management Program at

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=386&schedule_id=1021

The Art and Science of Stormwater Retrofitting at

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=360&schedule_id=1006

BMP Performance at

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=346&schedule_id=999

Post-Construction Management, Building Green Programs at

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=342&schedule_id=991

Post-Construction Overview and Introduction to Smart Growth and Low Impact Development (Post Construction 101)

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=279&schedule_id=911

Killing Two Birds with One Stone: Building a Local Program to Maintain Your Stormwater Practices and Prevent Pollution from Municipal Operations at

http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=302&schedule_id=939

International BMP Database

<http://www.bmpdatabase.org/>