

PRESCRIPTIVE METHODS

- **Retail Gasoline Outlets**
- **Automotive Repair Shops**
- **Parking Lots**
- **Restaurants**

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CITY OF LOS ANGELES – STORMWATER PROGRAM
Prescriptive Method
Standard Urban Stormwater Mitigation Plan

RETAIL GASOLINE OUTLETS

OBJECTIVE

The prescriptive method described in this bulletin meets the minimum requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) for a retail gasoline outlet. As a prescriptive method, all requirements specified herein shall be incorporated into the approved development plan. Should an alternate method of compliance or an alternate product/manufacture be used, the applicant shall prepare a site-specific plan indicating the alternate and its details. Such plan must be submitted for review and approval.

REQUIREMENTS

Fueling Area

- Must be covered with an overhanging roof structure or canopy with dimensions equal or greater than the area with the grade breaks and must not drain onto the fuel dispense area. Area shall be graded to drain to catch basin.
- Must be paved with Portland cement concrete and extend 6.5 feet from the corner of each fuel dispenser.
- Must have a 2% to 4% slope to prevent ponding and have a grade break to prevent run-on of stormwater.
- Figure 1 shows a fuel island illustration.

Site and Roof Drainage

- Single grating catch basin (CB) with filter insert. CB shall be in accordance with the City of Los Angeles Standard Plan S-355-0 with depth modified to accommodate drainage elevations. Minimum depth of CB insert shall be 24 inches. Filter insert can be either of the following:
 - Aqua-Guard™ (AquaShield/Remedial Solutions, Inc., Web Site: <http://www.aquashieldinc.com>)
 - Ultra-Urban™ Filter Series DI2020 (Abtech Industries, Inc., Web Site: <http://www.abtechindustries.com>)
 - DrainPac™ (United Stormwater, Inc., Web Site: <http://www.unitedstormwater.com>)
 - Enviro-Drain® (Enviro-Drain®, Inc., Web Site: <http://www.enviro-drain.com>)
- Site shall be graded to drain to CB.
- Figure 2 shows an example CB insert.
- Proof of ongoing CB insert maintenance shall be kept on site indicating at the minimum, insert type, operator name, activity date, and activity type. Refer to Provision No. 8 of the Final SUSMP.

Trash Storage Area (If included)

- Must be screened or walled to prevent off-site transport of trash.
- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Pave trash storage areas with an impervious surface to mitigate spills.

Outdoor Material Storage Area (If Included)

- Must be placed in an enclosure or bermed (secondary containment). The berm height shall be ½ inch.
- Must be paved to contain leaks and spills.

Figure 1
Fuel Island Illustration

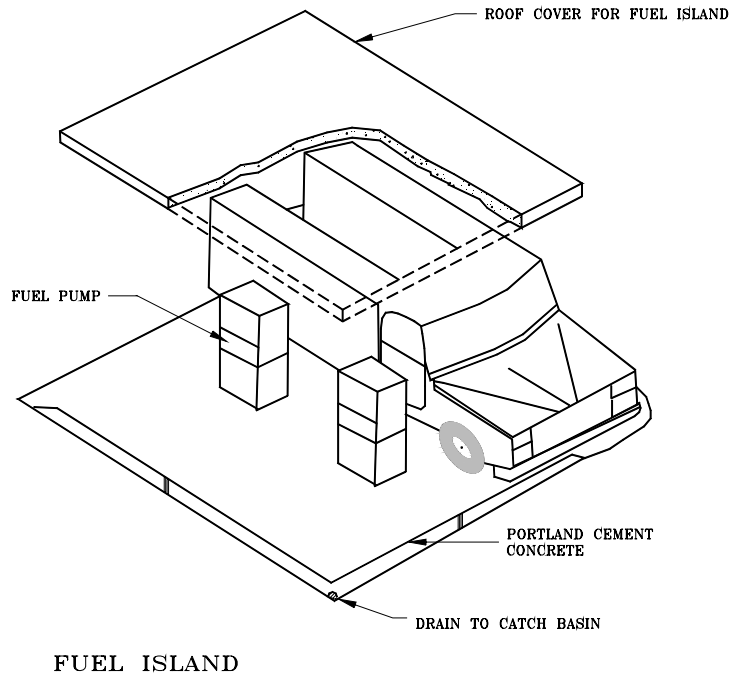
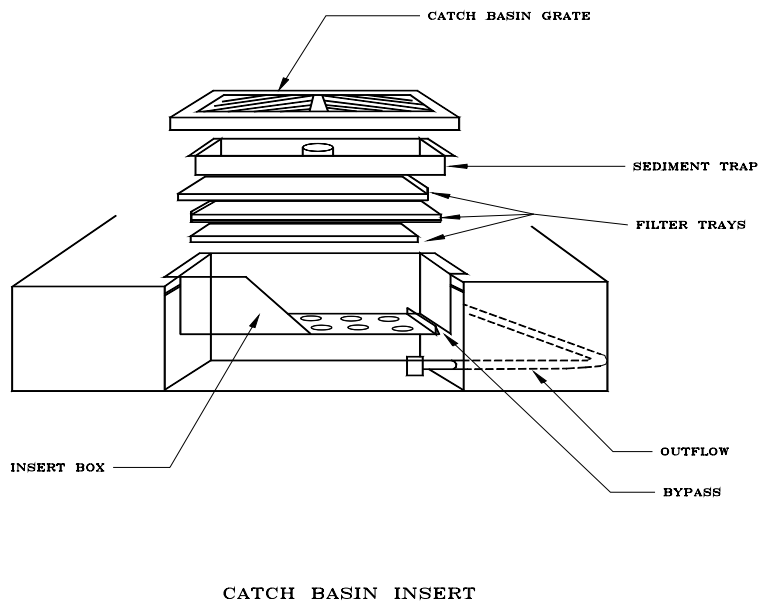


Figure 2
Example Catch Basin Insert



CITY OF LOS ANGELES – STORMWATER PROGRAM
Prescriptive Method
Standard Urban Stormwater Mitigation Plan

AUTOMOTIVE REPAIR SHOP

OBJECTIVE

The prescriptive method described in this bulletin meets the minimum requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) for an automotive repair shop (SIC Codes* 5013, 5014, 5541, 7532 to 7534, 7536 to 7539). As a prescriptive method, all requirements specified herein shall be incorporated into the approved development plan. Should an alternate method of compliance or an alternate product/manufacturer be used, the applicant shall prepare a site-specific plan indicating the alternate and its details. Such plan must be submitted for review and approval.

REQUIREMENTS

Repair/Maintenance Bay

- Must be indoor and designed to avoid stormwater run-on or contact with stormwater runoff.
- The bay drainage system must capture all wash-water, leaks, and spills, equipped with a clarifier and properly connected to a sanitary sewer. A plumbing permit from Department of Building and Safety will be required for the clarifier. IWD permit will be required from the Bureau of Sanitation – Industrial Waste Management Division for sewer connection.

Site and Roof Drainage

- Single grating catch basin (CB) with filter insert. CB shall be in accordance with the City of Los Angeles Standard Plan S-355-0 with depth modified to accommodate drainage elevations. Minimum depth of CB insert shall be 24 inches. Filter insert can be either of the following:
 - Aqua-Guard™ (AquaShield/Remedial Solutions, Inc., Web Site: <http://www.aquashieldinc.com>)
 - Ultra-Urban™ Filter Series DI2020 (Abtech Industries, Inc., Web Site: <http://www.abtechindustries.com>)
 - DrainPac™ (United Stormwater, Inc., Web Site: <http://www.unitedstormwater.com>)
 - Enviro-Drain® (Enviro-Drain®, Inc., Web Site: <http://www.enviro-drain.com>)
- Site shall be graded to drain to CB.
- Figure 1 shows an example CB insert.
- Proof of ongoing CB insert maintenance shall be kept on site indicating at the minimum, insert type, operator name, activity date, and activity type. Refer to Provision No. 8 of the Final SUSMP.

Vehicle/Equipment Wash Area (If included)

- Self-contained, equipped with a clarifier and rain diversion system (Appendix G) and properly

connected to a sanitary sewer. A plumbing permit from Department of Building and Safety will be required for the clarifier. IWD permit will be required from the Bureau of Sanitation – Industrial Waste Management Division for sewer connection.

Fueling Area (If included)

- Must be covered with an overhanging roof structure or canopy with dimensions equal or greater than the area with the grade breaks and must not drain onto the fuel dispense area. Area shall be graded to drain to catch basin.
- Must be paved with Portland cement concrete and extend 6.5 feet from the corner of each fuel dispenser.
- Must have a 2% to 4% slope to prevent ponding and have a grade break to prevent run-on of stormwater.
- Figure 2 shows a fuel island illustration.

Outdoor Material Storage Area (If included)

- Must be placed in an enclosure or bermed (secondary containment). The berm height shall be ½ inch.
- Must be paved to contain leaks and spills.

Loading/Unloading Dock Area (If included)

- Must be covered and designed to avoid stormwater run-on or runoff.

Trash Storage Area (If included)

- Must be screened or walled to prevent off-site transport of trash.

*SIC Codes:	5013 – Motor Vehicle Supplies & New Parts
	5014 – Tires & Tubes
	5541 – Gasoline Service Stations
	7532 – Top, Body, & Upholstery Repair & Paint Shops
	7533 – Automotive Exhaust System Repair Shops
	7534 – Tire Retreading & Repair Shops
	7536 – Automotive Glass Replacement Shops
	7537 – Automotive Transmission Repair Shops
	7538 – General Automotive Repair Shops
	7539 – Automotive Repair Shops, Not Elsewhere
	Classified

Figure 1
Example Catch Basin Insert

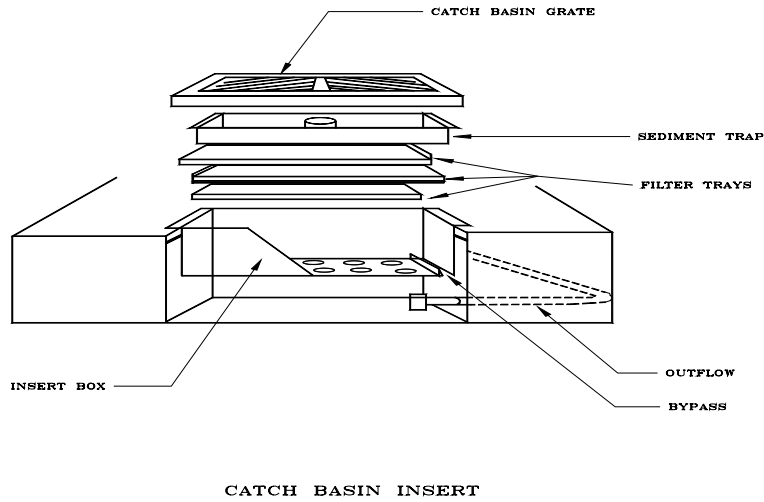
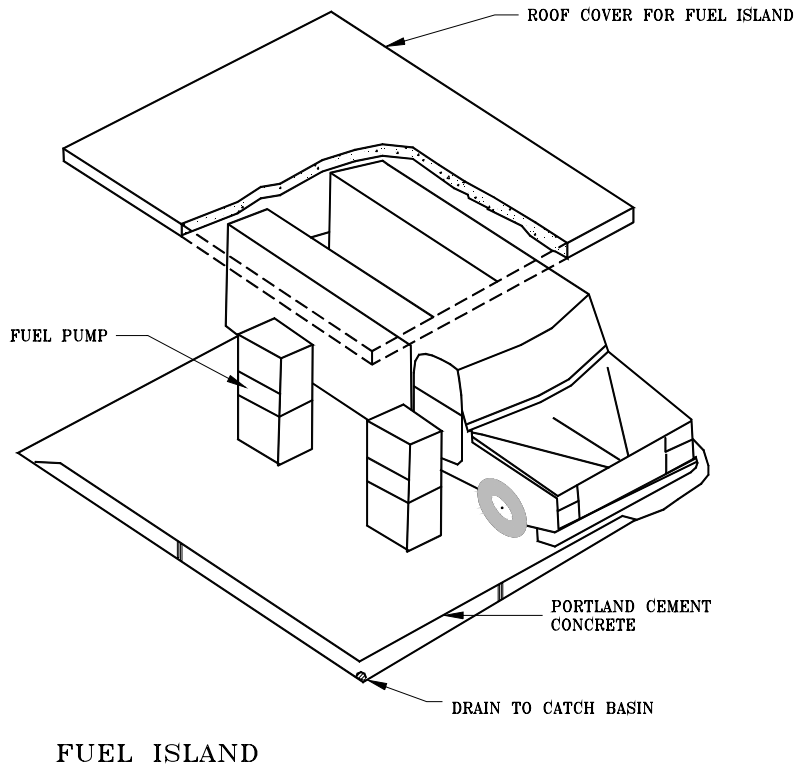


Figure 2
Fuel Island Illustration



CITY OF LOS ANGELES – STORMWATER PROGRAM
Prescriptive Method
Standard Urban Stormwater Mitigation Plan

PARKING LOTS

OBJECTIVE

The prescriptive method described in this bulletin meets the minimum requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) for a parking lot \geq 5,000 square feet (sf) but not more than 20,000 sf, or \geq 25 parking spaces but not more than 50 parking spaces. As a prescriptive method, all requirements specified herein shall be incorporated into the development plan. Should an alternate method of compliance or an alternate product/manufacturer be used, the applicant shall prepare a site-specific plan indicating the alternate and its details. Such plan must be submitted for review and approval.

REQUIREMENTS

Site Drainage

The site drainage alternatives for a parking lot development can include one, or a combination of, the following: an infiltration trench, a hydrodynamic system, or a catch basin (CB) with filter insert. The infiltration trench or CB with filter insert, if selected, shall be used for every 5,000-sf area. The hydrodynamic system shall be used for lot areas up to 20,000-sf. The site shall be graded to drain to the drainage system.

- Hydrodynamic system can be one of the following:
 - StormCeptor® 450i (StormCeptor® Corp., Web Site: <http://www.csrstormceptor.com>)
 - Vortechincs™ 1000 (Vortechincs, Inc., Web Site: <http://www.vortechincs.com>)
 - Jensen® Interceptor JPHV-750 (Jensen® Precast, Web Site: <http://www.jensenprecast.com>)
 - V2B1™ V2-3 (Environment 21, Web Page: <http://www.env21.com>)

Infiltration BMPs

Limitations in the use of infiltration BMPs exist due to the potential for groundwater and soil contamination, settlement, and slope instability. The factors that influence the potential for contamination include pollutant mobility, pollutant abundance in stormwater, and pollutant solubility. The San Fernando Valley groundwater basin is a significant source of drinking water for the cities of Los Angeles, Burbank, and Glendale. Infiltration BMPs should be implemented in a manner that protects this drinking water source from contamination. Soil contamination occurs when hazardous substances mix with the soil and can be harmful to animals, plants, and humans. Slope instability and settlement are commonly caused by saturation and/or seepage forces within soil or bedrock.

Infiltration BMPs must **not** be used if any one of the following site conditions exists:

- Groundwater table/depth beneath the site is less than 10 feet below ground surface.
- Site soil lithology consists primarily of clay and/or silt resulting in low infiltration rates.
- Project is located in an industrial area that has a General Industrial Activities Storm Water Permit (GIASP) or in an area of industrial activity, including but not limited to, those categorized in the State of California NPDES General Permit for Discharge of Stormwater Associated with Industrial Activities (SWRCB, 1997).
- Project receives or has a potential to receive stormwater from areas subject to high vehicular traffic activity (25,000 or greater average daily traffic [ADT] on main roadway or 15,000 or more ADT on any intersecting roadway).
- Project is located in a hillside area, or an area subjected to slides and unstable soils.

If the developer pursues an infiltration BMP, at a minimum, the following information must be provided:

- Percolation tests or other data to confirm infiltration rate and capacity of the soil

- Design and location of the infiltration devices, highlighting distance from adjoining buildings and property lines
- Depth to groundwater
- Proposed land use
- Infiltration under certain conditions may be a violation of Chapter 70 of the City of Los Angeles Building Code. If so, a Modification of the Building Ordinance must be obtained from the Department of Building and Safety. Applicants must address the affects of infiltration on the stability of the surrounding slopes and settlement of the surrounding soil.
- For projects located within the San Fernando Valley groundwater basin, provide a Phase I Environmental Site Assessment (ESA) Records Check, signed by a licensed professional, that includes the following:
 - Historic land use (50 + years), including storage or processing of toxic materials (see County Hall of Records “Chain of Title”)
 - Location of existing and removed underground tanks (see RWQCB)
 - History of leaks or spills of toxic materials
 - Existing soil and groundwater contamination (see RWQCB)
 - Distance to nearest drinking water production well (contact Upper Los Angeles River Area [ULARA] Watermaster)

Infiltration Trench

- The infiltration trench configuration shall follow the specifications indicated in Figures 1 through 4. The primary components shall consist of the following:
 - Trench shall be 5'4" wide by 4'6" deep and 15' in length
 - Bottom infiltration layer shall be 18" thick & consist of fine sand
 - Top infiltration layer shall be 3' thick & consist of ¾ inch clean and washed gravel free of organic material. The gravel shall be placed in lifts and compacted per ASTM D-1557.
 - Geotextile fabric filter liner
 - Shall contain a vegetated buffer 10' wide at inflow side and cable concrete mat as shown in Figures 1 and 5.
 - Two inch diameter observation well (cap secured with lock) located at center of trench
 - Overflow inlet
 - Inflow curb openings for sheet flow to the trench
 - Figure 5 shows an example infiltration trench
- Single grating CB with filter insert. CB shall be in accordance with the City of Los Angeles Standard Plan S-355-0 with depth modified to accommodate drainage elevations. Minimum depth of CB insert shall be 24 inches. Figure 6 shows an example CB insert. CB filter insert can be either of the following:
 - Aqua-Guard™ (AquaShield/Remedial Solutions, Inc., Web Site: <http://www.aquashieldinc.com>)
 - Ultra-Urban™ Filter Series DI2020 (Abtech Industries, Inc., Web Site: <http://www.abtechindustries.com>)
 - DrainPac™ (United Stormwater, Inc., Web Site: <http://www.unitedstormwater.com>)
 - Enviro-Drain® (Enviro-Drain®, Inc., Web Site: <http://www.enviro-drain.com>)
- Proof of ongoing system maintenance shall be kept on site indicating at the minimum, type of system, operator name, activity date, and activity type. Refer to Provision No. 8 of the Final SUSMP.

Outdoor Material Storage Area (If included)

- Must be placed in an enclosure or bermed (secondary containment). The berm height shall be ½ inch.
- Must be paved to contain leaks and spills.

Trash Storage Area (If included)

- Must be screened or walled to prevent off site transport of trash
- Must be paved to mitigate spills.

FIGURE 1
Infiltration Trench Configuration

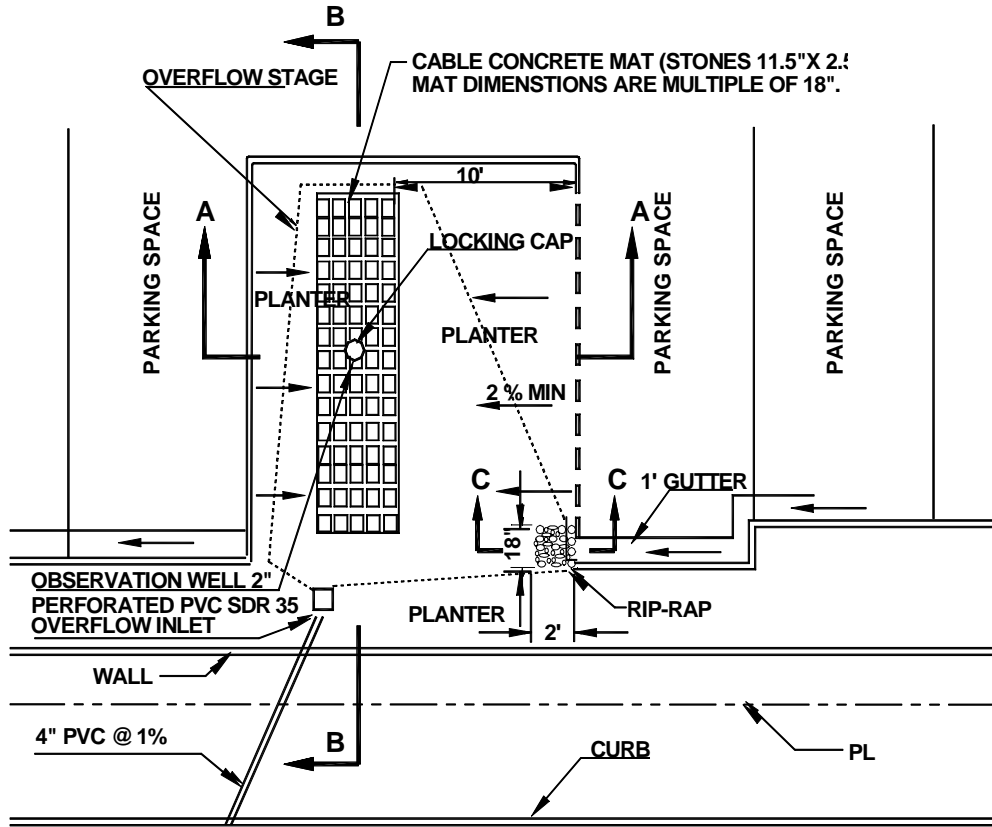


FIGURE 2

Infiltration Trench Configuration (Section A-A)

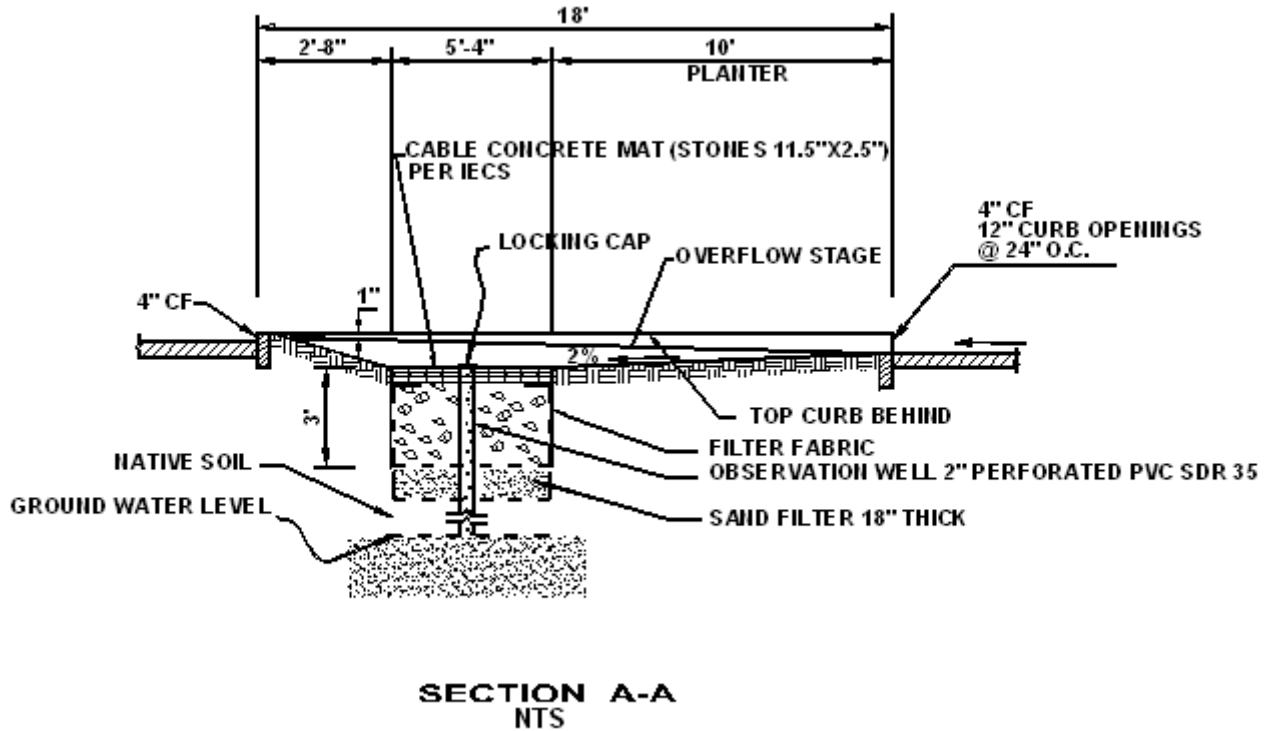


Figure 3

Infiltration Trench Configuration (Section B-B)

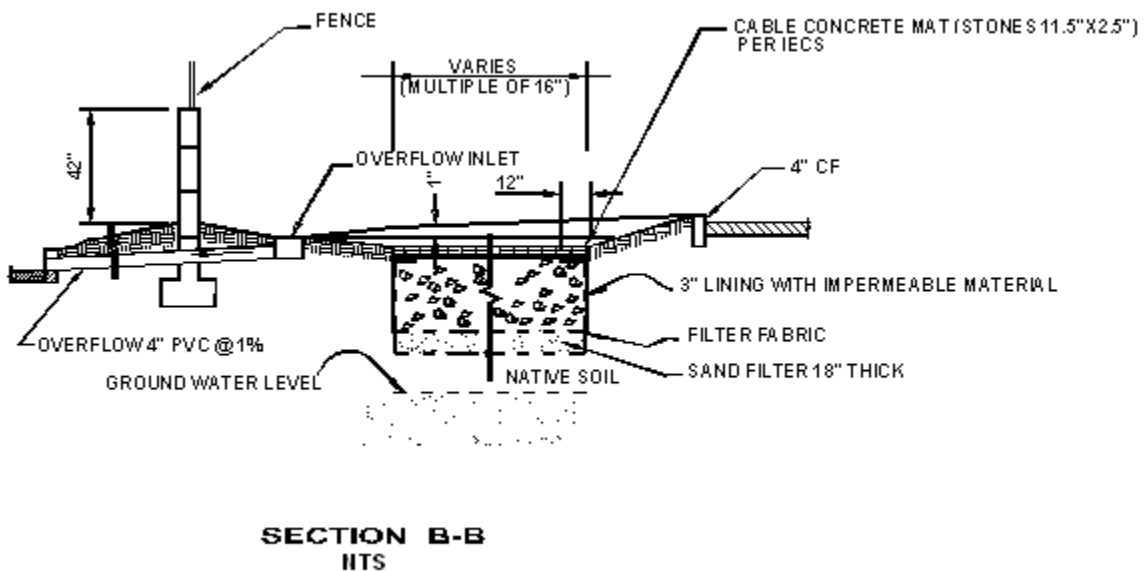
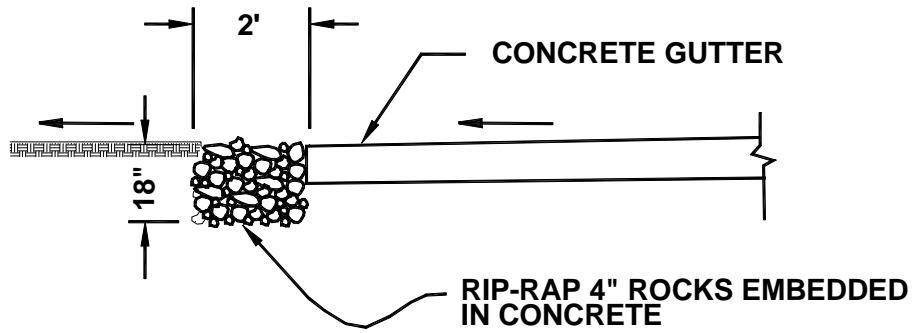


Figure 4
Infiltration Trench Configuration (Section C-C)

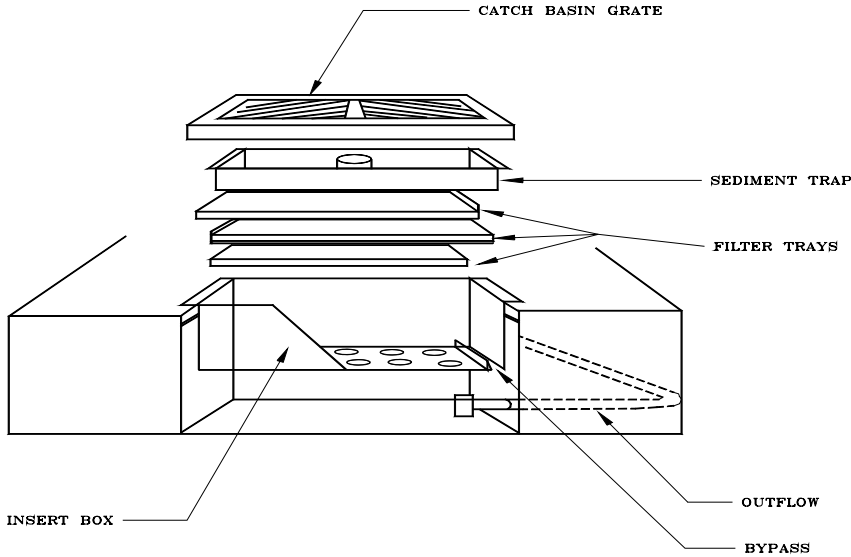


SECTION C-C
NTS

Figure 5
Example Infiltration Trench



Figure 6
Example Catch Basin Insert



CATCH BASIN INSERT

CITY OF LOS ANGELES – STORMWATER PROGRAM
Prescriptive Method
Standard Urban Stormwater Mitigation Plan

RESTAURANTS

OBJECTIVE

The prescriptive method described in this bulletin meets the minimum requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) for a “stand alone” restaurant (SIC Code 5812 – Eating Places). As a prescriptive method, all requirements specified herein shall be incorporated into the approved development plan. Should an alternate method of compliance or an alternate product/manufacture be used, the applicant shall prepare a site-specific plan indicating the alternate and its details. Such plan must be submitted for review and approval.

REQUIREMENTS

Equipment/Accessory Wash Area

- For indoor wash area, provisions shall be made to properly connect to a sanitary sewer. For sewer connection, obtain Industrial Waste Discharge permit from Department of Public Works - Bureau of Sanitation – Industrial Waste Management Division.
- For outdoor wash area, area shall be bermed (berm height shall be ½ inch), equipped with a grease trap and rain diversion system, and connected to the sanitary sewer. A plumbing permit from Department of Building and Safety will be required for grease trap. IWD permit will be required from the Bureau of Sanitation – Industrial Waste Management Division for sewer connection. Refer to Appendix G of the *Development Planning Handbook* for the rain diversion system description.

Outdoor Material Storage Area (If included)

- Must be placed in an enclosure or bermed (secondary containment). The berm height shall be ½ inch.
- Must be paved to contain leaks and spills.

Trash Storage Area (If included)

- Must be screened or walled to prevent off-site transport of trash.
- Must be paved to mitigate spills.