

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

**Performance Standard and Supporting Documents for  
Public Streets, Roads, And Highways Operation And Maintenance**

**I. Introduction**

The goal of public agency activities control measures is to reduce or eliminate adverse water quality impacts of construction, operations, and maintenance activities by municipal agencies. The Public Streets, Roads, and Highways Operation and Maintenance (PSRH O&M) performance standard defines the level of implementation that municipal agencies in the Santa Clara Valley Urban Runoff Pollution Prevention Program (Program) must attain to demonstrate that their local PSRH O&M activities reduce pollutants in storm water to the maximum extent practicable. This performance standard will be used as the basis for measuring the effectiveness of each municipal agency's street, road, and/or highway O&M activities.

The performance standard for PSRH O&M is based on an analysis of the potential water quality impacts of existing O&M practices, the current management practices that municipal agencies are implementing to minimize these impacts, and practices that are accepted by the State and Regional Boards as being effective in controlling these impacts. The performance standard is also consistent with the goals and objectives of the Public Agency Activities Component of the Program's *Storm Water Management Plan*.

Public agency activities related to the maintenance of storm drain systems are covered by the Program's *Storm Drain System Operation and Maintenance Performance Standard* dated March 1, 1996. Activities related to the planning and construction of municipal public works projects, including street, road, and highway improvements, are addressed in the Program's *Planning Procedures Performance Standards* and *Construction Inspection Performance Standards* (dated November 12, 1996).

**II. Definitions and Responsibilities**

Streets are defined as public thoroughfares in a city or town, including curbs, gutters, and sidewalks on one or both sides. Roads are defined as open, general public ways for the passage of persons and vehicles; many roads in rural or suburban areas do not have curbs and gutters. Highways are main public roads, especially ones connecting towns and cities. In Santa Clara Valley, most highways are maintained by the California Department of Transportation (Caltrans) while local expressways such as Guadalupe, Monterey, San Tomas, Capitol, and Lawrence are maintained by the County of Santa Clara. Other cities and towns operate and maintain most public streets and roads within their jurisdictions. The Santa Clara Valley Transportation Authority (SCVTA) also conducts maintenance of bus stops, light rail stations, and park-and-ride lots. Implementation of performance standards will require coordination between the Program's municipal agencies, Caltrans, and SCVTA.

**III. Existing O&M Activities and Potential Water Quality Impacts**

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

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

- Street/Road/Highway Sweeping and Cleaning - Sweeping timing and frequency; sweeping equipment operation and selection; other measures to improve sweeping efficiency; management of material removed by sweeping; and street cleaning and flushing;
- Street/Road/Highway Repair and Maintenance - Asphalt/concrete removal; concrete installation and replacement; patching, resurfacing, and surface sealing; signing and striping; traffic detector loop installation and repair; and equipment cleaning, maintenance, and storage;
- Sidewalk/Plaza Maintenance - Cleaning; concrete installation and replacement; surface removal and repair; and landscape maintenance;
- Bridge and Structure Maintenance - Painting and paint removal; repair work; and graffiti removal;
- Median and Road Embankment Maintenance - Erosion controls; slide and embankment repair; irrigation practices; and vegetation controls (manual and mechanical removal, pesticide usage and pest management, and fertilizer usage);
- Litter Control; and
- Spill Control.

Program agencies were surveyed in September 1996 about their current O&M activities. The results of this survey are summarized in Table 1. The results show that most of the activities listed above are conducted by each agency or are contracted out. There is substantial use of contractors to conduct these activities; therefore, ensuring that contractors employ best management practices to control pollutants from these activities is important. Caltrans and the County were also listed by several agencies as conducting O&M activities on streets, roads and highways within their jurisdiction.

Streets, roads, and highways are significant sources of pollutants in storm water discharges, and O&M practices, if not conducted properly, can contribute to the problem. Potential pollutants include: sediment from erosion of denuded roadside embankments and shoulders; debris from road, sidewalk, and bridge repairs; oil and grease and heavy metals from equipment leaks, asphalt replacement, painting, and equipment cleaning; and pesticides and fertilizers from vegetation control and landscape maintenance. These pollutants can damage aquatic and riparian habitat and be toxic to aquatic life.

**Performance Standard and Supporting Documents for  
Public Streets, Roads, And Highways Operation And Maintenance**

**Performance Standard and Supporting Documents for  
Public Streets, Roads, And Highways Operation And Maintenance**

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

### III. Existing O&M Activities and Potential Water Quality Impacts (*continued*)

The Program's NPDES storm water discharge permit prohibits non-storm water discharges to storm drains (except for certain permissible discharges). Raw materials, wastes, and most washwater associated with O&M practices must be properly managed and not allowed to enter storm drains or watercourses.

Use of appropriate best management practices (BMPs) while performing O&M activities can significantly reduce potential discharges of pollutants to nearby storm drains and watercourses. Pollutants that may be controlled during each of the identified street/road/highway O&M activities are listed in Table 2.

**Table 2 - Pollutant Discharges Reduced by Street/Road/Highway O&M Activity BMPs**

Activity	Pollutant Categories			
	Sediment/ Turbidity	Oil and Grease	Heavy Metals	Other BOD=biological oxygen demand
<b>1. Street/Road/Highway Sweeping and Cleaning</b>				
a. Street sweeping (material collected)	X	X	X	<i>coliforms, floatables, BOD</i>
b. Street cleaning by flushing with water	X	X	X	<i>soap, coliforms, floatables, BOD</i>
<b>2. Street/Road/Highway Repair &amp; Maintenance</b>				
a. Asphalt/concrete removal	X			<i>debris</i>
b. Concrete installation and repair	X			<i>alkalinity</i>
c. Patching, resurfacing, and sealing	X	X	X	
d. Signing and striping			X	<i>paint, debris</i>
e. Traffic detector loop installation and repair	X			<i>sealant</i>
f. Equipment cleaning and flushing	X	X	X	<i>soap, solvents</i>
<b>3. Sidewalk/Plaza Maintenance</b>				
a. Cleaning	X	X	X	<i>soap, solvents, BOD</i>
b. Surface removal and repair	X			<i>debris</i>
c. Landscape maintenance	X		X	<i>pesticides, nutrients, BOD</i>
<b>4. Bridge and Structure Maintenance</b>				
a. Painting and paint removal	X		X	<i>paint, solvents</i>
b. Repair work	X			<i>debris</i>
c. Graffiti removal	X		X	<i>solvents, paint</i>
<b>5. Median and Road Embankment Maintenance</b>				
a. Erosion controls	X			<i>debris, BOD</i>
b. Slide and embankment repair	X			<i>debris</i>
c. Irrigation practices	X			
d. Vegetation controls	X		X	<i>debris, pesticides, nutrients, BOD</i>
<b>6. Litter Control</b>	X	X	X	<i>floatables, BOD</i>
<b>7. Spill Control</b>	X	X	X	<i>spilled material or wastes</i>

# **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

## **PERFORMANCE STANDARD**

1. Each municipal agency will implement best management practices (BMPs) for the street, road, and highway 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 and eliminate illicit discharges. 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 ensuring that any contractor that it employs to conduct street, road, and highway O&M activities uses the appropriate BMPs adopted by the agency.
3. 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.
4. Each municipal agency will inform other parties conducting street, road, and highway O&M activities within the municipal agency's jurisdiction that they are expected to implement BMPs to reduce pollutants in storm water to the maximum extent practicable and eliminate illicit discharges.
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 and eliminating illicit discharges. The review and evaluation will include input from municipal maintenance staff that implement the BMPs.

# **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

## **Section 1 WORK PLAN IMPLEMENTATION**

The work plan will describe actions to be taken by the co-permittee during the remaining three years of the storm water permit to meet the performance standards, along with an implementation schedule. The work plan will be developed by each co-permittee based on its responsibilities to conduct street, road, and highway O&M activities within its jurisdiction.

### **Example Contents of the Work Plan**

- Steps needed to incorporate the implementation of performance standards and BMPs into standard operating procedures;
- Development of a process to ensure that contractors use appropriate BMPs;
- Development of a training program for municipal maintenance staff, including a mechanism for feedback on implementation and effectiveness of BMPs;
- A process for informing Caltrans and/or Santa Clara Valley Transportation Authority that they are expected to implement BMPs when work is done within the co-permittee's jurisdiction (the Program may assist with this process and provide other ways of fostering cooperation);
- A plan for reviewing and evaluating the effectiveness of the BMPs, with input from municipal maintenance staff. This should include development of a record keeping system to assist evaluation of the street sweeping program and other BMPs as determined necessary.
- A schedule for implementation.

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways 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 O&M activities in a manner that eliminates or reduces water quality impacts. These include:

- Storm water discharge ordinance.
- Other ordinance or section(s) of municipal code that apply to maintenance activities.
- Standard contract language (see model language below).

### **Model Standard Contract Language<sup>1</sup>**

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 public streets, roads, and highways can cause storm water pollution in numerous ways. For example, storm water pollution can be caused by wastes from street or equipment cleaning, by improper storage of products or wastes, or inadequate clean up of left-over or spilled products or wastes. 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 watercourses. 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 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).

---

<sup>1</sup> Based 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.

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## Section 3 WORK PLAN BMPS AND CONTROL MEASURES

This section contains the list of Model Best Management Practices to be used as guidance for compliance in the implementation of the performance standard. The Model BMPs are grouped by activity. For consistency, each co-permittee should maintain the entire list of Model BMPs. Table 3, on the following page, gives each co-permittee the opportunity to list which, if any, BMPs will not be implemented because they do not apply 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 and in eliminating illicit discharges. A box at the end of each group of BMPs labeled "Individual Co-Permittee Modifications to Street/Road/Highway Sweeping and Cleaning BMPs" is provided to make these modifications and justifications.

### References for Model BMPs

Alameda Countywide Clean Water Program, 1996. *Stormwater Management Plan: July 1996 to June 2001*. Appendix B, Performance Standards.

Bay Area Stormwater Management Agencies Association, 1996. *Pollution from Surface Cleaning*. Materials from the Pilot Source Control Program for Mobile Cleaners, Surface Cleaners Workshop, August 13, 1996.

Bay Area Stormwater Management Agencies Association, 1995. *Blueprint for a Clean Bay - Best Management Practices to Prevent Stormwater Pollution from Construction-Related Activities*.

California Department of Transportation, 1995. *Maintenance and Operations Plan for Caltrans District 4*. NPDES Permit No. CAS029998, Order No. 94-098.

Camp Dresser & McKee, et. al., 1993. *California Storm Water Best Management Practice Handbook (Municipal)*. Prepared for the State Stormwater Quality Task Force.

Santa Clara Valley Nonpoint Source Pollution Control Program, 1994. *Best Management Practices for the Construction Industry (7 tri-fold brochures)*.

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

Table 3 - BMP Applicability Summary Table for \_\_\_\_\_  
(Agency Name)

O&M Activities	BMPs do apply	BMPs do not apply	If BMPs do not apply, explain
<b>Street/Road/Highway Sweeping and Cleaning</b>			
Sweeping			
Street cleaning by flushing with water			
<b>Street/Road/Highway Repair and Maintenance</b>			
Asphalt/concrete removal			
Concrete installation and replacement			
Patching, resurfacing, and surface sealing			
Signing and striping			
Traffic detector loop installation and repair			
Equipment cleaning, maintenance, and storage			
<b>Sidewalk/Plaza Maintenance</b>			
Cleaning			
Concrete installation and replacement			
Surface removal and repair			
Landscape maintenance			
<b>Bridge and Structure Maintenance</b>			
Painting and paint removal			
Repair work			
Graffiti removal			
<b>Median/Road Embankment Maintenance</b>			
Erosion controls			
Slide and embankment repair			
Irrigation practices			
Vegetation controls			
<b>Litter Control</b>			
<b>Spill Control</b>			

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## MODEL BMPs

### I. STREET/ROAD/HIGHWAY SWEEPING AND CLEANING

#### A. Sweeping Timing and Frequency

1. Define the street sweeping program, and set priorities for sweeping frequency based on factors such as traffic volume, land use, proximity to watercourses, and field observations of material accumulation.
2. Establish and maintain a consistent sweeping schedule (i.e., sweep streets on the same day of the week or month);
3. Sweep streets just prior to the beginning of the wet season (i.e., during September or October).
4. Establish and implement a record-keeping system to evaluate the effectiveness of the sweeping program.

#### B. Sweeping Equipment Operation and Selection

1. Ensure that equipment operators are operating equipment according to manufacturer's recommendations.
  - a) Check that street cleaning equipment is in proper adjustment.
  - b) Operate street cleaning equipment at the speed specified by the manufacturer.
  - c) When using broom sweepers, check that the proper weights on main and gutter brooms are used.
2. Maintain equipment in good condition and purchase replacement equipment as needed.
3. When purchasing new sweepers, consider replacing old equipment with more advanced equipment (such as replacing some broom sweepers with regenerative air sweepers) or other new technologies that maximize pollutant removal.
4. Where possible, use the most efficient sweepers owned (or contracted) by the agency in areas expected to have the highest pollutant loads, such as industrial areas.

#### C. Other Measures To Improve Sweeping Efficiency

1. One or more of the following measures will be used, where needed, to encourage voluntary relocation of vehicles parked in streets:
  - a) Develop and distribute newsletters and other public education materials notifying residents and businesses of street sweeping schedules;
  - b) Post temporary "no stopping, no parking" signs (for example in business districts, near large apartment complexes, etc.); and/or
  - c) Post permanent street sweeping signs.

## **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

2. In areas where large accumulations of leaves or yard waste occur, use one or more of the following methods as necessary to improve sweeping efficiency:
  - a) Utilize a leaf removal machine just prior to street cleaning;
  - b) Utilize a front end loader with a dump truck just prior to cleaning; and/or
  - c) Operate street cleaning equipment in tandem;
  - d) Encourage residents to collect and compost leaves and yard waste or coordinate with a local composting program. If composting is infeasible, agencies should arrange for curbside pickup of collected leaves or yard waste. Coordinate leaf/yard waste pickup program with street sweeping program so that pickup immediately precedes sweeping.
3. Require operators to report trees or other obstructions interfering with street cleaning.
4. Do not sweep roads without curbs and gutters.

### **D. Management of Material Removed by Sweeping**

1. Provide proper containment and placement for the temporary storage of material removed from streets to prevent discharges of pollutants to surface waters or groundwater. Do not store swept material near creeks or sensitive habitats.
2. When materials are saturated with water, dewatering will be done in an area that does not drain to storm drains or creeks.
3. Provide proper disposal of street sweeping materials.<sup>1</sup>
4. Clean sweepers at a wash rack with a sump that discharges to the sanitary sewer<sup>2</sup> or to a recycling system.
5. Keep debris storage to a minimum during the wet season (or make sure debris piles are covered).

### **E. Street Cleaning and Flushing**

1. Evaluate the need for wet cleaning or flushing of streets on a case-by-case basis and where possible, substitute dry methods.
- 2.

---

<sup>1</sup> Proper disposal should be defined by each agency in its work plan.

<sup>2</sup> Contact the local wastewater treatment agency for permission to discharge to the sanitary sewer and information on any pretreatment requirements for this discharge.

## **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

Where absolutely necessary to use water to clean streets, collect the resulting washwater and dispose of it in the sanitary sewer<sup>1</sup>. Collect the washwater using methods such as:

- a) Plug catch basin outlets or cover storm drains before flushing, and pump out all collected washwater, or
- b) Allow washwater to flow into the storm drain system and collect it downstream at a storm drain clean out or manhole.

**Individual Co-Permittee Modifications to Street/Road/Highway Sweeping and Cleaning BMPs:**

---

<sup>1</sup> Contact the local wastewater treatment agency for permission to discharge to the sanitary sewer and information on any pretreatment requirements for this discharge.

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## II. STREET/ROAD/HIGHWAY REPAIR AND MAINTENANCE

### A. Asphalt/Concrete Removal

1. Schedule asphalt and concrete removal activities for dry weather.
2. Take measures to protect any nearby storm drain inlets and adjacent watercourses, prior to breaking up asphalt or concrete (e.g., place sand bags around inlets or work areas).
3. After breaking up old pavement, sweep up materials thoroughly to avoid contact with rainfall and storm water runoff. Recycle as much material as possible, and properly dispose of nonrecyclable materials,
4. During saw-cutting and grinding operations, use as little water as possible. Block or place berms around nearby storm drain inlets, in drainage channel (if no inlet is nearby), or around work area (when bordering watercourse) using sand bags or an equivalent appropriate barrier, or absorbent materials such as pads, pillows and socks to contain slurry. If slurry enters the storm drain system, remove material immediately.
5. Remove saw-cut slurry (e.g., with a shovel or vacuum, or sweep up when dry) as soon as possible.

### B. Concrete Installation and Repair

1. Avoid mixing excess amounts of fresh concrete or cement mortar on-site.
2. Store dry and wet materials under cover, protected from rainfall and runoff.
3. Wash out concrete transit mixers only in designated wash-out areas where the water will flow into drums or settling ponds or onto dirt or stockpiles of aggregate base or sand. Pump water from settling ponds to the sanitary sewer, where allowed. Whenever possible, recycle washout by pumping back into mixers for reuse. Never dispose of washout into the street, storm drains, drainage ditches, or creeks.
4. Whenever possible, return left-over materials in the mixer barrel to the yard for recycling. Dispose of small amounts of excess concrete, grout, and mortar in the trash.

### C. Patching, Resurfacing, and Surface Sealing

1. Schedule patching, resurfacing and surface sealing for dry weather.
2. Stockpile materials away from streets, gutter areas, storm drain inlets or watercourses. During wet weather, cover stockpiles with plastic tarps or berm around them if necessary to prevent transport of materials in runoff.
3. Pre-heat, transfer or load hot bituminous material away from drainage systems or watercourses.
4. Cover and seal nearby storm drain inlets and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil

## **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

sealants has drained or evaporated. Clean any collected materials from these covered manholes and drains for proper disposal.

5. Prevent excess material from exposed aggregate concrete or similar treatments from entering streets or storm drain inlets. Designate an area for clean up and proper disposal of excess materials.
6. Use only as much water as necessary for dust control, to avoid runoff.
7. Sweep up as much material as possible and dispose of properly. Only wash down streets if runoff is controlled or contained.
8. Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.
9. Make sure all shut-off valves on the equipment are working properly.
10. Follow spill control and clean-up measures listed in Section VII for any spills.
11. After the job is complete, remove stockpiles (asphalt materials, sand, etc.) as soon as possible.
12. If it rains unexpectedly, take appropriate action to prevent pollution of storm water runoff (e.g., divert runoff around work areas).

### **D. Signing (Legends) and Striping**

1. Follow spill control and clean up measures in Section VII.
2. Contain and clean up waste materials and dispose of them properly according to the Material Safety Data Sheet.
3. Transfer and load paint and hot thermoplastic away from drainage systems or watercourses.
4. Sweep thermoplastic grindings into plastic bags. Yellow thermoplastic grindings may require special handling as they may contain lead.

### **E. Traffic Detector Loop Installation and Repair**

1. Protect nearby storm drain inlets prior to cutting or flushing slot for traffic detector loops. Block or berm around nearby storm drain inlets using sand bags or an equivalent barrier, or use absorbent materials such as pads, pillows and socks to contain slurry.
2. Clean up residues by sweeping up as much material as possible, and dispose of material properly.

### **F. Equipment Cleaning, Maintenance and Storage**

1. Inspect equipment daily and repair any leaks.

## **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

2. Perform major equipment repairs at the corporation yard, when practical.
3. If refueling or repairing vehicles and equipment must be done on-site, use a location away from storm drain inlets and creeks.
4. Recycle used motor oil, diesel oil, and other vehicle fluids and parts whenever possible.
5. Clean equipment including sprayers, sprayer paint supply lines, patch and paving equipment, and mudjacking equipment at the end of each day. Conduct cleaning at a corporation or maintenance yard if possible. Use proper collection methods for the cleaning solution and recycle or dispose of waste materials at an approved hazardous waste facility.

**Individual Co-Permittee Modifications to Street/Road/Highway Repair and Maintenance BMPs:**

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## III. SIDEWALK/PLAZA MAINTENANCE

### A. Cleaning

1. Use dry methods (e.g., sweeping or vacuuming) whenever practical to clean sidewalks and plazas rather than hosing, pressure washing, or steam cleaning.
2. Clean up spills as specified in Section VII.
3. If water must be used to clean sidewalks or plazas, implement the BMPs in the Bay Area Stormwater Management Agencies Association's *Pollution From Surface Cleaning*, to reduce soap, oil and other pollutants in stormwater to the maximum extent practicable and eliminate illicit discharges (see Appendix A).

### B. Concrete Installation and Repair

Refer to Section II. B.

### C. Surface Removal and Repair

1. Schedule surface removal and repair activities for dry weather if possible.
2. Take measures to protect nearby storm drain inlets prior to breaking up asphalt or concrete (e.g., place hay bales or sand bags around inlets). Clean afterwards by sweeping up as much material as possible.
3. After breaking up old pavement, remove and recycle as much as possible to avoid contact with rainfall and storm water runoff.
4. During saw-cutting operations, block or berm around nearby storm drain inlets using sand bags or an equivalent barrier, or absorbent materials such as pads, pillows and socks to contain slurry if necessary. If slurry enters the storm drain system, remove material immediately.
5. Remove saw-cut slurry (e.g., with a shovel or vacuum, or sweep up when dry) as soon as possible.
6. Stockpile materials away from streets, gutter areas, storm drain inlets or creeks.
7. Prevent excess material washed from placement of exposed aggregate concrete or similar treatments from entering streets or storm drain inlets. Designate an area for clean up and proper disposal of excess materials.
8. Clean up all spills and leaks using "dry" methods (absorbent materials and/or rags). Properly dispose of absorbent materials and rags. If spills occur on dirt areas, dig up and remove contaminated soil promptly and properly.

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

9. After the job is complete, remove temporary stockpiles (asphalt materials, sand, etc.) and other materials as soon as possible.
10. If it rains unexpectedly, take appropriate action to prevent pollution of storm water runoff (e.g., divert runoff around work areas).

### D. Landscape Maintenance

Refer to Section V *Median and Road Embankment Maintenance* for BMPs related to landscape maintenance: erosion controls, irrigation practices, vegetation controls, and use of pesticides and fertilizers.

<b>Individual Co-Permittee Modifications to Sidewalk/Plaza Maintenance BMPs:</b>
--

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## IV. BRIDGE AND STRUCTURE MAINTENANCE

1. Painting and Paint Removal
  - a) Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
  - b) Do not transfer or load paint near storm drain inlets or watercourses.
  - c) Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.
  - d) Where there is significant risk of a spill reaching storm drains, plug nearby storm drain inlets prior to starting painting and remove plugs when job is completed.
  - e) Clean up spills immediately, using methods outlined in Section VII.
  - f) Capture all clean-up water, and dispose of properly.
  - g) If sand blasting is used to remove paint<sup>1</sup>, cover nearby storm drain inlets prior to starting work. Use plywood, canvas, nylon netting, or similar material to contain abrasive and foreign materials and dust within work areas. Meter sand to use the least amount to do the job. Sweep and vacuum up sand and blast materials and recycle or dispose of materials properly.
  - h) If the bridge crosses a watercourse, perform work on a maintenance traveler or platform, or use suspended netting or traps to capture paint, rust, paint removing agents, or other materials, to prevent discharge of materials to surface waters. Dredging (with proper permits) may be necessary to recover solid materials that do fall into the watercourse.
2. Repair Work
  - a) Prevent concrete, steel, wood, metal parts, tools, or other work materials from entering storm drains or watercourses.
  - b) Thoroughly clean up the job site when the repair work is completed.
  - c) Refer to Section II, *Street/Road/Highway Repair and Maintenance*, for BMPs regarding maintenance and repair of a paved bridge deck.

3.

---

<sup>1</sup> See the Bay Area Air Quality Management District requirements for sand blasting operations (Appendix B).

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

### Graffiti Removal

- a) When graffiti is removed by painting over, implement the BMPs in Section IV.1., Painting and Paint Removal, above.
- b) Protect nearby storm drain inlets (using tarps in work areas, sand bags, and/or booms or barriers around inlets) prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent and properly disposing of the absorbent.
- c) Prevent any discharge of debris, cleaning compound waste, paint waste, or washwater containing cleaning compounds to storm drains or watercourses.
- d) Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a landscaped or dirt area. If a landscaped area is not available, filter runoff through an appropriate filtering device (e.g., filter fabric) to keep sand, particles, and debris out of storm drains.
- e) If a graffiti abatement method generates washwater containing a cleaning compound (such as high pressure washing with a cleaning compound), plug nearby storm drains and vacuum/pump washwater to the sanitary sewer.
- f) Consider using a waterless chemical cleaning method for graffiti removal (e.g., gels or spray compounds).
- g) Avoid graffiti abatement activities during a rain storm. If rains occur during graffiti abatement activities unexpectedly, take appropriate action to minimize the impact on storm water quality (e.g., divert runoff around work areas).

<b>Individual Co-Permittee Modifications to Bridge and Structure Maintenance BMPs:</b>
--

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## V. MEDIAN AND ROAD EMBANKMENT MAINTENANCE

### A. Erosion Controls

1. Maintain vegetative cover on medians and road embankments to prevent soil erosion, trap pollutants, and slow the rate of storm water runoff. Plant and/or retain native vegetation as much as possible. Adjust mowing heights to allow substantial stubble. Leave clippings in place or apply mulch as additional cover.
2. Avoid moving large quantities of earth, except where regrading is necessary to repair or reconfigure an embankment. Do not use disking as a means of vegetation management.
3. Inspect drainage facilities, including cross drains, on a regular basis to ensure that sufficient drainage is provided during storm periods, so that runoff is not diverted onto slopes in a way that causes erosion. Report and remediate any observed erosion problems as soon as possible.
4. Ensure that erosion control is provided for storm drain outfalls.

### B. Slide and Embankment Repair

1. Haul slide debris or removed material to an approved dump site as soon as practicable. Do not dump material into or near storm drain inlets, ditches, or watercourses.
2. Notify proper regulatory agencies (e.g., Santa Clara Valley Water District, California Department of Fish and Game, and Regional Water Quality Control Board) about material that has naturally fallen into a watercourse due to a substantial slide.
3. Use temporary erosion control measures, such as sediment basins, silt fences, hay bales, or blankets, if necessary to protect the slope until repairs have been completed. Revegetate denuded slopes as soon as practical to prevent future erosion.

### C. Irrigation Practices

1. Inspect irrigation systems regularly for broken water lines, sprinkler heads, and valves, and to ensure that only the necessary amount of water is applied and that runoff is not occurring.
2. Reduce runoff by careful manual control of water volume and spray or adjusting automatic controls to minimize excess watering.
3. Repair any broken or leaking line, sprinkler head, or valve as soon as possible. Shut off the water source until repairs are made.
4. Prevent soil eroded as a result of a line break from entering the drainage system. After digging out a line, return all soil to the hole and compact properly.

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

5. When bailing out muddy water, do not pour it into the storm drain inlet or curb; pour it onto the landscape planting.

### D. Vegetation Controls

#### 1. General Practices

- a) Check equipment for chemical, oil, or fuel leaks, and make necessary repairs before leaving for the job site. Fuel equipment only at corporation yards or service stations.
- b) If a leak or spill does occur, refer to Spill Control BMPs in Section VII.

#### 2. Manual and Mechanical Vegetation Removal

- a) Keep removed vegetation, including clippings, chips, and pruning debris, away from storm drain inlets and watercourses.
- b) When loading or chipping brush into a parked truck, do not leave leaves, twigs, chips, or other debris in the gutter or paved shoulder.
- c) When working on a slope, avoid loosening soil that could erode into drainage systems. Loosen only the amount of soil needed to remove the vegetation.
- d) Avoid loosening soil when rain is expected.

#### 3. Pesticide Usage and Pest Management

- a) Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides and training of pest control advisors and applicators.
- b) Consider employing integrated pest management methods, including:
  - i) No controls;
  - ii) Physical/mechanical controls;
  - iii) Environmental controls (mulching, pest-resistant vegetation, prescribed burns);
  - iv) Biological controls (predators, parasites, etc.);
  - v) Less toxic chemical controls (e.g., soaps and oils); and/or
  - vi) Hot water.
- c) Use the least toxic pesticides (including herbicides) that will do the job, provided there is a choice. The agency will take into consideration the LD<sub>50</sub><sup>1</sup>, overall risk to the applicator, and impact to the environment.

---

<sup>1</sup> The LD<sub>50</sub> is the lethal dose killing 50 percent of exposed organisms in toxicity tests.

## Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

- d) Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging non-degraded pesticides in stormwater runoff. Avoid application of pesticides if rain is expected.
  - e) Mix and apply only as much material as is necessary for treatment. Calibrate application equipment prior to and during use to ensure desired application rate.
  - f) Do not mix or load pesticides in application equipment adjacent to a storm drain inlet, culvert or watercourse.
  - g) Avoid use of copper-based pesticides if at all possible.
  - h) Consider using biological controls or less toxic chemicals before using diazinon to manage a pest problem (known to cause toxicity in aquatic life).
4. Fertilizer Usage
- a) Avoid application of fertilizer if rain is expected.
  - b) Consider applying municipally-generated compost in lieu of chemical fertilizers.
  - c) Prior to applying fertilizer, check the nitrogen/phosphorus/potassium (N/P/K) concentrations and calibrate the distributor to avoid excessive application.
  - d) Check irrigation equipment prior to applying fertilizer to make sure it is working properly, and monitor systems to avoid over-watering.
  - e) Confine fertilizer to the targeted area. If fertilizer is accidentally applied to paved surfaces, remove fertilizer from these areas before irrigating and/or rainfall occurs. If water is used to remove fertilizer, direct flow to landscaped areas. Do not allow wash water from paved areas to flow to storm drains.

<b>Individual Co-Permittee Modifications to Median and Road Embankment Maintenance BMPs:</b>
--

## **Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance**

### **VI. LITTER CONTROL**

1. Post "No Littering" signs where needed and enforce anti-littering laws.
2. Provide an adequate number of litter receptacles in commercial areas and other litter source areas.
3. Empty litter receptacles on a frequent enough basis to prevent spillage.
4. Encourage public education efforts to include an anti-littering message.

**Individual Co-Permittee Modifications to Litter Control BMPs:**

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## VII. SPILL CONTROL

1. Store spill containment, clean-up materials, and the municipal agency's spill response plan on trucks and equipment.
2. Follow the municipal agency's spill response plan.
3. If you are instructed to clean up spilled materials, contain the spill and use "dry" methods to clean it up (e.g., scoops, rags, absorbents, or vacuuming). Do not hose down or bury spilled materials.
4. Collect spilled (non-hazardous) materials for reuse or recycling, where possible, and properly dispose of nonrecyclable wastes and spent absorbents.
5. If spills occur on dirt areas, dig up and remove contaminated soil promptly and properly.

**Individual Co-Permittee Modifications to Spill Control BMPs:**

# Performance Standard and Supporting Documents for Public Streets, Roads, And Highways Operation And Maintenance

## Section 4 STANDARD OPERATING PROCEDURES

This section presents the co-permittee's standard operating procedures (SOPs) for implementation of the performance standard.

### Example SOPs:

- Staff and contractor awareness training:
  - conduct annual training;
  - review task related specific BMPs at "tail gate" meetings;
  - review applicable BMPs at pre-construction meeting (for contractors);
- Follow the BMPs.
- Establish responsibility for overseeing implementation of BMPs.
- Establish process for feedback on effectiveness and feasibility of BMPs from field crews.