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# INTRODUCTION

This Storm Water Management Plan has been drafted to meet the requirements of Sewerage and Water Board of New Orleans' (SWBNO) Municipal Separate Storm Sewer System (MS4) permit issued by USEPA's Region VI. This permit has been created by the USEPA under the National Pollutant Discharge Elimination System (NPDES) to address the water quality issues associated with the storm water runoff from the drainage areas included in the MS4 permit. Previous NPDES Storm Water Permit Applications, Storm Water Management Plans and monitoring results are available as reference materials at the SWBNO office and may be used when background information is required to complete any of the measurable goals contained in the Storm Water Management Plan.

The SWBNO is the lead agency for the Municipal Separate Storm Sewer System (MS4) Discharge Permit, NPDES Permit No. LAS000301 (permit), and is responsible for some storm water management activities in a land area that is almost identical to the City of New Orleans (City), a copermittee. For this reason, SWBNO works very closely with the City to ensure the combination of their responsibilities cover all aspects of storm water management outlined in the permit. In addition to meeting the requirements of the permit, this Storm Water Management Plan will cover the symbiotic relationship between the responsibilities of the SWBNO and the City as they meet and sometimes overlap to accomplish compliance and ultimately water quality protection through storm water management activities. Through biannual meetings with all of the copermittees, coordination between the LAS000301 copermittees will remain a priority over the permit term. These meetings will be conducted to discuss any permit coordination issues that may arise during the term.

In order to provide some perspective on the unique nature of this type of permit for the SWBNO, this introduction provides a brief description of the drainage and flood control system that comprises the portion of the MS4 that is the SWBNO's responsibility. The SWBNO's primary functions are to provide drainage, drinking water and sewerage services to the City of New Orleans. Their staff equipment, funding and expertise revolve around these three primary, water-related functions. The permit has requirements for storm water activities that fall outside of the SWBNO's capabilities and expertise, such as roadway maintenance and zoning ordinances. The permit responsibilities falling outside of SWBNO's scope of services are covered by the City.

***Storm Water Drainage System***

Most of the land surface within the City is at or below sea level elevations and is entirely surrounded by flood protection levees. The flat terrain and ring of levees has created a "saucer" effect in the drainage

basin. All rain that falls inside the saucer, averaging nearly 60 inches annually, must be moved to the edges and lifted over the levees. Otherwise, widespread flooding would occur throughout the City even during moderate rainfalls. Therefore, the City has, over the years, designed and constructed several high capacity pump stations to convey collected storm water runoff within the storm water drainage system to waters of the United States.

The City's drainage system consists of three components; (1) subsurface gravity storm sewer pipes, (2) large drainage canals, and (3) large pumping stations. The subsurface drainage pipes, which are the first component of the system, collect and convey the storm water from the various drainage areas of the City to the drainage canals. These large canals work together as a network to store the runoff and distribute it to the pumping stations. Ultimately, all storm water runoff is pumped out of the drainage system and into the surrounding bodies of water, such as Lake Pontchartrain, which are generally tidal waters.

The SWBNO drainage system serves approximately 73,700 acres of industrial, commercial and residential areas through hundreds of miles of canals and major drainage pumping stations. The drainage system's service area is bounded on the north by Lake Pontchartrain, on the west and south by Jefferson Parish, and on the east by brackish marshes. The system is subdivided into four main basins – the Old City, New Orleans East, the Lower Ninth Ward, and the West Bank (Algiers/Lower Coast). The West Bank is bordered by the Mississippi River, Plaquemines Parish and Jefferson Parish.

# SECTION 1 Structural Controls and Storm Water Collection System Operation

## 1.1 Program Description

In accordance with State and Federal requirements, the Sewerage and Water Board of New Orleans (SWBNO) has developed a Phase I compliant and community-specific Storm Water Management Program (SWMP). The SWBNO's SWMP includes some Structural and Source Control Measures, as the SWBNO has ownership and maintenance responsibility for those areas of Municipal Separate Storm Sewer Systems (MS4). This section outlines the SWBNO's procedures for inspection, maintenance, and documentation for their structural controls.

SWBNO uses many programs to control discharges from its storm water collection system. These programs include structural controls and non-structural controls, such as source controls and operational best management practices. Structural controls are used to increase the hydraulic capacity of the storm water drainage system. Non-structural controls address source control and elimination to reduce pollutants entering the storm water drainage system. Non-structural controls include periodic cleaning operations and monitoring programs.

## 1.2 SWBNO Jurisdiction

The SWBNO is responsible for the design, construction and operation and maintenance of all storm water drainage canals and pump stations within the MS4 boundary with the exception of two underpass pumping stations that are the responsibility of the Louisiana Department of Transportation and Development (LDOTD). There are 22 Drainage Pumping Station and 13 underpass stations in the City with a pumping capacity over 29 billion gallons a day. The LDOTD exceptions are located on the west bank at the General DeGaulle underpass at the Mississippi River Bridge ramps and on the East Bank at the Pontchartrain Expressway at the Southern Railroad tracks and Metairie cemeteries. The SWBNO's drainage network also includes approximately 90 miles of open canals and 90 miles of subsurface canals.

The City is responsible for the operation and maintenance of remaining structural controls in the MS4, including storm water catch basins, drop inlets and drainage lines 36" and below.

## 1.3 Inspection and Maintenance

The SWBNO Departments of Networks Operations Division and Support Services ensure that the extensive infrastructure of manmade canals and drainage pumping stations are operating properly in order

to prevent flooding and minimize contaminated storm water runoff during rain events. Inspections and maintenance are conducted on a routine basis and as needed in response to citizen complaints.

Department of Support Services personnel visually inspect major, open drainage canals once per quarter. During these inspections, canal bank failures due to shoulder erosion and other maintenance issues are identified. The Department maintains an appropriate slope in all canal banks to prevent bank failure. In addition, canal banks and shoulders are seeded to prevent erosion.

Dredging operations are conducted using long-reach back hoes and excavation equipment. Large canals are dredged by SWBNO contractors on an as needed basis as part of Capital Improvement Programming.

Vegetation control on canal banks is performed through a combination of mowing and herbicide application. The vegetative control method selected for use at a site is dependent upon the site accessibility, the amount of vegetation to be controlled, the length of the growing season, and available resources and personnel. The Department of Support Services uses in-house personnel and private contractors to maintain canal banks. The private contractor properly disposes of all collected debris and litter.

The drainage pumping stations are equipped with coarse bar screens, or "trash racks," which protect the pumping equipment and provide a water quality benefit by removing floatables and other large debris prior to discharge into local waterways. The bar screens are cleaned either mechanically or manually to maintain adequate hydraulic conveyance through the screens. Debris from the screens is disposed of as solid waste at the landfill. Pumping Stations D, 6, 11, 14, 15, 19 and Jahncke will continue to provide a representative sample of screenings removed during each reporting period.

## 1.4 Measurable Goals

The **Department of Support Services** is responsible for open canals and conducts the following maintenance activities during each annual reporting year:

- Dredge open canals on a routine or as needed basis (as part of CIP) to prevent silt accumulation and maintain hydraulic flow.
- Repair, stabilize and reinforce canal bank failures caused by erosion or nutria damage.
- Inspect canals for silt build-up once per quarter through routine visual inspection by superintendents, cleaning crews, and grass cutters. Inspect all canals over the 5-year permit term.

- Maintain vegetation along the canals throughout the year using a combination of cutting and herbicide application.
- Clean the bar screens at the pumping stations on a routine, as needed basis. Provide screening quantities for above listed pump stations in the annual report.

During each annual reporting year, the **Department of Networks** is responsible for underground canals and conducts the following activities during each annual reporting year:

- Clean underground canals.

# SECTION 2 Areas of New Development and Redevelopment

## 2.1 Program Overview

The SWBNO's primary functions are to provide drainage, drinking water and sewerage services to the residents of the City and Orleans Parish. The regulatory mechanisms required to develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects fall outside of the SWBNO's jurisdiction and lie with the City.

Orleans Parish is responsible for implementing post-construction controls for areas of new development and significant re-development. Post construction pollutant control is governed by guidelines and amendments as set forth in the 1997 Building Code for the City, the adopted New Orleans 2030 Master Plan and the new draft Comprehensive Zoning Ordinance. See the City's SWMP for specific details regarding implementation of this measure.

## 2.2 Measurable Goals

In accordance with the adopted New Orleans 2030 Master Plan, (Volume 2, Chapter 12, Policy I.D). The Sewerage and Water Board will co author with other relevant city agencies a storm water management plan that will provide technical expertise, identify best management practices, and establish minimum requirements to control the adverse effects of storm water runoff for all new development and capital improvements.

During each annual reporting year, the **Engineering Department** is responsible for the following:

- Review SWBNO plans for post-construction controls as applicable to drainage, drinking water and sewerage projects one acre and above, SWBNO will provide a list of reviewed projects in the annual report.

During each annual reporting year, the **Department of Environmental Affairs** is responsible for the following:

- Refer all citizen complaints received by the SWBNO regarding areas of new development and redevelopment to the City for further action. SWBNO will provide a referral log detailing any complaints referred to the City for resolution.

# SECTION 3 Roadway System Maintenance

## 3.1 Program Overview

The SWBNO's primary functions are to provide drainage, drinking water and sewerage services to the residents of Orleans Parish. The staff and equipment required to operate and maintain public streets, roads and highways in a manner to minimize discharge of pollutants fall outside of the SWBNO's jurisdiction and lie with the City and LDOTD. The SWBNO's Department of Networks does restore the roadway after a street has been damaged due to a water or sewerage line repair. However, this function is very limited in scope, because the roadway is only restored in the area damaged during the line repair. See the City's or LDOTD's SWMP for specific details regarding implementation of this measure.

## 3.2 Deicing Activities

Roadways in the southern part of the State of Louisiana have very little need for deicing. Therefore, deicing and sanding activities are not common practices by SWBNO in the City or Orleans Parish. The rare deicing activities are predominantly conducted on either state or federal highways at overpasses and bridges. Deicing procedures on these roadways are the responsibility of the LDOTD.

## 3.3 Measurable Goals

The **Department of Networks** is responsible for the following during each annual reporting year:

- Conduct all roadway restoration activities after drinking water or sewerage line repair per the direction of the SWBNO Engineering Department and in a manner to minimize discharge of pollutants.
- Roadway restoration projects will be included in each annual report.
- Work with the SWBNO Engineering Department to use contract inspectors for roadway system projects as needed.

# SECTION 4 Flood Control Projects

## 4.1 New Flood Control Projects

Flood control projects are defined as projects occurring within the main transmission conduits, open or closed, and the associated drainage pumping stations (See **Appendix E** for basin maps and drainage pumping stations). Changes are made to the drainage system by the SWBNO in response to, or in preparation for, flood related hydraulic design criteria. Based on the performance of the drainage system as a whole, the projects which increase the capacity of either the canals or the pumping stations will reduce flooding. Additionally, these projects may affect the receiving waters of the MS4 and therefore should be assessed for potential water quality impacts.

## 4.2 Current and Future Projects

The intent of this section is to review the current and potential flood control projects and the mechanisms through which these projects are completed so that an assessment of how water quality impacts are considered could be made.

Most flood control projects are being constructed by the US Army Corps of Engineers (ACOE) under the Southeast Louisiana Urban Flood Control Program (SELA). SELA is a flood control program administered under a cooperative agreement with the ACOE to reduce flood damages in the City and surrounding parishes by constructing new pump stations and better drainage canals. Planning, design and construction of flood control projects are subject to permitting by the ACOE under Section 404 of the CWA and by the Louisiana Department of Natural Resources, Coastal Zone Management Division. SELA projects are reviewed by the ACOE for environmental impact at the reconnaissance stage and certified that the construction of the project and its future operation will not violate the statutory water quality standards of the state for the receiving waters. The program was authorized in 1996 by the United States Congress and administered under a project cooperation agreement between the SWBNO and the ACOE. The multi-phase program began in 1997, and includes projects such as:

- Hollygrove Pump Station and Canals
- Pump Station No. 1 Upgrade
- Napoleon Canal
- S. Claiborne Manifold Canal (Nashville to Louisiana)
- Dwyer Road Pump Station and Canals

The cost for these projects is $140 million, 75 percent of which will be federally funded. The SWBNO must pay the remaining 25 percent or $40 million.

## 4.3 Measurable Goals

The **Operations and Engineering Divisions** are responsible for the operation and maintenance of the individual pumping stations. As such, they are the lead departments for the following program element during each annual reporting year:

- Maintain the hydraulic capacity of the canals and pipes through dredging, cleaning, and where applicable, construction/renovation and maintenance of existing and new pumping stations.

# SECTION 5 Pesticide, Herbicide and Fertilizer Application

## 5.1 Purpose

The Pesticide, Herbicide and Fertilizer (PHF) Program was prepared to identify and describe practices and operating procedures employed by the SWBNO to minimize the discharge of pollutants to the MS4 from the storage and application of pesticides, herbicides and fertilizers. The SWBNO PHF Application Standard Operating Procedure that outlines additional program specifics can be found in **Appendix B**.

## 5.2 SWBNO Jurisdiction

SWBNO is responsible for vegetation control within the canal system and at SWBNO facilities within the MS4 boundary. However, the SWBNO is not responsible for vegetation control on roadways within the City limits. Furthermore, the LDOTD is responsible for vegetation control within State and Federal Highway rights-of-way.

## 5.3 Program Description

Under the SWBNO PHF Program, herbicide application is normally conducted in areas not accessible by mechanical equipment, during extreme growing seasons, and where there is a shortage of resources and/or personnel to mow. Departments that use herbicides follow all applicable state and federal regulations, and each department has a specialist certified by the Louisiana Department of Agriculture and Forestry. The following departments are involved, either directly or indirectly, in the maintenance of vegetation in and along drainage canals:

1. Department of Support Services
2. Department of Environmental Affairs

The Department of Support Services is the leading department for operation and maintenance of the canal system. As such, the Department is responsible for vegetation control within open drainage canals, including bottoms, slopes, and right-of-ways. Vegetation growth within the drainage canals is controlled to allow for maximum water flow. Herbicide spraying is performed along the canals periodically throughout the year in conjunction with cutting. Most of the spraying is performed by contractors and a small percentage by SWBNO personnel.

The Department of Environmental Affairs inspects SWBNO employees to evaluate operational best management practices and ensure compliance with applicable regulations. Inspections are conducted periodically on applications to SWBNO property during the spraying season and are recorded on an

Application Inspection Report Form. (See **Appendix A: Forms**) Any issues noted by the inspector are highlighted for further action before filing the reports. When problems are noted, they are reported to the applicator's supervisor for corrective action. If a complaint concerning an application on private property is reported, then the complaint is addressed by the agency with the most applicable jurisdiction which will be one or a combination of the following: the Department of Environmental Affairs, the City, and/or the Louisiana Department of Agriculture and Forestry. The Department of Agriculture and Forestry also performs random inspections of both public and private applications.

## 5.4 PHF Storage

All chemicals are stored indoors under lock and key. Storage facilities are ventilated and have the proper lighting for safe personnel movement. The storage facilities are operated in accordance with the Louisiana Department of Agriculture and Forestry regulations. New chemicals are ordered in quantities that can be used by the end of the spraying season. SWBNO personnel store herbicide products in their original containers, sealed tightly. However, if small volumes of chemical must be placed in a separate container, personnel take precautions to place them in compatible containers so that the ability of the container to store the material is not compromised. All containers are washed, triple rinsed, and split prior to disposal.

Personnel using PHFs carefully read and understand label directions before application, because product labels provide instructions for all phases of use. Chemicals are not applied at higher rates than recommended by the manufacturer. All containers bear a label that contains the following information:

1. Label information required by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), if a pesticide is subject to registration under law
2. Accepted common name
3. Name and percentage by weight of each active ingredient
4. Directions for use, such as application rates and methods
5. Cleanup, storage, and disposal instructions

## 5.5 PHF Application

Successful weed control requires application of the correct amount of herbicides uniformly over a targeted area. SWBNO personnel are instructed to closely follow application rates, as suggested by the manufacturer and take into account wind conditions to avoid "off target" damage to private property. As such, herbicides are not applied when wind velocities exceed five miles per hour (5 mph). Conventional

hoses and handguns are generally utilized to spray herbicides in areas with high traffic volumes. The potential for herbicide movement in surface water runoff to storm water is also considered prior to application. SWBNO personnel evaluate weather conditions to allow a minimum eight hours between a spray event and a forecasted rain event.

Fertilizers are not typically used on the canal system or other municipal property. The local climate and soil conditions are such that desirable vegetation grows quite easily without artificial nutrition.

## 5.6 PHF Storage and Disposal Practices

New chemicals are ordered in quantities that can be used by the end of the spraying season. All federal and state regulations governing use, storage and disposal of PHFs and training of pesticide applicators are always followed. PHFs are stored inside a protected area with impervious secondary containment (preferably indoors) so that spills or leaks will not contact soils. All containers are clearly and correctly labeled. Empty containers are triple rinsed and properly disposed of as recommended by the manufacturer. Rinsate is placed in the spray tank at the time of mixing to be applied at the next location being sprayed.

## 5.7 Personnel Training and Certification

SWBNO employees that apply PHFs as part of their job responsibilities will attend SWBNO general storm water pollution prevention training. The training should include how to recognize and report illegal connections or discharges, and the proper methods for cleaning up PHF spills or leaks. Additionally, all employees who handle or apply PHFs should also be trained on the most recent Material Safety Data Sheets (MSDSs).

SWBNO will also participate in the State of Louisiana Department of Agriculture and Forestry's program for certifying pesticide and herbicide applicators. The Department of Agriculture and Forestry requires commercial pesticide and herbicide applicators to be certified prior to engaging in pesticide or herbicide activities. This certification course, provided annually by the Department of Agriculture and Forestry, includes a general application class and a specific training class for the particular pesticide or herbicide application being certified as well as training in the safe and proper handling, storage and disposal of these chemicals. After successfully completing the training class and passing the course examinations, the applicant is issued a license and certification card appropriate to the training received. The license is valid for three years from the date of testing for the category certified. A refresher training course is mandatory

every three years to renew the license. If these requirements are not met, the applicator or inspector will lose the certification and would be required to repeat the training and examination process. Pesticide application must be done only under the supervision of a Certified Pesticide Applicator or Qualified Supervisor.

## 5.8 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Maintain the PHF license(s) of any currently licensed SWBNO employees.
- Conduct one PHF inspection of SWBNO facilities or contractors.

# SECTION 6 Illicit Discharges and Improper Disposal

## 6.1 Source Identification

SWBNO is the lead agency in sanitary sewer system operations and maintenance. The Networks Department has an ongoing program for prevention of unpermitted chronic dry and wet weather overflows from the sanitary sewer system. Through the SCADA system, sanitary sewer system leaks can be quickly identified for repair. Once identified, the Department implements their SOAP program (see Section 7.6) to respond to and eliminate, as soon as practicable, unforeseen episodic overflows from the sanitary sewer system.

The Department of Environmental Affairs conducts a dry weather screening program in conjunction with Support Services at outfalls in the open canal system to identify suspected illicit discharges, illegal connections and improper disposal. Additional information about this program can be found in Section 11.2.

SWBNO also has a citizen complaint line, 52-WATER, that can be used by citizens to report illicit discharges. The line was originally created to allow citizens to report drinking water and sewerage issues, but any complaint that is received is directed to the appropriate department or agency for action. By combining the citizen reporting system and the dry weather screening program, SWBNO has developed an effective way of identifying potential problems in the open canals and larger storm drainage system.

## 6.2 Investigation

SWBNO has limited legal authority to control discharges into the MS4. Section 16.1 of the Plumbing code has language to make discharging pollutants to the canal system and parts of the MS4 illegal and punishable by law. Specifically, Section 16.1 of the SWBNO Code outlines general prohibitions regarding discharges or runoff to the Storm Water Drainage system. Further, Section 16.5 in conjunction with the SWBNO Enforcement Response Plan outlines the penalty for violation of the rules, which may include termination of water service and/or monetary penalties.

The Department of Environmental Affairs responds to a wide range of citizen complaints that could impact storm water quality including sanitary sewerage concerns, air pollution, hazardous materials, fish kills, noxious odors, oil spills, medical waste disposal, dumpsters and illegal dumping. Complaints are investigated by environmental quality specialists and technicians and documented through complaint

forms. In some cases, it is referred to another, more appropriate agency to reach a resolution. For example, illicit discharges to the MS4 (excluding the canal system) may be referred to the City for enforcement action. Additionally, the Louisiana Department of Environmental Quality can analyze sampling results and impose fines to violators. In these situations, industrial and commercial entities under investigation are given approximately thirty days to eliminate the illicit discharge, obtain a Louisiana Pollutant Discharge Elimination System (LPDES) permit, or reroute the non-storm water discharge to the sanitary sewerage system.

If the incident falls under SWBNO jurisdiction, it may be resolved by educating the resident or business about proper disposal methods or marking the storm drains in the area. Additionally, the plumbing code provides some prohibitions on illicit discharges and investigators can also issue a Notice of Violation as an enforcement action. If the violations are not corrected, the offender may be fined in accordance with guidance in the SWBNO Enforcement Response Plan (**Appendix B**).

## 6.3 Measurable Goals

The **Networks Department** is responsible for the following activities during each annual reporting year:

- Gravity Sewer Inspection – Inspection of at least 9% of the system every year and 100% in eight years.
- Gravity Sewer Cleaning – Clean at least 7% of the system every year and 100% in 10 years.
- Gravity Sewer Manhole Inspections – Inspection of at least 25% of sewer manholes per year and 100% in 3.3 years.
- Force Main Isolation Valves – Inspect and exercise sewer force main isolation valves annually.
- Perform all preventive maintenance work for pumping stations within two weeks of scheduled date.

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Conduct preliminary investigations of citizen complaints received through the 52-WATER complaint line and direct the issue to the proper agency as needed.
- Perform windshield screening during dry weather to identify evidence of dry weather discharges into open drainage canals.
- Conduct windshield screening during wet weather to identify evidence of wet weather discharges into open drainage canals.

# SECTION 7 Spill Prevention and Response

## 7.1 Spill Prevention

SWBNO facilities and departments engage in spill prevention by implementing administrative, structural and non-structural best management practices and control measures. For many SWBNO facilities, such as wastewater treatment plants and vehicle maintenance facilities, the guidelines for the development and implementation of such BMPs and control measures are provided in Storm Water Pollution Prevention Plans (SWP3). The Department of Environmental Affairs initiates and reviews all updates to SWP3s for SWBNO facilities. The department also identifies facilities that require new plans and manages plan development. The SWBNO's spill prevention program includes industrial facility inspections to ensure private, permitted facilities have met permitting mandates for secondary containment, SWP3 and Spill Prevention Control and Countermeasure (SPCC) Plans.

The Networks Department has an ongoing program for prevention of unpermitted chronic dry and wet weather overflows from the sanitary sewer system. Through the SCADA system, sanitary sewer system leaks can be quickly identified for repair. Once identified, the Department implements their SOAP program (see Section 7.6) to respond to and eliminate, as soon as practicable, unforeseen episodic overflows from the sanitary sewer system.

## 7.2 Spill Prevention, Control and Countermeasure Plans

In accordance with federal and state regulations (40 CFR 112 and LAC 33:IX.9), facilities that use aboveground storage for an aggregate of 1,320 gallons or more of oil or other petroleum products must have an SPCC Plan. This plan establishes the requirements for contingency planning and implementation of operating procedures and best management practices to prevent unauthorized discharges (spills) of oil and hazardous substances into waters of the United States and to control such discharges, should they occur, to minimize the effects on the environment. The SPCC plans must be updated whenever there is a significant change in the materials storage and handling practices, or in the quantities or types of petroleum products stored, or at a minimum of once every five years.

## 7.3 Storm Water Pollution Prevention Plans

SWBNO facilities that require coverage under the LPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activities (Permit No. LAR050000) have Storm Water Pollution Prevention Plans (SWP3). An SWP3 describes the various actions a facility will undertake in order to prevent the contamination of storm water runoff. The SWP3 helps identify sources of pollution that may

impact storm water quality, and ensures the implementation of practices to reduce pollutants in storm water discharges.

One of the most important factors in developing the SWP3 is the evaluation of alternatives available to a facility to control the contamination of storm water. These alternatives might include administrative actions such as employee training or reporting and inspection procedures; non-structural controls such as sweeping and other good housekeeping practices; or structural alternatives such as secondary containment areas and storm water detention ponds. In order to develop the most cost-effective plan, the various alternatives must be considered for facilities individually, tailoring the facility SWP3 to the needs and requirements of the individual site.

## 7.4 Large and/or Hazardous Spill Response

A spill is considered large if it is greater than 55 gallons. Spills of hazardous materials, tanker accidents resulting in spills, and spills from bulk storage containers are part of this category. The majority of the time, the public will report these types of spills through 911. The City's Fire Department immediately responds to the 911 call to protect public health and safety by containing and removing the spilled material. While the City Fire Department will take the lead, other agencies may be involved in the spill response process. If the spill enters the MS4, SWBNO's Environmental Affairs Division and/or the City will be contacted as warranted by spill conditions to oversee the cleanup in their respective portions of the MS4 (City: all structures 36" and below , SWBNO: all structures 36" and larger plus the canals). Large or hazardous spills are normally referred to the Louisiana State Police (225.925.6595) and the City of New Orleans Emergency Preparedness Office.

It is difficult to write a procedure to cover all field scenarios that may exist and that consider variables such as site drainage, topography, risk to life and property, nature of hazardous materials, and provide predetermined written conclusions as to the best courses of containment action. However, the City Fire Department has personnel that are state certified annually at either the technical or professional level. Responders are trained in spill response measures, which involve containing the spill and enacting spill cleanup measures. Additionally, the Fire Department's Hazardous Materials Unit (HAZMAT) acts as first response contact and containment cleanup advisor with the Environmental Affairs staff for incidents involving hazardous materials that pose an exposure risk to canals, sewerage, or water lines. In the case of non-compliance or when the responsible party cannot be identified, the SWBNO or City may use a spill cleanup contractor to contain and remove the spilled material. If a contractor is used to remove spilled

material and properly dispose it, the cost will be shared between the SWBNO and the City based on the impacted portions of the MS4 that require clean up. Flow charts (in **Appendix B)** were developed as a guide to simplify the identification of agency (or agencies) and action(s) for different spill scenarios.

## 7.5 Small Spill Response

The Small Spills category covers oil spills from vehicles, spills from small containers no larger than 55 gallons, and other spills that have not been identified under the definition of large spills. Most spills under this category are associated with citizen complaints, commercial activities or industrial activities. Some examples include paint, yard waste, concrete or other non-storm water materials being discharged into the MS4.

When a citizen reports a spill through 52-WATER (SWBNO) or 311 (City), it is referred to the SWBNO Environmental Affairs staff and the Department of Public Works. The investigator identifies the source of the spill by tracing potential discharge pathways and interviewing available witnesses. If the source is located, enforcement action will be taken against the responsible party in accordance with Section 16.1 of the plumbing code and the SWBNO Enforcement Response Plan (See **Appendix C** and **B**, respectively). In the case of non-compliance or when the responsible party cannot be identified, the SWBNO or City may use a spill cleanup contractor to contain and remove the spilled material. If a contractor is used to remove spilled material, the cost will be shared between the SWBNO and the City based on the impacted portions of the MS4 that require clean up. Flow charts (in **Appendix B)** were developed as a guide to simplify the identification of agency (or agencies) and action(s) for different spill scenarios.

## 7.6 Sanitary Sewer Overflow Prevention and Response

This category covers overflows from the sanitary sewer system including ruptured sanitary sewer lines and is the responsibility of the Networks Department. The Department has established a comprehensive program to prevent and respond to dry and wet weather sanitary sewer overflows. For example, all sewer lines are visually inspected by Department employees. In addition to routine sewer line inspections, all sewerage lift stations are inspected routinely. The stations follow a preventative maintenance program that includes mechanical and electrical repairs when needed. Additionally, the Department performs repairs, routine maintenance, and preventative measures on the sewer gravity lines and force mains.

The SWBNO has a Preventive Maintenance Plan that establishes specific preventive maintenance tasks, procedures and auditable performance indicators for the wastewater collection system including sewer lines, sewer trunk lines, sewer pumping stations and sewer force mains. The goal of the plan is to improve the consistency of performance of the wastewater collection system and pumping stations. By improving the consistency of system operation, operating costs can be reduced, as well as the number and severity of untreated wastewater overflows, and customer complaints. This modified preventive maintenance plan replaces the preventive maintenance plan the Board has operated under since 1997. The activities of the Networks and Operations Departments are tracked with the Asset and Facility Maintenance System, currently CASSWORKS. CASSWORKS generates both preventive (scheduled) and corrective (complaint driven) work orders for the sewerage infrastructure and tracks work orders for specific gravity sewer lines, manholes and force mains where preventive maintenance has been performed.

A Supervisory Control and Data Acquisition (SCADA) system is used for responding to and eliminating unforeseen overflows from many of the SWBNO's sewage lift stations. The SCADA system provides the control operator or dispatcher with detailed information about pump activity, wet well activity, and discrete alarms. Discrete alarms include air compressor, station security, water collection in the dry well, and high ball float. Having access to the current performance of each station allows operators and dispatchers to manage or respond quickly to overflow events.

Procedures for sanitary sewer spill containment are specific to the nature of the spill. For spills from gravity flow mains, the most effective and time responsive method of containing a spill is to rectify the cause. The majority of spills are caused by blockages such as grease or tree root intrusion, which can be fixed relatively quickly following the arrival of a repair crew to the scene of the overflow. Implementation of containment, where it is possible, would often take longer than the repair itself. As such, energy is often focused on the repair.

Pursuant to the 1998 Consent Decree with the EPA, the SWBNO has a Sewage Overflow Action Plan (SOAP) to respond to overflows occurring in the sanitary sewage system. This document identifies the plans, policies and procedures for employees responding to situations commonly experienced in managing sanitary sewer overflows (SSOs), as well as providing guidance and assuring adequate resources for those situations which cannot be completely anticipated. The SOAP identifies in detail those standard operating procedures and the individual responsibilities necessary to respond to SSOs in an effective and expedient manner and also serves as a training tool for new employees.

## 7.7 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Conduct one industrial facility or contractor inspection.
- Respond to spill reports and coordinate with the City when necessary for spill cleanup. Maintain a record of the response and coordination.

The **Networks Department** is responsible for the following activities during each annual reporting year:

- Gravity Sewer Inspection – Inspection of at least 9% of the system every year and 100% in eight years.
- Gravity Sewer Cleaning – Clean at least 7% of the system every year and 100% in 10 years.
- Gravity Sewer Manhole Inspections – Inspection of at least 25% of sewer manholes per year and 100% in 3.3 years.
- Force Main Isolation Valves – Inspect and exercise sewer force main isolation valves annually.
- Perform all preventive maintenance work for pumping stations within two weeks of scheduled date.

# SECTION 8 Industrial and High Risk Runoff

## 8.1 Purpose

The Industrial and High Risk (I&HR) Inspection Program is designed to identify and control pollutants in storm water discharges to the MS4 from industrial and high risk facilities. Program elements include priorities and procedures for inspection activities and monitoring, and maintenance of a list of industrial storm water dischargers to the MS4.

## 8.2 Jurisdiction and List Development

SWBNO is responsible for industrial discharges listed in **Appendix B: Plans/Documents**, and new businesses that meet the parameters outlined in Section 8.4.

The list of facilities subject to the I&HR Inspection Program was provided to the USEPA under a previous NPDES permit deadline of June 1, 2001. Only facilities within the MS4 permit drainage area (inside the levee system) were included in the list. Industries discharging directly into waters of the United States, i.e. Lake Pontchartrain and the Mississippi River were not included. The I&HR Inspection List was compiled from multiple databases and entered into a common file. This information was further sorted by Standard Industrial Classification (SIC) Codes. The SIC codes listed for coverage under the LPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activities (Permit No. LAR050000) were subsequently entered into the I&HR Inspection list. Additionally, municipal landfills; municipal waste treatment, storage, and disposal facilities, such as POTWs; and facilities subject to EPCRA Title III, Section 313, were also included in the list.

## 8.3 Procedures for Identification of Additional Facilities

The 2001 I&HR inspection list provides a basis for identifying industries that may be subject to the I&HR Inspection Program; however, the economic environment has changed substantially in the past decade and facilities may have opened or closed since the list development. The following methods are used to identify additional facilities:

1. The Industrial Pretreatment Program will refer new facilities subject to the I&HR Inspection Program, because these industries may also have an impact to storm water quality.

2. Citizen complaints have proven to be an excellent resource in the identification of industries with impacts on storm water. The open canal system makes it easy for anybody to notice an unusual appearance to the water.

3. SWBNO receives and maintains copies of Public Notices from the LDEQ of industries that have applied for Louisiana Pollutant Discharge Elimination System (LPDES) permits. These industries are screened to determine if they are subject to the I&HR Program. A list of valid LPDES permit holders is obtained from LDEQ periodically and industries are added to the list, as necessary.

## 8.4 Industrial Surveys of Facilities Currently on the List

The Industry Survey Form is used as a screening tool to determine if industries are substantial contributors of pollutants to the MS4. Facilities meeting a combination of the following criteria remain in on the I&HR inspection list:

- Operational/ Open for Business
- Subject to LDEQ Permit No. LAR050000
- Evidence of illicit discharge

Once the Industry Survey Form has been completed via a phone survey or site visit and meets the designated criteria, it remains in the program and a full inspection is conducted using the I&HR Inspection Checklist. An inspection report is prepared using the Industrial Inspection Report. All of these forms can be found in **Appendix A: Forms**. The current list of I&HR facilities is located in **Appendix B: Plans/Documents**.

## 8.5 Inspector Training

The surveys and inspections for the I&HR Inspection Program are conducted by the staff of the Department of Environmental Affairs. An initial training session was conducted for the inspectors upon implementation of the program in 2011.

The inspectors were trained in proper completion of the Industrial Survey Form, I&HR Inspection Checklist, and the Industrial Inspection Report. As part of the training, they were taught to recognize potential sources of storm water pollution, and how to determine which industries may be a substantial contributor of pollutants to the MS4.

## 8.6 Inspection Procedure

Inspections under the I&HR Program are generally conducted as follows:

- The investigator will visit the site.
- The investigator will complete a site inspection. Activities to be completed during the inspection will differ from site to site and will be left to the professional judgment of the investigator but may include:
  - The completion of an inventory of potential pollutants stored on site
  - The completion of an inventory of processes that may result in the contamination of surfaces exposed to rainfall, and processes that may result of discharges of non-storm water to the ground or onsite drainage systems
  - An inspection of all storm drains located on the site to identify any current or past discharges to storm drainage systems
  - The inspection of site drainage so that it can be determined whether any part of the site affected by the industrial activity drains to the MS4
  - A risk assessment of the storage of potential pollutants to determine whether adequate secondary containment is provided
  - An assessment of processes to determine whether the facility is likely to have an impact on the quality of storm water runoff; including waste disposal, storage practices
  - Photographic documentation of site conditions as necessary
- The results of the inspection will be recorded
- The results of the inspection will be explained to the person in charge of the site along with any enforcement actions that will result from the inspection
- Where significant violations are noted at the site, the investigator will issue a Notice of Violation or refer the matter to the City (based on jurisdiction)
- Where no significant violations exist, the investigator will notify the person in charge that the inspection is finalized
- The Inspector will document the inspection

## 8.7 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities:

- Update the current list of I&HR facilities within SWBNO jurisdiction annually.

- Complete an Industry Survey Form for every facility on the I&HR inspection list found in **Appendix B**.
- Once during the five-year permit, conduct an inspection of each facility on the current I&HR Program List that meets the criteria for inspection outlined in the Industry Survey Form.

# SECTION 9 Construction Site Runoff

## 9.1 Introduction

A cooperative Construction Site Inspection (CSI) Program between SWBNO and the City is being developed in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit requirements. This CSI Program has been prepared to reduce pollutants in storm water runoff from construction activities that result in a land disturbance of greater than or equal to one acre.

## 9.2 SWBNO Jurisdiction

SWBNO is only responsible for the inspection of construction sites for SWBNO projects that result in a land disturbance of greater than or equal to one acre. Other construction projects that result in a land disturbance of greater than or equal to one acre are under the jurisdiction of the City, except for projects located on property under the co-permittee jurisdiction of Louisiana Department of Transportation, Orleans Levee Board, or Port Authority of New Orleans. If SWBNO receives a citizen complaint about a project through the 52-WATER complaint line, then a staff member from the Environmental Affairs Department will confirm the validity of the complaint with an on-site inspection and refer the matter with documentation to the City for resolution. (See **Appendix A** for construction complaint form)

## 9.3 Initiation of Construction for SWBNO Projects

The responsibility for obtaining the proper permit documentation for all SWBNO projects remains with the Department(s) initiating the construction project. The Department(s) responsible for new construction projects is (are) required to make contractors of projects with a common plan of development of one (1) acre or greater aware of the requirement to obtain coverage under the Construction Sites General Permit. If a storm water permit is deemed necessary during the planning phase (typically for sites encompassing five acres or greater), then a Notice of Intent (NOI) and a Notice of Termination (NOT) will be submitted to the Louisiana Department of Environmental Quality (LDEQ) with a copy sent to the Engineering Department prior to any clearing and grubbing activities.

A Storm Water Pollution Prevention Plan (SWP3) is developed and implemented to maintain compliance during the construction phase of the project. The Engineering Department is available to assist in the review of the SWP3. The Department(s) responsible for a new construction project will make the determination to either develop the SWP3 internally or to include it as part of the contract with its design consultant. The SWP3 is included in the Contract Documents of the project which also outline the

contractor's responsibility to implement and maintain documentation in the SWP3 throughout the duration of the construction phase.

## 9.4 Inspection Procedures

The CSI Program for storm water pollution control within SWBNO is administered and implemented by the Department of Environmental Affairs and Engineering Department. The SWBNO's Engineering Department inspection group personnel complete the Construction Site Inspection Report and a Construction Site Inspection Checklist during each inspection visit. A copy of the Inspection Report Form and Construction Site Inspection Checklist is included in **Appendix A**. This checklist identifies the most common sources of construction site pollution.

During the initial construction site inspection, the inspector meets with the construction project superintendent, the individual in charge of the site, and the person(s) responsible for the implementation and maintenance of construction site BMPs. Additionally, the SWBNO personnel and the person(s) in charge of the SWP3 confirm the following information:

- Total area to be disturbed by the construction project
- Construction timing and phasing
- Sources of potential storm water contamination (e.g. storage areas)
- Best Management Practices
- LPDES permit
- Outfall location and receiving waters using a GPS location of the site

After completing the interview with the designated person(s), a site tour and inspection is conducted by the SWBNO representative. The representative will identify any deficiencies or recommend additional practices, either structural or non-structural, which could reduce the amount of pollutants that could enter the MS4.

The Department representative focuses primarily on sediment and erosion control practices and the proper storage and use of chemical products. During the initial visit, the representative emphasizes that sediment and floatable items must not enter the MS4. Construction site entrances are identified and inspected for evidence of mud being tracked into the street. All existing and newly installed drainage infrastructure is inspected for sufficient protection. The Department representative inspects the solid waste collection area,

site housekeeping, and the storage of oil-based and other products with the potential to enter the drainage system (e.g. cement mixer washout, concrete curing compound, muriatic acid or solvents).

During this initial site inspection, the inspector acquires information requested on the checklist; identifies and documents areas where BMPs may be needed; and when necessary, gives the superintendent a deadline for installing additional measures (e.g. specific areas that the inspector has identified sediment or pollutants are leaving the project site and entering the MS4 or the street). The inspector makes subsequent inspection visits to the site to determine whether BMPs have been implemented and are working properly.

## 9.5 Training

The Department of Environmental Affairs participates in storm water related construction site trainings in conjunction with other co-permittees and the Louisiana Urban Stormwater Coalition. These interactive workshops train contractors, engineers, architects, landscape architects, inspectors, and other agency personnel to navigate water quality regulations and permit requirements for construction sites. Additionally, information is provided regarding inspection/ enforcement action and hands-on group exercises in preparing an SWP3 is available. The Department of Environmental Affairs will provide two, four-hour training classes per year for the SWBNO inspection staff.

## 9.6 Recordkeeping

Copies of the inspection reports and SWP3s are to be placed in a PDF format and sent to the Engineering Department until final stabilization of the construction project, and the Notice of Termination has been filed. Other events that are documented and kept on record include significant changes in on-site activities and significant storm water pollution events (e.g. spills or failure of BMPs). In addition, the contractor is required to maintain a copy of the SWP3 on-site at all times. SWBNO is presently looking at a database program to track all parts of the SWMP including construction.

## 9.7 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Record all citizen complaints received by the SWBNO regarding construction site land disturbance activities. After confirmation of validity and inspection, SWBNO will refer the complaint to the City for resolution and will provide a copy of the referral log in the annual report. Blank Page from Construction Referral Log can be found in **Appendix A**.

- The Department of Environmental Affairs will provide two, four-hour training classes per year for the SWBNO inspection staff.

The **Engineering Department** is responsible for the following activities during each annual reporting year:

- Conduct inspections of all SWBNO construction sites that are one acre or greater
- Provide assistance to Department staff in reviewing SWP3s for SWBNO construction projects.

# SECTION 10 Public Education

## 10.1 Introduction

SWBNO works in conjunction with the City to implement a public education program that addresses illicit discharges, proper management of vehicle fluids and household wastes, and the proper use, application and disposal of pesticides, herbicides and fertilizers. The program incorporates educational material distribution and outreach events about water quality protection through best management practices. The SWBNO specifically targets their public education efforts to customers that are likely to impact storm water runoff quality. These customer types include commercial, industrial and residential sectors.

## 10.2 Community Storm Water Talks and Demonstrations

The SWBNO reaches out to the community through public events, demonstrations and lectures based on audience needs and interests. Beyond a simple lecture, SWBNO has one Enviroscape Storm Water module to educate citizens about the prevention of litter and storm water pollution. The Enviroscape Storm Water module is used as a learning tool during guest speaking events at elementary and middle schools, or when participating in public education events. The Department of Environmental Affairs staffs educational booths at events such as the City's Earth Day celebration.

## 10.3 Storm Drain Marking Program

The Storm Drain Marking Program promotes, publicizes and facilitates public reporting of the illicit discharges. SWBNO's Department of Environmental Affairs administers the program to apply polyurethane markers to storm drain inlets and catch basins with messages discouraging illicit discharges. This program reminds citizens that it is illegal to dispose of any materials in the MS4, including household hazardous wastes, grass clippings, leaves, and pet wastes.

## 10.4 Public Education Materials

The SWBNO provides a variety of brochures to their customers regarding storm water issues through the Department of Environmental Affairs in print and eventually online. They are distributed via mail-outs, presentations and by request. Some examples can be found in **Appendix B**: Plans/ Documents.

## 10.5 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Mark a minimum of 20 storm drains (in addition to markers placed due to complaints) through the Storm Drain Marking Program with a distribution as close to equal as possible between the East Bank and West Bank.
- Conduct three community demonstrations or lectures about storm water quality and management.
- Distribute a minimum of 50 brochures about a variety of storm water management topics to SWBNO customers

# SECTION 11 Representative Monitoring Program

## 11.1 Introduction

This section encompasses representative monitoring as identified in Part V of the permit (See **Appendix D: Monitoring**). This monitoring shall be conducted on representative outfalls, internal sampling stations, and/or in-stream monitoring locations to characterize the quality of storm water discharges from the MS4. Maps and photos of the monitoring locations can be found in **Appendix D: Monitoring**. In addition, the monitoring program includes the Dry Weather Screening Program, the Wet Weather Screening Program, and the Industrial and High Risk Runoff Monitoring Program.

## 11.2 Dry Weather Screening Program

The Department of Environmental Affairs conducts a Dry Weather Screening program in conjunction with Support Services at outfalls in the open canal system. The program focuses on screening for illicit discharges at outfalls during dry weather conditions (less than 0.1 inches of rainfall per 24 hours for the preceding 72 hours) to increase the chances that any observed flow is more likely to be associated with an illicit discharge. The goal of the program is to identify and eliminate any unpermitted illicit discharges to the MS4. At each outfall where flow is identified, it is investigated immediately in an attempt to locate the source and referred to the City for resolution.

The canal system is divided into 12 Basins. Maps of these basins and a list of the canals can be found in **Appendix E: Basin Map/ Canal List**. Approximately 20% of the basins will be screened annually so that each basin is screened once during the 5-year permit term. Within each of the 12 basins, a zip code based tracking system has been developed to ensure a representative segment of the zip code has been screened. SWBNO will use the zip code system to maximize efficiency and resources while ensuring at least 50% of the outfalls in the basin have been screened.

Dry weather screenings will be completed in accordance with the following procedure:

- A designated staff member from Environmental Affairs or Support Services identifies an outfall.
- Where no flow is noted, the screening is considered valid and the screening location is recorded. Then, the staff member moves to the next outfall.
- Where flow is noted, the staff member will complete a field assessment that may include the following water quality parameters: pH, temperature, conductivity and/or fecal coliform.

- If samples are collected for laboratory analysis, they will consist of manual grab samples, collected at the outlet point of the outfall. Where significant flow exists, the grab sample should be taken from the horizontal and vertical center of the flow. Samples will be collected into appropriate containers and care shall be taken so as to prevent contamination of the inside of the sample bottle. Samples shall be kept free of uncharacteristic floating debris. Fecal coliform samples must be collected and remain in the original container, stored in a cooler with ice and delivered to the laboratory within six hours for testing. Sampling and field analysis equipment shall be adequately cleaned prior to commencing sampling and field analysis at another outfall.
- Field samples shall be analyzed in accordance with equipment manufacturer's instructions.
- Where field observation or testing identifies conditions inconsistent with water quality guidelines set forth in Section 16.1 of the Plumbing Code, the staff member will attempt to confirm the source.
- Following correct storage of any samples, the staff member will begin a survey of the drainage system upstream of the outfall in an attempt to locate the source of the flow.
- If a source is identified, where possible, the staff member will take photos of the source and collect basic information regarding the date, time, location, nature and individual(s) involved in the discharge. Further action may be taken under Section 16.1 of the Plumbing Code following the steps in Section 6.2 and the SWBNO Storm Water Enforcement Response Plan (**Appendix B**).
- Results of all field screening will be recorded on the Dry Weather Screening Form (**Appendix A**: **Forms**).

## 11.3 Wet Weather Screening Program

The Department of Environmental Affairs conducts a Wet Weather Screening program in conjunction with Support Services at outfalls in the open canal system. The program focuses on screening for illicit discharges at outfalls during wet weather conditions. The goal of the program is to identify and eliminate any unpermitted illicit discharges to the MS4 by detecting changes in or abnormal discharges from outfalls to the open canal system. Outfalls that appear to have non-storm water discharges due to inconsistencies in odor, color or other non-point source pollutant identifiers will be investigated for illicit discharge following the steps in Section 6.2 and the SWBNO Storm Water Enforcement Response Plan (**Appendix B**). As part of this program, the SWBNO will annually screen outfalls in commercial, residential and industrial areas.

## 11.4 Industrial and High Risk Monitoring Program

The Industrial and High Risk Facilities (I&HR) Monitoring Program identifies and describes practices and procedures employed by SWBNO to reduce the discharge of pollutants to the MS4 from industrial and high risk facilities. The Program monitors storm water discharges from Type 1 and 2 facilities which discharge to the MS4. The list of eligible facilities is generated using the procedure outlined in Section 8: Industrial and High Risk Runoff. All eligible facilities will be notified at the beginning of the permit term to provide any monitoring results to the SWBNO that identify illicit discharges to the MS4 or other storm water related non-compliance. Prior to inspection of these facilities, SWBNO staff will use the comprehensive LDEQ Electronic Document Management System to review all monitoring and other facility related information. However, SWBNO does not want to duplicate additional records by requiring all monitoring results to be submitted to both LDEQ and the SWBNO.

### 11.4.1 Type 1 Facilities

Type 1 facilities are defined as municipal landfills; hazardous waste treatment, disposal, and recovery facilities; industrial facilities that are subject to EPCRA Title III, Section 313; and industrial facilities that have been identified as contributing a substantial pollutant loading to the MS4. Type 1 facilities must monitor for the following parameters:

1. Any pollutants limited in an existing LPDES permit for a subject facility
2. oil and grease
3. chemical oxygen demand (COD)
4. pH
5. biochemical oxygen demand, five-day (BOD5)
6. total suspended solids (TSS)
7. total phosphorous
8. Total Kjeldahl Nitrogen (TKN)
9. nitrate plus nitrite nitrogen
10. any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv)

The frequency of monitoring is determined on a case-by-case basis after a facility inspection to familiarize SWBNO personnel with the sources and volumes of all waste streams discharged to the MS4. The SWBNO may also alter the monitoring requirements for individual Type1 facilities as follows:

1. to coincide with the corresponding industrial sector-specific monitoring requirements of the Louisiana Multi-Sector General Permit (MSGP).

2. to coincide with the monitoring requirements of any individual permit for the storm water discharges from that facility.

The optional monitoring list must be supplemented by any pollutants of concern identified by the copermittees for that facility. SWBNO allows facilities currently holding permits to alter the monitoring requirements as previously described. The monitoring is self-monitoring unless the SWBNO has reason to suspect additional monitoring requirements may need to be established. In these instances, the SWBNO may collect samples and determine if the additional monitoring requirements are warranted. All self-monitoring results are reported to the SWBNO at a frequency to be determined for each individual facility and they must be submitted on the I&HR Self-Monitoring Report Form (**Appendix A**).

### 11.4.2 Type 2 Facilities

Type 2 facilities are municipal waste treatment, storage, or disposal facilities (e.g. public owned treatment works, transfer stations, or incinerators); and industrial or commercial facilities the copermittees believe are contributing pollutants to the MS4. Monitoring requirements for Type 2 facilities can be met by conducting visual monitoring at a frequency established by SWBNO and completing the Visual Monitoring Checklist (see **Appendix A**).

### 11.4.3 No Exposure Certification

In lieu of analytic monitoring, SWBNO may accept a certification from a facility that the raw and waste materials, final and intermediate products, by-products, material handling equipment or activities, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. When the SWBNO accepts a "no exposure" certification, one site visit will be conducted during the permit term to verify the facility's "no exposure" exemption.

## 11.5 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Continue implementation of the Representative Monitoring Program including the Dry Weather Screening Program, Wet Weather Screening Program and I&HR Monitoring Program to determine the characteristics of urban runoff in different land use categories.

# SECTION 12 Pollution Prevention/ Good Housekeeping for Municipal Operations

## 12.1 Program Overview

The Pollution Prevention/ Good Housekeeping Program has developed and implemented operation and maintenance practices to prevent or reduce pollutant runoff from municipal operations. Under this program, employees are trained to prevent and reduce storm water pollution from open canal maintenance, fleet maintenance, new construction/land disturbances and other SWBNO functions that could negatively impact storm water quality.

## 12.2 Spill Prevention and Inspection

SWBNO facilities and departments engage in spill prevention by implementing administrative, structural and non-structural best management practices and control measures. For many facilities such as wastewater treatment plants, water treatment plants, drainage pump stations, and vehicle maintenance facilities, the guidelines for the development and implementation of such BMPs and control measures are provided in Storm Water Pollution Prevention Plans (SWP3).

The Department of Environmental Affairs conducts inspections of three SWBNO facilities that could potentially impact storm water quality. These facilities are Central Yard, Algiers Water Plant and the Carrolton Plant. The municipal inspections are conducted in the same manner as the I&HR facility inspections with the purpose to identify and eliminate the discharge of pollutants from these facilities. See Section 8.6 for specific inspection procedures.

## 12.3 Training

SWBNO will conduct annual training for employees with job responsibilities that may impact storm water quality. Topics of the training may include the following:

- Basics of storm water pollution prevention
- Use of spill cleanup equipment
- Proper waste disposal methods
- Inspection and identification of facilities for potential storm water hazards
- Facility specific operational best management practices

## 12.4 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during each annual reporting year:

- Provide one training session to SWBNO employees to reduce and eliminate storm water pollution from municipal activities.
- Develop and/or update SWP3s for designated facilities and train personnel to implement the plans.
- Conduct municipal storm water inspections at Central Yard, Algiers Water Plant and Carrolton Plant once per permit term.

# SECTION 13 Green Infrastructure/ Low Impact Development

## 13.1 Program Overview

The SWBNO will review their regulations/codes and revise where necessary to ensure they do not prohibit or impede the use of green infrastructure practices, including infiltration, reuse and evapotranspiration. At a minimum, the SWBNO will assess those regulations governing plumbing code for new development. During regulatory review, the City will document and ultimately amend any codes that need revision.

## 13.2 Measurable Goals

The **Department of Environmental Affairs** is responsible for the following activities during the 5-year permit term:

- In accordance with the adopted New Orleans 2030 Master Plan, (Volume 2, Chapter 12, Policy I.D.), SWBNO will co author with other relevant city agencies a storm water management plan that will provide technical expertise, identify best management practices, and establish minimum requirements to control the adverse effects of storm water runoff for all new development and capital improvements.
- Begin review of SWBNO regulations regarding green infrastructure.
- Complete review of local regulations regarding green infrastructure.
- Begin any regulation revisions, if necessary.
- Submit written report of progress and action plan with the Annual Report during Permit Year 3.
- Complete any regulation revisions, if necessary.
- Submit written report of all regulation changes with the Permit Year 5 Annual Report.
- Provide educational information about regulation changes and green infrastructure for the impacted SWBNO customers.