

APPENDIX G

Fire BMPs

BEST MANAGEMENT PRACTICES

Plan for
URBAN RUNOFF MANAGEMENT

PARTICIPATING RIVERSIDE COUNTY
FIRE FIGHTING AGENCIES

City of Corona Fire Department
City of Hemet Fire Department
City of Norco Fire Department
City of Riverside Fire Department
County of Riverside Fire Department/CDF
Idyllwild Fire Protection District
Murrieta Fire Protection District

July 2011

INTENT

The purpose of this plan is to provide Best Management Practices (BMPs) used by fire fighting agencies for urban runoff management. These BMPs are a requirement of the Riverside County Municipal Stormwater permit (Section VI.A.15) adopted by the Santa Ana Regional Water Quality Control Board (SARWQCB). As a separate requirement, the Permittees are responsible for developing individual Facility Pollution Prevention Plans for Permittee-owned fire stations (Section XIV.B). Riverside County is under the jurisdiction of the Colorado River Basin, San Diego, and Santa Ana Regional Water Quality Control Boards.

The Riverside County MS4 Permittees in cooperation with the Riverside County Fire Agencies have developed fire department activity procedures to provide guidance to Prevention and Firefighting personnel for management of urban runoff. Guidance is provided in the form of recommended BMPs that are incorporated as part of the Drainage Area Management Plan (DAMP).

The BMPs, when followed, will minimize discharges of urban runoff to the municipal separate storm sewer system (MS4) associated with fire prevention, firefighting, fire training, emergency scene spills or discharges, and fire facility maintenance activities.

PROCEDURE

Fire Prevention Activities

1. Fire Sprinkler Acceptance and Testing BMPs

- Contain flows onsite whenever possible and/or direct the water flows to landscaped or green areas whenever possible and safe to do so without causing damage or erosion.
- When practicable, divert sprinkler system flushing flows to the sewer, with the permission of the local sewer agency.
- Conduct on non-rainy days.
- Remove debris from the affected curb and gutter before initiating flushing.

2. Fire Hydrant Testing BMPs

- Conduct on non-rainy days.
- Conduct flows for the shortest duration possible.
- Use a water diffuser as necessary.
- Remove debris from the affected curb and gutter before initiating flushing.
- Direct water flows to landscaped or green areas whenever possible and safe to do so without causing damage or erosion.

Non-emergency Firefighting Activities

1. Discharges Associated With Fire Training Activities

Training activities, which simulate emergency responses, must be performed in a manner that reduces or prevents discharges to the storm drain system to the maximum extent practicable. In addition, when the elimination of discharges into the storm drain system is unavoidable (i.e. equipment failures), measures will be implemented to minimize impacts to water quality:

- Live and simulated fire training should be conducted, where feasible, in facilities where runoff controls protecting the storm drain system have been engineered and built into the facility.
- When conducting Maximum Capability Training (MCT) exercises, potable water sources may be used when runoff cannot be contained.
- Direct water flows to landscaped or green belt areas whenever possible.
- Survey the area prior to the training exercise to ensure that debris will not enter the storm drain system as a result of the flows generated during the drill.
- When practicable, divert flows to the sewer with the permission of the local sewer agency.
- Use fog streams or straight streams for short durations when practicable.
- Use lower gallon per minute (GPM) nozzle settings.
- Prevent discharge of foam or other additives to the storm drain system. If training activities involve the use of foam, block off all potentially affected storm drain inlets with plastic sheeting and sandbags or temporary berms.

2. Discharges Associated With Post-Emergency Fire Fighting Activities

The post-emergency rehabilitation and maintenance of response equipment must be performed in a manner that prevents discharges to the storm drain system whenever practicable and minimizes discharges to the storm drain system when elimination of discharges is unavoidable.

3. Discharges Associated with Activities Conducted at Fire Facilities

A. Vehicles and Equipment Washing and Cleaning

The following BMPs should be considered in order to prevent or reduce the discharge of pollutants to the storm drain system from vehicle and equipment washing and cleaning:

- Use methods of cleaning vehicles that employ the minimal use of water, such as wet chamois or non-water rinses, when applicable.
- Limit the use of all cleaning agents and when feasible only use water.
- Remove debris from any area or facility used for washing and/or cleaning vehicles.
- Prevent runoff from vehicle and equipment washing and cleaning from entering the storm drain system to the extent feasible by employing one of the following BMPs.
 - a. Direct water flows to landscaped or green areas or contain the water onsite and allow it to evaporate and infiltrate whenever safe to do so without causing damage or erosion.
 - b. Use designated wash areas (preferably covered and bermed) to contain and/or divert the wash water to the sewer either through the use of "wet-vac" or through a plumbed sanitary sewer connection.
 - c. Use self-contained water recycling systems.
 - d. Use off-site commercial washing and steam cleaning facilities.
- Prohibit all steam cleaning discharges from entering the storm drain system. Direct all steam cleaning discharges to the sanitary sewer.

B. Vehicle Fueling

The following BMPs should be considered in order to prevent or reduce the discharge of pollutants to the storm drain system when fueling fire fighting apparatus:

- Protect the fueling area from stormwater by installing a canopy.
- Pave fueling area surfaces with Portland cement concrete (or other equivalent smooth impervious surface).
- Keep perimeter drains clear of debris at all times.
- Where a perimeter drain is not installed, install a berm or grade area to prevent run-on of stormwater and spilled liquids.
- Use a dead-end sump to collect spills or install an oil-water separator.
- Utilize vapor recovery nozzles to help control drips as well as air pollution. Discourage "topping-off" of fuel tanks.
- Maintain a spill control kit at the site. Use absorbent materials on small spills and general cleaning rather than hosing down an area. Remove the absorbent materials promptly and dispose as hazardous waste.
- Keep site Stormwater Pollution Prevention Plan (SWPPP) current.

C. Vehicles and Equipment Maintenance and Repair

The following BMPs should be considered in order to prevent or reduce the discharge of pollutants to the storm drain system from vehicle and equipment maintenance and repair:

- Conduct vehicle and equipment maintenance in areas where precautions have been taken to prevent the entry of spills into the storm drain system.
- Use dry cleaning methods in maintenance and repair areas when practical.

D. Hose Washing and Cleaning

- Design future facilities used for washing and/or cleaning fire hoses to prevent wash water or other debris from entering the storm drain system without adequate treatment.
- Direct water flows to landscaped or green areas or contain the water onsite and allowing it to percolate through plant material, the landscape, or to evaporate completely, whenever safe to do so without causing damage or erosion.
- Use designated wash areas (preferably covered and bermed) to contain and/or divert the wash water to the sanitary sewer either through the use of a "wet-vac" or through a plumbed sanitary sewer connection.
- Prevent wash water containing detergents, degreasers, or other contaminants from entering the storm drain system.
- When cleaning the wash area prevent discharge from entering the storm drain system. Utilize wet mop cleaning methods in small areas, when feasible.
- Use methods of cleaning fire hoses that employ the minimal use of water, such as high-pressure spray washers, when applicable.
- Consider the use of biodegradable cleaning agents.

E. Facility Maintenance

The following BMPs should be considered in order to prevent or reduce the discharge of pollutants to the storm drain system during facility maintenance:

- Use dry cleaning methods, such as sweeping, to clean impervious areas such as apparatus floors, driveways, patios, and walkways. Place sweepings and debris in receptacles for solid waste disposal.
- Maintain landscaped areas as required, limiting the introduction of leaves and landscape waste into the

storm drain system.

- Monitor and maintain irrigation systems to minimize runoff.
- Maintain and repair structures in order to prevent the release of water, soils, or waste to the storm drain system.

F. Solid Waste and Hazardous Materials Storage Areas

The following BMPs should be considered in order to prevent or reduce the discharge of pollutants to the storm drain system from solid waste and in hazardous materials storage areas:

- Provide a canopy or roof for solid waste and hazardous materials storage areas.
- Provide secondary containment (i.e. a metal or plastic pan with a raised edge) for hazardous materials storage areas.
- Ensure waste containers and dumpsters are properly secured and sealed. Provide lids for all trash and solid waste receptacles. Keep lids closed to prevent contact with rainfall and to ensure containment of waste within the storage area.

Emergency Fire Fighting Activities

An "emergency" exists from alarm notification until, in the opinion of the incident commander, the emergency has concluded and emergency equipment is returned to the station. Discharges occurring during emergency fire fighting activities (i.e. flows necessary for the protection of life and property) do not require BMPs and are not prohibited under the stormwater permits. However, when and where possible and practicable, and when not interfering with health and safety, implementation of all applicable BMPs described in this section should be considered.

1. Discharges Associated with Emergency Fire Fighting Activities

To the extent allowed by the circumstances at the scene and without compromising the health and safety of personnel or the public, emergency fire fighting activities should be performed in a manner that avoids or minimizes discharges to the storm drain system. BMPs that may be considered during emergency fire fighting activities include the following:

- If possible, avoid directing fire fighting flows directly on erodible surfaces if runoff will enter receiving waters or storm drains.
- If possible, apply fire-fighting flows so that runoff will flow over vegetated areas.

2. Discharges Associated with Hazardous Materials Spills

Fire departments within the County are participating agencies with specified responsibilities within their respective jurisdictions. Each department operates under a Hazardous Materials Area Plan that describes procedures for the allocation of resources and assigns tasks in time of a hazardous materials emergency. Fire department and safety personnel are trained to respond to hazardous material spills according to response protocols established by each department's BMPs for hazardous materials emergencies that are set forth in the current response protocols for each department.

Spills, releases, and illegal discharges of pollutants to the receiving waters or to the storm drains shall be reported by the Discharger as required by all applicable state and federal laws. In addition, any such spills, releases, and illegal discharges, with the potential to endanger health, safety, or the environment, shall be

reported by fire department staff to the Riverside County Environmental Health Department. If safe to do so, necessary actions shall be taken to contain and minimize the spill, release, or illegal discharge.

IMPLEMENTATION STRATEGY

Education, Training, and Outreach

1. Stormwater NPDES Training

Fire department personnel within Riverside County should receive annual education and training to increase staff awareness and understanding of stormwater pollution issues, BMPs, and their compliance obligations.

2. Best Management Practices (BMPs) Update

The Permittees will continue to work cooperatively with fire departments to identify, update, and provide guidance on the implementation BMPs, as appropriate, to reduce contaminants in discharges related to fire department agency activities to the maximum extent that is practicable.

PROGRAM ASSESSMENT AND REPORT

Program Effectiveness Assessment Strategy

The Permittees will assess the effectiveness of the program described in this plan annually, at minimum by implementing the following assessment procedures:

- Document all education and training activities conducted by Stormwater Program manager.
- Document fire department staff receiving educational materials and training.
- Inspect a selected number of fire facilities to assess compliance with recommended BMPs.
- Conduct assessment with fire department personnel for effectiveness of BMPs to obtain revision suggestions for practicality and effectiveness of BMPs.

Annual Report

Activities performed by the Permittees under this stormwater program element, results of any assessment, inspections, and any revisions made to this manual will be documented annually in the Permittees' Annual Report.

GLOSSARY

Best Management Practice (BMP)

Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practice to prevent or reduce the pollution of Waters of the U.S. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of MS4 permits, BMPs are typically used in place of numeric effluent limits.

National Pollutant Discharge Elimination System (NPDES)

Permits issued under Section 402(p) of the CWA for regulating discharge of pollutants to Waters of the U.S.

Annual Report

Pursuant to each NPDES MS4 permit issued by the Regional Board to the Permittees, there is a requirement that an Annual Report be filed with the Regional Board. The report to the Santa Ana RWQCB is due on or before each November 30th.

Permittees (in the SARWQCB permit area)

County of Riverside, Riverside County Flood Control and Water Conservation District, cities of Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Menifee, Moreno Valley, Norco, Perris, Riverside, and San Jacinto.

Drainage Area Management Plan (DAMP)

The DAMP is a programmatic document developed by the Permittees and approved by the Executive Officer that outlines the major programs and policies that the Permittees individually and/or collectively implement to manage Urban Runoff in the Permit Area.

Maximum Capability Training (MCT)

The MCT involves training exercises in which high water flows are generated to ensure operational readiness. Examples may include: Probation preparation and testing, and organized exercises that prepare or test the abilities of long term employees. Water flows into the storm drain are permissible when using potable water sources (hydrants or water tanks) and debris from the effected curb and gutter have been previously removed.

Municipal Separate Storm Sewer System (MS4)

An MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to Waters of the U.S.; (ii) designated or used for collecting conveying stormwater; (iii) which is not a combined sewer; and (iv) which is not part of the POTW as defined at 40 CFR 122.2.