

UPDATED WILSONVILLE STORMWATER MANAGEMENT PROGRAM

SWMP OVERVIEW AND BACKGROUND

The Wilsonville Stormwater Management Plan (SWMP) has been periodically reviewed and updated in accordance with the City's municipal separate storm sewer (MS4) National Pollutant Discharge Elimination System (NPDES) permit requirements. Review and update of the City's SWMP was conducted in January 2006 as part of the preparation of the permit-required Interim Evaluation Report (IER). The updated SWMP was submitted in May 2006 to DEQ and approved in June 2006. As part of the review, existing BMP descriptions were reviewed by those responsible for implementing the BMP, in order to propose changes to the BMP and enhance its effectiveness.

The SWMP was evaluated again in May 2008 as part of the MS4 NPDES permit renewal submittal. The revised SWMP was submitted in September 2008 to DEQ. This evaluation focused on creating more specific measurable goals for the BMPs in the City's SWMP and refining BMP descriptions based on the City's implementation experience since 2006.

Most recently, the revised 2008 SWMP was updated in conjunction with new proposed MS4 NPDES permit language received from DEQ. The following document reflects the revised SWMP, updated in conjunction with the proposed MS4 NPDES permit language dated April 29, 2010.

CITY OF WILSONVILLE SWMP (2010)

The SWMP is organized into the eight major stormwater program elements listed below. The eight major elements correspond to those outlined in the proposed April 29, 2010 version of the MS4 NPDES permit (i.e., Schedule A(4)(a-h)).

Element #1:	Illicit Discharge Detection and Elimination
Element #2:	Industrial and Commercial Facilities
Element #3:	Construction Site Runoff Control
Element #4:	Education and Outreach
Element #5:	Public Involvement and Participation
Element #6:	Post-construction Site Runoff
Element #7:	Pollution Prevention for Municipal Operations
Element #8:	Structural Stormwater Facilities and Controls Operations and Maintenance

NPDES permit requirements are listed below, followed by Wilsonville's relevant BMPs that address the permit requirement. BMPs are titled with a prefix representing the department with the leading role for BMP implementation followed by a number, representing its place within the SWMP. The prefixes are:

- PW – Public Works
- CD – Community Development

SWMP Element #1 Illicit Discharge Detection and Elimination

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. Applicable provisions are outlined under Schedule A.4.a of the City’s MS4 NPDES Permit. **See Table 1** for the City of Wilsonville’s BMP fact sheets that address the permit requirements that are listed below.

SWMP Element #1: Illicit Discharge Detection and Elimination		
Schedule A.4.a Permit Requirement	Applicable BMPs	
	Illicit Discharge Detection and Elimination	Spill Prevention, Training, and Response
<i>i. Prohibit, through ordinance or other regulatory mechanism, illicit discharges into the permittee’s MS4.</i>	■	
<i>ii. Describe in an enforcement response plan or similar document by [DATE] the enforcement response procedures the permittee will implement when an illicit discharge investigation identifies a responsible party.</i>	■	
<i>iii. Develop or identify dry-weather field screening pollutant parameter action levels that will be used as part of the field analysis to identify the source of an illicit discharge or other type of discharge. The pollutant parameter action level and rationale for using the action level must be documented and reported to the Department by November 1, [DATE].</i>	■	

SWMP Element #1: Illicit Discharge Detection and Elimination		
Schedule A.4.a Permit Requirement	Applicable BMPs	
	Illicit Discharge Detection and Elimination	Spill Prevention, Training, and Response
<p>iv. <i>Conduct annual dry-weather inspection activities during the term of the permit. The dry-weather inspection activities must include annual field screening of all priority locations identified and documented by the co-permittee. Priority locations must, where possible, be located at an accessible location downstream of any source of suspected illegal or illicit activity or other location as identified by the co-permittee. Priority locations must be based on a consideration of hydrological conditions, total drainage area of the location, population density of the location, traffic density, age of the structures or building in the area, history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the co-permittee. The dry-weather field screening activities must occur at least 72-hours after a precipitation event. The dry-weather field screening activities must be documented and include:</i></p> <ol style="list-style-type: none"> 1. <i>General observations, including visual presence of flow, turbidity, oil sheen, trash, debris or scum, condition of conveyance system or outfall, color, odor and any other relevant observations related to the potential presence of non-storm water or illicit discharges.</i> 2. <i>Field Screening - If flow is observed, and the source is unknown, a field analysis must be conducted to determine the cause of the dry-weather flow. The field analysis must include representative sampling for pollutant parameters that are likely to be found based upon the suspected source of discharge or by other effective investigatory approaches or means to identify the source or cause of the non-stormwater or illicit discharge. The field analysis must consider, where appropriate, the field screening pollutant parameter action levels identified by the permittee. Suspected sources of discharge include, but are not limited to, sanitary cross-connections or leaks, spills, seepage from storage containers, non-stormwater discharges or other residential, commercial, industrial or transportation-related activities.</i> 3. <i>Laboratory Analysis – If general observations and field screening indicate an illicit discharge and the source or cause of the illicit discharge cannot be identified through other investigatory methods, a water quality sample must be collected for laboratory analyses for ongoing discharges. The water quality sample must be analyzed for pollutant parameters or identifiers that will aid in the determination of the source of the illicit discharge. The types of pollutant parameters or identifiers may include, but are not limited to genetic markers, industry-specific toxic pollutants, or other pollutant parameters that may be specifically associated with a source type.</i> 	■	

SWMP Element #1: Illicit Discharge Detection and Elimination		
	Applicable BMPs	
	Illicit Discharge Detection and Elimination	Spill Prevention, Training, and Response
Schedule A.4.a Permit Requirement		
v. <i>Require investigations of portions of the MS4 that, based on the results of general observations, field screening, laboratory analysis or other relevant information, indicates the presence of illicit discharges or non-stormwater discharges.</i>	■	
vi. <i>Require spill preventative measures, and upon notification, respond to, contain and mitigate spills that may discharge into the MS4. Spills that may endanger health or the environment must be reported in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System.</i>		■
vii. <i>Take appropriate action to remove illicit discharges from the MS4 within [X working days] of detection. If it has been determined that removal of the illicit discharge will take more than 5 working days due to technical or other reasonable issues, the co-permittee must notify the Department within 5 working days of detection. The co-permittee must develop an action plan to eliminate the illicit discharge and submit the action plan to the Department within 15 working days of detection. The action plan must include an appropriate timeframe for elimination.</i>	■	
viii. <i>Maintain a system for documenting and procedures for responding to known or suspected illicit discharges or public complaints relating to illicit discharges.</i>	■	
ix. <i>In the case of a known illicit discharge that originates within the City's permitted area and that discharges directly to a storm sewer system or property under the jurisdiction of another municipality, the City must notify the affected municipality as soon as practicable, but no longer than one working day.</i>	■	
x. <i>In the case of a known illicit discharge that is identified within the City's permitted area, but is determined to originate from a contributing storm sewer system or property under the jurisdiction of another municipality, the City must notify the contributing municipality or municipality with jurisdiction as soon as practicable, but no longer than one working day.</i>	■	

SWMP Element #1: Illicit Discharge Detection and Elimination		
	Applicable BMPs	
	Illicit Discharge Detection and Elimination	Spill Prevention, Training, and Response
Schedule A.4.a Permit Requirement		
xi. <i>Maintain maps identifying major MS4 outfalls discharging to waters of the State. The dry-weather screening locations must be uniquely identified. If the co-permittee identifies the need to modify these maps, the maps must be updated within six months of identification.</i>	■	
xii. <i>Unless identified as a significant source of pollutants to waters of the State by a co-permittee or the Department, the following non-stormwater discharges are not considered illicit discharges: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated groundwater 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 condensate; 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 activities are identified as not a significant source of pollutants to waters of the state. If a non-stormwater discharge is identified as a significant source of pollutants, the co-permittees must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source.</i>	■	

SWMP Element #2 Industrial and Commercial Facilities

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. Applicable provisions are outlined under Schedule A.4.b. **See Table 2** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #2: Industrial and Commercial Facilities	
	Applicable BMP
Schedule A.4.b Permit Requirement	Industrial and Commercial Facilities
<i>i. Screen existing and new industrial facilities to assess whether they have the potential to be subject to an industrial stormwater NPDES permit or have the potential to contribute a significant pollutant load to the MS4.</i>	■
<i>ii. Within 30 days after the facility is identified, notify the industrial facility and the Department that an industrial facility is potentially subject to an industrial stormwater NPDES permit.</i>	■
<i>iii. Implement a program that establishes the priorities and procedures for inspection of and implementation of stormwater control measures for discharges from industrial or commercial areas that have been identified as sources that contribute a significant pollutant load to the MS4.</i>	■

SWMP Element #3 Construction Site Runoff Control

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. Applicable provisions are outlined under Schedule A.4.c. **See Table 3** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #3: Construction Site Runoff Control	
	Applicable BMPs
Schedule A.4.c Permit Requirement	Erosion Control and Construction Site Management
<i>i. Include ordinances or other enforceable regulatory mechanism that requires erosion and sediment controls designed, implemented, and maintained to prevent adverse impacts to water quality and minimize the transport of contaminants to waters of the State.</i>	■
<i>ii. Require construction site operators to develop site plans and implement and maintain effective erosion and sediment control best management practices.</i>	■
<i>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.</i>	■
<i>iv. Establish site plan review procedures to ensure stormwater BMPs are appropriate and address the construction activities being proposed. At a minimum, construction site erosion and sediment control plans for sites disturbing one acre or greater must be developed in accordance with the State of Oregon’s 1200-C permit requirements.</i>	■

SWMP Element #3: Construction Site Runoff Control	
	Applicable BMPs
Schedule A.4.c Permit Requirement	Erosion Control and Construction Site Management
<p>v. <i>Perform on-site inspections in accordance with documented procedures and criteria to ensure the approved erosion and sediment control plan is properly implemented. Inspections of construction sites must include disturbed areas of the site, material and waste storage areas, stockpile areas, construction site entrances and exits, sensitive areas, discharge locations to the MS4 and receiving waters. Inspections must be documented, including photographs and monitoring results as appropriate.</i></p>	<p>■</p>
<p>vi. <i>Describe in an enforcement response plan or similar document the enforcement response procedures the permittee will implement. The enforcement response procedures must use all means necessary to ensure construction activities are in compliance with the ordinances or other regulatory mechanisms.</i></p>	<p>■</p>

SWMP Element #4 Education and Outreach

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. In some cases, listed permit requirements have been condensed. Applicable provisions are outlined under Schedule A.4.d. **See Table 4** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #4: Education and Outreach						
Schedule A.4.d Permit Requirement	Applicable BMPs					
	Public Education Participation	Structural Control Cleaning	Erosion Control and Construction Site Management	Spill Prevention, Training and Response	Municipal Staff Training for Stormwater Pollution Prevention	Public Reporting
<p><i>i. Continue to implement a documented public education and outreach strategy that promotes pollutant source control and a reduction of pollutants in stormwater discharges. The strategy must identify targeted pollutants of concern, the targeted audience, specific education activities, and the entity or individual responsible for implementation. The public education and outreach strategy may incorporate cooperative efforts with other MS4 regulated permittees or efforts by other groups or organizations provided a mechanism is developed and implemented to track the public education and outreach efforts within the MS4 regulated area and the results of such efforts are reported annually.</i></p>	■					
<p><i>ii. Provide educational materials to the community or conduct equivalent outreach activities describing the impacts of stormwater discharges on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff.</i></p>	■					

SWMP Element #4: Education and Outreach						
Schedule A.4.d Permit Requirement	Applicable BMPs					
	Public Education Participation	Structural Control Cleaning	Erosion Control and Construction Site Management	Spill Prevention, Training and Response	Municipal Staff Training for Stormwater Pollution Prevention	Public Reporting
iii. <i>Provide public education on the proper use and disposal of pesticides, herbicides, fertilizers and other household chemicals if identified as a concern by the co-permittees.</i>	■					
iv. <i>As appropriate, provide public education on the proper operation and maintenance of privately-owned or operated stormwater quality management facilities.</i>		■				
v. <i>Provide notice to construction site operators concerning where education and training to meet erosion and sediment control requirements can be obtained.</i>			■			
vi. <i>Conduct or participate in an effectiveness evaluation to measure the success of public education activities during the term of this permit. The effectiveness evaluation must focus on assessing changes in targeted behaviors. The results of the effectiveness evaluation must be used in the adaptive management of the education and outreach program.</i>	■					

SWMP Element #4: Education and Outreach						
Schedule A.4.d Permit Requirement	Applicable BMPs					
	Public Education Participation	Structural Control Cleaning	Erosion Control and Construction Site Management	Spill Prevention, Training and Response	Municipal Staff Training for Stormwater Pollution Prevention	Public Reporting
vii. <i>Include training for municipal employees involved in MS4-related activities, as appropriate. The training should include stormwater pollution prevention and reduction from municipal operations, including, but not limited to, parks and open space maintenance, fleet and building maintenance, new municipal facility construction and related land disturbances, design and construction of street and storm drain systems, discharges from non-emergency fire fighting-related training activities, and stormwater system maintenance.</i>				■	■	
viii. <i>Promote, publicize and facilitate public reporting of illicit discharges through the use of newspapers, newsletters, utility bills, door hangars, radio public service announcements, videos, televised council meetings, brochures, signs, posters or other effective methods.</i>						■

SWMP Element #5 Public Involvement and Participation

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. In some cases, listed permit requirements have been condensed. Applicable provisions are outlined under Schedule A.4.e. **See Table 5** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #5: Public Involvement and Participation	
	Applicable BMP
Schedule A.4.e Permit Requirement	Public Involvement and Participation
<p><i>e. Co-permittees must adopt a public participation approach that provides opportunities for the public to effectively participate in the development, implementation and modification of the co-permittee’s stormwater management program. The process must include provisions for receiving and considering public comments on the SWMP and the TMDL pollutant load reduction benchmark development. This public involvement does not apply to adding BMPs, and revisions or updates to existing BMPs that do not change the substance of the BMPs.</i></p>	■

SWMP Element #6 Post-Construction Site Runoff

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. In some cases, listed permit requirements have been condensed. Applicable provisions are outlined under Schedule A.4.f. **See Table 6** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #6: Post-Construction Site Runoff		
	Applicable BMPs	
	Planning and Development Review	Review and Update Applicable Code and Development Standards related to Stormwater Quality Control
Schedule A.4.f Permit Requirement		
<p>i. By [DATE], the post-construction stormwater pollutant and runoff control program applicable to new development and redevelopment projects that create or replace X ft² of impervious surface must meet the following conditions :</p> <ol style="list-style-type: none"> 1) Incorporate site-specific management practices that target natural surface or predevelopment hydrologic functions where practicable. The site-specific management practices should optimize on-site retention based on the site conditions; 2) Minimize site specific post-development stormwater runoff volume and rates of discharges to the municipal separate storm sewer system (MS4) to lessen hydrological and water quality impacts from impervious surfaces; 3) Prioritize and implement Low-Impact Development (LID), Green Infrastructure (GI) or equivalent design and construction approaches; and, 4) Capture and treat 80% of the annual average runoff volume, based on a documented local or regional rainfall frequency and intensity. 	■	■

SWMP Element #6: Post-Construction Site Runoff		
	Applicable BMPs	
	Planning and Development Review	Review and Update Applicable Code and Development Standards related to Stormwater Quality Control
Schedule A.4.f Permit Requirement		
<p>ii. <i>Co-permittees must eliminate code and development standard barriers that inhibit design and implementation techniques intended to minimize impervious surfaces and reduce stormwater runoff (e.g., Low Impact Development, Green Infrastructure), and have been identified by and are within the jurisdiction of the permittee. The co-permittees must minimize the applicable code and development standard barriers if a co-permittee identifies that the elimination of a code and development standard barrier conflicts with public and environmental health and safety standards. Co-permittees must review code and development standards, and modify barriers, such as by policy, code, rules, ordinance or similar mechanism, as required within three years of identification.</i></p>	■	■
<p>iii. <i>To reduce pollutants and mitigate the volume, duration, time of concentration and rate of stormwater runoff, the co-permittees must develop or reference an enforceable post-construction stormwater quality management manual or equivalent document by [DATE] that, at a minimum, includes the following:</i></p> <ol style="list-style-type: none"> 1) <i>A minimum threshold for triggering the requirement for post-construction stormwater management control and the rationale for the threshold;</i> 2) <i>A defined design storm that allows for or identification of an acceptable continuous simulation method to address the capture and treatment of 80% of the annual average runoff volume;</i> 3) <i>Applicable LID, GI or similar stormwater runoff reduction approaches, including the practical use of these approaches;</i> 4) <i>Conditions where the implementation of LID, GI or equivalent approaches may be impracticable; and,</i> 5) <i>Best Management Practices, including a description of the following:</i> <ol style="list-style-type: none"> a. <i>Site-specific design requirements;</i> b. <i>Design requirements that do not inhibit maintenance;</i> c. <i>Conditions where the Best Management Practice applies ; and,</i> d. <i>Pollutant removal efficiency performance goals that maximize the reduction in discharge of pollutants.</i> 	■	■

SWMP Element #6: Post-Construction Site Runoff

	Applicable BMPs	
	Planning and Development Review	Review and Update Applicable Code and Development Standards related to Stormwater Quality Control
Schedule A.4.f Permit Requirement		
iv. <i>Co-permittees must review, approve and verify proper implementation of post-construction site plans for new development and redevelopment projects applicable to this section.</i>	■	■
v. <i>Where a project site is characterized by factors limiting on-site stormwater capture and treatment or flow reduction, such as high water table, shallow bedrock, poorly-drained or low permeable soils, contaminated soils, steep slopes or other constraints, the Post-Construction Stormwater Management program must require equivalent measures, such as off-site stormwater quality management. Off-site stormwater quality management may include off-site mitigation, such as construction of a structural stormwater facility within the sub-watershed, a stormwater quality structural facility mitigation bank or a payment-in-lieu program.</i>	■	■

SWMP Element #7 Pollution Prevention for Municipal Operations

NPDES permit requirements are listed below, followed by Wilsonville’s relevant BMPs that address the permit requirement. In some cases, listed permit requirements have been condensed. Applicable provisions are outlined under Schedule A.4.g. **See Table 7** for the City of Wilsonville’s BMPs that address the requirements that are listed above.

SWMP Element #7: Pollution Prevention for Municipal Operations					
Schedule A.4.g Permit Requirement	Applicable BMPs				
	Routine Road Maintenance	Pest Management	Municipal Facility Stormwater Management	Planning and Development Review	Public Education Participation
i. <i>Operate and maintain public streets, roads and highways for which the permittee has authority in a manner designed to minimize the discharge of stormwater pollutants to the MS4, including pollutants discharged as a result of deicing activities and yard debris reduction and disposal programs;</i>	■				
ii. <i>Implement a management program to control the use and application of pesticides, herbicides and fertilizers on municipally-owned properties;</i>		■			
iii. <i>Inventory, assess, and implement a strategy to reduce the impact of stormwater runoff from municipal facilities that treat, store or transport municipal waste, such as yard waste or other municipal waste not already covered under a 1200 series NPDES permit;</i>			■		

SWMP Element #7: Pollution Prevention for Municipal Operations

Schedule A.4.g Permit Requirement	Applicable BMPs				
	Routine Road Maintenance	Pest Management	Municipal Facility Stormwater Management	Planning and Development Review	Public Education Participation
iv. <i>Implement controls to limit infiltration of seepage from the municipal sanitary sewer system to the MS4 where necessary;</i>				■	
v. <i>Implement a program to control the release of materials related to fire-fighting training activities; and,</i>					■
vi. <i>Assess co-permittee flood control projects to identify potential impacts on the water quality of receiving water bodies and determine the feasibility of retrofitting structural flood control devices for additional stormwater pollutant removal. The results of this assessment must be incorporated and considered along with the results of the Stormwater Retrofit Assessment required by this permit;</i>				■	

SWMP Element #8 Structural Stormwater Facility Operations and Maintenance

NPDES permit requirements are listed below, followed by Oregon City’s relevant BMPs that address the permit requirement. In some cases, listed permit requirements have been condensed. Applicable provisions are outlined under Schedule A.4.h. **See Table 8** for the City of Oregon City’s BMPs that address the requirements that are listed above.

SWMP Element #8: Structural Stormwater Facility Operations and Maintenance				
Schedule A.4.h Permit Requirement	Applicable BMPs			
	Conveyance System Cleaning	Catch Basin Cleaning	Structural Control Cleaning	Private Structural Control Facility Cleaning and Maintenance
<p><i>i. Co-permittees must implement a program by [DATE] to verify that stormwater structural facilities and controls are inventoried, mapped, inspected, operated and maintained for effective pollutant removal, infiltration and/or flow control. At a minimum, the program must include the following:</i></p> <ol style="list-style-type: none"> <i>1. Legal authority to inspect and require effective operation and maintenance;</i> <i>2. A program to inventory and map public and private stormwater treatment facilities as provided under Schedule A.4.h.ii.; and,</i> <i>3. Public and private stormwater facility inspection and maintenance requirements for stormwater facilities that have been inventoried and mapped as provided under Schedule A.4.h.ii.</i> 	■	■	■	

SWMP Element #8: Structural Stormwater Facility Operations and Maintenance

	Applicable BMPs			
	Conveyance System Cleaning	Catch Basin Cleaning	Structural Control Cleaning	Private Structural Control Facility Cleaning and Maintenance
Schedule A.4.h Permit Requirement				
<p>ii. As part of the Stormwater Structural Facilities and Controls Inspection and Maintenance program, co-permittees must develop and implement a plan or approach by [DATE] that guides the long-term maintenance and management of all publicly-owned and identified privately-owned stormwater structural facilities and controls. At a minimum, the plan or approach must describe the following:</p> <ol style="list-style-type: none"> 1. Publicly-owned or operated stormwater quality facilities <ol style="list-style-type: none"> a. Inventory and mapping process; b. Inspection and maintenance schedule; c. Inspection, operation and maintenance criteria and priorities; d. Description of inspector type and staff position or title; and, e. Inspection and maintenance tracking mechanisms. 2. Privately-owned or operated stormwater quality facilities <ol style="list-style-type: none"> a. Procedures for and types of stormwater facilities that will be inventoried and mapped, including the rationale and criteria used. At a minimum, the inventory and mapping must include the following: <ol style="list-style-type: none"> i. Private stormwater facilities for new development and redevelopment projects constructed under the permittee's post-construction management manual or equivalent document after [date]; ii. Private stormwater facilities identified by the co-permittee and used to estimate the pollutant load reduction as part of the TMDL benchmark evaluation; and, iii. Any major private stormwater facility or structural control. b. Inspection criteria, rationale, priorities, inspection frequency and procedures for inspecting private stormwater facilities that have been inventoried and mapped; c. Required training or qualifications to inspect private stormwater facilities; d. Reporting requirements; and, e. Inspection and maintenance tracking mechanism. 			■	

City of Wilsonville Stormwater Management Plan (SWMP) 2010

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD1
BMP NAME: Illicit Discharge Detection and Elimination
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics
SWMP ELEMENT: Element #1

DESCRIPTION:

The City of Wilsonville prohibits illicit discharges into their MS4 system and conducts appropriate response procedures and enforcement in conjunction with Wilsonville Code, Section 8.602-8.606 and abatement procedures in conjunction with Section 6.242.

The City conducts annual dry-weather field screening of all priority outfalls, which includes major outfalls (14 total) and any significant minor outfalls that require immediate attention (approximately 85 total) during the dry weather period of the year (August through mid-October). Physical characteristics and dry-weather flow conditions are identified at each outfall and recorded on field data sheets.

A summary of current documentation and investigation procedures are described below. If field-screening investigations positively identify an illicit connection, City staff, with approval from the Public Works Director, may abate the pollution source without contacting the property owner if an imminent human health or environmental risk exists.

INSPECTION PROCEDURES AND ACTIVITIES:

Major outfalls (36” diameter draining 50+ acres or 12” diameter draining 2+ acres of industrial area) and priority minor outfalls are inspected during dry-weather conditions annually. Priority minor outfalls are those minor outfalls with documented water quality concerns (citizen complaints, poor in stream water quality documented by monitoring results, etc). Minor outfalls may not need to be inspected each year if there are no pressing water quality concerns within a watershed.

Upon inspection, physical characteristics of the site and dry-weather flow conditions and visual characteristics of the discharge (odor, color, clarity, etc) are documented and recorded on field data sheets. If flow is observed, a representative water sample is collected and analyzed for general field parameters (D.O., pH, temperature). Based on observable and general field parameter characteristics, if unknown or non-permissible discharges are discovered, further sampling and analysis procedures are conducted as follows:

1. If the source of the illicit discharge can not be verified at the time of the initial investigation, laboratory analysis will be conducted for the suspected contaminant groups.
2. Potential sources of illicit discharges are located by repeat sampling upstream and reviewing storm sewer utility maps, drainage basin boundaries, and historical documentation of illicit discharges.
3. With the upstream sampling, possible illicit discharge sources are investigated using on-site inspection. If necessary, smoke testing, dye testing, and/or TV inspections are also used.
4. If water sample analysis and source investigations result in a positive identification of an illicit connection, the Public Works Director is notified and schedules the appropriate action to eliminate the illicit connection. If there is an imminent danger to human life, as in the event of a cross-connection, potential danger to property, or to the environment, the Public Works Director may proceed to abate the illicit connection without prior notice to the property owner or responsible party (Wilsonville Code, Section 8.602(5)). When the City finds that a user has violated, or continues to violate, any provision of this ordinance, the City may issue an order to the user responsible for the discharge directing that the user come into compliance within a specified time. If the user does not come into compliance within the time provided, sewer service may be discontinued unless adequate treatment facilities, devices, or other related appurtenances are installed and properly operated. Compliance orders also may contain other requirements to address the noncompliance, including additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sewer. If no action is taken within the time provided, the Public Works Director may also proceed to abate the illicit connection and charge the property all costs of abatement plus 20% for overhead (Wilsonville Code, Section 6.242(3)). These procedures will be updated in accordance with permit requirements by **June 30, 2013**, as described below.

If necessary, in accordance with the annual dry-weather inspection activities, the City will update their map of existing outfall locations and priority (major and minor) outfall locations.

Requirements from Schedule A.4.a.ix. and x. do not apply to Wilsonville as all drainage from Wilsonville discharges to the Willamette River, and not to another jurisdiction. In addition, other jurisdictions do not have drainage systems that connect to Wilsonville's MS4.

By **June 30, 2013**, the City will update procedures associated with the illicit discharges detection and elimination program to include pollutant parameter action levels, document enforcement response procedures, revise timeframes for taking action to remove discharges, and formalize procedures for documenting and responding to suspected illicit discharges or public complaints.

MEASURABLE GOALS:

- Inspect all major and select minor outfalls annually for illicit discharges.
- Continue to follow dry weather field screening procedures for all outfalls suspected of illicit discharges.

- By **June 30, 2013**, revise procedures for conducting the illicit discharge elimination and investigation program in accordance with permit requirements.
- Notify the Public Works Director of all positively identified illicit connections and take necessary actions to eliminate them.

TRACKING MEASURES:

- Track number of outfalls inspected annually.
- Summarize inspection results and indicate outfalls requiring monitoring (sampling) and/or investigations.
- Indicate the outcome and resolution of any investigation activities conducted.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW/CD2
BMP NAME: Spill Prevention, Training, and Response
RESPONSIBLE DEPARTMENT: Public Works and Community Development
RESPONSIBLE PARTY: Operations Manager and Natural Resources Program Manager
TARGET POLLUTANTS: Trash and Debris, Oil and Grease, Nutrients, Bacteria, Toxics
SWMP ELEMENT: Elements #1 and #4

DESCRIPTION:

Respond to spills in the public right-of-way in accordance with OSHA procedures.

PROCEDURES AND ACTIVITIES:

Industries with stormwater and/or pretreatment permits are required to have site-specific measures and procedures for spill prevention and response as permit conditions.

Spill response within the public right-of-way is handled by the City's Public Works staff or the Tualatin Valley Fire and Rescue (TVFR) Hazardous Materials Team. Typically, the TVFR Hazardous Materials Team responds to all calls received by the 911 Communication Center and all incidents involving hazardous materials requiring special skills or tools.

City staff is trained to the OSHA First Responder Operations level and are capable of responding to spills with releases or potential releases of hazardous substances. Annual refresher courses are provided to City staff in order to maintain OSHA certifications. City staff generally responds to spills involving non-hazardous materials (antifreeze, diesel, and oil) with imminent potential of damaging the environment. The Public Works and Community Development departments are responsible for ensuring all appropriate parties are notified in instances of spills, as required.

Additional public education activities related to spill prevention are discussed in CD5 and CD6.

MEASURABLE GOALS:

- City staff to respond to non-hazardous material spills.
- Ensure all appropriate parties, including State and National Emergency Response Systems as necessary, are notified of spills.
- Train City staff to the OSHA First Responder Operations level.

TRACKING MEASURES:

- Track number of City employees attending OSHA spill-response training and/or refresher courses.
- Track the number of spills responded to by City staff.
- Track the type/source of pollutant discharges associated with each reported spill.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW/CD3
BMP NAME: Industrial and Commercial Facilities
RESPONSIBLE DEPARTMENT: Public Works and Community Development
RESPONSIBLE PARTY: Utilities Manager Public Works and Natural Resources Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics
SWMP ELEMENT: Element #2

DESCRIPTION:

The City of Wilsonville maintains and annually updates a database with an inventory of local NPDES industrial stormwater dischargers that are identified by the City and DEQ. Additionally the City of Wilsonville maintains and annually updates a database of identified potential high pollutant source facilities as follows:

As part of the industrial pre-treatment program, a Waste Water Generating Characteristics Survey is sent to all new businesses (i.e., non-residential sewer users). The survey is reviewed to determine whether the business has potential to discharge pollutants of concern to the City's MS4 system and to determine whether the facility would be subject to an industrial stormwater NPDES permit (per applicable SIC code which is requested in the survey). If necessary, the City conducts follow-up investigations to ensure a response to the survey is received from all new businesses.

To keep the pre-treatment information up to date, existing businesses receive the Waste Water Generating Characteristics Survey every three years. In addition, Tualatin Valley Fire and Rescue (TVFR) annually distributes Hazardous Substance Information Surveys to existing industrial facilities. The results of these surveys are used to determine whether a facility warrants inspection. Typically, the following criteria are used to identify facilities warranting inspection:

- The facility has an SIC code and process/ manufacturing activities that require an industrial stormwater NPDES permit;
- The facility includes hazardous waste handling and storage (fully-regulated generators, CERCLA sites, and Treatment, Storage and Disposal TSD) facilities.
- The facility includes processes that may contribute pollutants to stormwater runoff.

If an industry is identified as requiring an industrial stormwater NPDES permit, DEQ and the industry will be notified within 30 days.

The Public Works Department, through the Pretreatment Program, annually inspects facilities that fall within the inspection criteria listed above. Select facilities that are considered by Public Works staff to have the potential to contribute pollutants of concern to the stormwater system will also be inspected.

INSPECTION PROCEDURES AND ACTIVITIES:

Facilities warranting inspection are inspected annually. The City's Pretreatment Program assists the Community Development Department in conducting stormwater inspections, as the Pretreatment Program is responsible for inspecting industries currently discharging wastewater to the sanitary system. Inspections are conducted to determine if any on-site activities contribute pollutants to the municipal stormwater system, i.e., non-stormwater wastes in catchbasins, exposed materials to rainfall. Inspections include a walk around outside the facility to address potential issues associated with stormwater. Facilities are inspected for cleanliness and good housekeeping practices. Process water should either be recycled or sent to the sanitary sewer. If unwarranted or illicit discharges are found, the City works with the facility to ensure that the discharge is eliminated or fines are issued.

Priorities for facility inspections are evaluated and revised every year. Goals of the inspection program are reviewed to assure the priorities still meet the intent of compliance with regulatory requirements in reducing pollutants to the maximum extent practicable.

MEASURABLE GOALS:

- Obtain Waste Water Generating Characteristics Survey from all new businesses (i.e., non-residential sewer users).
- Update information industrial/commercial information by sending the Waste Water Generating Characteristics Survey to existing businesses every three years.
- Identify facilities needing NPDES 1200Z permits.
- Annually inspect facilities identified as warranting inspection.
- Ensure illicit discharges are eliminated, if discovered.

TRACKING MEASURES:

- Track the number of facilities inspected annually.
- Track the number of 1200-Z permitted facilities annually.
- Track any enforcement actions associated with inspections.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD4
BMP NAME: Erosion Control and Construction Site Management
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics
SWMP ELEMENT: Elements #3 and #4

DESCRIPTION:

The City of Wilsonville implements erosion and sediment control in accordance with requirements set forth in Wilsonville Development Code Section 4.171 and the Wilsonville Public Works Standards. Each proposed construction application is reviewed in conjunction with the latest edition of the *Clackamas County Erosion and Sediment Control Planning and Design Manual* to ensure control measures meet the City's required erosion prevention standards. These regulations require that any project disturbing more than 500ft² of area submit an erosion control plan which contains methods and/or interim facilities to be constructed or used concurrently with land development in order to prevent the discharge of sediment-laden runoff. Proposed BMPs for erosion control are reviewed according to the general site characteristics (slope, cover, vegetation, etc), the construction schedule, and the proposed drainage of the site during construction.

The City conducts inspections and approves all construction sites requiring an erosion and sediment control plan for implementation of erosion control BMPs. Inspections are conducted by City staff in the Community Development Department for proper implementation of required BMPs and housekeeping practices addressing non-stormwater waste (e.g., concrete truck washout, litter, etc.) a minimum of once every week, and more frequently if increased activity and weather conditions cause increased soil disturbance or if problems were observed during the previous inspection.

INSPECTION AND ENFORCEMENT PROCEDURES AND ACTIVITIES:

Erosion control plans for construction/building permits require specific descriptions of erosion control measures. Implementation of the erosion control measures is required prior to and concurrent with construction activities. Maintenance of all erosion control measures pursuant to an approved plan shall be the responsibility of the construction/building permit applicant.

The City conducts pre-construction conferences, in which as a training measure, construction site operators are instructed on the required erosion measures and goals of the program. A brief review is conducted for site operators who have previously completed this training. Two guidance sheets are provided to contractors: one sheet discusses measures to prevent sediment from draining into the storm system, and the second sheet relates to dust control and the control of vehicle tracking of sediments.

Inspections of construction sites are conducted weekly at a minimum and more frequently if general site characteristics, weather conditions, and/or results of previous inspections indicate that structural and non-structural erosion control measures may not perform as expected. Inspections will determine if the approved erosion and sediment control plan is fully in place and if the plan is successful in avoiding erosion from the site. An inspection form is filled out weekly for each site. Adjustments to the site's erosion control plan may be necessary if erosion is occurring. The Community Development Director issues stop work orders at sites that are out of compliance with the erosion prevention standards, and may impose fines, if necessary.

MEASURABLE GOALS:

- Require all new and redevelopment disturbing over 500 ft² to submit an erosion control plan.
- Conduct weekly erosion control inspections on all construction sites disturbing over 500 ft².

TRACKING MEASURES:

- Track the number of erosion control plans reviewed and approved.
- Track the number and frequency of erosion control inspections conducted.
- Track the number and type of enforcement actions taken by the City or DEQ.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD5
BMP NAME: Public Education Participation
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics
SWMP ELEMENT: Element #4

DESCRIPTION:

The City of Wilsonville maintains an ongoing public education strategy to inform citizens about water quality problems related to stormwater runoff. Public education activities provide information on proper application and disposal techniques for waste oil and toxic materials that can have negative impacts on surface water quality; reduce pollutants in stormwater runoff associated with application of pesticides, herbicides, and fertilizers; and prevent spills and inappropriate discharges to City drainage systems and waterways (also see CD6).

ACTIVITIES:

Educational information will be transmitted to the public through the use of the City's newsletter (The Boones Ferry Messenger), and/or the City's website. The newsletter contains a periodic segment which discusses an environmental issue or tip. Article topics include information on disposal and recycling locations for waste oil and other materials (paint, pesticides, herbicides, etc.) and general tips for promoting healthy surface water quality. The City coordinates with Metro on a number of recycling activities and programs, and coordinates regional efforts such as the Regional Coalition of Clean Rivers and Streams to increase awareness of stormwater issues

All catch basins in the City have been stenciled or labeled with a decal to discourage dumping of inappropriate materials in the storm drain. Catch basin decals will be maintained and added to newly constructed catch basins as needed.

The City of Wilsonville organizes a number of public outreach programs including volunteer monitoring of stream corridors (e.g., the Student Watershed Research Project) and the Adopt-a-Road Program. The City employees volunteer at local schools and assist students with community service projects aimed at educating both young people and residents about natural resource protection and disposal practices.

The City has developed a door hanger for use when non-stormwater discharges have been identified in the storm system. Hangers are distributed in the vicinity of the identified discharge. The door hanger informs residents of the discharge, type of discharge, and provides education regarding stormwater pollution and practices for preventing this pollution.

Over the **permit term**, the City of Wilsonville will coordinate with other local, Phase I jurisdictions to provide information related to a public education 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.

Fire fighting activities are contracted to the Tualatin Valley Fire and Rescue Department, who implements fire fighting activities for a number of local jurisdictions in Clackamas, Multnomah, and Washington counties. No fire fighting training activities are conducted within the City of Wilsonville.

MEASURABLE GOALS:

- Publish stormwater related articles in the City newsletter and website.
- Organize public outreach programs such as Adopt-a-Road and the volunteer monitoring.
- Label catchbasins as necessary.
- Coordinate with other, local Phase I jurisdictions in providing/ compiling information regarding public education effectiveness over the **permit term**.
- Distribute door hangers as necessary in neighborhoods where non-stormwater discharges have been identified.

TRACKING MEASURES:

- Track the number of educational articles published per year.
- Estimate public participation in City-sponsored volunteer events.
- Track the number of catch basins labeled.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD6
BMP NAME: Public Reporting
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Natural Resources Program Manager
TARGET POLLUTANTS: Trash and Debris, Oil and Grease, Nutrients, Bacteria, Toxics
SWMP ELEMENT: Element #4

DESCRIPTION:

The City of Wilsonville uses public education and outreach measures to promote public reporting of spills and illicit discharges to the City’s drainage systems and waterways.

PROCEDURES AND ACTIVITIES:

The City of Wilsonville utilizes public education measures such as articles in the City newsletter and website to promote, publicize, and facilitate the public reporting of spills, illicit discharges, and the dumping of waste materials. Articles inform readers how to report observed water quality problems. The Public Works Department or Community Development Department is notified of public observations and concerns through the City’s website or by phone. City staff is responsible for taking citizen’s calls and taking notes on the call via the “Citizen Concern” form.

The Boones Ferry Messenger and the City’s website provide information to the public on contacts to report illicit spills or activities that cause contamination of stormwater.

MEASURABLE GOALS:

- Continue to implement the “City Citizen Concern Process” for public reporting of spills, illicit discharges, and dumping.
- Include the phone number and website for reporting illicit discharges in a minimum of one published article each year.

TRACKING MEASURE:

- Track the number of citizen requests received each year and follow-up actions resulting from the requests.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD7
BMP NAME: Municipal Staff Training for Stormwater Pollution Prevention
RESPONSIBLE DEPARTMENT: Community Development and Public Works
RESPONSIBLE PARTY: Natural Resources Program Manager and Operations Manager
TARGET POLLUTANTS: Sediment, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics
SWMP ELEMENT: Element #4

DESCRIPTION:

The City of Wilsonville conducts and participates in a number of activities to promote the education of staff on stormwater pollution prevention. Staff training related to spill response is outlined under BMP: PW/CD2. As appropriate, stormwater pollution prevention training is also provided to staff that conduct pest management activities, utility maintenance, erosion and sediment control inspections and plan review activities.

In addition, City staff coordinates with Clackamas County and other co-permittees in order to optimize resources, improve water quality, and meet permit requirements. The City promotes education of staff by supporting conference attendance and participation in trainings to improve skills related to stormwater controls and surface water quality.

PROCESS AND ACTIVITIES:

Meet with Clackamas County and other permittees as needed for coordinated efforts. Identify issues to work on jointly and develop intergovernmental agreements (IGA) to share information and resources, as appropriate. Attend conferences and trainings on an annual basis to further support staff education and development.

MEASURABLE GOALS:

- Conduct municipal staff training related to stormwater pollution prevention as appropriate.
- Coordinate with other Clackamas County co-permittees regarding regional water quality efforts through scheduled co-permittee meetings.
- Attend applicable conferences and trainings as appropriate.

TRACKING MEASURES:

- Track the number of municipal staff training activities.
- Track number of conferences attended.
- Track any cost share or joint projects conducted annually.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD8
BMP NAME: Public Involvement and Participation
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals
SWMP ELEMENT: Element #5

DESCRIPTION:

Per Schedule A.4.e of the City’s MS4 NPDES permit, the City of Wilsonville is required to provide opportunity for public participation in the development, implementation, and modification of the City’s Stormwater Management Plan (SWMP) and pollutant load reduction benchmark development.

SWMP revisions and pollutant load reduction benchmarks are required for the permit renewal submittal to DEQ (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 revisions to the SWMP and proposed pollutant load reduction benchmarks for a minimum of 30 days. Comments on the documents will be collected, considered and response to comments will be publically provided.

MEASURABLE GOAL:

- Provide for public participation with the SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD9
BMP NAME: Planning and Development Review
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Community Development Director
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals
SWMP ELEMENT: Elements #6 and #7

DESCRIPTION:

The City of Wilsonville provides land use and planning review in accordance with the City's Comprehensive Plan to meet goals and objectives related to the management of natural resources, transportation, housing, public facilities and services, and open spaces and parks. In conjunction with the Comprehensive Plan, the City has Public Works Standards that address stormwater and surface water design and construction standards.

The City is currently completing the process of updating their Stormwater Master Plan (2010) to include capital improvement projects (CIPs) related to flood control and water quality. Such CIPs also include a variety of low-impact development facilities that incorporate stormwater volume and flow reduction and stormwater treatment and the retrofit of existing flood control facilities to incorporate water quality.

PROCEDURES AND ACTIVITIES:

The City requires structural stormwater controls for water quality and quantity on all new and redevelopment projects that add or replace over 5,000 ft² of impervious surface. The City of Wilsonville's Development Review Team reviews all plans for new and redevelopment through the land use and public works/building permit process. The Development Review Team includes individuals from Planning, Engineering, Building, Natural Resources, and Public Works. During the development review process, the Development Review Team addresses requirements for structural controls to improve water quality and control water quantity in conjunction with requirements and approved facilities outlined in the Public Works Standards.

Review and comments from the Development Review Team are presented to the Development Review Board during the citizen's land use review process. Development review verifies connections to the sanitary sewer and requires inspector approvals of connections to both sanitary and storm systems thereby minimizing the opportunities for cross-connections.

MEASURABLE GOALS:

- Continue to require all new and redevelopment projects that add or replace over 5,000 ft² of impervious surface to install stormwater quality controls.
- Review all new and redevelopment plans that add or replace over 5,000 ft² for compliance with stormwater control requirements.

TRACKING MEASURES:

- Track number of development permits issued and reviewed.
- Track the number, type of structural water quality and quantity facilities installed.
- Track the number of CIPs or retrofits proposed/initiated for water quality improvement.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD10
BMP NAME: Review and Update Applicable Code and Development Standards Related to Stormwater Control
RESPONSIBLE DEPARTMENT: Community Development
RESPONSIBLE PARTY: Community Development Director
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals
SWMP ELEMENT: Element #6

DESCRIPTION:

As discussed in BMP – Planning and Development Review, the City is currently updating their Stormwater Master Plan (2010). One of the policies resulting from this process will be to prioritize low impact development (LID) in the City. As part of this process, the development code has been reviewed and updated in terms of minimizing/eliminating barriers to LID. Prioritizing LID will optimize onsite retention practices and reduce post-construction stormwater runoff volumes and rates. Public works standards will also be updated accordingly as part of this BMP.

REVIEW PROCEDURES AND ACTIVITIES:

As part of the review and update of public works standards, the City will update (if applicable) their stormwater design storm that would result in capture and treatment of 80% of the average annual runoff volume.

In addition, provisions related to factors and activities that would limit on-site stormwater capture and treatment including approved equivalent measures for off-site stormwater quality management will be reviewed and updated as necessary.

MEASURABLE GOALS:

- Update the City’s current public works standards to minimize or eliminate identified barriers related to the use of LID and GI techniques.
- Review the City’s current stormwater treatment and detention standards for compliance with new MS4 NPDES permit language (e.g., design storm, etc.).
- If deemed necessary based on above reviews, update the City’s post-construction stormwater design standards and code language by **June 30, 2013**.

TRACKING MEASURE:

- Track progress related to the review of the City’s stormwater treatment and detention standards per provisions in the MS4 NPDES permit.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW11
BMP NAME: Routine Road Maintenance
RESPONSIBLE DEPARTMENT: Public Works
RESPONSIBLE PARTY: Operations Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals, PAH
SWMP ELEMENT: Element #7

DESCRIPTION:

The City of Wilsonville conducts ongoing road maintenance and repair activities to minimize potential impacts of transportation activities on stormwater quality and receiving waters. The City's current road maintenance activities and practices comply with the Oregon Department of Transportation (ODOT) Routine Road Maintenance, Water Quality and Habitat Guide (Appendix A).

PROCEDURES AND ACTIVITIES:

The City of Wilsonville's Public Works Department implements road maintenance activities described in ODOT's Routine Road Maintenance Guide. Such activities include surface and inlay repairs, street sweeping, ditch shaping and cleaning, culvert and inlet cleaning, erosion repair, right-of-way mowing, and snow and ice removal. Weeding and trimming conducted as part of ditch maintenance activities is performed by hand to minimize soil exposure. If there is silt build-up, silt is removed and erosion control measures, such as mulch and biobags, are put in place until vegetation is re-established. Where appropriate, road maintenance activities will generally be conducted during the dry season to minimize runoff and pollutant discharge.

An outside contractor conducts street sweeping efforts using either a regenerative air or a mechanical sweeper. All sweepers are PM-10 Compliant and Rule 1186 Certified and have working pollution control systems to enhance sweeper performance. Sweeping occurs approximately once per month along all curbed roadways within the City limits. Sweeping also occurs after accidents, spills, and winter weather events requiring sand to be applied to the roads, as needed. The City's solid waste provider collects yard debris from customers on a weekly basis. In addition, more frequent sweeping is conducted by the City seasonally to remove leaves from the streets.

The City of Wilsonville encourages public participation in roadway clean-up activities and sponsors a local Adopt-a-Road program and various citizen volunteer efforts.

MEASURABLE GOALS:

- Sweep all curbed City streets monthly.
- Perform street maintenance activities as needed.
- Continue to sponsor Adopt-a-Road program.

TRACKING MEASURES:

- Track street sweeping frequency.
- Track length of roadway swept annually.
- Track volume of debris removed annually.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW12
BMP NAME: Pest Management
RESPONSIBLE DEPARTMENT: Public Works and Community Development
RESPONSIBLE PARTY: Operations Manager and Natural Resources
Program Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Nutrients,
Bacteria
SWMP ELEMENT: Element #7

DESCRIPTION:

The City of Wilsonville maintains public properties including parks, medians, plazas, and other public grounds in accordance with the principals of Integrated Pest Management (IPM) and the Pest Management Program (PMP), as outlined by the City of Portland Parks and Recreation. The City requires personnel, including City staff and hired contractors to be certified prior to applying chemicals.

PROCEDURES AND ACTIVITIES:

The City of Wilsonville utilizes principals of IPM when maintaining public properties to control pests in a cost effective, safe, and environmentally responsible manner, through a balance of cultural, chemical, and other control methods. The City of Wilsonville also adheres to the City of Portland Pest Management Program (PMP), which includes similar goals and activities. The City of Portland PMP has been approved under the ESA 4(d) rule by the National Marine Fisheries Service (NMFS).

Pest management activities occur as needed, in conjunction with the general maintenance schedule for public landscape and open space. A minimal amount of insecticides are used on City property. Typical maintenance activities conforming to the IPM and PMP include:

- Mow high grasses to reduce weed seed crop.
- Prune trees and shrubs to increase air circulation and reduce susceptibility to disease and insects.
- Use appropriate fertilizers to encourage plant health and resistance to pests.
- Install and maintain native vegetation when possible.
- Combine turf aeration and over-seeding with application of broadcast weed control to eliminate pest problems without repeat application.
- Goats browsing in parks to remove non-native vegetation such as English Ivy.
- Use volunteer labor as available for manual control of vegetation.

The City verifies that all staff and hired contractors are certified for the application of chemicals.

MEASURABLE GOALS:

- Follow the Integrated Pest Management principles and Pest Management Program for public landscape maintenance.
- Require all staff and hired contractors applying chemicals within the City to be certified.

TRACKING MEASURES:

- Track amount of pesticides and fertilizers applied to public property and general area of application.
- Estimate number and area of sites where the planting of native vegetation was incorporated into the maintenance activities.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW13
BMP NAME: Municipal Facility Stormwater Management
RESPONSIBLE DEPARTMENT: Public Works and Community Development
RESPONSIBLE PARTY: Operations Manager and Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, trash and debris, organics, oil and grease, nutrients, bacteria, metals
SWMP ELEMENT: Element #7

DESCRIPTION:

The City of Wilsonville currently operates various maintenance facilities that have the potential to treat, store, or transport municipal waste including storage areas located in Memorial Park.

ACTIVITIES:

Over the permit term, the City of Wilsonville will inventory these facilities and assess strategies to minimize pollutant discharges from these facilities.

MEASURABLE GOALS:

- Inventory municipal facilities subject to this permit requirement.
- Over **the permit term**, identify strategies to minimize discharges from identified municipal facilities.

TRACKING MEASURE:

- Inventory municipal facilities and strategies subject to this permit requirement.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW14
BMP NAME: Conveyance System Cleaning
RESPONSIBLE DEPARTMENT: Public Works
RESPONSIBLE PARTY: Operations Manager
TARGET POLLUTANTS: Sediment, trash and debris, organics, oil and grease, nutrients, bacteria, metals
SWMP ELEMENT: Element #8

DESCRIPTION:

The City of Wilsonville maintains and repairs the public stormwater conveyance system components including the storm sewer pipes, culverts, ditches, swales, and inlets. Inspection of inlets, outfalls, culverts, and surface conveyance system features will be performed as needed during periodic maintenance and as a follow-up to reports of drainage issues. Maintenance of conveyance system components that have become clogged and/or flooded will be performed immediately, as required, to ensure proper drainage and function. The conveyance system typically does not require regular maintenance because the catch basins are cleaned regularly (see PW15).

INSPECTION PROCEDURES AND ACTIVITIES:

Inlets, outfalls, culverts, and exposed pipes will be inspected for cracking and breakage, which would limit the structural integrity and performance of the conveyance system. Outfalls and culverts will be inspected for trash, debris, and vegetation that may clog the system and prevent water from freely discharging. Ditches and swales will be inspected for trash and debris accumulation that may inhibit stormwater conveyance. Maintenance will be performed as required to ensure proper drainage and function of the surface conveyance systems. Specific procedures for ditch shaping and cleaning, culvert and inlet cleaning, and swale maintenance that protect water quality are included in the Oregon Department of Transportation Routine Road Maintenance Guide, which has been incorporated into the City's stormwater management program (BMP PW11).

Regular updates to the stormwater system base utility map will be made and verified with each inspection and maintenance cycle.

MEASURABLE GOALS:

- Inspect public conveyance system annually for maintenance needs.
- Maintain and repair public conveyance system as needed based on inspections.

TRACKING MEASURES:

- Estimate the length of conveyance system serviced each year.
- Estimate type and volume of debris removed.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW15
BMP NAME: Catch Basin Cleaning
RESPONSIBLE DEPARTMENT: Public Works
RESPONSIBLE PARTY: Operations Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals
SWMP ELEMENT: Element #8

DESCRIPTION:

The City of Wilsonville maintains and repairs the stormwater collection system components, specifically stormwater catch basins and trash racks. Inspection of catch basins and trash racks is performed during catch basin cleaning operations. City-wide cleaning and maintenance of catch basins is performed a minimum of every two years during the dry season (July to October).

INSPECTION PROCEDURES AND ACTIVITIES:

During catch basin cleaning operations, catch basins are inspected for cracking and breakage, which would limit the structural integrity and performance of the system. They are also inspected for excess sediment accumulation, trash and debris, and organic material deposition. Cleaning and maintenance of all catch basins in the city limits occurs every two years on average, but may occur more frequently if needed. Cleaning operations are done with a vactor truck and require a minimal amount of water. The debris removed is brought to a drying bed at the wastewater treatment plant. After dewatering occurs, the debris is disposed of in an approved landfill. The City will explore options for a regional facility or other methods for dewatering street wastes.

Debris is periodically inspected to determine composition for source control assessments. Inspection of the debris ensures compliance with Toxicity Leachate Characteristics Standards.

MEASURABLE GOALS:

- Clean 25% of all high-priority public catch basins per year and the remaining 75% of public catch basins over a four-year period.
- Inspect catch basins for maintenance and repair needs during conveyance system cleaning activities.
- Schedule repair activities as needed, based on inspections.

TRACKING MEASURES:

- Track percent of total catch basins cleaned each year.
- Track number of catch basin repair activities conducted each year.
- Estimate volume of debris removed annually.

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: PW/CD16
BMP NAME: Structural Control Cleaning
RESPONSIBLE DEPARTMENT: Public Works and Community Development
RESPONSIBLE PARTY: Operations Manager and Natural Resources Program Manager
TARGET POLLUTANTS: Sediment, Trash and Debris, Organics, Oil and Grease, Nutrients, Bacteria, Metals
SWMP ELEMENT: Element #8

DESCRIPTION:

The City of Wilsonville tracks, inspects, maintains, and repairs City-owned (public) structural control components of the stormwater system, specifically oil/water sediment vaults, trash racks, and detention ponds. Inspection of structural controls is performed annually and maintenance is performed as needed. The City has developed a GIS “atlas” of their storm system that includes city owned structural controls. New controls are added to the GIS as as-builts are developed.

The City of Wilsonville has the authority to require maintenance of private structural stormwater controls through completion of Maintenance Covenant Access Easement Agreements submitted during the building permit and approval process for new and redevelopment resulting in 5,000 ft² or more impervious surface. The Covenant Easement agreements require facility owners to inspect, maintain, and repair private stormwater facilities and submit annual reports to the City. The City’s Stormwater Management Coordinator assures through yearly notice of required maintenance to covenant holders and follow up inspections of sites that covenant holder inspections and maintenance are performed. Each site for which there is a Maintenance Covenant agreement is inspected annually. Private facilities are included in the City’s GIS stormwater “atlas” as as-builts are submitted.

INSPECTION PROCEDURES AND ACTIVITIES:

With respect to public facilities, oil/water sediment vaults are inspected for cracking and breakage, conditions that would limit the structural integrity and performance of the system. Ponds and trash racks are inspected for accumulated sediments, trash and debris, and organic materials that limit the ability of the system to operate at full capacity. If significant materials are observed in the structural control facilities, such that the systems may cause premature flooding or bypass of the water quality design storm, maintenance is scheduled and performed.

With respect to private facilities, the Maintenance Covenant Access Easement agreements require a list of facilities to be maintained and acknowledgement of a list of maintenance criteria. Inspections are conducted of these facilities in accordance with these acknowledgments.

MEASURABLE GOALS:

- Inspect public structural controls annually and maintain and repair as needed.
- Ensure maintenance of new private structural stormwater facilities serving 5,000 ft² of area or greater through the tracking of Maintenance Covenant Access Easement agreements. Maintain maps of both public and private water quality structural controls.

TRACKING MEASURES:

- Track number of public stormwater structural controls inspected.
- Track number of public stormwater structural controls maintained.
- Track covenant agreements on file and annual maintenance reports submitted for private stormwater structural control facilities.
- Track number of private stormwater structural controls inspected.