

Santa Clara Valley Urban Runoff Pollution Prevention Program

PUBLIC AGENCY ACTIVITIES

Performance Standard and Supporting Documents for

Storm Drain System Operation and Maintenance

December 19, 1996

March 1, 1999

Participating Agencies:

Campbell, Cupertino, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale, County of Santa Clara and the Santa Clara Valley Water District.

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PART I

Introduction, Definitions, and Existing O&M Activities

SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM
PUBLIC AGENCY ACTIVITIES CONTROL MEASURES

Performance Standard and Supporting Documents for
Storm Drain System Operation and Maintenance

Final Draft - December 19, 1996

I. Introduction

Performance Standards define control measures or levels of achievement for particular tasks carried out by all Santa Clara Valley Urban Runoff Pollution Prevention Program (Program) co-permittees. Control measures are described in the Program's Storm Water Management Plan, which is the basis for the 1995-2000 NPDES municipal storm water permit (Permit) period. The development and implementation of Performance Standards is an integral part of the Program during the five-year Permit period.

II. Purpose

The purpose of the performance standard for co-permittee-owned storm drain system operation and maintenance (O&M) is to identify maintenance activity implementation levels to optimize control of pollutants in storm water. Storms drain system O&M activities generally involve routine inspection and cleaning of inlets, catch basins, SD lines, drainage ditches, and pump stations to maintain capacity. This performance standard identifies the level of implementation for O&M activities, which co-permittees will adopt in order to control pollutants in storm water to the maximum extent practicable.

The performance standard is based on current and proposed practices that municipal agencies are and/or will be implementing to minimize water quality impacts, and practices that are accepted by the State and Regional Board as being effective in controlling these impacts. The performance standard is also consistent with the goals and objectives of the Storm Water Management Plan.

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III. Existing Storm Drain O&M Activities

Existing Storm Drain O&M activities covered by this performance standard include the following:

- Storm Drain Inlet Inspection and Cleaning - Cleaning timing and frequency and identify known problem areas:
- Storm Drain Line Inspection and Cleaning - Cleaning timing and frequency and identify known problem areas:
- Storm Drain Manhole Inspection and Cleaning - Cleaning timing and frequency:
- Management of Storm Drain System Solid Waste - Management of material removed by storm drain operation and maintenance activities, including debris capture systems, containment storage and disposal:
- Debris Basin Inspection and Cleaning:
- Pump Station Inspection and Cleaning:
- Drainage Ditches Cleaning:
- Emergency Operations:
 1. Sewage Overflow
 2. Plugged Line
 3. Illegal Dumping

PART II

Performance Standard

**Performance Standard and Supporting Documents for
Storm Drain System Operation and Maintenance**

MODEL PERFORMANCE STANDARD

(Revised March 1, 1999)

1. Each municipal agency will implement best management practices (BMPs) for the storm drain system operation and maintenance (O&M) activities that it is responsible for conducting, in order to reduce pollutants in storm water to the maximum extent practicable. Specific BMPs for each type of O&M activity will be those listed in the agency's Work Plan BMPs and Control Measures (Section 3).
2. Each municipal agency will develop and implement a process for tracking hot spots and ensuring that appropriate BMPs and SOPs will be implemented for storm drain operation and maintenance activities.
3. Each municipal agency will develop and implement a process for ensuring that any contractor that it employs to conduct storm drain system O&M activities uses the appropriate BMPs adopted by the agency.
4. Each municipal agency will provide training on an annual basis to its municipal staff in the use of appropriate BMPs. The agency will also provide a mechanism for obtaining feedback from its municipal staff on the implementation and effectiveness of the BMPs.
5. As part of the annual reporting process, each co-permittee will review and evaluate the effectiveness of its BMPs in achieving the goals of reducing pollutants in storm water to the maximum extent practicable. The review and evaluation will include input from municipal maintenance staff that implement the BMPs. The evaluation process will include consideration for storm drain structural retrofit.
6. Each municipal agency will develop a process to advise the IC/ID inspectors when hot spots or unusual contaminants are encountered during routine storm drain cleaning/maintenance activities to allow IC/ID inspectors to track the illicit connections or illegal dumping incidents on the "Incident Type" annual summary form.

PART III

Guidance for Support Documents

Section 1

Work Plan Implementation

Performance Standard and Supporting Documents for Storm Drain System Operation and Maintenance

Section 1 WORK PLAN IMPLEMENTATION

This section contains the plan or activities to be taken to enable the co-permittee to achieve the performance standard, along with an implementation schedule. The work plan will be developed by each co-permittee based on its responsibility to conduct storm drain operation and maintenance activities within its jurisdiction.

Example Contents of the Work Plan

The work plan will describe actions to be taken by the co-permittee to meet the performance standard and adopt and implement the model (or equivalent) BMPs. The work plan for the first year should include:

- Steps needed to incorporate the implementation of the performance standard and BMPs into standard operating procedures;
- Development of a process to ensure that contractors use appropriate BMPs;
- Development of a referral and follow-up process between storm drain operation and maintenance activities and illicit connection and illegal dumping activities;
- Development of an annual training program for municipal maintenance staff, including a mechanism for feedback on implementation and effectiveness of BMPs;
- Development of a record keeping system in order to track:
 1. cleaning activities
 2. hot spots
 3. spill and illegal dumping incidents;
- A plan for annually reviewing and evaluating the effectiveness of BMPs, with input from municipal maintenance staff;
- A process for evaluating consideration for storm drain structural retrofitting;
- A schedule for implementation.

Storm Drain System Operation and Maintenance Performance Standard
Example Contents of Work Plan
(Revised March 1, 1999)

- Steps needed to incorporate the implementation of the performance standard and BMPs into standard operating procedures.
- Development of a process to ensure that contractors use appropriate BMPs.
- Development of a referral and follow-up process between storm drain operation and maintenance activities and illicit connection and illegal dumping activities.
- Development of an annual training program for municipal maintenance staff, including a mechanism for feedback on implementation and effectiveness of BMPs.
- Develop and describe a record keeping system in order to track:
 1. cleaning activities
 2. hot spots
 3. spill and illegal dumping incidents
- A plan for annually reviewing and evaluating the effectiveness of BMPs, with input from municipal maintenance staff.
- A process for evaluating consideration for storm drain structural retrofitting.
- A schedule for implementation.

Section 2

Legal Authority to Implement

Performance Standard and Supporting Documents for Storm Drain System Operation and Maintenance

Section 2 LEGAL AUTHORITY TO IMPLEMENT

This section demonstrates that the co-permittee has the legal authority to implement the performance standard or provides a time schedule for developing and obtaining additional authority.

The co-permittee should provide references to municipal codes or ordinances that demonstrate adequate legal authority to require municipal staff and contractors to conduct storm drain system operation and maintenance activities in a manner that eliminates or reduces water quality impacts. These include:

- Storm drain discharge ordinance.
- Other ordinance or sections of municipal code that apply to maintenance activities.
- Standard contract language.

Model Standard Contract Language¹

Storm water runoff flows directly to creeks and San Francisco Bay without treatment. Allowing pollutants to directly or indirectly enter the storm drain system is prohibited by federal, state and local regulations. The operation and maintenance of storm drain systems can cause storm water pollution in numerous ways. For example, trash, leaves, sediments, oil and grease from parking lots, streets and industrial areas are frequently collected in the storm drain system. These pollutants can either enter storm drains directly or be transported by storm water runoff.

The Contractor shall take all measures necessary to prevent pollutants from entering storm drains or water courses. For the purpose of eliminating storm water pollution, the contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of the Contractor's work. The Contractor shall also be responsible for proper disposal of all waste materials, including

¹Based on language in *Modifications to the Standard Specifications for Public Works Construction*, 1994, City of Oakland, *Pollution Prevention Language for Construction Contractors*, 1995, City of Palo Alto, and *Supplemental General Provisions*, 1994, City of Sunnyvale.

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wastes generated by the implementation of BMPs.

The following BMPs shall be implemented to prevent storm water pollution: (add appropriate BMPs from Section 3 here).

Section 3

Work Plan BMPs and Control Measures

Performance Standard and Supporting Documents for Storm Drain System Operation and Maintenance

Section 3 WORK PLAN BMPs AND CONTROL MEASURES

This section contains the list of Best Management Practices to be used as guidance for compliance in the implementation of the performance standard. The model BMPs are grouped by activity. Component I of the performance standard is broken down into tiers to fit individual agencies. Depending on individual characteristics and resources, some co-permittees will implement Tier 1, while others will implement Tier 2.

In the table below, the co-permittee should indicate whether or not each group of BMPs applies to the activities for which it is responsible. If a group of BMPs does apply, the co-permittee may either agree to implement the model BMPs or propose modifications or alternatives, as long as the co-permittee justifies why modifications are effective in reducing pollutants in storm water to the maximum extent practicable.

BMP Applicability Summary Table for _____
(Agency Name)

Storm Drain O&M Activities	BMPs do apply	BMPs do not apply	If BMPs do not apply, explain:
Routine Inspection and Cleaning (select Tier 1 or Tier 2)			
<i>Tier 1</i>			
Inlets/Catch Basin Cleaning			
Storm Drain Line Cleaning			
Pump Stations, Detention and Debris Basins			
Known Problem Areas			
<i>Tier 2</i>			
Inlets/Catch Basin Cleaning			
Storm Drain Line Cleaning			
Pump Stations, Detention and Debris Basins			
Known Problem Areas			

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BMP Applicability Summary Table (continued)

Activities	BMPs do apply	BMPs do not apply	If BMPs do not apply, explain:
Solid Waste Best Management Practices			
Debris Removal			
Debris Capture Systems			
Containment and Storage			
Waste Dewatering			
Staff/Contractor Training and Coordination			
Referral and Follow-up Processes			
Staff Training			
Contract Specifications			
Record Keeping and Evaluation			
Record Tracking Maintenance			
Effectiveness Evaluation			
Operational Improvement, Structural Retrofit and Design Changes			
Annual Review			
Capitol Improvement Projects Maintenance Provisions			

References

Alameda Countywide Clean Water Program, 1993/94, *Municipal Government Maintenance Best Management Practices*.

Performance Standard and Supporting Documents for Storm Drain System Operation and Maintenance

Model BMPs

I. Routine Inspection and Cleaning

(Co-permittees should implement Tier 1 or Tier 2)

Tier 1

1. Inspect and clean as needed, all inlets/catch basins at least once every other year (at least 50% of entire system inspected and cleaned each year).
2. Inspect and clean as needed, all inlets/catch basins in known problem areas at least once a year.
3. Inspect and clean as needed, all storm drain lines in known problem areas at least once a year.
4. Inspect and clean as needed, sumps and debris racks at pump stations, detention basins, drainage ditches and debris basins throughout the year.
5. Cleaning activities may occur on a year round basis; however, known problem areas shall be targeted prior to the rainy season.
6. Inspect and clean as needed, all storm drain facilities that have been affected by emergency response activities.

Tier 2

1. Inspect and clean as needed, all inlets/catch basins at least once a year.
2. Inspect and clean as needed, all inlets/catch basins in known problem areas more than once a year.
3. Inspect and clean as needed, all storm drain lines in known problem areas more than once a year.
4. Inspect and clean as needed, sumps and debris racks at pump stations, detention basins, drainage ditches and debris basins throughout the year.
5. Cleaning activities may occur on a year round basis; however, known problem areas shall be targeted prior to the rainy season.
6. Inspect and clean as needed, all storm drain facilities that have been affected by emergency response activities.

II. Solid Waste Best Management Practices

1. As much debris, silt, trash and sediment as possible shall be removed from the storm drain system when cleaning. Debris capture systems shall be used to prevent material from washing into streams or channels.

2. Provide proper containment for the temporary storage of removed debris during cleaning. Surface types of temporary storage sites shall be of concrete, asphalt or other type of impermeable material.
3. Waste collected from storm drain systems shall be dewatered as necessary for proper disposal to the landfill. Dewatering sites should not drain to storm drains or creeks.

III. Staff/Contractor Training and Coordination

1. Provide a referral and follow-up process between storm drain operation and maintenance and illicit connection and illegal dumping investigation staff for problems found.
2. Provide staff training for storm drain operation and maintenance personnel at least once a year with emphasis on controlling storm water pollution through storm drain operation and maintenance.
3. Include provisions for storm water pollution prevention in contract specifications for conducting storm drain operation and maintenance.

IV. Record Keeping and Evaluation

1. Maintain records tracking all cleaning activities. The records shall show when and which facilities have been inspected and cleaned. Spill and illegal dumping incidents and responses to both incidents shall also be documented and tracked.
2. Document any unusual flows observed during inspection (particularly dry weather flows) and the follow-up actions/referrals.
3. Review the records annually to critique the effectiveness of storm drain operation and maintenance activities. Modifications, if necessary, to co-permittees' storm drain operation and maintenance activities shall be identified in the annual individual work plans.

V. Operational Improvement, Structural Retrofit and Design Changes

1. Review the storm drain operation and maintenance program annually and if needed, identify operational improvements, opportunities for structural retrofit and design changes.
2. Operation and maintenance provisions shall be included in planning and design phases of Capitol Improvement Projects to ensure that storm water quality issues are considered in the design of storm drain systems.

Individual Co-permittee Modifications to Storm Drain System Operation and Maintenance BMPs

Section 4

Standard Operating Procedures

Storm Drain System Operation and Maintenance

Section 4

STANDARD OPERATING PROCEDURES

This sections contains the co-permittee's standard operating procedures (SOPs) for implementation of the performance standard. When generating documents such as these, it may helpful to conduct this test. If a statement tells you how to do something and it is something you are already doing, it is an SOP. If a statement sounds like what you should be doing or are going to do, it is a work plan item.

Example SOPs

- Staff and/or contractor training.
- Documentation and/or record keeping methods and procedures.
- Referral procedures between storm drain maintenance activities and illicit connection and illegal discharge procedures.
- Follow the BMPs.
- Standard procedures for ensuring contractors employ appropriate BMPs adopted by the agency.

PART IV

Co-permittee Standard Reporting Form

**Performance Standard and Supporting Documents for
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Co-permittee Reporting Form

1. Are you implementing best management practices (BMPs) for storm drain system operation and maintenance (O&M) activities that you are responsible for conducting, in order to reduce pollutants in storm water to the maximum extent practicable?

yes no If no, explain:

2. Have you developed and implemented a process for tracking hot spots, and have you implemented appropriate BMPs and SOPs?

yes no If no, explain:

3. Have you developed and implemented a process for ensuring that any contractor that you employ to conduct storm drain system O&M activities uses the appropriate BMPs adopted by the agency?

yes no If no, explain:

4. Have you provided training on an annual basis to your municipal staff in the use of appropriate BMPs?

yes no If no, explain:

Have you provided a mechanism for obtaining feedback from your municipal staff on the implementation and effectiveness of the BMPs?

yes no If no, explain:

5. Have you reviewed and evaluated the effectiveness of BMPs in achieving the goals of reducing pollutants in storm water to the maximum extent practicable?

yes no If no, explain:

Did your evaluation include input from municipal maintenance staff that implement the BMPs?

yes no If no, explain:

Did your evaluation include consideration for storm drain structural retrofit?

yes no If no, explain: