6.0 MUNICIPAL COMPONENT

6.1 INTRODUCTION

Section 6.0 of this SWMP addresses requirements in sections of the Municipal Permit that the Authority has determined are relevant to the Municipal section of the Existing Development Component. These sections are: D.3.a.(1 - 8), and J.1.a.3.(e)i - x.

Municipal Permit Sections D.3.a.(1) and J.1.a.3.(e)i require that the Authority annually update a watershed based inventory of municipal areas and activities that could generate pollutants and the significant materials in or generated by those areas. Table 6-1 and Sections 6.2.2, 6.3.2, 6.4.2, 6.5.2, 6.6.2, and 6.7.2 have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(2) and J.1.a.3.(e)ii and iii require that the Authority designate, describe and implement pollution prevention methods and BMPs for all municipal areas and activities. Sections 6.2.3, 6.3.3, 6.4.3, 6.5.3, 6.6.3, and 6.7.3, and Appendix B have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(3) and J.1.a.3.(e)v require that the Authority properly operate, inspect and maintain its MS4s and structural controls. Sections 6.2.3 and 6.2.4, and BMPs SC17 and TC01 in Appendix B have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(4) and J.1.a.3.(e)vi require that the Authority implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides, and fertilizers from municipal areas and activities to MS4s. Sections 6.3.3 and 6.3.4, and BMPs SC06, SC09, SC10, SC18, SC19, and SR01 in Appendix B have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(5) and J.1.a.3.(e)vii require that the Authority implement sweeping programs for roads and parking facilities designed to reduce pollutant discharges to its MS4s to the MEP. Section 6.4 and BMPs SC12 and SC16 in Appendix B have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(6) and J.1.a.3.(e)viii require that the Authority implement controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventative maintenance of the MS4 that will include overall sanitary sewer and MS4 surveys and thorough, routine preventative maintenance of both. Section 6.5 and BMPs SC01, SC11, SC17, and SR01 in Appendix B have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(7) and J.1.a.3.(e)ix require that the Authority inspects high priority municipal areas and activities annually, with other municipal areas and activities inspected as needed, and implement all follow-up actions necessary to comply with the Municipal Permit. Sections 6.6, 6.7 and 7.2.4 - Facility Inspections have been prepared to satisfy this requirement.

Municipal Permit Sections D.3.a.(8) and J.1.a.3.(e)x require that the Authority enforces its stormwater ordinance for all municipal areas and activities as necessary to comply with the Municipal Permit. Section 2.4 has been prepared to satisfy this requirement.

Municipal Permit Section J.1.a.3.(e)iv requires that the Authority describes the steps that will be taken to require and verify the implementation of designated BMPs at municipal facilities and activities. Sections 7.2.4 - Facility Inspections and 13.0 have been prepared to satisfy this requirement.

6.1.1 OVERVIEW OF MUNICIPAL AREAS AND ACTIVITIES

This section outlines the information presented in the remainder of Section 6 regarding the municipal source areas and activities conducted by the Authority at SAN, and the associated significant materials, that could generate stormwater pollutants. The Municipal Permit requires discussion of specific municipal activities, namely: 1) the storm drain system and associated structural controls; 2) the management of pesticides, herbicides, and fertilizers; 3) the sweeping of municipal areas; 4) the infiltration from the sanitary sewer system into the storm drain system and preventive maintenance for both systems; 5) activities deemed high priority by the Municipal Permit or determined to be high priority by the Authority. The following subsections discuss each of these activities in the same general order.

The operation of the airport is also subject to the General Industrial Permit. Many of the activities classified as municipal activities by the Municipal Permit are also considered to be industrial activities by the General Industrial Permit. As such, many of the municipal activities discussed below are also detailed in Section 7 of this SWMP, which discusses the Industrial and Commercial Component. For instance, inspection and maintenance of the storm drain system is discussed in both sections, as well as pesticide, herbicide, and fertilizer management and the sweeping of municipal areas. It should be noted that the Authority does not currently own or operate any flood control devices.

The municipal areas and activities are prioritized according to the threat to water quality as deemed so by the Municipal Permit or as determined by the Authority. The inventory and the prioritization will be updated annually. The Authority uses a standardized process to determine the potential threat to water quality for municipal areas and activities. The areas and activities are prioritized as a high or low threat to water quality based on several factors, including: Municipal Permit definitions, the nature of the activities, the location, exposure to stormwater or precipitation, the materials used and wastes generated, pollutant discharge potential, non-stormwater discharges, past performance and discharges, size of operation / facility, applicability of the General Industrial Permit, and other relevant factors. Of the municipal areas / activities defined as high priority by the Municipal Permit, only the following are applicable to SAN:

- Roads and parking facilities;
- A closed municipal landfill;
- Corporate yards (used for maintenance or storage of materials, waste, equipment, and vehicles);

- Special event venues; and
- Power washing.

Table 6-1 presents the inventory of municipal areas and activities / operations at SAN. As shown in the table, only the landscaped areas of the facility grounds and the buildings are identified as low priority threats to surface water quality. Each of the remaining land uses and areas listed in Table 6-1 are defined as high priority threats to surface water quality by the Municipal Permit.

Municipal airfields are defined as high priority by the Municipal Permit. That particular area / activity has not included in the bullet list above, simply because the entire jurisdiction of the Authority is an airfield and subject to the General Industrial Permit, and as such, the whole of this SWMP fully describes stormwater management at SAN (a municipal airfield). The remainder of Section 6 provides detailed information on:

- the storm drain system and associated structural controls, Section 6.2;
- the management of pesticides, herbicides, and fertilizers, Section 6.3;
- the sweeping of municipal areas, within the discussion of roads and parking lots, Section 6.4;
- the infiltration from the sanitary sewer system into the storm drain system and preventive maintenance for both systems, Section 6.5;
- the high priority area of the closed NTC landfill, Section 6.6; and
- the high priority area / activity of special event venues, Section 6.7.

Section 6.2 provides the most complete description of the program elements required by the Municipal Permit Copermittees Standardized Format, with each subsequent element referencing the relevant portions of Section 6.2. Again, given the overlap between the Municipal Permit and the General Industrial Permit, this SWMP provides more discussion of roads and parking facilities, sweeping of municipal areas, the closed NTC landfill, the Authority's corporate yards, and power washing in Section 7.

6.2 OPERATION AND MAINTENANCE OF MS4 AND STRUCTURAL CONTROLS

6.2.1 BACKGROUND

As required by Section D.3.a.(3) of the Municipal Permit, the Authority has implemented a schedule of inspection and maintenance activities for the entire storm drain system (MS4) within its jurisdiction and control, including any structural controls designed to reduce pollutant discharges to or from its storm drain system and related drainage structures. The Authority's storm drain system consists of roads with drainage systems, curbs, catch basins, gutters, inlets, culverts, trench drains, and pipes of varying materials and widths. The structural treatment controls incorporated into the storm drain system by the Authority include 6 oil water separators (2 at the north ramp, 1 northeast of the Commuter Terminal, 1 down stream of both the vehicle/equipment and aircraft wash racks, 1 on the west ramp north of Terminal 2 West, and 1 in the Fuel Storage Facility (FSF)), 1 Vortechs hydrodynamic separator unit in the NTC Taxi Hold Lot, and numerous drain inlet inserts.

6.2.2 SOURCE CHARACTERIZATION

As indicated in Table 6-1, the Authority has 86,000 feet of storm drain pipe and 210 inlets. As a consequence of its function, the stormwater conveyance system collects and transports stormwater runoff at SAN that may contain certain pollutants if adequate BMPs are not being implemented or adequate inspections and maintenance of the storm drain system are not being performed. At SAN, these pollutants could include: sediment, trash and debris, oil and grease, hydrocarbons/fuels, hydraulic fluids, solvents, soap/cleaning fluids, lavatory chemicals and waste, paints, used batteries and battery acid, anti-freeze, hazardous wastes (mostly oils), metals, deicing chemicals, herbicides and pesticides, adhesives, rust preventers, aircraft fire fighting foam (AFFF), and sealants. Structural treatment controls that are not properly maintained can also be sources of sediment, oil and grease, trash and debris, and other associated pollutants such as metals.

6.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated BMP Requirements

The Authority conducts storm drain system inspection and maintenance activities on a year-round, as-needed basis, with a major storm drain system inspection and cleaning program scheduled annually, in the dry season, May 1 through September 30, in accordance with the Municipal Permit. These activities include inspection and cleaning, as necessary, of storm drain system components, proper disposal of sediment and debris removed from the storm drain system, and implementation of measures to prevent waste discharges to receiving waters during these maintenance activities.

All oil water separators, except the west ramp oil water separator, have an alarm system. If the oily liquid reaches a certain level, or oil leaks to the ground, an alarm goes off. Alarms are checked weekly, and monthly inspections of all oil water separators are conducted. The FSF operator contracts with outside vendors to service their oil water separator and the 12,000-gallon wastewater UST annually. Annual sampling is done on the effluent side of the oil water separator. Facilities Maintenance performs or contracts for inspection and

maintenance of the remaining oil water separators. Service companies are contracted to pump out the oil water separators on an as-needed basis.

The Vortechs hydrodynamic separator unit that is located in the NTC Taxi Hold Lot is inspected and maintained according to the manufacturer's recommendations, but at least annually.

A contractor to the Authority maintains a series of drain inlet inserts in the rental car lot, cell phone parking area, cargo area, across from the triturator, and the California least tern nesting area. These are cleaned every three months in the dry season. During the wet season they are cleaned monthly and after any rain event.

The Authority's BMP category SC17 "Storm Drain Maintenance" and TC01 "Treatment Controls" cover BMPs aimed at mitigating pollutant sources from the operation and maintenance of the storm drain system and from structural treatment controls. Descriptions of these BMPs can be found in Appendix B.

6.2.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. For more details on staff training, see Section 10.0.

Maintenance Inspections

Both the Authority Environmental Affairs Department and the Facilities Maintenance Department inspect the storm drain system as part of their routine facility inspections. Nearly two-thirds of the airport tenants also perform some inspections, either sporadically or as part of their own routine facility inspections. Airport tenants also share in maintaining the storm drains by working to prevent dirt and trash from entering the storm drain system.

In general, the Environmental Affairs Department inspects all municipal operations. The inspections conducted include: 1) quarterly inspections, 2) municipal land use area-specific inspections, and 3) a comprehensive annual inspection conducted once during the fiscal year. All areas of municipal land use and activity, the associated sources of stormwater pollution, and authorized non-stormwater discharges will be visually inspected during the quarterly inspections and unauthorized discharges will be noted, as described in Section 7.2.4 - Facility Inspections. Inspections are designed to ensure that site specific BMPs are properly implemented and maintained. The program includes timely follow-up inspections whenever BMP deficiencies are found at any particular site.

The following inspection procedures and maintenance indicators (established by Caltrans, 2003) are used as a guide to establish when maintenance of oil water separators under the control of the Authority is required.

1. Prior to the wet season, inspect for sediment accumulation in the pre-separator and / or separator chambers, and if it is greater than 12 inches deep, remove the accumulated material (for example, with a vactor truck), characterize it, and properly dispose of it.

2. Prior to the wet season, inspect for oil accumulation in the oil chamber, and if it is more than 50 percent of the chamber volume, remove the oil and grease, characterize it, and properly dispose of it.

3. Inspect coalescer for debris and gummy deposits. If these are present, wash the coalescer in an appropriate area with high pressure hot water.

4. Inspect for general mechanical integrity per manufacturer's guidelines at least annually and operate each mechanical component to ensure proper operation. Repair as needed.

5. Record all inspection, maintenance, characterization, and disposal activities.

Although Caltrans recommends annual inspections, the monthly inspections by the Authority will be continued to establish trends in operating conditions of the SAN oil water separators. CASQA recommends cleaning of water quality inlets (which includes oil water separators) at least twice during the wet season, however, the schedule again depends on the operating conditions of the SAN oil water separators

Administrative Controls

The following standard procedures will be incorporated into all storm drain system maintenance and cleaning activities:

- Appropriate recordkeeping of all maintenance activities. The inspection and waste removal records will contain the following information as appropriate:
  - The date and time the inspection was performed,
  - Name of the inspector,
  - Items inspected,
  - Location of facility inspected or cleaned,
  - Condition of facility,
  - Overall amount (estimated in volume or dry weight) of material removed,
  - Type(s) of materials removed,
  - Disposal site(s),

- Problems noted,
- Illegal / Illicit connection detected,
- Corrective action required,
- Date corrective action was taken,
- Photographs (digital or 35mm),
- Additional field notes,
- Drawings and maps.

- Appropriate disposal of the waste removed pursuant to applicable laws will also be incorporated into the maintenance and cleaning activities. If wastes are suspected of containing hazardous materials, they will be sampled to determine if there are any special handling and / or disposal needs.

- Appropriate practices will be implemented to ensure that maintenance and cleaning activities will not discharge wastes into the downstream storm drain system. The practices include: gravelbagging / berming, capturing any runoff from hydro-cleaning, use of material beneath waste piles to prevent seepage of liquids, covering waste piles to prevent water or wind transport of wastes, and blocking off downhill drainages and inlets to prevent entry of maintenance or cleaning wastes.

- Non-emergency storm drain system facility repairs and construction will generally be scheduled to take place between May 1 and September 30 (dry season).

- Emergency repairs to storm drain system facilities will be completed on an as-needed basis, regardless of time of year.

Direct Implementation of BMPs

The Authority has established a quarterly inspection and cleaning program for the storm drain system that includes cleaning as necessary following inspections of all catch basins, inlets, trench drains, and open channels. This is done using a hose, which is pointed upstream, after "pig plugs" are installed at all t-connections upstream and downstream. Debris is pushed downstream after bouncing off the plug and is vacuumed up using an HVAC. The debris is disposed of at the dewatering bin in the trash compactor area. Records are kept of these activities, including manpower hours spent on the activity and volume or weight of material removed, as described below. In addition to the annual cleaning, maintenance of catch basins or inlets will be conducted if accumulated trash and debris is greater than 33 percent of design capacity, with any open channels cleaned of litter in a timely manner.

Compliance Assessment

Compliance assessments are conducted as part of the inspections described in Section 7.2.4 - Facility Inspections.

Facility Inspections and Improvements

Inspections or investigations of the storm drain system will determine whether any subsequent improvements need to be made. If so, these need to be brought forth through the capital improvement program and Authority Board budget approval process described in Section 12.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

In compliance with the Municipal Permit, if the Authority determines that the incident does endanger human health or the environment, then the Authority will provide verbal notification to the RWQCB within 24 hours from the time the Authority becomes aware of the circumstances. Within 5 days of the time the Authority becomes aware of the circumstances, the Authority will provide the RWQCB with a written submission containing a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For RWQCB notifications required under the General Industrial Permit, see Section 7.2.4 - Reporting of Industrial Non-Filers and Incidents of Non-Compliance.

Annual Reporting

On or before September 30 of each year, beginning in 2008, the Authority will generate an Annual Report which describes the implementation of its jurisdictional activities during the annual reporting period (July 1 to June 30). The Municipal Permit Annual Report will be a comprehensive description of all activities conducted by the Authority to meet all requirements of each component of section D of the Municipal Permit. In addition to a discussion of the efforts directed at inspection and maintenance of the storm drain system, the Annual Report will also at a minimum contain the following information regarding implementation of the Municipal Component of this SWMP:

1. Any updates to the municipal inventory and prioritization;

2. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events;

3 A description of inspections and maintenance conducted for municipal treatment controls;

4 Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned;

5 Identification of the total distance (feet) of the storm drain system, the distance of the storm drain system inspected, the distance of the storm drain system found with accumulated waste exceeding cleaning criteria, and the distance of the storm drain system cleaned;

6 Identification of the total distance (feet) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned;

7 Amount of waste and litter (tons or cubic yards) removed from catch basins, inlets, the storm drain system, and open channels, by category;

8 Identification of any storm drain system facility found to require inspection less than annually following two years of inspection, including justification for the finding;

9 Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities;

10 Identification of the total distance of curb-miles of improved roads and streets within the Authority's jurisdiction, as well as the frequency of sweeping conducted;

11 Identification of the total distance of curb-miles swept;

12 Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping;

13 Amount of material (tons or cubic yards) collected from street and parking lot sweeping;

14 A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the storm drain system;

15 Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections;

16 A description of the general results of the inspections;

17 Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance;

18 The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken; the discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance;

19 A description of notable activities conducted to manage urban runoff from municipal areas and activities, including the evaluation of data from the dry weather monitoring and trash assessment programs to determine program modifications.

6.3 MANAGEMENT OF PESTICIDES, HERBICIDES, AND FERTILIZERS

6.3.1 BACKGROUND

As required by Section D.3.a.(4) of the Municipal Permit, the Authority is required to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides, and fertilizers from municipal areas and activities to the storm drain system. Important municipal areas and activities associated with these potential pollutants at SAN include municipal facility structures/building and landscaped areas. This section and Section 7.2.2 discuss these potential pollutant sources and the BMPs implemented by the Authority to reduce or eliminate impacts to the storm drain system.

The Authority Facilities Maintenance Department maintains the 12.5 acres of landscaping at the airport. The landscaped areas are planted with a combination of California-native grasses, shrubs, trees, and palms. These native species are drought tolerant, generate smaller amount of plant litter and debris, and require the application of less fertilizers, pesticides, and herbicides to maintain than other exotic plants. The Airport uses Hybrid Bermuda grass on all turf areas. The grass is self-repairing and requires one-third less water than normal fescue-type lawns and less maintenance. Any clippings that are generated during maintenance are left on the turf as an organic fertilizer, reducing the amount of green waste generated and the amount of fertilizer needed. Examples of the types of shrubs that are used on airport grounds are bougainvillea, trailing lantana, and New Zealand flax. Floss silk, Kaffir bloom Coral, and Canary Island Pines are the types of trees used in landscaping, along with Mexican Fan Palms and Canary Island Palms. Maintenance of these plants typically generates less green waste than other plants that previously adorned the airport grounds. All of the green waste collected from landscape maintenance activities is recycled into mulch and compost.

The Authority Facilities Maintenance Department has implemented an integrated pest management (IPM) program that encourages methods of pest control that use natural processes and chemicals and that limit the need for man-made biocides. The IPM program promotes the use of native plant species in the landscaped areas and around structures/

buildings to: 1) control pests without the need for pesticides and herbicides; 2) help minimize the application of fertilizers; and 3) limit the need for irrigation. In addition to encouraging minimal use of man-made biocides, the IPM program also ensures the Facilities Maintenance Department properly uses and disposes these chemicals. The Facilities Maintenance Department also maintains a minimal inventory of these chemicals as part of the IPM program. The department strives to purchase only the amount of these chemicals that are needed to reduce waste. Any unused fertilizers, pesticides, and herbicides are properly disposed. The department files a "Monthly Summary Pesticide Use Report" with the State of California Department of Pesticide Regulation stating the amount of pesticides or herbicides used during the period. A copy of the report is also provided to the Authority Environmental Affairs Department.

6.3.2 SOURCE CHARACTERIZATION

The Authority generally uses pesticides and/or herbicides to control pest and weeds. The Facilities Maintenance Department stores small amounts outdoors within secondary containment at the runway generator area. Although the use of pesticides and herbicides at the airport does not result in significant discharges to the ground, during rainfall events, pesticide and herbicide residuals that accumulate at the application sites can be washed into the storm drain system. However, based on the small quantities used at the airport, this activity appears to present a low potential for impacting stormwater discharge.

6.3.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated BMP Requirements

BMPs applicable to the management of pesticides, herbicides, and fertilizers by the Authority are summarized in Appendix B and include BMP categories SC06 "Outdoor Loading/Unloading of Materials," SC09 "Building and Grounds Maintenance," SC10 "Employee Training," SC18 "Housekeeping," SC19 "Safer/Alternative Products," and SR01 "Spill Prevention, Control, and Clean-up."

6.3.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. In addition, the Facilities Maintenance Department staff attend an annual mandatory training session on proper pesticide and herbicide storage, application, and disposal. For more details on staff training, see Section 10.0.

Maintenance Inspections

In general, the Environmental Affairs Department inspects all municipal operations, as described in Sections 6.2.4 and 7.2.4 - Facility Inspections. The Facilities Maintenance Department also regularly inspects the pesticide, herbicide, and fertilizer storage areas as part of their normal routine.

Compliance Assessment

Compliance assessments are conducted as part of the inspection program described in Section 7.2.4 - Facility Inspections.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

For RWQCB notifications requirements and procedures, see Section 6.2.4 - RWQCB Notifications.

Annual Reporting

For annual reporting requirements, see Section 6.2.4.

6.4 ROADS AND PARKING FACILITIES

6.4.1 BACKGROUND

As required by Section D.3.a.(5) of the Municipal Permit, the Authority has implemented a schedule of maintenance activities for the Authority's sweeping programs designed to reduce pollutant discharges to its storm drain system. This section deals with road and parking facility sweeping only. The Authority's program for ramp sweeping is described in Section 7.2.3 - Pollution Prevention Programs, Ramp Sweeping.

6.4.2 SOURCE CHARACTERIZATION

Littering by the general public can create trash and debris pollutants in public parking facilities at SAN. Any erosion from landscaped areas within parking lots can produce sediment pollutant sources. Fluid leaks from vehicles on roads or in parking facilities are a potential source of pollutants such as oils, fuel, antifreeze, etc. Atmospheric deposition (fallout from automobile emissions and other sources), vehicle use and emissions, asphalt and concrete surfaces, and peeling or crumbling paint from parking lot painting can introduce particulate copper and zinc into the storm drain system at SAN. The physical removal of particulates due to attachment to fine particulates (in particular the binding of heavy metals from outdoor road and parking lot facility surfaces to fine grain sediment) may lessen the pollutant load transferred to receiving waters.

6.4.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated BMP Requirements

The entities responsible for implementing BMPs for roads and parking facilities are the Authority, the parking lot management service provider, the FSF operator, the refueling operators, and the FBO. The parking lot management service provider manages the public

short-term and some of the long-term parking facilities at SAN, and sweeps Authority employee parking lots. The FSF operator has a small employee parking area within the boundaries of their facility, and the FBO has a parking lot for customers at their facility, as well as a fuel tanker parking area. One of the refueling operators has a parking area, used solely for parking of the fuel tankers trucks that refuel the aircraft, and is located next to their wash rack and maintenance shop. The Authority's BMP category SC16 "Parking Lots" covers BMPs aimed at mitigating pollutant sources in parking areas, and category SC12 "Outdoor Washdown/Sweeping (Apron Washing, Ramp Scrubbing)" covers BMPs aimed at mitigating pollutant sources in not only ramp areas, but also from roads. Descriptions of these BMPs can be found in Appendix B.

Additional Controls for Municipal Areas and Activities

Additional controls have been added to parking lot facilities, specifically, a Vortechs unit and storm drain inlet inserts. The Vortechs hydrodynamic separator unit is located in the paid-public NTC Parking Lot and is inspected and maintained according to the manufacturer's recommendations, but at least annually. In addition, a series of drain inlet inserts in the car rental lot, cell-phone parking area, cargo area, the California least tern nesting area, and between the triturator and the blast fence are regularly inspected and cleaned (see Section 6.2). These structural treatment controls mitigate pollutants such as sediment, oil and grease, gross pollutants (i.e., trash and debris), and any associated pollutants such as particulate and particulate-bound metals.

6.4.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. For more details on staff training, see Section 10.0.

Maintenance Inspections

Inspection of roads, parking lots, and curbs for cleaning is continuous. Authority and tenant employees are encouraged to identify areas that should be cleaned and to contact Facilities Maintenance. In general, the Environmental Affairs Department inspects all municipal operations, as described in Sections 6.2.4 and 7.2.4 - Facility Inspections.

Administrative Controls

The following standard procedures will be incorporated into all road and parking facility maintenance and cleaning activities:

- Appropriate recordkeeping of all maintenance activities. The inspection and waste removal records will contain the following information as appropriate:
    - The date and time the inspection was performed,
    - Name of the inspector,
    - Items inspected,

- Location of facility inspected or cleaned,
- Condition of facility,
- Overall amount (estimated in volume or dry weight) of material removed,
- Type(s) of materials removed,
- Disposal site(s),
- Problems noted,
- Illegal / Illicit connection detected,
- Corrective action required,
- Date corrective action was taken,
- Photographs (digital or 35mm),
- Additional field notes,
- Drawings and maps.

- Appropriate disposal of the waste removed pursuant to applicable laws will also be incorporated into the maintenance and cleaning activities. If wastes are suspected of containing hazardous materials, they will be sampled to determine if there are any special handling and / or disposal needs.
- The Authority's Storm Water Code (see Appendix F) in Section 8.74 requires the Authority, or any persons owning or operating parking lots or impervious surfaces used for similar purposes, to clean the areas frequently and thoroughly and to prevent discharge of pollutants to the storm drain system by removing sweepings and debris.

Direct Implementation of BMPs

Sweeping

A contractor is hired by the Authority to sweep the roads into and out of the airport (Monday through Friday, 1 am - 4 am). The roadways to the main vehicle access gates, vehicle service road, and paved area around the ARFF facility (where there is a small parking lot) are swept on an as-needed basis. As necessary, sweepers or other clean up crews respond to requests to collect debris and / or sweep roads, including emergencies. The debris / sweepings are vacuumed up into the sweeping unit and are disposed of in the regular trash dumpster near the maintenance shop in Terminal 2. The parking lot management service provider sweeps

the terminal parking lots daily using motorized sweeper unit, and the employee parking lots are swept weekly. As mentioned in Section 6.2.3 and 6.3.3 above, a Vortechs unit and drain inlet inserts have also been implemented as structural treatment control BMPs in parking facilities. The maintenance of these units is described in Section 6.2.

Compliance Assessment

Compliance assessments are conducted as part of the inspections described in Section 7.2.4 - Facility Inspections.

Roads and Parking Facilities Inspections, Repairs, and Improvements

Inspection of roads, parking lots, and curbs is continuous. Where repairs are required in parking lots, minor parking lot repairs are performed by the parking lot management service provider. However, major maintenance work would likely be contracted out. The Authority is responsible for any repairs to the roads and other than minor repairs to parking lots, and conducts those repairs as follows:

- Pavement installation and / or sealing operations shall not be performed during rain events or during any period for which the National Weather Service is forecasting a 50% chance of precipitation at Lindbergh Field. These restrictions do not apply to pavement grinding or removal operations.

- Protect storm drain inlets and manholes during paving operations, including the application of seal coat, tack coat, slurry seal, or fog seal. Storm drain inlets, including slit trenches, within 10 yards of the work area must be covered with spill pads and / or mats or otherwise protected to prevent discharges of solid and liquid materials and waste to the storm drain system. Storm drain inlet protection devices will be regularly inspected for proper installation by those persons performing the work. All protection devices will be removed when no longer needed.

- During rain events, stockpiles of "cold mix" asphalt (premixed aggregate and asphalt binders) shall be completely covered.

- During rain events, stockpiles of soil and / or debris, and / or rubble, and / or base materials shall be covered or protected with a temporary perimeter sediment barrier.

- Waste and debris generated by pavement cutting activities shall be collected / vacuumed immediately, properly disposed of, and prevented from entering the storm drain system.

- Work sites shall be kept clean at all times. Dry cleanup methods (for example, vacuuming, sweeping, dry rags) will be used when and where possible. Use of water will be kept to the minimum necessary to perform tasks. All water hoses will be equipped with positive shutoff type nozzles.

- All products and / or by-products of asphalt release agents (such as citrus, soy-based, or diesel) used for cleaning and coating of equipment shall be captured and reused, recycled, and / or disposed of properly. Asphalt release agents shall not be discharged to the storm drain system.

- Pavers and other paving equipment shall be cleaned over absorbent pads, drip pans, plastic sheeting, or other material to collect residual cleaning wastes. Remove and dispose of collection materials properly.

- "Water used for cleaning and washing must be collected and disposed of properly. The Authority Environmental Affairs Department should be contacted to discuss options (619-400-2782).

- All products used to clean surfaces must be approved for use by the Authority Environmental Affairs Department (619-400-2782) prior to application.

- All waste shall be disposed of properly. The site shall be policed for litter daily and all litter shall be disposed of properly.

- No solid and / or liquid materials, and / or waste shall be discharged to the storm drain system.

- Equipment will be maintained in good working conditions to minimize leaks and drips.

- All containers used to hold fluids will be kept in leak-proof condition.

- Spill cleanup materials will be readily available at the work area.

- All spills will be cleaned up immediately, provided it is safe to do so.

For concrete repair and / or installation operations, including concrete cutting, these activities shall not be performed during rain events or during any period for which the National Weather Service is forecasting a 50 percent chance of precipitation at Lindbergh Field. While these restrictions apply to concrete cutting activities, the restrictions do not apply to the actual digout or removal operations. The Authority is responsible for any concrete repairs, and conducts those repairs as follows:

- Protect storm drain inlets and manholes during concrete repair and / or installation operations. Storm drain inlets, including slit trenches, within 10 yards of the work area must be covered with spill pads and / or mats, or otherwise protected to prevent discharges of solid and liquid materials and waste to the storm drain system. Storm drain inlet protection devices will be regularly inspected for proper installation by those persons performing the work. All protection devices will be removed when no longer needed.

- During rain events, dry-powder concrete mixing products (such as Readymix and Portland cement) shall be stored under cover or be completely covered.

- During rain events, stockpiles of soil and / or debris, and / or rubble, and / or base materials shall be covered or protected with a temporary perimeter sediment barrier.

- Slurry, waste, and debris generated by concrete cutting activities shall be collected / vacuumed immediately, properly disposed of, and prevented from entering the storm drain system. Sufficient, yet minimal, amounts of water shall be used to allow for capture and removal of all cutting slurry and debris.

- Work sites shall be kept clean at all times. Dry cleanup methods (for example, vacuuming, sweeping, dry rags) will be used when and where possible. Use of water will be kept to the minimum necessary to perform tasks. All water hoses will be equipped with positive shutoff type nozzles.

- If tools, equipment, and / or trucks are to be cleaned onsite, then concrete washout facilities will be provided and maintained for cleaning all tools, equipment, and trucks. Alternatively, liquid waste can be contained in buckets or drums with tight-fitting lids for transport and proper disposal offsite. Washout facilities may be above or below grade. Facilities shall be at least 50 feet away from natural drainages or man-made drainage structures. Facilities will be maintained with a minimum 12" freeboard and be cleaned or replaced when the washout is 75% full. No overflow from concrete washouts is permitted to runoff site or into the storm drain system. Onsite washout facilities shall be covered during rain events. All concrete washout debris shall be disposed of properly.

- Water used for cleaning and washing must be collected and disposed of properly. Contact the Authority Environmental Affairs Department to discuss options (619-400-2782).

- All products used to clean surfaces must be approved for use by the Authority Environmental Affairs Department (619-400-2782) prior to application.

- All waste shall be disposed of properly. The site shall be policed for litter daily and all litter shall be disposed of properly.

- No solid and / or liquid materials and / or waste shall be discharged to the storm drain system.

- Equipment will be maintained in good working conditions to minimize leaks and drips.

- All containers used to hold fluids will be kept in leak-proof condition.

- Spill cleanup materials will be readily available at the work area.

- All spills will be cleaned up immediately, provided it is safe to do so.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

For RWQCB notifications requirements and procedures, see Section 6.2.4 - RWQCB Notifications.

Annual Reporting

For annual reporting requirements, see Section 6.2.4 - Annual Reporting

6.4.5 ROADS AND PARKING FACILITIES EFFECTIVENESS ASSESSMENT

The Authority has developed internal and external effectiveness assessment programs to evaluate the Authority staff, Authority boards, and tenant compliance with water quality issues. The Authority's Effectiveness Assessment component is described in Section 13.0 of this document. Section 13 includes a discussion of the Roads and Parking Lot Facilities element of the Authority's stormwater management program.

6.5 INFILTRATION FROM SANITARY SEWER TO MS4/PREVENTATIVE MAINTENANCE

6.5.1 BACKGROUND

The Authority does not own or manage a municipal sanitary sewer system, and therefore, is not subject to Section D.3.a.(6) of the Municipal Permit. The City of San Diego Metropolitan Wastewater Department (MWWD) provides municipal sanitary sewer service to the airport. However, the Authority is responsible for those portions of the on-site sanitary sewer system that connect to the MWWD system. As such, the Authority has implemented controls and measures to prevent and eliminate infiltration of seepage from airport sanitary sewers to the storm drain systems through thorough routine inspection and preventative maintenance of the sanitary sewer system and inspection of the storm drain system. In general these measures will also identify issues related to the municipal sanitary sewer system operated by MWWD. Issues related to the municipal sanitary sewer system will reported to and resolve in coordination with MWWD. The Authority Facilities Maintenance Department and Facilities Development Department oversee a thorough programmed maintenance process for inspection, maintenance, repair, and upgrade of physical plant structures at SAN, including the sanitary sewer syste.

6.5.2 SOURCE CHARACTERIZATION

Infiltration from sanitary sewers to the storm drain system may be caused by several factors, including a lack of structural integrity. Most infiltration scenarios are the result of spills, leaks, and overflows. Spills, leaks, and inadequate overflow control response and containment can result in the following potential pollutants: sediments, nutrients, bacteria, organics, and oxygen demanding substances.

6.5.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated Bmp Requirements

The constant surveillance at SAN includes the routine daily inspection of the airport terminals, runways, and airside operations by the Airside Operations Supervisors. These inspections are one element of the Illicit Discharge Detection and Elimination program, since any environmental issues are both reported to the Environmental Affairs Department and captured in the SAN daily log.

The Authority must implement controls identified in the SAN SWMP that have been designed to limit infiltration into the stormwater conveyance system from the sanitary sewer system and to prevent and respond to sewage spills. The Authority's BMP categories SC01 "Non-Storm Water Management", SC11 "Lavatory Service Operation", SC17 "Storm Drain Maintenance" and SR01 "Spill Prevention, Control and Cleanup" cover BMPs aimed at mitigating pollutant sources from sewage spills or seepage. Descriptions of these BMP can be found in Appendix B of this document.

6.5.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. For more details on staff training, see Section 10.0.

Maintenance Inspections

The Authority's preventive and corrective sanitary sewer maintenance programs focus heavily on those areas of known problems or concerns. Known problem areas typically consist of the lines immediately downstream of food services, which have a tendency to be impacted by grease. For all locations, the Authority provides for or requires the food service provider (as a requirement of the lease) to conduct the minimum of annual routine monitoring, inspection, and cleaning. When system malfunctions do occur, such as stoppages, the cause of the problem is investigated and analyzed. Maintenance schedules are then adjusted accordingly. If necessary, repairs are initiated by Authority maintenance crews or the food service provider, as appropriate. If appropriate, the infrastructure component is referred for repair or replacement by maintenance crews. Larger, more complex issues generally become recommendations for capital improvement projects as part of the Authority budget planning and approval process (described in Section 12 of this SWMP).

As noted in Section 6.2 above, both the Authority Environmental Affairs Department and the Facilities Maintenance Department inspect the storm drain system as part of their routine facility inspections. Nearly two-thirds of the airport tenants also perform some inspections, either sporadically or as part of their own routine facility inspections. In the event that any infiltration from the sanitary sewer into the storm drain system is observed or suspected, the Authority will investigate the source of the sewage. The Authority will conduct any required maintenance or repair on the on-site lateral lines, and issues related to the municipal sanitary sewer system main lines will be reported to MWWD. The Authority will coordinate with MWWD, as necessary.

In general, the Environmental Affairs Department inspects all municipal operations, as described in Sections 6.2.4 and 7.2.4 - Facility Inspections.

Administrative Controls

The following standard procedures will be incorporated into all sanitary sewer system maintenance and cleaning activities:

- Appropriate recordkeeping of all maintenance activities. The inspections and waste removal records will generally contain the following information as appropriate:
  - The date and time the inspection was performed,
  - Name of the inspector,
  - Items inspected,
  - Location of facility inspected or cleaned,
  - Condition of facility,
  - Overall amount (estimated in volume or dry weight) of material removed,
  - Type(s) of materials removed,
  - Disposal site(s),
  - Problems noted,
  - Illegal / Illicit connection detected,
  - Corrective action required,
  - Date corrective action was taken,
  - Photographs (digital or 35mm),
  - Additional field notes,
  - Drawings and maps.

- Appropriate practices will be implemented to ensure that maintenance and cleaning activities will not discharge wastes into the storm drain system. The practices include: gravelbagging / berming, capturing any runoff from cleaning activities, use of material beneath waste piles to prevent seepage of liquids, covering waste piles to prevent water or wind transport of wastes, and blocking off downhill drainages and inlets to prevent entry of maintenance or cleaning wastes.

Direct Implementation of BMPs

The Environmental Affairs Department conducts monthly inspections of the entire facility and the aboveground portions of the storm drain system during the wet season (October 1-May 31). These inspections are designed to identify unauthorized stormwater discharges and to ensure that BMPs are being implemented properly and operating as designed. The Environmental Affairs Department also conducts visual observations for authorized and/or unauthorized non-stormwater discharged on a quarter-annual basis.

Non-stormwater discharges and potential illicit discharges are monitored through the Dry Weather Monitoring Program. The program features designated monitoring locations and frequencies, field screening/sampling procedures, data interpretation techniques, and follow-up investigation and reporting procedures. For more details refer to Sections 3 and 9 of this document.

For aircraft sewage, the waste is emptied from the aircraft into mobile lavatory trucks and then into the sewer system at the triturator via a connection hose. If there are spill incidents, the Airside Operations Department or the Environmental Affairs Department documents the incident, requires corrective action if necessary, and monitors implementation of any required corrective actions.

Compliance Assessment

Compliance assessments are conducted as part of the inspections described in Section 7.2.4 - Facility Inspections.

Facility Inspections and Improvements

Inspections or investigations of the stormwater conveyance system will help identify any improvement needed for the sanitary sewer system or the storm drain system. If sanitary sewer system lateral pipe improvements are required, the improvements may be initiated by Authority maintenance crews or the food service provider, as appropriate. Recommendations for capital improvement projects become part of the Authority budget planning and approval process (described in Section 12 of this SWMP) and need to be approved by the Authority Board. Sewer main improvements to the municipal sanitary sewer system are the responsibility of MWWD.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

For RWQCB notifications requirements and procedures, see Section 6.2.4 - RWQCB Notifications.

Annual Reporting

For annual reporting requirements, see Section 6.2.4.

6.6 CLOSED LANDFILL

6.6.1 BACKGROUND

As required by Section D.3.a.(7) of the Municipal Permit, the Authority is required to inspect high priority municipal areas and activities, including active or closed municipal landfills. This section discusses the potential pollutant sources and BMPs implemented to mitigate pollutants to the storm drain system from the closed NTC landfill area.

6.6.2 SOURCE CHARACTERIZATION

The Authority has sole responsibility for stormwater management at the closed NTC landfill. Other than maintenance of the site as a closed landfill, the main activities now conducted at the closed landfill involve the staging of materials and bulky recyclable parts (mostly metals and plastic). Materials are generally covered and/or on wooden pallets and/or placed in dumpsters, as necessary. It should also be noted that there are both landfill gas monitoring and groundwater monitoring systems installed at the closed landfill site. Potential pollutants of concern in the closed NTC landfill area include trash, debris, metals, and sediment.

6.6.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated BMP Requirements

BMPs applicable to outdoor materials and waste storage by the Authority are summarized in Appendix B and include BMP categories SC07 "Outdoor Material Storage" and SC08 "Waste Handling and Disposal".

6.6.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. For more details on staff training, see Section 10.0.

Maintenance Inspections

In general, the Environmental Affairs Department inspects all municipal areas/activities/operations, as described in Sections 6.2.4 and 7.2.4 - Facility Inspections. The Environmental Affairs Department also conducts site-specific inspections of the closed NTC Landfill portion of SAN on a quarterly basis.

Compliance Assessment

Compliance assessments are conducted as part of the quarterly site-specific landfill inspections and the inspection program described in Section 7.2.4 - Facility Inspections.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

For RWQCB notifications requirements and procedures, see Section 6.2.4 - RWQCB Notifications.

Annual Reporting

For annual reporting requirements, see Section 6.2.4.

6.7 SPECIAL EVENT VENUES

6.7.1 BACKGROUND

As required by Section D.3.a.(2)(f) of the Municipal Permit, the Authority requires the implementation of additional controls for special events that are expected to generate significant trash and litter. Section D.3.a.(7) of the Municipal Permit also requires the Authority to inspect high priority municipal areas and activities, including special event venues. This section discusses the potential pollutant sources and BMPs implemented to mitigate pollutants to the storm drain system from special event venues.

6.7.2 SOURCE CHARACTERIZATION

The size of the several parking lots at the airport, along with the general public's familiarity with the location, makes the airport a potential venue for large special events. Although rare, some large events (such as the Rock-n-Roll Marathon) have made use of the Authority's parking areas. Potential pollutants of concern generated by large special events are trash, litter, and debris.

6.7.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Updated BMP Requirements

BMPs applicable to the proper management of special event venues are summarized in Appendix B and include BMP categories SC06 "Outdoor Loading / Unloading of Materials," SC08 "Waste Handling and Disposal," SC09 "Building and Grounds Maintenance," SC10 "Employee Training," SC12 "Outdoor Washdown / Sweeping (Apron Washing, Ramp Scrubbing)," SC16 "Parking Lots," SC18 "Housekeeping," and SR01 "Spill Prevention, Control, and Clean-up."

Additional Controls

Special events sponsored / coordinated by Authority staff and / or airport tenants are required to implement the BMPs listed above. If the special event sponsors / coordinators are not Authority staff or airport tenants, they must generally obtain Authority approval in the form of a "use permit." The conditions of the "use permit" typically include: fencing and barricades as necessary to delineate event area; appropriate signage regarding recycling, trash disposal, and stormwater pollution prevention; adequate number of recycling containers and trash cans; portable restrooms, as necessary; adequate number of on-site event management staff

to monitor and control trash and litter; adequate number of on-site event staff to promptly cleanup after event; street sweepers, as necessary.

6.7.4 PROGRAM IMPLEMENTATION

Education and Staff Training

All Authority staff attend an annual mandatory SWMP training session to cover items such as prohibited discharges, inspections, spill response, good housekeeping, implementation of BMPs, and record keeping procedures. For more details on staff training, see Section 10.0.

Maintenance Inspections

In general, the Environmental Affairs Department inspects all municipal operations, including special event venues, as described in Sections 6.2.4 and 7.2.4 - Facility Inspections.

Compliance Assessment

Compliance assessments are conducted as part the inspection program described in Section 7.2.4 - Facility Inspections.

Enforcement Measures

For enforcement measures, see Section 2.4.

RWQCB Notifications

For RWQCB notifications requirements and procedures, see Section 6.2.4 - RWQCB Notifications.

Annual Reporting

For annual reporting requirements, see Section 6.2.4.

6.8 MUNICIPAL COMPONENT EFFECTIVENESS ASSESSMENT

The Authority has developed internal and external effectiveness assessment programs to evaluate the Authority staff, Authority boards, and tenant compliance with water quality issues. The Authority's Effectiveness Assessment component is described in Section 13.0 of this document.

6.9 MUNICIPAL COMPONENT PROGRAM REVIEW AND MODIFICATION

The Authority has reserved this section to identify and document future changes to the Municipal Component of the SWMP. Section 14.0 of this SWMP details the program modifications made to the *SWMP January 2005-Revision* to bring this document into compliance with the renewed Municipal Permit.