

2012

Stormwater Management Plan

Best Management Practices

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PW - Public Works

CD – community Development

City of Wilsonville Stormwater Management Plan (SWMP) 2012

BEST MANAGEMENT PRACTICE FACT SHEET

BMP TITLE: CD1

BMP NAME: Illicit Discharge Detection and Elimination

RESPONSIBLE DEPARTMENT: Community Development and Public Works

RESPONSIBLE PARTY: Natural Resources Program Manager and Public Works Director

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 (15 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 cannot 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 in accordance with the time frame referenced in the permit. 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)).

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 Schedule A.4.a.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 November 1, 2012, 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 priority minor outfalls annually for illicit discharges.
- Continue to follow dry weather field screening procedures for all outfalls suspected of illicit discharges.

- Notify the Public Works Director of all positively identified illicit connections and take necessary actions to eliminate them.
- By November 1, 2012, revise procedures for conducting the illicit discharge elimination and investigation program in accordance with permit requirements.

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: Public Works Director and Natural Resources Program 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. The databases are maintained and updated in accordance with the process described below.

As part of the business license application, all new businesses must provide the applicable SIC code and/ or describe the nature of the business activity. When the business license application is received, it is reviewed to 1) determine whether the facility would be subject to an industrial stormwater NPDES permit (per applicable SIC code) and 2) whether the facility may have the potential to contribute high pollutant loads to the MS4.

An Environmental Survey is sent to new businesses (i.e., non-residential sewer users) identified as potential high pollutant source facilities. Results of the survey are reviewed 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.

The Public Works Department, through the Pretreatment Program, and the Community Development Department annually inspect facilities that fall within the inspection criteria listed above. In addition, Tualatin Valley Fire and Rescue (TVFR) annually distribute Hazardous Substance Information Surveys to existing industrial facilities. Facility inspections may be conducted depending on the results of these surveys as well. Review of the new business license applications allows for the identification of new industries that would require an industrial

stormwater NPDES permit. Additionally, during the permit term, existing business license applications will be reviewed to confirm whether the SIC code indicates that an industrial stormwater NPDES permit is required (and has not already been obtained). If such industry is identified, DEQ and the industry will be notified within 30 days.

INSPECTION PROCEDURES AND ACTIVITIES:

Facilities warranting inspection are inspected annually. Additional inspections may occur as necessary. 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). Facilities are inspected for cleanliness and good housekeeping practices. If unauthorized or illicit discharges are found, the City works with the facility to ensure that the discharge is eliminated or fines are issued if required.

Priorities for facility inspections are evaluated and may be 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 Environmental Survey from new businesses (i.e., non-residential sewer users) identified as a potential high pollutant source facility based on initial review of the business license application and SIC code.
- Update facility information by sending the Environmental Survey to applicable, existing businesses every three years.
- Identify facilities needing NPDES 1200Z permits and notify the facility and DEQ within 30 days.
- 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 existing and potential new 1200Z permitted facilities identified 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 (ESC) 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. For projects between one and five acres, the City of Wilsonville's issues 1200-CN permits on behalf of DEQ. Projects over five acres are required to obtain a DEQ-issued 1200-C permit and provide the approved 1200-C permit to the City prior to any soil disturbance activity.

Erosion control plans and 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 engineering and building permit applicant/owner.

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 and sediment 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 and sediment control plan.
- Conduct weekly erosion control inspections on all construction sites disturbing over 500 ft².

TRACKING MEASURES:

- Track the number of erosion and sediment control plans approved.
- Track the number of 1200-CN and 1200-C permits issued.
- 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:	Elements #4, #7 and #8

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; reducing pollutants in stormwater runoff associated with application of pesticides, herbicides, and fertilizers; and preventing spills and inappropriate discharges to City drainage systems and waterways (also see CD6).

ACTIVITIES:

Educational information is 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 type of discharge, and provides education regarding stormwater pollution and practices for preventing this pollution.

During 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. Results of the public education effectiveness evaluation will be reported to DEQ by July 1, 2015.

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.
- Distribute door hangers as necessary in neighborhoods where non-stormwater discharges have been identified.
- Coordinate with other, local Phase I jurisdictions in providing/ compiling information regarding public education effectiveness and provide the results to DEQ by July 1, 2015.

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 addressing citizen's calls 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 "Citizen Concern" form 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: PW/CD7

BMP NAME: Municipal Staff Training for Stormwater Pollution Prevention

RESPONSIBLE DEPARTMENT: Public Works and Community Development

RESPONSIBLE PARTY: Operations Manager and Natural Resources Program Manager

TARGET POLLUTANTS: Sediment, Organics, Oil and Grease, Nutrients, Bacteria, Metals, Toxics

SWMP ELEMENT: Elements #4 and #7

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 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 program. Such elements include the monitoring plan, annual reports, SWMP revisions, 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 about the documents will be collected, reviewed and addressed by City staff.

The City's monitoring plan, due to the Department on September 1, 2012, will be made available for a public review and comment prior to submission.

Annually, the City reports to DEQ on the status of implementing their current SWMP. Such report is the City's MS4 NPDES Annual Report. To aid in public participation and involvement, the City will post their annual report on the City's website for public access and review.

MEASURABLE GOAL:

- Provide for public review and comment with the monitoring plan, SWMP revisions, and pollutant load reduction benchmarks.

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 has updated their Stormwater Master Plan (2012) 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 engineering/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 in the Public Works Standards.

Conditions of approval from the Development Review Team are presented to the Development Review Board during the public 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 applications reviewed for compliance with the City's stormwater requirements.
- Track the number and 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 CD9 Planning and Development Review, the City has updated their Stormwater Master Plan. One of the policies resulting from this process is the prioritization of 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 results in the optimization of onsite retention practices and reduces post-construction stormwater runoff volumes and rates. Public works standards will be updated accordingly as part of this BMP.

REVIEW PROCEDURES AND ACTIVITIES:

The City of Wilsonville already implements an impervious area threshold that is consistent with the threshold listed in Table A-1 of the permit.

As part of the review and update of public works standards, the City will update their stormwater design storm to reflect 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. Provisions related to inspection and enforcement will also be reviewed and updated if necessary.

MEASURABLE GOALS:

- Review 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 review activities update the City's post-construction stormwater design standards and code language by November 1, 2014.

TRACKING MEASURE:

- Track progress related to the review and update 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 are generally conducted during dry-weather conditions 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.
- Schedule and conduct street maintenance activities during dry weather conditions.
- 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: PW/CD12
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.
- Alternative methods, such as goat 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 that apply chemicals are certified.

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: PW/CD13

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:

By July 1, 2013, the City of Wilsonville will inventory these facilities and implement a program to reduce the impact of stormwater runoff from these facilities.

MEASURABLE GOALS:

- Inventory municipal facilities subject to this permit requirement.
- Identify and implement strategies to minimize discharges from identified municipal facilities by July 1, 2013.

TRACKING MEASURE:

- Inventory municipal facilities and develop strategies to meet 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, trash racks, and inlets. Inspection of inlets, outfalls, culverts, trash racks, 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 trash racks occurs annually. 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 (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 is performed during catch basin cleaning operations. City-wide cleaning and maintenance of catch basins is performed 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 catch basins in the city limits occurs once per year for priority catchbasins (i.e., approximately 25% of all public catchbasins), and once every four years for the remaining catchbasins (i.e., the remaining 75% of all public catchbasins). Maintenance may occur more frequently if a need is identified. High priority catchbasins are those identified within heavy use industrial or commercial areas as well as along major arterials where debris accumulates at an accelerated level.

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 continues to 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 all high-priority public catch basins per year and the remaining public catch basins over a four-year period.
- Inspect catch basins for maintenance and repair needs during catchbasin cleaning activities.

- Schedule catchbasin 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 “atlas” as as-builts are developed.

The City of Wilsonville has the authority to require maintenance of private structural stormwater controls through completion of the *Stormwater Maintenance and Access Easement* agreements submitted during the public works permit and approval process for new and redevelopment resulting in 5,000 ft² or more impervious surface. The 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 that facility owners conduct inspections and maintenance by sending an annual notice of required facility maintenance and conducting follow up inspections of sites. Each private facility for which there is an agreement is inspected by City staff 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. By July 1, 2013, the stormwater facility inspection and maintenance criteria will be reviewed and updated as necessary.

With respect to private facilities, the *Stormwater Maintenance and Access Easement* agreements contain a list of facilities to be maintained and acknowledgement of a list of maintenance criteria. Facilities are inspected in accordance with these criteria.

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 *Stormwater Maintenance and Access Easement* agreements.
- Maintain GIS “atlas” for 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 and maintained.