



## SAN MATEO COUNTYWIDE STORMWATER POLLUTION PREVENTION PROGRAM

### Source Control Measures Guidance and Model List

The San Mateo Countywide Stormwater Pollution Prevention Program (STOPPP) has developed a model list of source control measures to assist STOPPP's member municipalities in developing and implementing their individual work plans in accordance with Provision C.3.k of the February 19, 2003, amendment of STOPPP's National Pollutant Discharge Elimination System (NPDES) permit. Provision C.3.k states, in part:

*“The Dischargers shall, as part of their continuous improvement process, submit enhanced new development and significant redevelopment Performance Standards that summarize source control requirements for such projects to limit pollutant generation, discharge, and runoff, to the maximum extent practicable... A model enhanced new development and significant redevelopment source control Performance Standard and proposed work plan for its implementation shall be submitted by August 15, 2004. Implementation shall begin no later than February 15, 2005, and the status shall thereafter be reported in the Dischargers' Annual Reports, beginning with the Annual Report due September 15, 2005 ... .”*

Provision C.3.k. also provides examples of source control measures to be addressed. Provision C.3's Table 2, “Implementation Schedule”, requests submittal of “draft conditions of approval for source control measures” by August 15, 2004.

#### DEVELOPMENT OF THE MODEL LIST

Municipalities typically use a number of different methods to impose requirements on development projects, including source control requirements. These methods may vary from one municipality to another, but generally include the following:

- Municipal codes and ordinances
- Application review checklists
- Application review results letters
- Plan check comments
- Conditions of approval in project approval documents
- Mitigation measures in EIRs
- Conditions on plan sheets that are part of construction drawings

Due to the variety of local practices, STOPPP has developed a model list of source control measures that the municipalities may impose as submittal requirements or checklists, conditions of approval, or plan check comments, etc., depending on the particular planning process used by each municipality. These measures need to be expressed as requirements, to meet the intent of Provision C.3.k.

The Model List includes measures to control sources of pollutants associated with the post-construction phase of new development and redevelopment projects. Each identified source of pollutants may have one or more appropriate control measures. The source control measures in the model list are intended to be applied to projects as appropriate to the project type (e.g., measures controlling “pool, spa and fountain discharges” would only apply to projects that include a pool, spa and/or fountain). Many of the control measures have optional wording, which is shown in brackets. Each agency can choose, as appropriate, whether to make optional wording the standard in its jurisdiction, or not.

The Model List includes structural source control measures. Construction site inspections should verify that these measures are appropriately constructed and their implementation should be confirmed as part of the final inspection.

The Model List will be submitted to the Regional Board staff for review and approval to meet the August 15, 2004, deadline described above. Once approved, the Model List will be implemented as part of an enhanced Performance Standard for new Development and Construction Controls, pursuant to Provision C.3.k. The model list does not include construction BMPs, site design measures, or stormwater treatment measures. These are or will be covered under other performance standards or other Provision C.3 implementation guidance.

### **C.3.k WORK PLAN**

STOPPP’s permit requires that the Regional Board receive by August 15, 2004, a proposed work plan for the implementation of the enhanced new development and significant redevelopment source control performance standard. Although the Program’s Provision C.3 Work Plan indicates that each agency will develop its own work plan for implementing the enhanced performance standard, New Development Subcommittee members have recommended that one Program-wide work plan be developed and approved by the Subcommittee.

### **REFERENCES**

The Model List was developed using the following information sources:

- Alameda Countywide Clean Water Program (ACCWP), Model Conditions of Approval, April 1999
- Bay Area Stormwater Management Agencies Association (BASMAA), Start at the Source Tools Handbook, June 2000
- California Stormwater Quality Association (CASQA), Stormwater Best Management Practices Handbook: New Development and Redevelopment, January 2003
- California Stormwater Quality Task Force, The Best Management Practice Guide – Retail Gasoline Outlets, March 1997.
- Regional Water Quality Control Board, Example source control measures provided in Provision C.3.k. of the STOPPP NPDES Permit, February 2003
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), Draft Model List of Source Control Measures, September 2002

- SCVURPPP, Model Conditions of Approval for Pesticide Reduction in Landscaping Plans, December 2002
- State Water Resources Control Board (SWRCB), Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality, April 2003
- STOPPP, Draft BMPs and Implementation Procedures for Conditionally Exempted Discharges, No Date

## MODEL LIST OF STRUCTURAL SOURCE CONTROL MEASURES

The following list contains measures to control sources of stormwater pollutants associated with the post-construction phase of new development and redevelopment projects. Each identified source of pollutants may have one or more appropriate control measure. The model list is intended to be a menu from which municipalities may select appropriate measures to apply to specific projects. Municipalities do not have to use the exact wording of a source control measure as long as the measure is equivalent in terms of preventing pollutants from reaching stormwater, groundwater, creeks and the Bay or ocean. Where a source control measure uses the word “shall”, municipal staff is expected to require the applicant to limit pollutant generation, discharge, and runoff, to the maximum extent practicable, using staff judgment. Phrases in brackets represent alternative or optional wording.

### A. Illegal Dumping to Storm Drain Inlets and Waterways

On-site storm drain inlets shall be clearly marked with the words “No Dumping! Flows to Bay,” or equivalent, using methods approved by the [Municipality].

### B. Interior Floor Drains

Interior floor drains shall be plumbed to the sanitary sewer system and shall not be connected to storm drains [or interior floor drains are prohibited].

### C. Parking Garages

Interior level parking garage floor drains shall be connected to [a water treatment device approved by the [Municipality] prior to discharging to] the sanitary sewer system. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements. [If a municipality determines that connecting to a sanitary sewer system is not practicable, the applicant may propose an alternative method of plumbing interior parking garage floor drains or addressing runoff subject to approval by RWQCB staff.]

### D. Pesticide/Fertilizer Application

- 1) Landscaping shall be designed to minimize irrigation and runoff, promote surface infiltration where appropriate, and minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.
- 2) Structures shall be designed to discourage the occurrence and entry of pests into buildings, and thus minimize the need for pesticides. For example, dumpster areas should be located away from occupied buildings, and building foundation vents shall be covered with screens.
- 3) If a landscaping plan is required as part of a development project application, the plan shall meet the following conditions related to reduction of pesticide use on the project site:

- a. Where feasible, landscaping shall be designed and operated to treat stormwater runoff by incorporating elements that collect, detain, and infiltrate runoff. In areas that provide detention of water, plants that are tolerant of saturated soil conditions and prolonged exposure to water shall be specified.
- b. Plant materials selected shall be appropriate to site specific characteristics such as soil type, topography, climate, amount and timing of sunlight, prevailing winds, rainfall, air movement, patterns of land use, ecological consistency and plant interactions to ensure successful establishment.
- c. Existing native trees, shrubs, and ground cover shall be retained and incorporated into the landscape plan to the maximum extent practicable.
- d. Proper maintenance of landscaping, with minimal pesticide use, shall be the responsibility of the property owner.
- e. Integrated pest management (IPM) principles and techniques shall be encouraged as part of the landscaping design to the maximum extent practicable. Examples of IPM principles and techniques include:
  1. Select plants that are well adapted to soil conditions at the site.
  2. Select plants that are well adapted to sun and shade conditions at the site. In making these selections, consider future conditions when plants reach maturity, as well as seasonal changes.
  3. Provide irrigation appropriate to the water requirements of the selected plants.
  4. Select pest-resistant and disease-resistant plants.
  5. Plant a diversity of species to prevent a potential pest infestation from affecting the entire landscaping plan.
  6. Use “insectary” plants in the landscaping to attract and keep beneficial insects.

#### **E. Pool, Spa, and Fountain Discharges**

- 1) Pool (including swimming pools, hot tubs, spas and fountains) discharge drains shall not be connected directly to the storm drain or sanitary sewer system, unless the connection is specifically approved by the local permitting authority and/or sanitary district with jurisdiction, as applicable. [Exception: Public pool discharge drains may be connected to the sanitary sewer system, in accordance with applicable local requirements.]
- 2) Subject to local requirements, when draining is necessary, a hose or other temporary system shall be directed into a sanitary sewer clean out. The clean out shall be installed in a readily accessible area [example: within 10 feet of the pool]. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

- 3) [Subject to local requirements, swimming pool, spa and fountain water may be allowed to discharge to the storm drains if the water has been dechlorinated, the water is within ambient temperature, and no copper-based algae control has been added to the water. The discharger will need to demonstrate that the water has been dechlorinated and that no copper-based algaecide is present.]
- 4) If commercial and public swimming pool discharges are discharged to land where the water would not flow to a storm drain or to a surface water, the discharge may be subject to the requirements of the State Water Resources Control Board's (SWRCB) Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality.

#### **F. Food Service Equipment Cleaning**

Food service facilities (including restaurants and grocery stores) shall have a sink or other floor mat, container, and equipment cleaning area, which is connected to a grease interceptor prior to discharging to the sanitary sewer system. The cleaning area shall be large enough to clean the largest mat or piece of equipment to be cleaned. The cleaning area shall be indoors or in a roofed area outdoors; both areas must be plumbed to the sanitary sewer. Outdoor cleaning areas shall be designed to prevent stormwater run-on from entering the sanitary sewer and to prevent stormwater run-off from carrying pollutants to the storm drain. Signs shall be posted indicating that all food service equipment washing activities shall be conducted in this area. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements. Regular maintenance and cleaning of the grease interceptor is required and may be subject to periodic inspections conducted by municipal staff.

#### **G. Refuse Areas**

- 1) New buildings [such as food service facilities and/or multi-family residential complexes or subdivisions] shall provide a roofed and enclosed area [or enclosed area] for dumpsters and recycling containers. The area shall be designed to prevent water run-on to the area and runoff from the area and to contain litter and trash, so that it is not dispersed by the wind or runoff during waste removal.
- 2) Runoff from trash enclosures, recycling areas, and/or food compactor enclosures, or similar facilities shall not discharge to the storm drain system. Trash enclosure areas shall be designed to avoid run-on to the trash enclosure area. If any drains are installed in or beneath dumpsters, compactors, and tallow bin areas serving food service facilities, the drains shall be connected [to a grease removal device and/or treatment devices prior to discharging] to the sanitary sewer. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

## **H. Outdoor Process Activities/Equipment<sup>1</sup>**

- 1) Process activities shall be performed either indoors or in roofed outdoor areas. If performed outdoors, the area shall be designed to prevent run-on to and runoff from the area with process activities. Examples of appropriate design to prevent run-on and runoff include using a berm or grade break.
- 2) Process equipment areas shall drain to the sanitary sewer system. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements. [If a municipality determines that connecting to a sanitary sewer system is not practicable, the applicant may propose an alternative method of providing for drainage of process equipment areas, subject to approval by RWQCB staff.] The pavement should be checked periodically for cracks and fractures, which should be sealed to prevent leakage.

## **I. Outdoor Equipment/Materials Storage**

- 1) All outdoor equipment and materials storage areas shall be covered [and bermed], or shall be designed to limit the potential that runoff may contact pollutants [or storm drain inlet valves shall be provided on exterior drains in the area]. Storage or maintenance/repair activities shall occur only on paved and contained areas. The pavement should be checked periodically for cracks and fractures, which should be sealed to prevent leakage.
- 2) Storage areas containing non-hazardous liquids, such as latex-based paint, shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners or vaults or similar spill containment devices. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements. [Or – Storage areas containing non-hazardous liquids shall be covered by a roof and contained by berms, dikes, liners, vaults, or similar spill containment devices.]
- 3) All on-site hazardous materials and wastes, as defined [or regulated] by the California Public Health Code and the local Certified Unified Program Agency (CUPA) must be used and managed in compliance with the applicable CUPA program regulations and the facility hazardous materials management plan approved by the CUPA authority.

## **J. Vehicle/Equipment Cleaning**

- 1) Wastewater from vehicle and equipment washing operations shall not be discharged to the storm drain system. Any wastewater discharges to the sanitary sewer are subject to approval by the sanitary district with jurisdiction.
- 2) Commercial/industrial facilities having vehicle/equipment cleaning needs [and new residential complexes of 25 units or greater] shall either provide a roofed, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs (faucets) and installing signs prohibiting such uses.

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<sup>1</sup> Examples of businesses that may have outdoor process activities and equipment include machine shops and auto repair shops, and industries that have pretreatment facilities.

Vehicle/equipment washing areas shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. A sign shall be posted indicating the location and allowed uses in the designated wash area. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

- 3) Commercial car wash facilities shall be designed and operated such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer [or a wastewater reclamation system shall be installed and the wastewater reused with no discharges to the storm drain]. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

#### **K. Vehicle/Equipment Repair and Maintenance**

- 1) Vehicle/equipment repair and maintenance shall be performed in a designated area indoors, or if such services must be performed outdoors, in an area designed to prevent the run-on and runoff of stormwater.
- 2) Secondary containment shall be provided for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.
- 3) Vehicle service facilities shall not contain floor drains unless the floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer, for which an industrial waste discharge permit has been obtained. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.
- 4) Tanks, containers or sinks used for parts cleaning or rinsing shall not be connected to the storm drain system. Tanks, containers or sinks used for such purposes may only be connected to the sanitary sewer system if allowed by an industrial waste discharge permit. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.

#### **L. Fuel Dispensing Areas**

- 1) Fueling areas<sup>2</sup> shall have impermeable surfaces (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.

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<sup>2</sup> The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

- 2) Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be roofed and the roof's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area, as defined below<sup>3</sup>.] The canopy [or roof] shall not drain onto the fueling area.

#### **M. Loading Docks**

- 1) Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer [or diverted and collected for ultimate discharge to the sanitary sewer], [or if a municipality determines that discharge to a sanitary sewer system is not practicable, the applicant may propose an alternative method of providing for drainage from the loading area, subject to approval by RWQCB staff]. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.
- 2) Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation, subject to approval by the sanitary district with jurisdiction. [Or – delete this sentence if it is inapplicable to your municipality.]
- 3) Door skirts between the trailers and the building shall be installed to prevent exposure of loading activities to rain, unless one of the following conditions apply: the loading dock is covered, or the applicant demonstrates that rainfall will not result in an untreated discharge to the storm drain system.

#### **N. Fire Sprinkler Test Water**

Provisions shall be made in the project design and construction to allow for the discharge of fire sprinkler test water to the sanitary sewer, with approval from the local permitting authority and/or sanitary district with jurisdiction. [Alternatively, fire sprinkler test water [from private residences] may be discharged to a landscaped area.] [If a municipality determines that connecting to a sanitary sewer system is not practicable, the applicant may propose an alternative method of providing for drainage of fire sprinkler test water, subject to approval by RWQCB staff.]

#### **O. Miscellaneous Drain or Wash Water**

- 1) Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.
- 2) For small air conditioning units, air conditioning condensate should be directed to landscaped areas as a minimum BMP. For large air conditioning units, in new developments or significant redevelopments, the preferred alternatives are for condensate lines to be directed to landscaped areas, or alternatively connected to the sanitary sewer system after obtaining permission from the sanitary sewer's owner. As with smaller units, any anti-algal or descaling agents must be properly disposed of. Any air conditioning condensate that is discharged to land

without flowing to a storm drain may be subject to the requirements of the State Water Resources Control Board's (SWRCB) Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality.

- 3) Roof drains shall discharge and drain away from the building foundation to an unpaved area wherever practicable.
- 4) Roof top equipment including that producing air conditioning condensate [or other than that producing air conditioning condensate] shall drain to the sanitary sewer [or be covered and have no discharge to the storm drain]. The applicant shall contact the local permitting authority and/or sanitary district with jurisdiction for specific connection and discharge requirements.
- 5) An appropriately equipped facility that drains to the sanitary sewer must be provided for washing and/or steam cleaning activities. Sanitary connections are subject to the review, approval and conditions of the sanitary district with jurisdiction for receiving the discharge. These conditions shall be required for automotive related businesses.