

APPENDIX A CITY OF WEST LINN'S STORMWATER MANAGEMENT PLAN (2008)

SWMP Overview

One of the MS4 NPDES permit requirements is to conduct an evaluation of the previous SWMP, propose revisions to the plan, and provide the rationale for the revisions. This section contains the revised SWMP, incorporating the revisions made since the last SWMP update in 2006. Revisions to the SWMP are based on the results of the SWMP evaluation to make sure the SWMP is current with respect to reducing pollutant discharges to the maximum extent practicable. Specifically, existing BMPs were reviewed by those responsible for implementing the BMP, in order to propose changes to the BMP and enhance its effectiveness. BMP revisions were also reviewed internally to ensure that commitments and activities were accurate and achievable. A public review process was initiated to get feedback regarding priorities.

City of West Linn SWMP (2008)

The stormwater management plan is organized into the five major components listed below. The first four components match the four major components of the stormwater management plan that are outlined in the MS4 NPDES permit (i.e., Schedule D(2)(c) i through iv). To simplify the SWMP, BMPs to address all of the public education requirements under the first four components of the plan are grouped into a fifth component.

- Component #1: Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas
- Component #2: A Program to Detect and Remove Illicit Discharges and Improper Disposal Into the Storm Sewer System
- Component #3: A Program to Monitor and Control Pollutants from Industrial Facilities
- Component #4: A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites
- Component #5: Public Education, Coordination, and Public Involvement BMPs

Component #1

Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas

NPDES permit requirements are listed below, followed by West Linn's relevant BMPs that address the permit requirement.

(1) Maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.

BMP(s):

- Conduct Stormwater Conveyance System Cleaning and Maintenance.
- Conduct Catch basin Cleaning and Maintenance.
- Public Structural Control Facility Cleaning and Maintenance.
- Private Water Quality Facility Maintenance Program

(2) Planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers that receive discharges from areas of new development and significant redevelopment. Such a plan must address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph Schedule D(2)(c)(iv).

BMP(s):

- Conduct Master Planning for Stormwater Quality Improvement.
- Continue to Implement Municipal Development and Community Development Codes.

(3) Practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.

BMP(s):

- Conduct Street Area Repair.
- Conduct Street Sweeping.

(4) Procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.

BMP(s):

See "Conduct Master Planning for Stormwater Quality Improvement" under requirement 2, component 1.

(5) A program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste. The description must identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under Schedule D(2)(c)(iii)).

BMP(s):

- Not Applicable-The City does not own or operate any municipal landfills or other treatment storage or disposal facilities for municipal waste.

(6) A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

BMP(s):

- Continue to Implement a Pest Management Program.

(Note: See component #5 and Table 5 for other educational BMPs associated with this requirement).

See Table 1 for the City of West Linn's BMPs that address the requirements that are listed above.

TABLE 1 - Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>NPDES Permit Requirement – (1) Maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.</p>		
<p align="center">Conduct Stormwater Conveyance System Cleaning and Maintenance</p>	<p>Responsible Department: City of West Linn Public Works Department, Environmental Services Division Permit Year: Ongoing BMP Description: The City of West Linn annually inspects their entire stormwater conveyance system including: manholes, sewer pipes, and ditches. Major culverts are inspected after all major storm events. System components requiring repair or replacement will be maintained promptly following inspection. Measurable Goals:</p> <ul style="list-style-type: none"> • Inspect culverts after major storm events. • Perform cleaning and repair promptly based on inspection results. 	<p>(1) Track the length of conveyance system inspected. (2) Track the volume of debris removed during cleaning activities.</p>
<p align="center">Conduct Catch basin Cleaning and Maintenance</p>	<p>Responsible Department: City of West Linn Public Works Department, Environmental Services Division Permit Year: Ongoing BMP Description: The City of West Linn inspects all public catch basins at least once per year. Cleaning activities are conducted as needed based on inspection and primarily occur during the dry weather season. A database tracking system is updated during each maintenance cycle to allow the City to better track catch basins requiring more frequent maintenance. Catch basins requiring repair or replacement will be maintained promptly. Measurable Goals:</p> <ul style="list-style-type: none"> • Inspect all public catch basins once per year, and clean as needed based on inspection results. • Repair or replace catch basins promptly based on inspection results. • Update tracking database during each maintenance cycle. 	<p>(1) Track the number of catch basins inspected. (2) Track the volume of debris removed during cleaning activities.</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>Public Structural Control Facility Cleaning and Maintenance</p>	<p>Responsible Department: City of West Linn Public Works Department, Environmental Services Division</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn owns and operates approximately 204 public structural water quality facilities; although this number continually increases with implementation of capital improvement projects. Such structural facilities currently include ponds, swales, detention tanks, and pollution control manholes. Public structural control facilities are inspected annually and cleaned and maintained when inspections show it is needed.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Inspect public structural water quality facilities annually. • Maintain public structural water quality facilities based on inspection results. 	<p>(1) Track the number and frequency of structural facilities inspected and maintained.</p> <p>(2) Track the volume of debris removed during cleaning activities.</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>Private Water Quality Facility Maintenance Program</p>	<p>BMP Owner: City of West Linn Public Works Department, Environmental Services Division Permit Year: Ongoing BMP Description: There are currently approximately 150 private structural water quality facilities in West Linn that the City is aware of. The City of West Linn has recently updated its Municipal Code, including enforcement language, to require owners to submit maintenance agreements to the City for these private water quality facilities. The maintenance agreement requires the owner to provide an annual report summarizing inspection and maintenance activities regarding the water quality facility. For facilities that require maintenance, a description of maintenance activities including verification by the maintenance contractor is required with an annual report to the City.</p> <p>The City is also working on gathering annual reports of inspection and maintenance activities for existing water quality facilities that do not have maintenance agreements. The City mails letters annually to all private water quality facility owners, regardless of whether they have a maintenance agreement with the City, requesting annual inspection and maintenance reports for the facilities. Annual reports are maintained on file at the City.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Require all new private water quality facilities to submit maintenance agreements to the City. • Require submittal of annual summaries of inspection and maintenance activities for private water quality facilities with maintenance agreements. 	<p>(1) Track number of maintenance agreements submitted to the City each year.</p> <p>(2) Track number of annual maintenance reports received each year.</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>NPDES Permit Requirement – (2) <i>Planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers that receive discharges from areas of new development and significant redevelopment. Such a plan must address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph Schedule D(2)(c)(iv).</i></p>		
<p>Conduct Master Planning for Stormwater Quality Improvement</p>	<p>Responsible Department: City of West Linn Development Services</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn updated their Stormwater Master Plan in 2006, and expects to perform the next Stormwater Master Plan update within the next 5-7 years. The most recent Master Planning efforts were done to update the current City drainage system and prioritize future capital improvement projects for flood control and water quality benefits. Prioritization is generally based on overall planning goals, cost, public safety, and environmental impact. Currently capital improvement projects (CIPs) are focused on fish passage, replacing all culverts that don't meet capacity requirements with bottomless culverts, as funds are available. Updates are made to the CIP inventory and map accordingly.</p> <p>All of the detention facilities include some water quality features. New CIPs generated through planning or new development will incorporate water quality elements along with flood control features.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Ensure water quality is considered during the development of flood control CIPs. 	<p>(1) Track any updates or modifications to the current Stormwater Master Plan approved by the City.</p> <p>(2) Track the number of CIP projects implemented each year and discuss the added benefit (water quality, habitat restoration, etc) of each.</p> <p>(3) Map the location and drainage area of water quality CIPs.</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>Continue to Implement Municipal Development and Community Development Codes</p>	<p>Responsible Department: City of West Linn Development Services</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn continues to review new development submittals for conformance with the Municipal Code and Community Development Code, with regards to stormwater control. The Municipal and Community Development Codes serve to protect surface waters in the City by outlining overlay zones, stormwater control objectives, and erosion control measures.</p> <p>Overlay zones are generally buffer areas that exist to protect, conserve, and enhance streams, wetlands, riparian areas, and other surface waters. The plan review process identifies impacted overlay zones and addresses appropriate mitigation efforts or poses restrictions for these areas.</p> <p>Stormwater control requires new development to provide stormwater quality facilities to control phosphorus loading and reduce high velocity flows. Per the City’s Development Code, stormwater quality needs to be addressed for new development that includes more than 500ft² of impervious surface. The City adopted the City of Portland’s Stormwater Management Manual to provide guidance to developers. In an effort to promote low-impact development, the City is currently working on its own details for street swales and rain gardens.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Continue to enforce municipal and community development codes regarding stormwater control for new development with over 500 ft² of impervious area. • Develop City details for street swales and rain gardens by 2010. 	<ol style="list-style-type: none"> (1) Track the number of development applications reviewed for compliance with the stormwater regulations. (2) Track any modifications to the list of currently approved structural control facilities. (3) Track private BMP implementation and their associated drainage areas. (4) Track progress towards completing City street swale and rain garden details.

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>NPDES Permit Requirement – (3) <i>Practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.</i></p>		
<p>Conduct Street Area Repair</p>	<p>Responsible Department: City of West Linn Public Works Department, Street Department Permit Year: Ongoing BMP Description: The City of West Linn conducts road maintenance and repair activities continuously to prevent erosion and future pollution from occurring. Repair work is generally scheduled during the dry season when possible, to minimize polluted discharges from entering the stormwater conveyance system. Measurable Goals:</p> <ul style="list-style-type: none"> • Ensure road maintenance and repair activities include consideration of water quality impacts. 	<p>(1) Track amount spent annually for repair activities.</p>
<p>Conduct Street Sweeping</p>	<p>Responsible Department: City of West Linn Public Works Department, Street Department Permit Year: Ongoing BMP Description: The City of West Linn continues to conduct contracted street sweeping activities throughout the City. Each street in the City is swept approximately 6 times per year, Regenerative air sweeping techniques are employed to minimize wash water from entering the stormwater conveyance system. Measurable Goals:</p> <ul style="list-style-type: none"> • Sweep each City street 6 times per year. 	<p>(1) Track the number of sweeps per year. (2) Track the volume of debris removed.</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>NPDES Permit Requirement - (4) <i>Procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.</i></p>		
<p>See BMP “Conduct Master Planning for Stormwater Quality Improvement” under permit requirement (2) above for applicable BMP meeting this requirement.</p>		
<p>NPDES Permit Requirement - (5) <i>A program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste. The description must identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under Schedule D(2)(c)(iii)).</i></p>		
<p>The City does not own or operate any municipal landfills or other treatment storage or disposal facilities for municipal waste.</p>	<p>NA</p>	<p>NA</p>

City of West Linn BMP Title	BMP Implementation	Tracking Measures
<p>NPDES Permit Requirement - (6) <i>A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.</i></p>		
<p>Continue to Implement an Integrated Pest Management Program</p>	<p>Responsible Department: City of West Linn Public Works Department, Parks Department Permit Year: Ongoing BMP Description: As an informal guide, the City of West Linn refers to the <i>Portland Integrated Pest Management program</i>, which defines appropriate application procedures and protocols along roadways, within City parks, and around water quality facilities for staff to adhere to during maintenance activities. Per the program, the following activities are typical:</p> <ul style="list-style-type: none"> • Application of chemicals is eliminated where possible, • Regular removal of invasive plant species is conducted, • Native plants are used for revegetation projects, • Only spot spraying is conducted for blackberry removal. <p>In addition, any work that is conducted within public right-of-ways requires certified, licensed applicators.</p> <p>Specific education measures and staff training are discussed under Category 5: Public Education BMPs</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Use the <i>Portland Integrated Pest Management Plan</i> as a guide for appropriate application procedures along roadways, within City Parks, and around water quality facilities. • Conduct work within public right-of-way only with certified, licensed applicators. 	<p>(1) Track any updates or modifications to typical procedures and activities.</p> <p>(2) Track amount spent on pest management chemicals each year.</p>

Component #2
A Program to Detect and Remove Illicit Discharges and Improper Disposal
Into the Storm Sewer System

This component of the permit requires the following:

(1) A program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description must address all types of illicit discharges, however the following category of non-storm water discharges or flows must be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, start up flushing of groundwater wells, aquifer storage and recovery (ASR) wells, potable groundwater monitoring wells, draining and flushing of municipal potable water storage reservoirs, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash waters, discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465, the state's environmental cleanup law; and discharges or flows from emergency fire fighting activities where discharges or flows from fire fighting are identified as not significant sources of pollutants to the waters of the state.

(2) Procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) Procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water [such procedures may include: sampling procedures for constituents such as e. coli, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow.] Such a description must include the location of storm sewers that have been identified for such evaluation.

Requirements 1, 2, and 3 are combined in Table 2.

BMP(s):

- Continue to Implement the Illicit Discharges Elimination Program

(4) Procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.

BMP(s):

- Continue to Implement the Spill Response Program.

(5) A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.

BMP(s):

- Public Reporting occurs in conjunction with public education activities as described under Component #5, Table 5.

(6) Educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

BMP(s):

- Public Education measures regarding proper material disposal occur in conjunction with public education activities as described under Component #5, Table 5.

(7) Controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.

BMP(s):

- Control Infiltration and Cross Connections to the Stormwater Conveyance System.

See Table 2 for the City of West Linn's BMPs that address the requirements that are listed above.

TABLE 2 - BMPs to Detect and Remove Illicit Discharges and Improper Disposal Into the Storm Sewer System

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
	<p>NPDES Permit Requirement - (1) A program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description must address all types of illicit discharges, however the following category of non-storm water discharges or flows must be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, start up flushing of groundwater wells, aquifer storage and recovery (ASR) wells, potable groundwater monitoring wells, draining and flushing of municipal potable water storage reservoirs, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash waters, discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465, the state's environmental cleanup law; and discharges or flows from emergency fire fighting activities where discharges or flows from fire fighting are identified as not significant sources of pollutants to the waters of the state.</p> <p>NPDES Permit Requirement - (2) Procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;</p> <p>NPDES Permit Requirement - (3) Procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water [such procedures may include: sampling procedures for constituents such as <i>e. coli</i>, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow.] Such a description must include the location of storm sewers that have been identified for such evaluation.</p>	

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>Continue to Implement the Illicit Discharges Elimination Program</p>	<p>Responsible Department: City of West Linn Department of Environmental Services Permit Year: Ongoing BMP Description: The City of West Linn conducts illicit discharge inspections, monitoring, and investigations annually during dry-weather conditions (between July and September) at all major outfalls. The City prioritizes minor outfalls based on a watershed’s surface water quality and inspects and investigates the higher priority minor outfalls as well. Trained personnel complete data inspection forms consistent with those shown in Part 1 of the City’s original NPDES Permit Application while inspecting each of the outfalls and utilizing a tracking database system to monitor the inspection results. Dry weather flows are inspected for a variety of visual characteristics, and sources of flows are characterized as either permissible (listed in Schedule A3 of the MS4 NPDES permit) or non-permissible.</p> <p>If non-permissible discharges are discovered, sampling, analysis, and investigation are conducted according to the following procedures:</p> <ol style="list-style-type: none"> 1. A water sample is taken and analyzed for the suspected contaminant group. 2. Using a drainage map and other source identification data, an attempt is made to locate the potential sources upstream of the discharge location. 3. Potential sources are investigated using one or more of the following techniques: onsite inspections, dye-testing, smoke testing, and/or TV inspection of lines. <p>The Public Works Director is notified of all positive identifications of illicit connections and will take all necessary steps to eliminate them immediately (i.e., within one week).</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Conduct illicit discharge inspections, monitoring, and investigations annually at all major and prioritized minor outfalls during dry weather conditions. • Utilize tracking database to monitor inspection results. • Notify Public Works Director of all positively identified illicit connections and take necessary actions to eliminate them. 	<ol style="list-style-type: none"> (1) Track the number and location of outfalls inspected annually. (2) Summarize inspection results and indicate outfalls requiring monitoring (sampling) and/or investigations. (3) Indicate the outcome and resolution of any investigation activities conducted.

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
NPDES Permit Requirement - (4) Procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.		
<p>Continue to Implement the Spill Response Program</p>	<p>Responsible Department: City of West Linn through a contract with Tualatin Valley Fire and Rescue</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn Environmental Services initially responds to all calls reporting a spill within the City limits and then calls Tualatin Valley Fire and Rescue. If the spill is minor, Environmental Services will take care of it; if it is not minor, Tualatin Valley Fire and Rescue will take care of it. Procedures for spill response are outlined in the Fire Departments “Emergency Operations Plan” and coordination efforts by the Fire Department are as follows:</p> <ol style="list-style-type: none"> 1. Contact the State Hazardous Materials Response Team (Tualatin Valley Fire and Rescue) 2. Contact the State and National Emergency Response System if the condition requires. 3. Contact the police department for traffic controls. 4. Contact the Public Works Department for storm system information and containment. Public Works staff will install catch basin covers and absorbent pads. <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Respond to minor spills. • Call Tualatin Valley Fire and Rescue to respond to other spills. 	<ol style="list-style-type: none"> (1) Indicate the number of spills reported to the Fire Department. (2) Indicate sources, causes, and resulting water quality problems resulting from spill activities.
NPDES Permit Requirement - (5) A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.		
A Description of the City’s Public Reporting Program is included in Component #5, Table 5.		
NPDES Permit Requirement - (6) Educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.		
A Description of the City’s Public Informational Activities regarding management of hazardous materials is included in Component #5, Table 5.		

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
NPDES Permit Requirement - (7) Controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary		
<p>Control Infiltration and Cross Connections to the Stormwater Conveyance System</p>	<p>Responsible Department: City of West Linn Environmental Services, Development Services, and Department of Engineering</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn implements an inflow and infiltration (I&I) abatement program for the sanitary sewer system. Sanitary lines are tested via smoke-testing, T.V. techniques, and flow metering for any cracking or breakage that would possibly result in infiltration from the sanitary to the storm system.</p> <p>The City’s Development Services Department reviews new and re-development plans for possible cross-connections. The City’s illicit discharge program also works to control and prevent any cross-connections during their outfall inspections and dry-weather field screening activities.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Test for damage of sanitary sewer lines with smoke-testing, TV, and flow metering techniques, as funding allows. • Review new and re-development plans for possible cross-connections. • Inspect for cross-connections during illicit discharge inspections. 	<p>(1) Indicate whether any cross-connections were discovered during the plan review process or during illicit discharge investigations, and describe follow-up activities.</p> <p>(2) Track testing of sanitary sewer lines and results of tests.</p>

Component #3
A Program to Monitor and Control Pollutants Industrial Facilities

This component of the permit requires an industrial monitoring program that does the following:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.

Not Applicable – there is only one industry located within West Linn’s jurisdiction.

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in Schedule D(2)(c)(iii), to be implemented during the term of the permit, including, at a minimum, the submission of quantitative data on the pollutant parameters included in the Department’s NPDES 1200-Z industrial general stormwater permit.

BMP(s):

- Review 1200-Z Permit Monitoring Data Submitted to DEQ

See Table 3 for the City of West Linn’s BMPs that address the requirements that are listed above.

TABLE 3 - A Program to Monitor and Control Pollutants from Industrial Facilities

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>NPDES Permit Requirement - (1) <i>Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.</i></p> <p>NPDES Permit Requirement - (2) <i>Describe a monitoring program for storm water discharges associated with the industrial facilities identified in Schedule D(2)(c)(iii), to be implemented during the term of the permit, including, at a minimum, the submission of quantitative data on the pollutant parameters included in the Department's NPDES 1200-Z industrial general stormwater permit.</i></p>		
<p>Review 1200-Z Permit Monitoring Data Submitted to DEQ</p>	<p>Responsible Department: City of West Linn Engineering Department</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn has only one industrial facility within its jurisdiction and this facility has obtained a 1200-Z permit for its stormwater discharges. The City of West Linn annually requests, from DEQ, the monitoring and benchmark data collected by this 1200-Z permit holder. The City reviews the data and maintains a copy on file.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Request and review monitoring and benchmark data from DEQ for the one facility with a 1200-Z annually and keep it on file. 	<p>(1) Track the number of permitted and non-permitted industrial facilities within the City.</p> <p>(2) Review and keep monitoring data submitted to DEQ by the one 1200-Z permittee that is located in West Linn on file.</p>

Component #4
A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites

This component of the permit requires the following:

- (1) *Procedures for site planning which incorporate consideration of potential water quality impacts.*
- (2) *Requirements for nonstructural and structural best management practices.*

BMP(s):

- Continue to Implement the Erosion Control Manual.

- (3) *Procedures for identifying priorities for inspecting sites and enforcing control measures that considers the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.*

BMP(s):

- Conduct Erosion Control Inspections.

- (4) *Appropriate educational and training measures for construction site operators.*

BMP(s):

- Public education and training measures for construction site operators occur in conjunction with public education activities as described under Component #5, Table 5.

See Table 4 for the City of West Linn's BMPs that address the requirements that are listed above.

TABLE 4 - A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>NPDES Permit Requirement – (1) Procedures for site planning which incorporate consideration of potential water quality impacts. NPDES Permit Requirement – (2) Requirements for nonstructural and structural best management practices.</p>		
<p>Continue to Implement the Erosion Control Manual</p>	<p>Responsible Department: City of West Linn Engineering Department and Environmental Services Permit Year: Ongoing BMP Description: The City of West Linn development standards require submission of an erosion control plan for all sites with 500 ft² of disturbance or greater, consistent with requirements provided in the Municipal and Community Development Codes. The City recommends the use of the <i>Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual</i> (revised Dec. 2000) in preparing the erosion control plans. This guidance document recommends non-structural techniques for erosion control including:</p> <ol style="list-style-type: none"> 1. Construction Phasing 2. Prompt Revegetation 3. Flagging areas not to be disturbed <p>Suggestions for structural erosion control BMPs are also included in the guidance document and include: sediment fences, gravel entrances, ground cover, wattles, berms, etc.</p> <p>During the plan review process, new and redevelopment will be assessed for compliance with the erosion control guidance documents. Plans not in compliance will not be approved and will be required to implement appropriate erosion control techniques prior to approval.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Require submission of erosion control plans as part of development standards. • Assess new and re-developments for erosion control compliance during plan review. Require plans not in compliance to implement appropriate erosion control techniques prior to approval. 	<ol style="list-style-type: none"> (1) Report any updates or modifications to the Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual (2000). (2) Record the number of erosion control plan reviews completed.

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>NPDES Permit Requirement - (3) <i>Procedures for identifying priorities for inspecting sites and enforcing control measures that considers the nature of the construction activity, topography, and the characteristics of soils and receiving water quality</i></p>		
<p>Conduct Erosion Control Inspections</p>	<p>Responsible Department: City of West Linn Engineering Department</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn development standards require erosion control to be in place prior to issuance of a construction and/or building permit. All sites greater than 500 ft² of disturbance are required to have a plan, are inspected, and are required to pass inspections. Small residential developments are inspected for erosion control twice, at a minimum. Large development and commercial developments are also inspected a minimum of twice for erosion control and more frequently as part of construction inspections.</p> <p>For sites with an erosion control violation, 24 hours is typically given to initially correct the problem. If not immediately resolved, other penalties such as fines, stop work orders, and suspension/ withdrawal of development approvals may be imposed. Engineering or building inspections will also not be conducted while an erosion control violation exists. Before the final engineering or building inspection, all disturbed area must be permanently stabilized or re-vegetated.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Inspect, at least twice, all sites with an Erosion Control Plan for erosion control. • Impose penalties such as fines, stop work orders, and suspension/withdrawal if correction actions aren't taken immediately. • Require all disturbed areas to be permanently stabilized or re-vegetated prior to final engineering or building inspection. 	<p>(1) Report the number of erosion control inspections conducted each year.</p> <p>(2) Report the number of stop work orders issued, and describe the measures used to resolve the issue.</p>
<p>NPDES Permit Requirement - (4) <i>Appropriate educational and training measures for construction site operators.</i></p>		
<p>A Description of the City's Educational Program for Construction Site Operators is included in Component #5, Table 5</p>		

Component #5 Public Education, Coordination, and Public Involvement

Three of the four major components of the SWMP requirements include public education-related requirements as follows while public involvement measures are described under a separate SWMP requirement:

Educational Requirement from Component #1 –

(6) A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

BMP(s):

- Provide Public Education and Outreach Materials Regarding Stormwater Management.
- Ensure Staff Training for Pest Management.

Educational Requirement from Component #2 –

(5) A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.

(6) Educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

BMP(s):

- Provide Public Education and Outreach Materials Regarding Stormwater Management.
- Ensure Staff Training in Spill Response.
- Continue to Implement a Pet Waste Program.

Also see BMP listed above “Provide Public Education and Outreach Materials Regarding Stormwater Management”.

Educational Requirement from Component #4 –

(4) Appropriate educational and training measures for construction site operators.

BMP(s):

- Provide Educational Information to Construction Site Operators.

Although not specifically outlined as a requirement in the permit, education of staff and coordination with other jurisdictions and involvement in stormwater related professional groups is necessary for continuing to ensure sound stormwater management related decisions and adaptive management. Therefore, two additional BMPs have been added to ensure this continued coordination.

BMP(s):

- Promote Staff Education Related to Environmentally Friendly Solutions.
- Participate in Intergovernmental Coordination.
- Annual Report Writing.
- Permit Renewal Submittal.

See Table 5 for the City of West Linn's BMPs that address the requirements that are listed above.

TABLE 5 – Public Education, Coordination, and Public Involvement

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>NPDES Permit Requirement, Component 1 - (6) <i>A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.</i></p> <p>NPDES Permit Requirement, Component 2 – (5) <i>A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.</i></p>		
<p>Provide Public Education and Outreach Materials regarding Stormwater Management</p>	<p>Responsible Department: City of West Linn Department of Public Works</p> <p>Permit Year: Ongoing</p> <p>BMP Description: The City of West Linn continues to employ a public education program aimed at reducing the discharge of pollutants associated with a variety of activities including but not limited to:</p> <ol style="list-style-type: none"> 1. The application of pesticides, herbicides and fertilizers by citizens. 2. Illicit discharges and dumping of waste materials into the storm drainage system. 3. Disposal of waste oil and toxic materials. <p>The City utilizes newsletter publications, brochures, bill inserts, the City web page, radio advertisements, and makes monetary contributions to the Tualatin Basin Public Awareness Committee (TB PAC) to promote public awareness of water quality issues related to the above-mentioned practices. Newsletter articles typically include information on recycling locations, local disposal programs, and other coordinated efforts with METRO. Other educational topics: naturescaping and alternative pesticide/fertilizer use.</p> <p>To aid in public education related to proper disposal of waste materials, the City of West Linn also works with individuals and groups who volunteers to conduct catch basin stenciling. The Public Works Department provides direction and materials to volunteers for catch basin stenciling efforts.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Utilize newsletters, brochures, bill inserts, City web page, and radio advertisements to promote public awareness of stormwater quality issues and sources, and to promote information to 	<ol style="list-style-type: none"> (1) Track the number, types, and topics of public educational materials dispersed to the public. (2) Indicate any large-scale public educational campaigns. (3) Track coordinated public outreach activities with local co-permittees. (4) Record the number of catch basins stenciled in a given year. (5) Track amount donated to TB PAC each year. (6) Track number of

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
	<p>encourage public reporting of illicit discharges.</p> <ul style="list-style-type: none"> Continue to make annual monetary contributions to TB PAC. 	<p>reports of illicit discharges received.</p>
<p>Ensure Staff Training for Pest Management</p>	<p>Responsible Department: City of West Linn Department of Public Works Permit Year: Ongoing BMP Description: The City of West Linn informally follows the <i>Portland Integrated Pest Management Plan</i>. In accordance with the program, crews from Public Works and the Parks Department are trained once every two years on proper application rates and techniques. Measurable Goals:</p> <ul style="list-style-type: none"> Train Public Works and Parks department crews once every two years on proper application rates and techniques. 	<p>(1) Track that training is accomplished every two years.</p>
<p>NPDES Permit Requirement, Component 2 – (5) <i>A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.</i></p>		
<p>Ensure Staff Training in Spill Response</p>	<p>Responsible Department: City of West Linn through a contract with Tualatin Valley Fire and Rescue Permit Year: Ongoing BMP Description: The City of West Linn through a contract with Tualatin Valley Fire and Rescue provides Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training to staff that initially respond to spills. Annual refresher courses are also provided to these staff members by an in-house crew chief. Measurable Goals:</p> <ul style="list-style-type: none"> Provide training and annual refresher courses for OSHA Hazardous Waste Operations and HAZWOPER to staff initially responding to spills via Tualatin Valley Fire & Rescue. 	<p>(1) Indicate the number of employees certified in OSHA HAZWOPER training. (2) Indicate if any employees attended refresher courses in the given year.</p>

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>Continue to Implement a Pet Waste Program</p>	<p>Responsible Department: City of West Linn Parks and Public Works</p> <p>Permit Year: Ongoing</p> <p>BMP Description: When stormwater facility inspections are conducted, staff looks for evidence of domestic animal waste. If problems are identified, signs are installed to educate citizens about the effects of animal waste on stormwater. Staff will also leave educational door hangers in the immediate area to make citizens aware of the problem. The Parks Department also installs signs to educate citizens about the effects of animal waste on stormwater at City Parks and they provide baggies and disposal areas for cleanup of domestic animal waste.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Install educational signs in identified problem areas and educational door hangers at homes in the immediate vicinity of the identified problem areas. • Install educational signs at City parks • Provide baggies and disposal areas in all City parks for cleanup of domestic animal waste. 	<p>(1) Report on activities conducted annually.</p>
<p>Also refer to BMP “Provide Public Education and Outreach Materials regarding Stormwater Management” for educational activities addressing the above permit requirements.</p>		

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
NPDES Permit Requirement, Component 4 – (4) Appropriate educational and training measures for construction site operators.		
<p>Provide Educational Information to Construction Site Operators</p>	<p>Responsible Department: City of West Linn Engineering Department Permit Year: Ongoing BMP Description: The City of West Linn makes the <i>Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual</i> available to engineers, contractors, and the general public. Educational brochures are attached to building and grading permits. As erosion control continues to be an ever-changing field, the City of West Linn also publicizes (via brochures, flyers, and pamphlets on the City hall bulletin board) a variety of educational opportunities pertaining to erosion prevention. Such opportunities include classes at the Urban Watershed Institute, classes at Portland Community College, and participation in regional erosion control awards. Measurable Goals:</p> <ul style="list-style-type: none"> • Attach educational brochures to building & grading permits. • Publicize educational opportunities via brochures, flyers, and pamphlets including information regarding the Design Manual. 	<p>(1) Performance of the erosion control program is tracked via BMPs in Table 4.</p>
Additional Coordination Efforts		
<p>Promote Staff Education Related to Environmentally Friendly Solutions</p>	<p>Responsible Department: City of West Linn Environmental Program, Engineering Department Permit Year: Ongoing BMP Description: The City of West Linn Environmental Program staff attend ACWA, APWA, NW Stream Restoration, regional erosion control awards committee, Tualatin Basin Policy Advisory Committee and other professional meetings, seminars and conferences, and maintain close connections with neighboring municipalities and professional organizations throughout the United States. The City maintains a budget to allow for employee attendance to stormwater-related conferences. Measurable Goals:</p> <ul style="list-style-type: none"> • Attend environmental and water quality related professional meetings and conferences. • Maintain close connections with neighboring municipalities and professional organizations. • Continue to maintain budget for employee attendance of conferences. 	<p>(1) Track attendance at relevant conferences.</p>

City of West Linn BMP Descriptions	BMP Implementation	Performance Measures
<p>Participate in Intergovernmental Coordination</p>	<p>Responsible Department: City of West Linn Department of Public Works Permit Year: Ongoing BMP Description: The City of West Linn will continue to meet as necessary to coordinate with other Clackamas County co-permittees regarding regional water quality efforts. Areas for coordination include MS4 issues, education, public outreach and monitoring. Measurable Goals:</p> <ul style="list-style-type: none"> Continue to budget employee time to coordinate with other co-permittees regarding regional water quality efforts. 	<p>(1) Indicate groups, committees, and organizations that the City is currently participating.</p>
<p>Annual Report Writing</p>	<p>BMP Owner: City of West Linn Department of Public Works Permit Year: Ongoing BMP Description: West Linn coordinates with all City divisions and groups that administer BMPs described within the SWMP to review program commitments, gather tracking data, and where appropriate, assist with program evaluation and additional goal setting or BMP enhancements. Measurable Goals:</p> <ul style="list-style-type: none"> Provide an annual report that includes all of the requirements specified in the NPDES Permit Schedule (B)(2)(a). 	
<p>Permit Renewal Submittal</p>	<p>BMP Owner: City of West Linn Department of Public Works Permit Year: Ongoing BMP Description: In order to meet the requirements of the NPDES Permit Section (B)(2)(c), West Linn prepares a permit renewal submittal package at least 180 days prior to the expiration of the permit. Measurable Goals:</p> <ul style="list-style-type: none"> Submit permit renewal to DEQ 180 days prior to permit expiration. 	<p>(1) Track date acceptance letter from DEQ was received.</p>