Stormwater Management Plan
Best Management Practices

This Stormwater Management Plan groups stormwater best management practices according to permit requirements into the following sections:

1. Illicit Discharge Detection and Elimination
2. Industrial and Commercial Facilities
3. Construction Site Runoff Control
4. Education and Outreach
5. Public Involvement and Participation
6. Post-Construction Site Runoff and Retrofit Programs
7. Pollution Prevention for Municipal Operations
8. Stormwater Management Facilities Operation and Maintenance Activities

Each section includes the applicable permit language and describes the program elements that address permit requirements. At the end of each section, a BMP category summary specifies measurable goals for key program elements and the tracking measures associated with the measurable goals. Clean Water Services (District) will report progress on attaining the measurable goals and tracking measures in the Municipal Separate Storm Sewer System (MS4) Annual Report. All references to "annual" refer to the MS4 reporting year, i.e., July 1 of the previous year through June 30 of the current year.

1. Illicit Discharge Detection and Elimination

The permittee must continue to implement a program to prevent, detect, characterize, trace, and eliminate illicit discharges to the MS4. The permittee must:

The District describes its Illicit Discharge Detection and Elimination (IDDE) program in a separate document, *Illicit Discharge Detection and Elimination Program Description* (*IDDE Description*, 2015). The IDDE program is designed to prevent, detect, characterize, trace and eliminate unpermitted discharges of pollutants to the MS4 to the maximum extent practicable. The IDDE program is implemented by the District and co-implementers. The *IDDE Description* includes an Enforcement Response Plan describing how the District and the co-implementers eliminate illicit discharges.

The IDDE program includes activities to detect illicit discharges through inspection of permitted industrial facilities, observations during routine maintenance of MS4 facilities, annual dry weather outfall inspections, and facilitation of public reporting of spills and illicit discharges.

1.1 Ordinance to Prohibit Illicit Discharges

A. Prohibit, through ordinance or other legal mechanism, illicit discharges into the permittee's MS4.

District Ordinance 27 prohibits specific non-stormwater discharges to the publicly owned storm and surface water system within the District's jurisdiction, which

includes the MS4. More details regarding this ordinance are included in the *IDDE Description*.

1.2 Enforcement Response

L. Develop a written enforcement response plan or similar document by [ADD SPECIFIC DATE] describing the escalating enforcement response procedures the permittee must implement when an illicit discharge investigation identifies a responsible party.

The *IDDE Description* provides a summary of the District's and co-implementers' enforcement response plans. In addition, the District has a *Source Control Program Enforcement Response Plan* and an *Industrial Stormwater and Water Quality Enforcement Response Plan* to supplement the *IDDE Description*. If evidence of a potential illicit discharge is discovered through facility inspections, routine MS4 work, annual dry weather field screening, public reports, or through any other source, the District and co-implementers will follow the *IDDE Description* enforcement response plan and supplemental enforcement response plans to investigate and eliminate the discharge.

The plans describe enforcement response procedures for the following activities:

A. Permitted Facilities - Industrial Users
B. Permitted Facilities - 1200-Z Permittees
C. Sanitary Sewer Cross Connections
D. Non-Sanitary Illicit Discharges from other than Permitted Facilities
E. All Illicit Discharges

1.3 Dry Weather Field Screening

B. Develop or identify dry-weather pollutant parameter action levels. The action levels must identify concentrations for identified pollutants that if exceeded, require further investigation by the permittee, including laboratory sample analyses, to identify the source of the illicit discharge. The pollutant parameter action levels and rationale for using the action levels must be documented, and must be reported to DEQ by [insert date].

C. Conduct dry-weather inspection activities during the term of the permit. The dry-weather inspection activities must include, at a minimum, an annual inspection of identified priority locations documented by the permittee. Priority locations must, where possible, be located at an accessible location downstream of any source of suspected illicit discharge or at other locations selected by the permittee to support source identification and elimination of illicit discharges. Priority locations must be identified based on an equitable consideration of hydrological conditions, total drainage area of the location, population density of the location, traffic density, age of the structures or buildings in the area, history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the permittee. The permittee may change the dry-weather inspection priority locations at any time as long as the rationale for changing the location is documented, and the new priority location is identified on maps in accordance with subsection K. The total number of priority locations may not be reduced.

D. Conduct annual dry-weather inspection activities after an antecedent dry period of at least 72-hours. The dry-weather inspection activities must be documented, and the activities must include:

1. 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.

2. Field Screen - If flow is observed during general observations, and the source is unknown, a field screen must be conducted to determine the cause of the dry-weather flow. The field

screen must include either sampling for pollutant parameters that are likely to be found based upon the suspected source of discharge, or other effective investigatory approaches or means to identify the source or cause of the suspected illicit discharge. Where appropriate, the permittee must use the identified dry-weather pollutant parameter action levels. If the source of the dry-weather flow has been determined, the permittee must document the source or source type and all other relevant information related to the identification of the source. 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.

3. *Laboratory Analysis - If general observations and the field screen indicate an illicit discharge and the source of a suspected illicit discharge cannot be identified through other investigatory methods, the permittee must collect a water quality sample of ongoing discharges for laboratory analyses. The water quality sample must be analyzed for pollutant parameters or identifiers that will support the permittee's identification of the source of the illicit discharge.*

E. Document and implement procedures to investigate portions of the MS4 that likely are receiving an illicit discharge based on the results of general observations, field screening, laboratory analysis or other relevant information, including but not limited to a complaint or referral. The procedures must reflect the goal to identify the source and/or responsible party in an expeditious manner, and must clearly define responsibility for implementing the procedures. If the permittee implements the procedures, and the permittee is unable to identify the illicit discharge source, the permittee may suspend the source investigation if the permittee has verified and documented that all reasonable action and effort has been taken to identify the source. The permittee must reopen its investigation for any suspended source investigation if new or additional information related to the suspended source investigation becomes available.

To identify and detect illicit discharges, the District conducts annual dry weather inspections as described in the *IDDE Description*. Dry weather inspection procedures include:

- Pollutant parameter action levels
- Priority locations for conducting inspections
- Inspection procedures, and
- Sampling procedures

BMP 2, Dry Weather Field Screening, describes the goals and tracking measures associated with meeting this requirement.

1.4 Documentation and Mapping

H. Implement and maintain a system to document and track illicit discharge complaints and referrals, investigation activities, and actions taken to eliminate the illicit discharge. The system must include, but is not limited to, the date of the complaint or referral, date and type of investigation activity, of elimination action, and resolution.

K. Maintain maps identifying permittee-owned or operated MS4 outfalls discharging to waters of the State. If the permittee identifies modifications to outfall locations, or is informed of the need to modify its map(s) by DEQ, the maps must be updated in digital or hard-copy within six months of identification.

The District and co-implementers maintain records of all investigation and enforcement of suspected illicit discharges, including field notes, analytical results, correspondence, and enforcement documents. The District will ensure that District

and co-implementers have systems in place that document complaints and referrals of illicit discharges and activities related to their investigation and elimination, and that this information is readily available and provided for the MS4 Annual Report.

The District and co-implementers maintain maps of known MS4 outfalls within the permit boundary. The dry weather field screening priority locations are maintained in GIS so that maps can be generated.

BMP 3, Report and Response Tracking System, describes the goals and tracking measure associated with meeting this requirement.

1.5 Illicit Discharge Elimination

G. 1. Except as provided in Schedule A.2d.i.G.2, the permittee must eliminate illicit discharges within five working days of identification of the source.

2. If the permittee determines that the elimination of the illicit discharge will take more than five working days due to technical, logistical or other reasonable issue, the permittee must, within 20 days of identifying the source of an illicit discharge, develop an action plan for eliminating the illicit discharge in an expeditious manner, and must implement the action plan according to its terms. In lieu of developing an individual action plan for each instance of a typical type of illicit discharge, the permittee may develop or reference, and must implement, a standardized IDDE elimination procedure for each type of typical illicit discharge. The action plan and standardized procedure must include a timeframe to eliminate the discharge in an expeditious manner, and must identify the entity or individual permittee responsible for implementing the corrective action.

The *IDDE Description* includes a summary of actions to be taken to identify the source of an illicit discharge and to abate an illicit discharge once the source has been identified. In all instances of illicit discharges, the enforcing authority (the District or co-implementer) acts to abate the discharge within five working days of identifying the source of the discharge. If the enforcing authority determines that technical, logistical or other reasonable circumstances will prevent the abatement within five working days, the enforcing authority will develop an action plan within 20 days of identifying the source and will implement that plan to abate the illicit discharge as expeditiously as possible. For common types of illicit discharges (such as sanitary–to-storm cross connections), the *District Source Control Program Enforcement Response Plan,* the *Industrial Stormwater and Water Quality Investigation Enforcement Response Plan,* the *IDDE Description*, and the *District Industrial Stormwater Program Implementation Manual* include standard procedures to be followed in lieu of developing an individual action plan. For unique or unusual circumstances, the enforcing authority will develop an individual action plan.

BMP 1, Illicit Discharges, Including Sanitary Cross Connections and Accidental Spills, describes the goals and tracking measures associated with meeting this requirement.

1.6 Spill Prevention and Response

F. Implement response procedures to prevent, contain, respond to and mitigate spills or similar illicit discharges that may or have discharged into the MS4. The permittee must review its written response procedures, and update the procedures as necessary, by [date to be determined]. Spills, or other similar illicit discharges, that may endanger human 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.

The District prevents accidental spills at industrial facilities that are permitted to discharge to the sanitary conveyance system and the MS4 through industrial discharger slug control plans and administration of the 1200-Z permitting program, respectively. The District and co-implementers prevent spills at construction sites through permit terms and inspections conducted under the Construction Site Stormwater program. The District and co-implementers also prevent spills by implementing Stormwater Pollution Control Plans at municipal facilities. These programs are described in the *IDDE Description*. The District will review and update these procedures as required by the Permit.

Response, containment, and mitigation actions are carried out by emergency first responders, including city fire departments. The District is available to provide technical advice to these agencies as requested. The District has an emergency environmental response company under contract for assistance with cleanups.

The District and the co-implementers comply with all applicable federal and state laws regarding reporting of accidental spills and other similar illicit discharges that endanger human health or the environment, including proper notification to the Oregon Emergency Response System.

BMP 1, Illicit Discharges, Including Sanitary Cross Connections and Accidental Spills, describes the goals and tracking measures associated with meeting this requirement.

1.7 Notification to Adjacent Jurisdiction

I. In the case of a known illicit discharge that originates within the permittee's MS4 regulated jurisdiction and that discharges directly to a storm sewer system or property under the jurisdiction of another public body, the permittee must notify the affected jurisdictional authority as soon as practicable, but no more than one working day of becoming aware of the discharge.

J. In the case of a known illicit discharge that is identified within the permittee's MS4 regulated jurisdiction, but is determined to originate from a contributing storm sewer system or property under the jurisdiction of another public body, the permittee must notify the jurisdictional authority of the area contributing the discharge as soon as practicable, but no more than one working day of identifying the illicit discharge.

If a known illicit discharge originates within the jurisdiction of a co-implementer or the District and discharges directly to a storm sewer system or property under the jurisdiction of another municipality, the co-implementer or the District notifies the affected municipality as soon as practicable and at least within one working day of confirming the origin of the discharge.

If a known illicit discharge is identified within the jurisdiction of the District or a co-implementer, and it is determined to originate from a storm sewer system or property under the jurisdiction of another municipality, the District or the co-implementer notifies the contributing municipality or municipality with jurisdiction as soon as practicable, and at least within one working day of confirming the origin of the discharge.

During any investigation of an illicit discharge within the jurisdiction of a co-implementer, the District and the co-implementer communicate and cooperate as needed to complete the investigation and abate the illicit discharge.

1.8 Non-Stormwater Discharges

M. Unless the following non-stormwater discharges are identified by the permittee or DEQ as a significant source of pollutants to waters of the State, these types of non-stormwater discharges into the MS4 are authorized by this permit: 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; 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; charity 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 DEQ pursuant to Oregon Revised Statute (ORS) Chapter 465; and, discharges or flows from emergency fire fighting activities. If any of these non-stormwater discharges under the permittee's jurisdiction is a significant source of pollutants, the permittee must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source.

Non-stormwater discharges that have the potential to enter the MS4 are listed in Table 1. The District has reviewed the listed non-stormwater discharges to the MS4 and has determined those that are not significant sources of pollutants. For the remainder, Table 1 notes "Program in place." For those with a program in place, the agency that administers the program is identified and the "Notes" briefly describe the approach to reducing the discharge of pollutants associated with the source.

1.9 Training

N. Design and implement an ongoing training program for all staff, who as part of their normal job responsibilities come into contact with or otherwise observe an illicit discharge or illicit connections to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided as needed to address the changes in procedures, techniques, requirements or staffing. Permittee shall document and maintain records of the training provided and the staff trained.

District provides annual training for all co-implementer staff who clean and inspect MS4 components where signs of illicit discharges and connections could be observed. The training covers identification of illicit discharges and connections and proper responses for reporting and responding to them. BMP 4, Annual Training, describes the goals and tracking measures associated with meeting this requirement.

TABLE 1.
Controls and Limitations—Non-Stormwater Discharges

Non-Stormwater Discharge	Status	Notes
Water line flushing	Program in place (DEQ)	Addressed by the DEQ's BMP entitled *Management Practices for the Disposal of Chlorinated Water* (DEQ, 2007).
Landscape irrigation/Lawn Watering/Irrigation Water	Program in place (District)	The District addresses potential pollutants from lawn watering, irrigation water, and landscape irrigation into the MS4 through its public education campaigns, which include: • Go Native: Less Water, Fewer Chemicals, And Healthy Streams. The District advocates the use of the integrated pest management and good irrigation scheduling practices described in *Environmentally Responsible Landscape Services: A Best Management Practices Guide for Landscape Businesses* (Pollution Prevention Outreach Team, 2010).
Diverted stream flows	Program in place (DSL, COE, District)	Diverting stream flows into the MS4 system is a very uncommon occurrence. Where deemed appropriate by permitting authorities that regulate in-water work, the District may allow the temporary diversion of stream flows into the MS4 provided it meets applicable requirements.
Rising groundwater	Not a significant source of pollutants	
Uncontaminated groundwater infiltration	Not a significant source of pollutants	
Uncontaminated pumped groundwater	Program in place (District)	Groundwater pumped to the MS4, such as from excavation dewatering, requires District approval, verification that it is uncontaminated, and may require flow controls to prevent detrimental effects on receiving streams.
Discharge from potable water sources	Program in place (DEQ)	Addressed by DEQ's BMP entitled *Management Practices for the Disposal of Chlorinated Water* (DEQ, 2007).
Start-up flushing of groundwater wells	Program in place (District, DEQ)	Requests for the discharge of start-up well flushing activities are reviewed to ensure that the discharge would not result in impacts to surface waters. Where there is potential for surface water impacts, treatment is required or discharge to sanitary sewer.
Potable groundwater monitoring wells	Program in place	Similar to groundwater well-flushing.
Draining and flushing of municipal potable water storage resources	Program in place (DEQ)	Addressed by the DEQ's BMP entitled *Management Practices for the Disposal of Chlorinated Water* (DEQ, 2007).
Foundation drains/Footing drains	Not a significant source of pollutants	
Air conditioning condensate	Not a significant source of pollutants	Commercial and industrial units are regulated by the Oregon Plumbing Code. Per this code, systems that require outlet piping would be required to connect to a legal point of disposal, specifically sanitary sewer lines.
Springs	Not a significant source of pollutants	

Water from crawl space pumps	Not a significant source of pollutants	
Individual residential car washing	Program in place (District)	The District does not regulate individual residential car washing, but has an education program that encourages the use of commercial car washes that discharge to sanitary systems.
Charity car washes	Not a significant source of pollutants	
Flows from riparian habitats and wetlands	Not a significant source of pollutants	
Dechlorinated swimming pool discharges	Program in place (DEQ)	The District advocates use of the BMPs set forth in *Management Practices for the Disposal of Chlorinated Water from Swimming Pools and Hot Tubs* (DEQ, 1999).
Street wash waters	Program in place (District)	Street washing activities are typically conducted near construction sites. The pertinent BMPs for this activity are included in the *Erosion Prevention and Sediment Control Planning and Design Manual* (CWS et al., 2008).
Discharges of treated water from DEQ approved investigation, removal, and remedial actions	Program in Place (District)	Initial discharge is to the sanitary sewer, under the Pretreatment Program, *Source Control Pretreatment Program Implementation Manual* 2003, § III Procedures. No discharges shall occur without prior District approval and NPDES permit, if applicable.
Discharges from emergency fire-fighting activities	Program in Place (local fire dept.)	Stormwater protection measures are implemented when possible by Tualatin Valley Fire & Rescue, Cornelius Fire Dept., Hillsboro Fire Dept., Forest Grove Fire Dept., Banks Fire Dist. #13, and Washington County Fire Dist. #2

COE = U.S. Army Corps of Engineers
DSL = Oregon Department of State Lands

BMP CATEGORY: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Introduction: The purpose of this BMP category is to improve water quality by proactively investigating and removing illicit discharges to the stormwater system. This BMP meets the regulatory requirements for a program to detect and remove illicit discharges and improper disposal to the storm sewer system.

Measurable goals and tracking measures:

1. Illicit Discharges, Including Sanitary Cross Connections and Accidental Spills

a. Goal: Respond to reports of illicit discharges. Abate identified illicit discharges.

Tracking measure: Annual number of illicit discharges reported to District/co-implementers by the public and illicit discharges identified through routine MS4 work.

Tracking measure: Annual number of District/Co-implementer field investigations and other follow-up actions in response to reports.

Tracking measure: Number of on-going illicit discharges identified and number abated by the District/Co-implementers.

Tracking measure: Number of cross connections identified and number abated.

b. Goal: Take enforcement actions according to the District's IDDE Program in response to illicit discharges.

Tracking measure: Number and type of enforcement actions taken to abate illicit discharges.

2. Dry Weather Field Screening

a. Goal: Conduct annual dry weather illicit discharge inspections at 55 identified priority locations.

Tracking measure: Number of priority locations inspected annually.

b. Goal: Conduct investigations of suspected illicit discharges. Abate illicit discharges identified through dry weather screening

Tracking measure: Number of suspected illicit discharges identified through dry weather screening and follow-up investigations conducted.

Tracking measure: Number of illicit discharges confirmed and abated through dry weather screening.

c. Goal: Annually review and maintain a map of priority locations for dry weather field screening.

Tracking measure: Changes, and rationale for changes, to priority locations.

3. Report and Response Tracking System

a. Goal: Within one year of permit issuance have in place a system or approach meeting permit requirements.

Tracking measure: *Submit report on system status with the first MS4 Annual Report.*

4. Annual Training

a. Goal: Provide annual training for all co-implementer staff who clean and inspect MS4 components where signs of illicit discharges and connections could be observed. The training will cover identification of illicit discharges and connections and proper responses for reporting and responding to them.

Tracking measure: Number of co-implementer staff attending annual training.

Relationship to TMDLs

Bacteria. This BMP will reduce the human-related sources of bacteria by identifying and removing any cross-connections or other illicit discharges of bacteria-contaminated water into the MS4.

Phosphorus. This BMP will reduce the discharge of organic matter into the MS4, which will result in the reduction of phosphorus.

Settleable Volatile Solids. This BMP will reduce the discharge of organic matter into the MS4 and into the streams directly, which will result in the reduction of sediment oxygen demand.

Related documents:

- IDDE Description
- Source Control Program Enforcement Response Plan
- Industrial Stormwater and Water Quality Investigation Enforcement Response Plan
- Clean Water Services Industrial Stormwater Program Implementation Manual
- Clean Water Services Ordinance No. 27

2. Industrial and Commercial Facilities

The permittee must continue to implement a program to reduce pollutants in stormwater discharges to the MS4 from facilities the permittee identified as being subject to the following: an industrial stormwater NPDES permit; hazardous waste treatment, disposal and recovery facilities; industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986; and, facilities that have been identified as contributing a significant pollutant load to the MS4. The permittee must:

There are no hazardous waste treatment, disposal, and recovery facilities within the District's service area. To ensure that the District oversees industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III), the District reviews industrial user surveys of new businesses to identify facilities that are subject to these provisions. The District also annually obtains a list of industrial facilities in its service area that are subject to Toxic Release Inventory (TRI) reporting under SARA Title III to determine whether any facilities in its service area that are subject to TRI reporting were missed by the industrial user survey process. If facilities subject to reporting under SARA Title III are identified through the TRI report that were not previously screened for potential MS4 impact, the District will survey the facility and inspect it for chemical storage and spill potential to evaluate whether its stormwater discharges warrant additional controls. Stormwater discharges from industrial facilities that are subject to SARA Title III and other industrial facilities are managed through the 1200-Z NPDES Stormwater General Permit assigned to industrial facilities by the Oregon Department of Environmental Quality (DEQ).

The District's industrial stormwater program operates under a memorandum of agreement (MOA) with DEQ to regulate industrial facilities requiring an NPDES Permit. In the state of Oregon, this is the 1200-Z Stormwater General Permit for industrial facilities. Under the current MOA, the District acts as DEQ's agent in regulating industrial facilities that discharge to the MS4 and are required to have a 1200-Z permit. The District implements the industrial stormwater program for the entire service area.

The District performs the following activities for the 1200-Z facilities:

- Identifies facilities requiring industrial stormwater permits
- Reviews industrial stormwater permit application
- Reviews Stormwater Pollution Control Plans (SWPCP)
- Provides technical assistance
- Inspects facilities
- Reviews industrial Discharge Monitoring Reports (DMRs)
- Coordinates with DEQ on enforcement matters

2.1 Priorities and Procedures for Inspections and Control Measures

A. Screen new industrial facilities to assess whether the facility has the potential to be subject to an industrial stormwater NPDES permit or has the potential to contribute a significant pollutant load to the MS4.

B. Within 30 days after a facility is newly identified by the permittee as potentially subject to an industrial stormwater NPDES permit, the permittee must notify, in writing, the industrial facility that it is potentially subject to an industrial stormwater NPDES permit.

C. Implement an updated written strategy to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities where site-specific information has identified a significant industrial or commercial pollutant load to the MS4. The strategy must include a description of the approach to and rationale for identifying commercial and industrial facilities as a contributor of significant pollutant load, and establish the priorities and procedures for facility inspection and stormwater control measure implementation at the identified facilities. The updated strategy must be implemented by [date to be inserted] and subsequently applied within one calendar year from the date a new source contributing a significant pollutant load to the MS4 has been identified by the permittee.

1200-Z Permitted Facilities

The District identifies and contacts industrial facilities through the ongoing Sewer Use Information Card survey program. Industrial facilities are then classified by Standard Industrial Classifications (SICs). After these facilities are identified as needing a permit, the District directs the facility operators to apply for the 1200-Z permit.

The District inspects 1200-Z permitted facilities based on a system that annually prioritizes inspections so that the frequency of inspection is roughly proportional to the risk of discharges of pollutants and other noncompliance. In prioritizing inspections, the District considers the complexity of the facility, its compliance history and benchmark exceedances. Regardless of risk, the District inspects 20% of the 1200-Z permitted facilities every year and inspects every 1200-Z permitted facility at least once during the permit term. In addition to these scheduled inspections, the District conducts technical assistance inspections at facilities that need additional help and provides "no exposure" certifications to facilities that do not have industrial activities that are exposed to stormwater.

Industrial facilities subject to the 1200-Z permit are required to submit monitoring results for pollutants specified in the permit on an annual basis. The District receives and reviews the monitoring reports from each of the 1200-Z industrial permittees in its service area. The District evaluates this information for accuracy and completeness, and compares it to the Quality Assurance and Quality Control (QA/QC) laboratory data that is submitted per requirements of the 1200-Z permit.

Facilities Identified as Having the Potential to Contribute Pollutants

The District initially determines whether an industrial facility has the potential to contribute a significant pollutant load to the MS4 based on the facility's SIC code. The District also responds to site-specific information, such as might be gained in investigating a complaint or an illicit discharge, indicating that an industrial or commercial facility has the potential to contribute a significant pollutant load to the MS4. In determining whether a facility has the potential to contribute a significant pollutant load to the MS4, the District considers the nature of materials and wastes stored at the facility, the condition and location of storage structures, the protective measures in place (including personnel training, spill response plans, and inspection programs), and the history of actual releases. The District inspects all facilities where there is credible site-specific information suggesting the potential to contribute a significant pollutant load to the MS4. Sites with known releases are prioritized. Facilities that are found with SIC codes requiring 1200-Z coverage are brought into the 1200-Z program.

Where inspection confirms the potential to contribute a significant pollutant load to the MS4, the District initially works with the owner/operator to implement practices designed to eliminate the potential. If this technical assistance is not effective, the District may bring enforcement action under Ordinance 27 to compel compliance and/or may request that DEQ require the facility to obtain coverage under a 1200-Z general permit pursuant to 40 CFR 122.26(a)(9)(i)(D), or may take other action as appropriate.

As required by the permit, the District will update its strategy to reduce pollutant discharges to the MS4 from industrial and commercial facilities.

In addition to the program for industrial facilities that are covered by the 1200-Z stormwater general permit, the District implements a program for select industrial and commercial facilities that conduct washing operations. With respect to the discharge from washing operations, the District's program consists of the following:

- Identifying facilities that discharge process waters from washing operations to the MS4
- Providing technical assistance to eliminate these discharges to the MS4
- Requiring permits and necessary controls for discharges to the sanitary sewer
- Conducting annual inspections of permitted facilities

BMPs 1a through g, Industrial and Commercial Facilities, describe the goals and tracking measures associated with meeting these requirements.

BMP CATEGORY: INDUSTRIAL AND COMMERCIAL FACILITIES

Introduction: The purpose of this BMP category is to improve water quality by regulating select industrial and commercial discharges to the storm sewer system. This is accomplished by identifying facilities subject to industrial permitting requirements, reviewing stormwater pollution control plans, conducting inspections, reviewing discharge monitoring data and providing technical assistance.

Measurable goals and tracking measures:

1. a. Goal: Identify industrial facilities that need a 1200-Z stormwater general permit.

   Tracking Measure: Number of newly permitted 1200-Z facilities in the service area.

   b. (1) Goal: Conduct all of the 1200-Z facility inspections scheduled for the reporting year in the service area.

   Tracking Measure: Number of 1200-Z permitted facility inspections scheduled for the reporting year; number of scheduled 1200-Z facility inspections conducted during the reporting year.

   b. (2) Goal: Inspect all 1200-Z permitted facilities in the service area at least once during the permit term.

   Tracking Measure: Annually report progress toward this goal and confirm final compliance in the 2020-2021 Annual Report.

   c. Goal: Provide technical assistance if requested by owner/operator of a facility.

   Tracking Measure: Number of technical assistance inspections performed in response to owner/operator requests.

   d. Goal: Issue "No Exposure" certifications to facilities that are determined to meet DEQ qualifying criteria.

   Tracking Measure: Number of "No Exposure" certifications issued.

   e. Goal: Review monitoring reports from all 1200-Z facilities.

   Tracking Measure: Number of monitoring reports submitted and number reviewed.

   f. Goal: Identify facilities subject to section 313 of SARA Title III and not already covered by 1200-Z or other stormwater discharge permit and determine their potential to contribute a substantial pollutant loading to the MS4.

   Tracking Measure: Number of unpermitted facilities identified through the annual review of the TRI.

   Tracking Measure: Number of unpermitted facilities identified through the TRI review that were inspected, number determined to have potential to discharge a substantial pollutant loading, action taken.

   g. Goal: Reduce pollutants in stormwater discharges from facilities other than those with SIC codes requiring 1200-Z general permit coverage.

   Tracking Measure: Number of facilities (other than those with 1200Z-qualifying SIC codes) where site-specific information leads to a facility inspection, number of facilities determined to be contributing a significant pollutant load to the MS4, action taken.

Relationship to TMDLs

Implementing this BMP and the 1200-Z permitting program reduces the potential discharge of all of the TMDL parameters.

Related documents:

- *Stormwater Pollution Control Manual* (Clean Water Services, 1999)
- Industrial Stormwater Implementation Manual
- MOA with DEQ to implement the 1200-Z program

3. Construction Site Runoff Control

The permittee must continue to implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities. The permittee must:

A. Implement and enforce ordinances or other enforceable regulatory mechanisms that require erosion prevention and sediment control (EPSC) best management practices to be designed, implemented, and maintained on construction sites to minimize the transport of construction-related pollutants to waters of the State and prevent adverse impacts to water quality by construction-related pollutants. The construction site runoff control program ordinances or other enforceable regulatory mechanism must apply to construction activities that result in a land disturbance of 500 ft^2 or greater.

The District's Ordinance 27 authorizes rules and regulations for construction site stormwater management through adoption of resolutions and orders. The specific rules and regulations are located in the *Design and Construction Standards* (*D&C Standards*). The *D&C Standards* include requirements that are intended to protect the beneficial uses of waters within the Tualatin River Basin and the District's service boundary, and are implemented in combination with state, federal, and local laws and ordinances. Within the Tualatin River Basin, the Tualatin Basin Rule (OAR 340-041-0345(4)) regulates erosion control and stormwater quality related to land development. Under this rule, the District regulates all land development activities that disturb more than 500 square feet. In addition, construction activities that affect areas greater than one acre are also regulated under NPDES Stormwater Discharge Permits (1200-C and 1200-CN Permits). The District acts as an agent for the administration of the 1200-CN and 1200-C program on behalf of DEQ. Applicants may prepare and submit a single Erosion Prevention and Sediment Control Plan (EPSCP) for approval under both the District's regulations and the state (DEQ's) regulations, thereby streamlining the permitting process.

To provide further guidance to the development and construction community, the District, in partnership with other local jurisdictions, publishes the *Erosion Prevention and Sediment Control Planning and Design Manual (Manual)*. The *Manual* provides a detailed and comprehensive description of erosion control materials and installation practices that have proven effective.

The erosion control program and rules include BMPs for erosion prevention and sedimentation control, with emphasis on proactive erosion prevention rather than reactive sedimentation control. Prevention techniques include site planning and scheduling, retention or use of ground cover, etc. Sediment control measures include silt fences, sediment barriers, settling basins, etc.

The Construction Site Runoff control BMP fact sheet at the end of this section contains a summary of the program, measurable goals and tracking items.

3.1 Site Planning Procedures and BMP Requirements

B. Require construction site operators to prevent or control the discharge of pollutants to the MS4 from construction-related non-stormwater waste that may cause adverse impacts to water quality, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.

C. Require construction site operators to develop EPSC site plans that incorporate appropriate and effective EPSC best management practices. At a minimum, EPSC site plans for sites disturbing one acre to less than five acres of land must be consistent with the substantive

requirements of the State of Oregon's 1200-CN permit, and for sites disturbing 5 acres or greater of land, the construction EPSC site plans must be consistent with the substantive requirements of the State of Oregon's 1200-C permit. In place of individual site-specific EPSC plans, the permittee may allow operators of individual single-family home sites less than one acre to use a permittee-documented list of effective EPSC BMPs and site sketch showing appropriate use and placement of the EPSC BMPs. By [date to be inserted], the permittee must develop written EPSC site plan review procedures that the permittee must use to verify that the EPSC site plan or site sketch incorporate appropriate EPSC BMPs for the construction activities being proposed.

D. *Require the construction site operator to implement and maintain appropriate and effective EPSC best management practices, as reflected in the applicable EPSC site plan or site sketch for the construction site, and update the EPSC site plan or site sketch as necessary to remain effective.*

The *D&C Standards* specify the required elements (management practices) that must be included in an EPSCP. In addition to management practices, the EPSCP requires identification and protection of water quality sensitive areas, floodplains, and drainage hazard areas. The *D&C Standards* outline the required elements of an EPSCP. The EPSCP serves as a blueprint to prevent erosion and control sediment from leaving the site during construction and requires modification throughout the life of the project as needed. The District and co-implementers review and approve EPSCPs prior to issuing site development erosion control permits.

The development plan review and permitting process is streamlined for construction of individual single-family homes on sites less than one acre and does not require an EPSCP. At a minimum, all construction projects of individual single-family home sites less than one acre require down-gradient perimeter control, inlet protection, and a construction entrance, which are standard construction practices. A detailed EPSCP is required for all commercial, industrial and multi-family residential sites, regardless of lot size. The EPSCP submittal and review is part of the engineering plan review process through which a Site Development Permit is issued. A Site Development Permit cannot be issued without EPSCP approval. Permit issuance requires installation and maintenance of temporary and permanent erosion control measures on all sites in accordance with an approved EPSCP. However, compliance with the approved plan does not preclude the District or co-implementer from requiring an applicant to provide additional measures not identified in the EPSCP if erosion is occurring.

The *D&C Standards* specify erosion prevention and sediment control requirements and include BMPs for use on sites within the Tualatin Sub-basin, some of which are minimum requirements. The *D&C Standards* also include numerous BMPs for effective erosion prevention and sediment control, and BMPs for "non-stormwater pollution control," including BMPs that address concrete truck washout areas, spill prevention/response, employee training and protected areas for storage and maintenance. In addition to the required and allowed BMP list, the *Manual* provides designers with information regarding advantages and disadvantages, design, inspection, and maintenance requirements for a wide variety of erosion control BMPs and helps the designer choose the most appropriate measure or control for an individual site.

BMP 2.b, Training and Outreach, describes the goals and tracking measures associated with notifying site development permit holders of these erosion control requirements.

3.2 Procedures for Identifying Priorities for Site Inspections and Enforcement of Control Measures

E. Perform regular on-site inspections to ensure that the applicable EPSC site plan or site sketch is properly implemented. The construction site inspections must include inspection of 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, if appropriate, discharge locations to receiving waters. The permittee must document inspections to support its findings, including taking photographs of the construction site, as appropriate, and documenting environmental monitoring results when water quality sampling is conducted. By [insert date], the permittee must develop written site inspection procedures and criteria the permittee must use during its site inspections to ensure proper implementation of the EPSC site plan and compliance with the applicable ordinance or regulatory mechanism.

F. By [insert date], the permittee must develop and implement a written escalating enforcement response procedure to ensure construction activities are in compliance with the ordinances or other regulatory mechanisms and eliminate non-compliance in an expeditious manner.

G. Maintain a record-keeping system to document and track construction site runoff program activities.

The District and co-implementers conduct three types of inspections: initial inspections, regular inspections, and final inspections. On all sites, with the exception of individual single family lots, erosion prevention and sediment control measures must be installed and the initial inspection completed before any permitted construction activity begins.

Regular inspections are performed at least weekly on all active site development projects. Regular inspections are performed at least monthly on all active single-lot sites (residential, commercial, and industrial). Additional inspections may be conducted on sites that have challenging site characteristics such as topography, size of the lot, proximity to sensitive areas, and the nature and complexity of the construction activity. The District and co-implementers document all inspections.

The District and co-implementers' inspection of all active sites and frequent follow-up inspections help ensure that the approved EPSCP and BMPs are being implemented. An escalating enforcement system is used for violations, depending on the severity and the nature of the violation. The escalating enforcement may include verbal warnings, written warnings (e.g., Deficiency Notices), imposition of re-inspection fees, Stop Work Orders, and Civil Citations. The District and co-implementers have the ability to bypass verbal or written warnings to address severe violations. For example, working without a proper permit may result in an immediate Stop Work Order and potentially a Civil Citation. Photo documentation is collected when appropriate to support Stop Work Orders. These procedures are documented in the District's *Construction Site Runoff Inspection Guidance* (*Guidance*). The co-implementers either use this *Guidance*, or their own equivalent document. The District and co-implementers

document the activities they carry out to implement the construction site runoff program.

BMP 1, Erosion Prevention & Sediment Control (EPSC) Inspection and Enforcement, and BMP 2.a, Training and Outreach, describe the goals and tracking measures associated with meeting this requirement.

3.3 Education and Training for Construction Site Operators

The following addresses a permit requirement listed in Schedule A.2.d.iv.F for Education and Outreach:

Schedule A.2.d.iv.F: Notify construction site operators where education and training to meet erosion prevention and sediment control requirements can be obtained.

The District provides information regarding opportunities for training and education for construction site operators.

BMP CATEGORY: CONSTRUCTION SITE RUNOFF CONTROL

Introduction: The purpose of this BMP category is to improve water quality by reducing or preventing soil erosion and implementing sediment control measures at construction sites through regulation, inspection, enforcement, and education.

Measurable goals and tracking measures:

1. Erosion Prevention & Sediment Control (EPSC) Inspection and Enforcement

a. Goal: Conduct initial, regular and final inspections for all active site development projects.

Tracking measure: Annual number of site development inspections–initial, regular, and final.

b. Goal: Conduct initial, regular and final inspections for all active single lot construction sites.

Tracking measure: Annual number of single lot construction inspections–initial, regular, and final.

c. Goal: Implement an escalating enforcement system which may include written warnings (e.g., Deficiency Notices or similar action), Stop Work Orders, and Civil Citations.

Tracking measure: Annual number of enforcement actions–written warnings (e.g., Deficiency Notices or similar action), Stop Work Orders, and Civil Citations.

2. Training and Outreach

a. Goal: Provide annual inspector training on erosion control techniques and enforcement measures for continuing education. Except for inspectors who have an active EPSC certification that includes a continuing education requirement, require all erosion control inspectors to attend annual training on erosion control techniques.

Tracking measure: Number of non-certified inspectors and number attending annual EPSC training.

Tracking measure: Number of inspectors with active EPSC certification.

Tracking measure: List of annual training sessions conducted and participating agencies.

b. Goal: Provide annual notification of wet-weather requirements to active site development (i.e., not single family home construction) permit holders.

Tracking measure: Number of site development permits active at the time when wet weather notices are issued; annual number of wet weather notices issued.

Relationship to TMDLs

Phosphorus. The District's Erosion Control program was established under the Tualatin Basin Rule (OAR 340-041-0345(4)) to meet the phosphorus allocations in the 1988 Tualatin TMDL.

Settleable Volatile Solids. Erosion Control BMPs significantly reduce the discharge of organic matter associated with soil erosion. Organic matter can result in increased sediment oxygen demand in the receiving waters.

Related Documents:

- *D&C Standards*, 2007 (Chapter 6)
- Erosion Prevention and Sediment Control Planning and Design Manual, 2008
- Erosion Control Internal Inspection Procedures Handbook

4. Education and Outreach

The District implements the education and outreach program throughout the service area and has typically taken the lead in crafting education and outreach messages. Therefore, the discussion below mentions the District as the entity that implements the program. However, it should be noted that the District and co-implementers share responsibility for education and outreach.

The District's Strategic Communications Plan is based on established communication principles including open two-way communication, community problem solving, and strong and consistent messages.

The District's primary message is: protect and enhance watershed health. To encourage stream-healthy behaviors, the District uses a variety of print, electronic and other media including: newspaper, cable TV, radio, billing inserts, signage, brochures, community events, workshops, vehicle murals, electronic newsletters and the website. Partnerships are a key factor in the success of the District's public education and outreach programs. As a member of the Regional Coalition for Clean Rivers and Streams and the Tualatin Basin Public Awareness Committee, the Tualatin River Watershed Council, and other groups working to inform people about water quality, the District has leveraged dollars and resources to have greater reach and impact.

The overall program requirement from the permit is as follows:

The permittee must implement an education and outreach program designed to achieve measurable goals for target audiences, and address specific stormwater quality issues or identified pollutants of concern in its jurisdictional area. The permittee must describe and use effective education and outreach methods, and the permittee must address, at a minimum, the following:

The permit goes on to describe the eight specific components of a public education program that are required. The SWMP elements for each of these specific components are described according to permit requirements in the following subsections.

4.1 Conduct Outreach

A. Continue to implement a documented public education and outreach strategy that effectively 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. The cooperative efforts conducted within the MS4 jurisdictional area must be tracked, documented, and the results reported annually.

B. Provide educational materials or activities to the public that describe the impacts of stormwater discharges on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff.

The District's public education and outreach strategy is documented in its Strategic Communications Plan. Through this plan the District commits to programs that meet the permit requirements for public education and outreach. Examples of these programs include the following:

Public Awareness Campaigns

The District will continue to conduct its Public Awareness Campaigns on a three-year cycle. These campaigns focus on a targeted audience, targeted behaviors and targeted pollutants. The District will use results from the customer surveys (see below) and

feedback from other customer interactions (e.g., social media, District events, etc.) to adapt and refine the public awareness campaigns as necessary. As an example, the District sponsors the "Canines for Clean Water" campaign to encourage proper disposal of pet waste. Dog owners are asked to pledge that they will pick up and properly dispose of pet waste, and in return they receive a colorful bandana for their pet and have the opportunity to have their dog's photo posted on the District website. The purpose of this program is to reduce the discharge of bacteria to surface waters. This popular program puts heart and humor into water quality education.

Public Education

The District developed the Tualatin River Rangers classroom presentation to teach elementary students the impact of daily activities on water quality. The District will continue to present this program. Schools throughout the Tualatin watershed host the Tualatin River Rangers, and District staff teach children how to protect water quality by reducing the use and properly disposing of toxic materials including fertilizers and herbicides, and reporting illicit discharges. The students are encouraged to share this information with their parents through a take-home exercise that engages parents in identifying toxic household materials and putting a sticker on them for proper disposal. This award-winning program has been marketed throughout the U.S.

Outreach Program to Diverse and Underserved Residents

The District will continue to seek opportunities to collaborate with diverse and underserved communities through educational programs and outreach materials that address water quality protection practices.

Community Events

District staff will continue its presence at community events including the Washington County Fair, Public Works Fair, Earth Day events, and Children's Clean Water Festival. At these events District staff talks with individuals about water quality protection and provides brochures, magnets, temporary tattoos, River Ranger handouts, and many other giveaways that help reinforce water quality messages.

Streamside Education

The District will continue building relationships with streamside homeowners who can have the greatest impact on surface water quality. The District will maintain its website, which provides specific educational information for streamside property owners, including contact information for technical assistance and information regarding use of native plants to protect water quality. The District will also provide up to 20 free native plants to streamside residents annually to reduce erosion and encourage stewardship activities.

Financial Support

The District has provided organizational, financial and technical support to stream and wetland "friends" groups in the Tualatin Basin for more than a decade. These groups use newsletters, websites, tours and activities to convey water quality messages to larger audiences. The District intends to continue this effort as budgetary constraints allow.

Certification

The District will continue to sponsor the Eco-Logical Business certification program, which encourages residents to patronize certified businesses. The Eco-Logical Business certification program includes auto repair shops and other businesses that have met rigorous standards that ensure their policies and procedures protect water resources.

BMP 1, Education and Outreach Strategy, BMP 2, Pesticides/Herbicides/Fertilizers, and BMP 5, Education Regarding Illicit Discharges, describe the goals and tracking measures associated with meeting this requirement.

4.2 Pesticide, Herbicide and Fertilizer Educational Activities

C. Provide public education on the proper use and disposal of pesticides, herbicides, fertilizers and other household chemicals.

The District will continue its public education and outreach programs that address issues associated with the application and disposal of pesticides, herbicides, and fertilizers. Key program activities include:

- Educating the public on alternatives to pesticides, herbicides and fertilizers via the annual public awareness campaign with newspaper, cable TV, radio, billing inserts and online advertisements (www.cleanwaterservices.org/)
- Educating the public on the use of native plants by distributing the *Gardening with Native Plants* brochure.

BMP 2, Pesticides/Herbicides/Fertilizers, describes the goals and tracking measures associated with meeting this requirement.

4.3 Education Regarding Private Stormwater Facility Maintenance

D. As appropriate, provide education on the proper operation and maintenance of privately-owned or operated stormwater quality management facilities to owners and or operators of private WQ facilities.

See Section 8.3, Privately Owned Stormwater Structural Facilities, for information on how this requirement is addressed.

4.4 Training for Construction Site Operators

F. Notify construction site operators where education and training to meet erosion prevention and sediment control requirements can be obtained.

See Section 3.3 for information on how this requirement is addressed.

4.5 Conduct or Participate in an Effectiveness Evaluation

G. Conduct or participate in an effectiveness evaluation to measure the success of public education activities during the term of this permit by assessing changes in targeted behaviors. The results of the effectiveness evaluation must be used in the adaptive management of the education and outreach program, and reported to DEQ no later than [insert date].

An integral component of the District's Strategic Communications Plan is to conduct biennial customer surveys. These surveys are conducted by a professional research firm that provides statistically valid and reliable results of customer attitudes and behaviors related to water quality. The surveys include questions related to the current

public awareness campaign. The District uses the survey results to measure the effectiveness of the public awareness campaigns in changing behaviors related to water quality and to establish trends over time. Programs that prove to be ineffective in encouraging water quality-behavior changes are modified as necessary to result in a greater level of responsible behavior from those who live and work in the Tualatin River Basin.

BMP 3, Effectiveness Evaluation and Adaptive Management, describes the goals and tracking measures associated with meeting this requirement.

4.6 Employee Training

H. Provide training for permittee employees involved in MS4-related activities, as appropriate. The permittee must also provide the opportunity for co-implementers to attend such trainings, as appropriate. At a minimum, the training must be tailored for the targeted audience, and include information related to stormwater pollution prevention and reduction BMPs associated with the following municipal operations or activities: parks and open space maintenance, fleet and building maintenance, new municipal facility construction, erosion and sediment control associated with land disturbances, design and construction of street and storm drain systems, discharges from non-emergency fire fighting-related training activities, and stormwater system maintenance.

The District and co-implementers train their employees involved in MS4-related activities through a combination of on-the job-training, informal workgroup sessions, and formal classes. Training opportunities are available through agencies, trade associations and educational groups.

BMP 4, Employee Training, describes the goals and tracking measures associated with meeting this requirement.

4.7 Illicit Discharges

E. Promote, publicize and facilitate public reporting of illicit discharges.

The District promotes, publicizes, and facilitates public reporting of illicit discharges and water quality impacts. Key program activities include:

- Brochures, billing inserts and electronic newsletters that include regular articles on watershed protection and enhancement, proper disposal practices, and reporting information for illicit discharges and water quality impacts.
- Brochures with contact information and the "Report a problem" page on the District's website (www.cleanwaterservices.org) facilitate public reporting of illicit discharges and water quality problems. In addition, the District's and co-implementers' main phone numbers and websites are the entry points for reporting problems.
- Many of the District's public education and outreach programs also address the proper management and disposal of used oil and toxic materials. Key program activities include:
    - Regular articles on proper disposal of oil, household hazardous waste and litter and yard debris in billing inserts, print and electronic newsletters, and websites.

- Storm drain marking program and distribution of educational door hangers regarding the proper disposal of yard debris and toxic materials.

BMP 5, Education Regarding Illicit Discharges, describes the goals and tracking measures associated with meeting this requirement.

BMP CATEGORY: EDUCATION AND OUTREACH

Introduction: The purpose of this BMP category is to inform and educate the public, business, industry, and government about the causes of stormwater pollution, the effects on local streams and rivers, and to promote stream healthy behavior. These BMPs encourage behavior change and participation that will reduce stormwater pollution and promote the health of the Tualatin River Watershed.

Measurable goals and tracking measures:

1. Education and Outreach Strategy

a. Goal: Following the District's *Strategic Communications Plan*, educate the public on stormwater quality issues including the impacts of stormwater discharges and the actions the public can take to reduce pollutants in stormwater, the proper use and disposal of pesticides, and information for reporting illicit discharges. The District will publish 12 monthly electronic newsletters per year and place inserts in customer bills five times per year covering one or more of these topics.

Tracking measure: Summarize activities and participation on an annual basis, including the number of electronic newsletters published and billing inserts mailed during the year.

b. Goal: Following the District's *Strategic Communications Plan*, carry out campaigns designed to change the behavior of the intended audience relevant to reducing stormwater pollution.

Tracking measure: Annually track outreach campaigns being conducted, and the intended audiences and behaviors targeted through those campaigns.

2. Pesticides/Herbicides/Fertilizers

a. Goal: Educate the public on the use of alternatives to pesticides, herbicides and fertilizers through the annual public awareness campaign.

Tracking measure: Summarize awareness campaign activities and participation regarding the use of alternatives to pesticides, herbicides and fertilizers on an annual basis.

b. Goal: Educate the public on the use of native plants by distributing 500 copies of the *Gardening with Native Plants* brochure.

Tracking measure: Summarize outreach efforts and participation regarding the use of native plants on an annual basis, including the number of Gardening with Native Plants *brochures distributed.*

3. Effectiveness Evaluation and Adaptive Management

Goal: Assess and improve the effectiveness of the District's *Strategic Communications Plan* by collecting data on program effectiveness, analyzing the data to determine the effectiveness of the District's educational and behavioral change efforts, identifying programmatic changes to improve outcomes, and implementing those improvements. Conduct a customer survey every two years. Annually use the Logic Model (or other appropriate process) to evaluate the effectiveness of at least one program in the District's *Strategic Communications Plan*, identify and implement needed revisions.

Tracking measure: Report on status of biannual customer survey and the application of the Logic Model.

Tracking measure: Track changes made to the public education program as a result of customer surveys and the Logic Model.

4. Employee Training

a. Goal: Conduct training for District and co-implementer employees associated with stormwater management.

b. Goal: Include training in recognition and reporting of illicit discharges.

c. Goal: Conduct annual training session for District and co-implementer personnel—on water quality facility design.

Tracking measure: List of annual training sessions on stormwater management, recognizing and reporting illicit discharges, and design of water quality facilities, participating agencies, and number of staff attending training sessions.

5. Education Regarding Illicit Discharges

a. Goal: Ensure that District and co-implementer websites facilitate public reporting of illicit discharges and water quality problems.

Tracking measure: Summarize annual progress on developing user-friendly web-based methods for facilitating public reporting of illicit discharges and water quality problems.

b. Goal: Use a variety of outreach mechanisms (i.e., print, electronic, and other media) to promote proper disposal of oil, household hazardous waste and litter, and yard debris in billing inserts, print and electronic newsletters, and websites.

Tracking measure: Summarize outreach related to disposal activities on an annual basis.

c. Goal: Conduct the storm drain marking program and distribute educational door hangers regarding the proper disposal of yard debris and toxic materials.

Tracking measure: Number of drains marked and door hangers distributed.

Relationship to TMDLs

Phosphorus. Public education regarding the proper application and usage of phosphorus-containing products is critical to the overall reduction in phosphorus in the watershed.

Bacteria. Public education about pet waste management and feeding waterfowl, such as ducks and geese, and other wildlife is important to reducing the concentration of bacteria in stormwater discharges. The District's strategy to reduce bacteria is greatly dependent on this BMP.

Settleable Volatile Solids. Public education and awareness is very important to reducing the loading of settleable volatile solids from the MS4. These include education about the proper use of landscaping materials, leaf disposal, etc.

Related documents:

- *Clean Water Services Strategic Communications Plan* (Clean Water Services, 2010)

5. Public Involvement and Participation

The permittee must provide opportunities for the public to effectively participate in the development, implementation and modification of the permittee's stormwater management program. The permittee must document and implement provisions for receiving and considering public comments on the monitoring plan, annual reports, SWMP revisions, the retrofit strategy, and the TMDL pollutant load reduction benchmark development.

The District will provide the monitoring plan to the public for review and comment on the District's website prior to submission to DEQ. The District will post its annual report on its website for public review and comment within five business days after November 1st of each year. The District will consider comments regarding the annual report in its adaptive management program.

SWMP revisions and pollutant load reduction benchmarks are required for submittal to DEQ at the permit renewal submittal (180 days prior to permit expiration). Prior to submittal of these items, the District 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 and considered and the response to comments will be publicly provided.

The District provides opportunities for the public to participate in implementing the SWMP through:

- Enlisting pet owners in reducing the discharge of bacteria-laden pet wastes through Canines for Clean Water;
- Facilitating public reporting of illicit discharges;
- Providing the opportunity for businesses to reduce their discharges through the EcoBiz certification program;
- Involving school personnel and students in planning, designing, constructing and maintaining LIDA facilities at public and private schools through the School LIDA program (*see* section 6.2; and
- Offering free on-site technical assistance in stormwater-friendly landscaping to reduce polluted runoff through the Clean Water Heroes program.

6. Post-Construction Site Runoff and Retrofit Programs

To address these requirements, this section of the SWMP is divided into six subsections covering: 1) Post-construction stormwater runoff quality; 2) Low Impact Development Approaches (including the School LIDA program); 3) Post-construction stormwater runoff quantity and hydromodification; 4) Retrofit strategy development and implementation; 5) Site plan review, inspection, and enforcement; 6) Site limitations; and 7) Recordkeeping.

The permittee must continue to implement and enforce its post-construction stormwater runoff control and retrofit programs. The post-construction site runoff program must apply to new development and redevelopment projects that create or replace 1000 ft^2 or greater of impervious surface and must capture and treat 80% of the annual average runoff volume based on the documented local or regional rainfall frequency and intensity. The permittee must include a defined water quality design storm or an acceptable continuous simulation method to address the capture and treatment of 80% of the annual average runoff.

The objective of the post-construction and retrofit section is to reduce site specific post-development stormwater runoff volume, duration, and rates of discharge to the MS4 to minimize hydrological and water quality impacts to waters of the State from impervious surfaces.

The District implements a post-construction stormwater pollutant and runoff control program through development requirements that are incorporated in the District's *D&C Standards*. Legal authority for the implementation and enforcement of the requirements referenced in this document is provided in the District's Ordinance 27. The *D&C Standards* require water quality treatment and water quantity control for specified thresholds of new and re-development.

The District actively pursues opportunities to retrofit existing areas that lack adequate stormwater controls. These areas include those that were developed in the decades prior to current stormwater management requirements. These areas are typified by roadside ditches, flow-through catch basins, and direct discharges of untreated stormwater to surface waters. To address these areas, the District uses a formal outfall prioritization process that considers land use, pollutant load (including traffic), and the availability of open space for constructing system elements. Retrofit projects are often carried out in partnership with other public agencies as part of other public projects (road improvements, park expansion, etc.), allowing the District to leverage public resources.

BMP 1, Development Services, and BMP 2, Low Impact Development Approaches (LIDA), under this section describe the goals and tracking measures associated with implementing the post-construction site runoff program. BMP 5, Outfall Retrofits, and BMP 6, Catch Basin Retrofits, under section 7, Pollution Prevention for Municipal Operations, describe the goals and tracking measures associated with implementing the retrofit program.

6.1 Post-Construction Stormwater Runoff Quality

A. 1. By the first anniversary of permit issuance, the permittee must implement and enforce a program to control post-construction stormwater runoff quality. The permittee must include the following requirements in its program:

2. Incorporate BMPs that maximize pollutant removal, as identified in pollutant removal efficiency performance goals. The performance goals specify the design requirements and are not intended to be used as a basis for performance evaluation or compliance determination of the

practices that are implemented pursuant to this section. The Design and Construction Standards must include a description of the following for each BMP:

a. Site-specific design requirements, including estimated removal efficiency performance goals;
b. Design requirements that do not inhibit maintenance; and,
c. Conditions where the BMP applies or conditions where BMP implementation is impracticable.

The District controls post-construction water quality by implementing and enforcing the *D&C Standards*. The District will review those standards and revise them as necessary to meet these permit requirements.

6.2 Low-Impact Development Approaches

B. 1. By the second anniversary of permit issuance, permittee's post-construction runoff control program must evaluate, prioritize and include implementation of Low-Impact Development (LID), Green Infrastructure (GI), or an equivalent design and construction approach. The permittee's Design and Construction Standards must include a description of the conditions where implementation of LID, GI, or an equivalent approach may be impracticable.

The District's *D&C Standards* include implementation of Low Impact Development Approaches (LIDA) to meet the runoff treatment and control requirements. The D*&C Standards* include approvable LIDA and the process for evaluating and approving other LIDA proposed by the applicant. The District will review its LIDA standards and revise them as necessary to meet these permit requirements.

2. The permittee must, where practicable and within its legal authority, minimize or eliminate ordinance, 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). Such modifications to ordinance, code and development standards are only required to the extent they are permitted under federal and state laws. The permittee must appropriately modify ordinance, code or development standards within three years of the ordinance, code or development standard being identified as a barrier by the permittee or the permittee is notified by DEQ of the need for modification.

The District developed the *Low Impact Development Approaches Handbook, July 2009* (*LIDA Handbook*). The *LIDA Handbook* promotes and encourages LIDA. The District's code is consistent with guidance provided in the handbook. The *LIDA Handbook* addresses concerns about integration with building, plumbing, and maintenance departments.

School LIDA Program

To educate and involve students and to increase the use of LIDA, the District actively solicits participation in the School LIDA program. Schools (public and private) that elect to participate in the program engage in project planning, design, installation and maintenance of a LIDA facility at their site. District engineering staff provide professional advice and guidance, enhancing school curriculum and involving students in the "hands on" work of creating a LIDA facility. The resulting facility not only provides water quality treatment, but includes a valuable educational component for the participating students.

BMP 2a, Low Impact Development Approaches (LIDA), describes the goals and tracking measures associated with implementing the School LIDA program.

6.3 Post-Construction Stormwater Runoff Quantity and Hydromodification

C. The permittee must implement and enforce a program to control post-construction stormwater runoff quantity by developing a hydromodification assessment. The permittee must implement the strategies and priorities for preventing or reducing hydromodification impacts related to the permittee's MS4 discharges identified in a scope of work, schedule and the final assessment. The assessment will examine the hydromodification impacts related to the permittee's MS4 discharges, including erosion, sedimentation, and/or alteration to stormwater flow, volume and duration that may cause or contribute to water quality degradation. The permittee must include the following requirements in its program:

1. By the second anniversary of the permit issuance, the permittee must develop and submit a scope of work and schedule for performing the hydromodification assessment. The scope of work and schedule are subject to DEQ's review and response. The submittal must include the following requirements and describe how the strategies identified below will be incorporated into the assessment:

a. A description of planned coordination and involvement of stakeholders focused on the permittee's proposed approach and mechanisms for public review and feedback.
b. A description of where the proposed approach will be implemented and the timing of implementation (implementation plan).
c. A description and justification of decision-making approaches and tools that will be used to develop the program.
d. Collect and maintain information that will inform future stormwater management decisions related to hydromodification based on local conditions and needs.
e. Identify or develop strategies to address hydromodification information or data gaps related to waterbodies within the permittee's jurisdiction.
f. Identify strategies and priorities for preventing or reducing hydromodification impacts related to the permittee's MS4 discharges. The strategies and priorities must include performance standards equivalent to or more stringent than the following:

i. Incorporate site-specific management practices that, at a minimum, target predevelopment site hydrologic functions, and where practicable, natural surface hydrology. The site-specific management practices must optimize on-site retention based on the site conditions of the project.
ii. Identify effective decision-making approaches and tools to address hydromodification.

2. 60 days before the third anniversary of permit issuance, permittee shall submit a draft report of the hydromodification assessment based on the submitted scope and schedule. The report is subject to DEQ's review and approval.

3. By the third anniversary of permit issuance, the permittee must submit the final hydromodification assessment report to DEQ and within 30 days implement the strategies and priorities identified in the final report.

The District will perform the hydromodification assessment and implement its findings as specified in this permit term.

6.4 Retrofit Strategy Development and Implementation

D. By the third anniversary of permit issuance, permittee must develop a stormwater retrofit strategy that applies to developed areas identified by the permittee as impacting water quality and that are underserved or lacking stormwater quality and flow controls. The permittee must document its stormwater retrofit strategy in a plan, and submit its plan to DEQ by ____. The permittee must use this plan to guide the implementation of its stormwater retrofit strategy. The permittee must include the following requirements in its program:

1. *The stormwater retrofit strategy must be based on a permittee-defined set of stormwater retrofit objectives and a comprehensive evaluation of a range of stormwater retrofit control measures and their appropriate use. The permittee-defined objectives must incorporate progress towards applicable TMDL wasteload allocations. Development of the stormwater retrofit strategy must allow for public comment and consider public input.*

2. *The stormwater retrofit plan must, at a minimum, describe or reference the following:*

    a. *A stormwater retrofit strategy statement and summary, including objectives and rationale.*
    b. *Summary of current stormwater retrofit control measures implemented within the permittee's jurisdiction, and a current estimate of annual program resources directed towards stormwater retrofits.*
    c. *Identification of high priority retrofit areas.*
    d. *The examination of new or additional stormwater retrofit control measures.*
    e. *The preferred retrofit structural control measures, including rationale.*
    f. *A retrofit project or approach priority list, including rationale, identification and map of potential stormwater retrofit locations, where appropriate, and an estimated timeline and cost for implementation of each project or approach.*

3. *The permittee must identify, at a minimum, five stormwater quality improvement projects. The identified projects must be designed, and constructed or implemented, to effectively reduce applicable TMDL pollutant parameters by the fifth anniversary of permit issuance.*

4. *A summary report describing the status of retrofit program must be included in each annual report.*

As described above, the District actively pursues opportunities to retrofit areas that impact water quality due to lack of stormwater controls. The District will review and revise its retrofit program as necessary to meet this permit requirement. Outfall and catch basin retrofits are covered under subsection 7.6 of this SWMP.

6.5 Site Plan Review, Inspection, and Enforcement

E. The permittee must require submittal of post-construction runoff management site plans and/or other documentation for all new development and redevelopment projects subject to the conditions of this section. The site plans and/or other documents must show or describe the stormwater practices that will be installed or implemented as part of the development project to ensure compliance with the post-construction stormwater runoff control program requirements. The permittee must review, approve, and verify proper implementation of the post-construction site plans.

G. The permittee must document and implement inspection and escalating enforcement response procedures to ensure new development and redevelopment projects are compliant with the applicable post-construction stormwater management requirements.

A site development permit is required for all new and re-development projects. A site development plan application requires detailed engineering plans for sufficient sanitary and stormwater infrastructures for the site. As related to the MS4 system, all site development plan applications must include:

- A plan for water quality and quantity management
- Erosion Prevention and Sediment Control Plans
- Drainage Reports, including the basis for the stormwater facilities design
- A maintenance plan to address long-term functionality of private stormwater facilities

A site development permit (including the requirement for an erosion prevention and sediment control plan) is issued after the plans are reviewed and all issues are addressed. Per *D&C Standards*, all new stormwater facilities that provide treatment to multiple properties are designated "public" facilities and are maintained by the District and co-implementers that implement the Operations and Maintenance BMPs (see Section 8). All facilities, public or private, are designed and constructed to meet the *D&C Standards.*

Inspection of development projects by District or co-implementer staff during construction ensures that stormwater facilities are constructed in compliance with approved plans. See Section 8.3 regarding the inspection and enforcement procedures related to private stormwater quality facilities.

6.6 Site Limitations

F. Where a new development or redevelopment project site is characterized by factors limiting use of on-site stormwater management methods to achieve the post-construction site runoff requirements, such as high water table, shallow bedrock, poorly-drained or low permeable soils, contaminated soils, steep slopes or other constraints, the permittee must require equivalent pollutant reduction and runoff management measures, such as off-site stormwater quality and quantity management. Off-site stormwater quality and quantity management may include, but are not limited to, off-site mitigation, such as construction of a structural stormwater facility within the sub-watershed, a stormwater quality or quantity structural facility mitigation bank or a payment-in-lieu program.

A water quality treatment facility is required by the District for the creation of new impervious surface unless: topography or soils make it impractical or ineffective; the site is small and loss of area for the on-site facility would preclude effective development; there is a more efficient and effective regional site within the sub-basin that was designed to incorporate the development or is in the near vicinity with the capacity to treat the site. In these situations, an in-lieu of fee is required or with District approval, a facility may be designed to treat runoff from an equivalent area of adjacent untreated impervious surfaces.

6.7 Recordkeeping

H. The permittee must maintain a record-keeping system or approach to document and track post-construction site runoff program activities.

The District and co-implementers maintain records of standards development, site plan review and permitting, construction inspection, and private water quality facility inspections.

BMP CATEGORY: POST CONSTRUCTION SITE RUNOFF AND RETROFIT PROGRAMS

Introduction: The purpose of this BMP category is to improve water quality by developing and applying appropriate design and construction standards to development.

Measurable Goals and Tracking Measures

1. Development Services

a. Goal: Implement D&C Standards that require water quality facilities to be built as part of new development and redevelopment with a goal to provide treatment for 100 percent of impervious areas from new and re-development areas (that meet impervious area thresholds) with the exception of the fee-in-lieu projects.

Tracking measure: New development area (in acres) added annually within the service area.

Tracking measure: New re-development area (in acres) added annually within the service area.

Tracking measure: New development area (in acres) added annually with structural controls within the service area.

Tracking measure: New re-development area (in acres) added annually with structural controls within the service area.

Tracking measure: Percentage of the service area served by structural controls.

Tracking measure: Percentage of all areas developed or re-developed annually that is served by structural controls.

Tracking measure: Track all structural controls implemented annually by location, type and drainage area served.

2. Low Impact Development Approaches (LIDA)

a. Goal: Increase the use of LIDA through entering into two public/private partnerships on LIDA projects each year, including one under the School LIDA program. (The District seeks to complete one project each year through the School LIDA program. Since a school or school district must decide to participate in the program, the goal for this program is to actively seek and develop appropriate projects rather than complete a specified number.)

Tracking measure: Annual number of LIDA facilities implemented and the type of facility.

Tracking measure: Annual number of public/private partnerships formed to perform LIDA projects.

Tracking measure: Description of School LIDA outreach and project development efforts during the year.

b. Goal: Provide technical assistance through the *LIDA Guidance Manual.*

Tracking measure: Revision of the LIDA Guidance Manual *within two years of permit issuance.*

Relationship to TMDLs

Phosphorus. The District's *D&C Standards* for water quality facilities are designed for phosphorus removal from 100 percent of the impervious area from newly constructed impervious surfaces that meet the thresholds for requiring treatment.

Settleable Volatile Solids. Structural controls can reduce the discharge of settleable volatile solids through various detention and retention processes.

Related documents:

- *Clean Water Services Design and Construction Standards for Sanitary Sewer and Surface Water Management, June, 2007*
- *LIDA Guidance Manual*

7. Pollution Prevention for Municipal Operations

The overall program requirement from the permit is as follows:

The permittee must continue to implement a program to reduce the discharge of pollutants to the MS4 from properties owned or operated by the permittee for which the permittee has authority, including, but not limited to, parks and open spaces, fleet and building maintenance facilities, transportation systems and fire-fighting training facilities. The permittee must conduct, at a minimum, the following program activities:

The permit goes on to describe the six specific components of the program. This section applies to properties owned or operated by the District and co-implementers, regardless of whether they are owned or operated by the permittee. The SWMP elements for each of these specific components are described according to the permit requirements in the following subsections:

7.1 Street Operations and Maintenance

A. Operate and maintain public streets, roads and highways over 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 anti-icing or deicing activities;

Public streets, roads, highways, and other transportation corridors within the service boundary are maintained by several jurisdictions, including Washington County, the individual cities, the District, and the Oregon Department of Transportation (ODOT). Among these, ODOT holds its own MS4 NPDES permit for the discharge of stormwater and manages street operations and maintenance in accordance with its MS4 NPDES permit and local land use laws, while the District, cities, and Washington County are co-implementers of this permit.

The key operation and maintenance (O&M) program activities for roadways include street sweeping, leaf pickup, and deicing. Each of these activities is discussed below. A complete list of theses O&M activities, frequencies and performance standards are presented in the *Sanitary Sewer and Surface Water Management Work Programs, Performance Standards, Priorities and Policies (R&O 11-07)* which is frequently updated.

The maintenance frequencies for street sweeping were initially based on an analysis for coordinated, on-going, and efficient delivery of storm sewer system maintenance services for the entire service area conducted in 1998. Maintenance frequencies were established to enhance stormwater quality, and retain the function and capacity of the storm sewer system. The District has updated the frequencies since that time on an on-going basis.

- **Street Sweeping**

Public curbed streets within the service area are swept 12 times per year. Sweepers are used that effectively remove fine sediment (regenerative air sweepers or equivalent water quality sweepers). Sweepers are run at optimum speeds, and a recording device documents speed while sweeping, miles swept, and hours swept.

BMP 1, Street Sweeping, describes the goals and tracking measures associated with meeting this requirement.

- **Leaf Pickup**

The fall leaf pickup program includes one or more of the following components: a curbside leaf pickup program, increased recycling, and leaf drop off day(s).

- **Deicing/Anti-icing**

A number of jurisdictions apply anti-skid/anti-icing materials to roadways within the service area, including the co-implementer cities, Washington County, ODOT, and Tri-Met. Typically, crushed, graded aggregate (i.e., sanding rock) is applied to highways, arterials, collectors, and other roadways with steep grade. In addition, anti-icing materials such as magnesium chloride are also applied—mostly at bridges and overpasses. Sanding rock is picked up no later than at the next regularly scheduled monthly sweeping.

7.2 Control the Use of Pesticides, Herbicides, and Fertilizers

B. Implement a management program to control the use and application of pesticides, herbicides and fertilizers on permittee-owned properties;

A pesticide is any substance or mixture intended to prevent, destroy, repel, or mitigate any pest. Pesticides include insecticides, herbicides, fungicides, and other substances such as a plant regulator, defoliant, or desiccant. Pesticide use is regulated primarily by the Federal Insecticide, Fungicide and Rodenticide Act, the Oregon Pesticide Control Law (Oregon Revised Statutes - Chapter 634), or the Oregon Pesticide Regulations (Oregon Administrative Rules [OAR], Chapter 603, Division 57).

The District and co-implementers employ an integrated pest management (IPM) program to reduce stormwater pollutants stemming from the use of pesticides, herbicides, and fertilizers in landscaping, water quality facility maintenance, and public facility maintenance. *MS4 Provisions of the District Integrated Pest Management Program* describes the basic aspects of the IPM program. Co-implementers must either adopt this program or develop and implement their own equivalent program. The program contains best practices, including knowing the pest, setting appropriate thresholds, use of appropriate control techniques (starting with the least toxic), following label instructions, maintaining equipment and handling materials safely, and requiring appropriate licensure for all applicators.

The District's *Integrated Pest Management Plan* focuses on careful avoidance of pests through cultural practices, prevention, early detection, then evaluation of pests before a chemical option is selected. District operations focus on management of invasive plants and animals as they impinge upon the establishment of geographically appropriate, local native plant communities where applicable, including stormwater quality facilities, riparian vegetative corridors and cultivated landscapes.

The District implements specific practices for stormwater quality facilities, public right-of-ways, and cultivated landscapes:

- Pesticides are not applied when water quality facilities are wetted or within three feet of the wetted perimeter.
- Pesticide applications are limited within a zone of three feet from a waterbody. If possible, they are not applied unless a chemical control and the severity of pest warrants treatment as identified in the IPM strategy.

- Pesticides will only be applied during dry weather windows appropriate to the period when the ingredients are active and have time to break down to their more benign byproducts.
- Pesticides and surfactants will be evaluated on an annual basis for efficacy and potential ecological effects. This evaluation will be shared with District employees, contractors and co-implementers.
- Pests and best pest control measures will be evaluated on an annual basis. This evaluation will be shared with District employees, contractors and co-implementers.
- District vegetation management contractors participate in a pesticide closed container program that limits spills, mixing errors, and rinseate issues.

BMP 2, Integrated Pest Management, describes the goals and tracking measures associated with meeting this requirement.

7.3 Reduce the Impact of Runoff From Municipal Facilities

C. 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 and are not covered under a 1200 series NPDES permit, a DEQ solid waste permit, or other permit designed to reduce the discharge of pollutants;

This requirement is new with this permit. As a first step, the District will identify relevant facilities. The District will review identified facilities to evaluate exposure to runoff. Then, the District will develop strategies to reduce the impact of runoff where impacts are identified.

BMP 3, Stormwater Management at Municipal Facilities, describes the goals and tracking measures associated with meeting this requirement.

7.4 Limit Infiltration from the Sanitary Sewer System to the MS4

D. Limit infiltration of seepage from the municipal sanitary sewer system to the MS4;

The District has an Infiltration/Inflow (I/I) abatement program that addresses the soundness of the sanitary conveyance system. By detecting and abating points of I/I, the program also prevents seepage from the sanitary sewer to the MS4.

7.5 Fire-Fighting Training Activities

E. Implement a program to prevent or control the release of materials related to fire-fighting training activities.

This requirement is new with this permit. The District will inventory and contact Fire Departments of the cities that are co-implementers to determine what activities are conducted to minimize pollutant discharges associated with fire-fighting training activities. As a result of these contacts, and as applicable, the District will work towards the development of educational materials or training as necessary.

BMP 4, Fire-Fighting Training, describes the goals and tracking measures associated with meeting this requirement.

7.6 Retrofit Projects

F. Assess 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 permittee must consider and incorporate the results of this assessment as part of the Stormwater Retrofit Strategy Development required in Schedule A.2.d.vi.D.

The District conducts activities to retrofit the existing storm system in order to further reduce pollutants. As explained in Section 5, *Stormwater Pollutant Loads, TMDLs, and Benchmarks*, of the permit renewal application, the District identifies and prioritizes retrofit opportunities and projects through its capital improvements plan. Retrofit projects may include re-vegetation and outlet modifications at water quality facilities, retrofit or reconstruction of existing manholes and catch basins, conversion or upgrade of water quantity detention facilities to provide water quality treatment, and installation of outfall pretreatment. These categories overlap and a project may include one or more of these attributes. The District's retrofit strategy, required in Schedule A, 2.f of the permit will guide the District's future retrofit activities.

Outfall Retrofits

The District and co-implementers' outfall retrofit program includes modifying existing facilities and constructing new treatment facilities where none exist. These projects may include outlet modification and re-vegetation at water quality facilities, installation of water quality manholes for outfall pretreatment, and providing water quality treatment on existing water quantity facilities. An inventory identified more than 205 major outfalls, which were prioritized for retrofitting based on the ability to obtain easements, land use, receiving water quality, contributing drainage area, percentage of drainage area not currently treated, and ability to coordinate with other planned infrastructure projects. The District and co-implementers are committed to moving forward with these projects by completing five retrofit projects during the permit term.

Un-sumped Catch Basin Retrofits

The District and co-implementers also retrofit or reconstruct un-sumped catch basins to improve the removal of pollutants. The District and co-implementers will continue to maximize the retrofitting or reconstruction of un-sumped catch basins as feasible with a goal of 375 per five-year permit term. (If the permit is administratively extended, retrofitting/reconstruction will continue at a rate of 75 catch basins per year until a new permit is issued.) Note that as the District and co-implementers continue to implement this program, the number of catch basins that will need to be retrofitted may change since the District may choose not to sump catch basins that are upstream of water quality manholes or water quality facilities; thus, the measurable goals for this program will be updated periodically.

BMP 5, Outfall Retrofits, and BMP 6, Catch Basin Retrofits, describe the goals and tracking measures associated with meeting this requirement.

BMP CATEGORY: POLLUTION PREVENTION FOR MUNICIPAL OPERATIONS

Introduction: The purpose of this BMP category is to improve water quality and reduce impacts associated with municipal operations.

Measurable goals and tracking measures:

1. Street Sweeping

a. Goal: Sweep public curbed streets 12 times per year.

Tracking measure: Curbed street miles swept and total number of curbed street miles; and amount of material collected.

2. Integrated Pest Management

a. Goal: Conduct one annual training session related to the District's Integrated Pest Management program.

Tracking measure: Report date of IPM training.

b. Goal: All pesticide applicators employed by co-implementers in positions potentially impacting the MS4 will be licensed as required.

Tracking measure: Report number of state licensed applicators employed by each co-implementer.

c. Goal: Keep the District's IPM program current by annually evaluating pesticides and surfactants for efficacy and potential ecological effects and evaluating pests and pest control measures.

Tracking measure: Documentation of annual evaluation.

3. Stormwater Management at Municipal Facilities

a. Goal: Within one year of the permit issuance date, develop an inventory of municipal facilities that treat, store, or transport municipal waste.

b. Goal: Within two years of the permit issuance date, develop a strategy to reduce the impact of stormwater runoff from these facilities.

Tracking measure: Status of the municipal facility inventory and stormwater management strategy development.

4. Fire-Fighting Training

a. Goal: Within one year of permit issuance develop a list of fire department contacts, make initial contact, establish working groups and identify fire-fighting training facilities and practices with the potential to discharge pollutants to the MS4.

b. Goal: Within two years of permit issuance, in collaboration with fire department personnel, develop best practices to reduce the discharge of pollutants from fire-fighting training and develop a plan for implementing these practices, including methods to confirm their implementation.

c. Goal: Within three years of permit issuance, implement the identified best practices.

Tracking measure: Annual update of the status of fire-fighting training pollutant reduction strategy.

5. Outfall Retrofits

a. Goal: Complete five outfall retrofit projects during the five-year permit term.

Tracking measure: Identify the number of outfall retrofit projects in planning, design, construction or completed, the phase of each project during the year, and the treatment BMP used, including locations and area treated by the retrofit. Report the cumulative number completed during the permit term.

6. Catch Basin Retrofits

a. Goal: Retrofit or reconstruct 375 existing catch basins during the five-year permit term to include improvements for water quality.

Tracking measure: Number of existing catch basins that were retrofitted or reconstructed to include improvements for water quality during the year and cumulatively during the permit term.

Relationship to TMDLs

Phosphorus. Street sweeping, outfall retrofits, and catch basin retrofits remove phosphorus-bearing sediments.

Bacteria. Addressing discharges from municipal waste sites will reduce the discharge of bacteria from these sites.

Settleable Volatile Solids. Street sweeping, outfall retrofit, catch basin retrofits and addressing discharges from municipal waste sites will reduce the discharge of settleable volatile solids.

Related documents:

- *Sanitary Sewer and Surface Water Management Work Programs, Performance Standards, Priorities and Policies (R&O 07-46)* or as amended
- Integrated Pest Management Plan

8. Stormwater Management Facilities Operations and Maintenance Activities

A. By [insert date] the permittee must inventory and map stormwater structural facilities and controls, and implement a program to verify that stormwater management facilities and controls are inspected, operated and maintained to function as designed for effective pollutant removal, infiltration and/or flow control. At a minimum, the program must include the following:

1. Legal authority to inspect and require effective operation and maintenance;

2. A program to inventory and map public and private stormwater management facilities as provided under Schedule A.2.d.viii.B; and,

3. Public and private stormwater facility inspection and maintenance requirements for stormwater management facilities that have been inventoried and mapped as provided under Schedule A.2.d.viii.B.

To address these requirements, this section of the SWMP is divided into three subsections for: 1) facility inventory; 2) public stormwater structural facilities; and 3) privately-owned stormwater structural facilities.

The following terms, as defined, are used in this section:

Water Quality Facility (WQF): a part of the stormwater system engineered to meet the water quality treatment design efficiency as defined in the District's Design and Construction Standards section 4.05.3 (June 2007 version). Examples of WQFs include vegetated surface facilities (i.e., swales), constructed water quality wetlands, Low Impact Development Approaches (LIDA or green infrastructure), and proprietary treatment systems (typically an underground vault with filter media).

Public WQF: a WQF constructed to serve multiple tax lots and intended to be maintained by the District. Public WQFs are often constructed to provide water quality treatment as part of a residential subdivision project where a larger tax lot is divided into many smaller tax lots and public right of way.

Private WQF: a WQF constructed to serve larger single lots, often commercial or industrial properties, where the property owner owns and maintains the facility. Private WQFs are inspected by the District, but maintained by the property owner.

Proprietary treatment system: an engineered device approved for use in accordance with District's Design and Construction Standards section 4.05.8 (June 2007 version) and used to fulfill the District's water quality treatment requirement. A device is considered proprietary if system components (e.g., a filter or cartridge) are only available for purchase through the original manufacturer. Proprietary treatment systems are typically underground vaults with filters or cartridges filled with media that is used to treat stormwater by removing contaminants.

8.1 Facility Inventory

The District maintains an inventory of the public stormwater system using the District's GIS database.

8.2 Public Stormwater Structural Facilities

B. As part of the Stormwater Management Facilities Inspection and Maintenance program, the permittee must document and implement a strategy that guides the long-term maintenance and management of all permittee-owned and identified privately-owned stormwater structural facilities and controls. At a minimum, the permittee's strategy must address the following:

1. For publicly-owned or operated stormwater management facilities

a. Inventory and mapping process.
b. Inspection and maintenance schedule.
c. Inspection, operation and maintenance criteria, priorities, and procedures.
d. Description of inspector type and staff position or title.
e. Inspection and maintenance tracking mechanisms.

Public Water Quality Facility Maintenance

Routine maintenance activities for vegetated water quality facilities includes: mowing, trimming, maintaining levee/bank, maintaining inlet/outlet, removing debris, performing visual inspections during the wet season to ensure functionality, watering, fertilizing, and applying herbicide. Non-routine maintenance activities include planting vegetation, reshaping/reconstructing, and removing silt and sediment.

The District intends to progress from activity-based to outcome-based goals and tracking measures for maintaining public vegetated water quality facilities. BMP 1.b describes the process the District will use in making this transition.

The District and co-implementers also maintain proprietary systems such as filter structures. Filter structures are inspected once per year and filter canisters are replaced as determined necessary by inspections.

Water Quality Manhole Cleaning

Public water quality manholes are cleaned twice per year.

Catch Basin Cleaning

Sumped catch basin cleaning consists of removing sediment, gravel and other debris from the inlet grate and the sumped areas of the catch basin. The District and co-implementers strive to clean all public sumped catch basins within the service area once per year. However, issues such as cars parked over catch basins, road construction, etc., lower the actual rate to approximately 95 percent of sumped catch basins being cleaned per year. Cleaning of un-sumped catch basins occurs in conjunction with storm line cleaning.

BMP 1, Public Water Quality Facility Inspections and Maintenance, describes the goals and tracking measures associated with meeting this requirement.

8.3 Privately-Owned Stormwater Structural Facilities

2. For privately-owned or operated stormwater management facilities

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:

i. Private stormwater management facilities for new development and redevelopment projects constructed under the permittee's post-construction management manual or equivalent document.

ii. Private stormwater management facilities identified by the permittee and used to estimate the pollutant load reduction as part of the TMDL benchmark evaluation.

iii. Any major private stormwater management facilities or structural controls.

b. Inspection criteria, rationale, priorities, frequency and procedures for inspection of private stormwater facilities that have been inventoried and mapped;

c. Required training or qualifications to inspect private stormwater facilities;

d. Reporting requirements.

e. Inspection and maintenance tracking mechanism.

Private water quality facilities are generally located on single lot commercial and industrial sites, and on multi-family residential sites. The majority of single family residential water quality facilities constructed after 1993 are publicly maintained. However, some older and a few newer facilities serving residential lots are maintained by homeowners' associations. To address new and existing private water quality facility maintenance, the District and co-implementers have developed a Private Water Quality Facilities Management Program. The Private Water Quality Facilities Management Program consists of:

- Inventory
- Active outreach and education
- Inspection
- Enforcement

The inventory consists of locating facilities, estimating the drainage area served by the facility and inspecting and rating the facility based on specified criteria for functionality. An electronic database is maintained for program management. For each facility, attributes such as inspection dates, location, owner information, condition assessment rating, and follow-up actions are included. Documentation regarding correspondence with owners and follow-up inspections is also maintained. With respect to outreach and education, District inspectors work closely with owners and operators of private water quality facilities to ensure that they have the information needed to manage their facilities. On first contact, they are provided a packet containing information specific to the design, function, operation and maintenance of their type of facility, the results of the District's inspection, and a log for tracking facility maintenance. In addition, the packet includes information on controlling invasives and selecting native plants. The District provides the owner/operator with the results of regular (every four years) inspections and mails annual reminders regarding operation, maintenance and inspection. District staff follows up with owner/operators (including on-site visits) at their request to answer

questions about their facilities. The District maintains a page on its website with information on private water quality facilities.

Maintenance requirements for on-site LIDAs differ from more traditional ponds and swales; therefore, education is a key element of the Private Water Quality Facilities Management Program. Owner/operators are informed about proper facility maintenance to maximize water quality benefits cost effectively. Maintenance agreements are required for new facilities prior to issuance of a Site Development Permit and are recorded with the property deed.

The District inspects 25 percent of the private water quality facilities per year and applies rating criteria during the inspections to guide follow-up actions. For facilities with an excellent, good, or fair ranking, inspection occurs on the regular rotation (i.e., 25 percent per year). For facilities with a poor or very poor ranking, inspections occur as needed until the condition of the facility is deemed to be acceptable.

Details regarding enforcement are documented in the Private Water Quality Facilities Management Program.

BMP 2, Private Structural Water Quality Facility Maintenance, describes the goals and tracking measures associated with meeting this requirement.

8.4 Adaptive Management of Stormwater Facility O&M Activities

The District may apply its Adaptive Management program to improving its operation and maintenance activities by conducting investigational studies or pilot projects. These approaches may require temporarily altering established activities within a defined area in order to evaluate the effectiveness of alternatives. Therefore, when necessary, the program descriptions, BMPs, Measurable Goals, and Tracking Measures in this section will not apply to the area or facilities covered by any study or pilot project carried out under the District's Adaptive Management program.

BMP CATEGORY: STORMWATER MANAGEMENT FACILITIES O&M ACTIVITIES

Introduction: The purpose of this BMP category is to improve water quality by implementing appropriate operations and maintenance practices for both public and private stormwater management facilities.

Measurable goals and tracking measures:

1. Public Water Quality Facility Inspections and Maintenance:

a. Goal: Maintain public vegetated water quality facilities to ensure functionality of facilities through an average of four annual maintenance visits per facility.

Tracking measure: Number of water quality facility maintenance visits; total number of water quality facilities; total maintenance hours spent.

b. Goal: Ensure the continued efficient maintenance of the functionality of public vegetated water quality facilities by developing and implementing an outcome-based performance standard.

i. By the end of the first complete annual reporting period, evaluate all public water quality facilities to determine their need for routine or non-routine maintenance.

ii. By the end of the second annual reporting period, complete development of an outcome-based performance standard for inspecting and maintaining public water quality facilities. The performance standard will include criteria and methods for evaluating the status of public water quality facilities and will require facilities to be characterized as needing either continued routine maintenance or requiring non-routine maintenance. The performance standard will require facilities needing non-routine maintenance to be assessed for their specific needs, prioritized and scheduled for corrective measures.

iii. Begin implementing the performance standard in the third annual reporting period.

Tracking measures:

i. *Report the status of program development and implementation.*
ii. *Number of public water quality facilities; number of public water quality facilities assessed for maintenance needs; number found to need non-routine maintenance.*

Beginning with the third annual reporting period, Goal 1.a will be replaced by Goal 1.b.iii. and Tracking Measure 1.a will be replaced by Tracking Measure 1.b.ii

c. Goal: Inspect and maintain all public proprietary water quality facilities once per year per manufacturer's specifications to ensure functionality.

Tracking measure: Total number of public proprietary water quality facility maintenance visits and the total number of public proprietary water quality facilities within the service area.

Goal: Replace filters in proprietary filter treatment systems as needed.

Tracking measure: Number of systems renewed.

d. Goal: Clean all public water quality manholes twice per year.

Tracking measure: Number of public water quality manholes cleaned; and total number of public water quality manholes within the service area.

e. Goal: Clean 95 percent of public sumped catch basins per year.

Tracking measure: Number of sumped catch basins cleaned; and total number of sumped catch basins within the service area.

2. Private Structural Water Quality Facility Maintenance:

a. Goal: Annually inspect 25 percent of privately maintained structural water quality facilities to ensure system functionality.

Tracking measure: Total number of facilities and number of facilities inspected.

b. Goal: Conduct annual training for District and co-implementer inspection staff on proper water quality facility maintenance:

Tracking measure: Training sessions conducted and staff/co-implementer attendance.

Relationship to TMDLs

Phosphorus. The District's *D&C Standards* are developed to remove phosphorus. Efficiency is contingent on maintaining the constructed systems to operate as designed.

Bacteria. Through appropriate maintenance and inspection of both the sanitary and storm sewer systems, cross connections and other illicit sources of bacterial contamination will be identified and corrected. This will result in lower bacteria concentrations in stormwater.

Settleable Volatile Solids. Adequate maintenance of the stormwater system will reduce the discharge of settleable volatile solids that accumulate in the system.

Related Documents:

- Private Water Quality Facilities Management Program
- Performance Standards