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DRAINAGE FACILITY OPERATION AND MAINTENANCE

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and storm water that may contain certain pollutants. Consequently these pollutants may accumulate in the system and must be removed periodically. In addition, the systems must also be maintained to function properly hydraulically to avoid flooding. Maintaining the system may involve the following activities:

Inspection and Cleaning of Stormwater Conveyance Structures

Controlling Illicit Connections and Discharges

Controlling Illegal Dumping

MODEL PROCEDURES:

1. Inspection and Cleaning of Drainage Facilities

General Guidelines

- ✓ Annually inspect and clean drainage facilities as needed. Maintain appropriate records. This information should be used to determine problem areas that may need to be checked more often.
- ✓ Remove trash and debris as needed from open channels and properly dispose of these materials (at an approved landfill or recycling facility). It should be noted that major debris removal may require other regulatory permits prior to completing the work.
- ✓ Conduct annual visual inspections during the dry season to determine if there are problem inlets where sediment/trash or other pollutants accumulate.
- ✓ Eliminate any discharges that may occur while maintaining and cleaning any municipal drainage facilities.
- ✓ Train crews in proper maintenance activities, including record keeping and disposal.
- ✓ Provide energy dissipaters (e.g. riprap) below culvert outfalls to minimize potential for erosion.

Storm Drain Flushing

- ✓ Flushing of storm drains or storm drain inlets should only be done in emergencies.
- ✓ If flushed, the material should be collected (vacuumed), treated with an appropriate filtering device to remove sand and debris and disposed of properly.

Waste Management

- ✓ Store wastes collected from cleaning activities of the drainage facilities in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- ✓ Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device to remove the sand and debris prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not permitted, water should be pumped or vacuumed to a tank and properly disposed of. Do not dewater near a storm drain or stream.

> ➔ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewering agency.*

OPTIONAL:

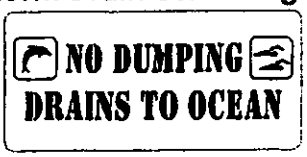
- Provide for laboratory analysis of at least one randomly collected sediment (less the debris) sample per year from the storm drain inlet cleaning program to ensure that it does not meet the EPA criteria for hazardous waste. If the sample is determined to be hazardous, the sediment must be disposed of as hazardous waste.

2. Controlling Illicit Connections and Discharges

Improper physical connections to the storm drain system can occur in a number of ways, such as overflow cross-connects from sanitary sewers and floor drains from businesses like auto shops and restaurants. Illicit discharges and illegal connections can generally be detected and investigated through a combination of programs and approaches that target a variety of pollutants and sources.

- ✓ Report prohibited discharges such as dumping, paint spills, abandoned oil containers, etc. observed during the course of normal daily activities so they can be investigated, contained, and cleaned up.
- ✓ Conduct field investigations to detect and eliminate existing illicit connections and improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).
- ✓ Report all observed illicit connections and discharges to the 24-hour water pollution problem reporting hotline (714) 567-6363.
- ✓ Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.

Storm Drain Stenciling



Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets.

✓ Implement a storm drain stenciling program.

OPTIONAL:

- Create a volunteer work force to stencil storm drain inlets; municipal staff must organize, market, and provide training to initiate the volunteer program:
  - Promote volunteer services through radio/television and mail-out campaigns.
  - Educate businesses and residents about storm water pollution, the storm drain system, and the watershed and provide information on alternatives such as recycling, household hazardous waste disposal, and safer products.

3. Controlling Illegal Dumping

Illegally dumped wastes can cause storm water and receiving water quality problems as well as clog the storm drain system itself. Non-hazardous solid wastes may include garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded solid or semi-solid waste provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentration which exceed applicable water quality objectives or could cause degradation of waters of the state.

Field Investigation

✓ Report prohibited discharges such as dumpings observed during the course of normal daily activities so they can be investigated, contained and cleaned up.

✓ Conduct field investigations to detect and eliminate improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).

✓ Report all observed illicit connections and discharges to the 24-hour water pollution problem reporting hotline (714) 567-6363.

✓ Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.

OPTIONAL:

- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.

Training/Education/ Outreach

✓ Annually train municipal employees to recognize and report illegal dumping.

✓ Encourage public reporting of illegal dumping by advertising the 24-hour water pollution problem reporting hotline (714) 567-6363.

OPTIONAL:

- Educate the public with public education materials such as a hotline and/or door hanger (door hangers are placed on the front doors in neighborhoods where illegal dumping has occurred to inform the reader why illegal dumping is a problem, and that illegal dumping carries a significant financial penalty).
- Educate the public through volunteer water quality monitoring programs. Volunteers can be trained to notice and report the presence and suspected source of an observed pollutant to the appropriate public agency.

LIMITATIONS:

Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

REFERENCES:

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