Implementing a MS4 Program – a Local Perspective

Martin Miller
Industrial Compliance Supervisor

2020 National Stormwater Roundtable
San Antonio, Texas
February 4, 2020
San Antonio Water System

- SAWS – City owned utility
- Water, Wastewater, Steam & Chilled water
- 1.8 million people (7th largest city)
- 460,000+ customers
- 12,000 miles of water & sanitary sewers mains
- 3 Large Water Recycling Centers
- Largest direct recycle water system with over 130 miles of lines
  - (Steven M Clouse, Leon Creek, Medio Creek WRC process an average of 120 MGD)
Storm Water Permit Requirements

Texas Commission on Environmental Quality – WQ0004284000

- Originally Issued to City of San Antonio, San Antonio Water System and Texas Department of Transportation
Resource Protection & Compliance Department

Municipal Separate Storm Sewer System Programs (MS4)
MS4 Permit
WQ000428400
Requirements of the copermittees
9/28/2011
• City of San Antonio
• San Antonio Water System
• TxDOT Region 16

1. Structural Controls
2. Areas of New development & significant redevelopment
3. Roadways
4. Flood Control Projects
5. Pesticide, Herbicide, and Fertilizer Application
6. Illicit Discharges and Improper Disposal
7. Spill prevention and Response
8. Industrial & High Risk Runoff
9. Construction Site Runoff
10. Public Education
11. Monitoring and Screening Programs
SAWS MS4 Compliance Programs

• Illicit Discharge Detection Program
• Industrial & High Risk Runoff Program
• Sampling & Monitoring Programs
• Construction Site Runoff Program
• Spill Response Technical Assistance
• Youth Public Education Program
• Overflows and Infiltration Program
Storm Water Management Plan

Minimum Control Measures

- Post Construction Storm Water Control Measures
- Detection & Elimination of Illicit Discharges
- Pollution Prevention & Good Housekeeping for Municipal Operations
- Limiting Industrial & High Risk Runoff
- Limiting Storm Water Runoff from Construction Sites
- Public Educations, Outreach, Involvement & Participation
- Monitoring, Evaluation & Reporting
Post Construction Storm Water Controls

Water Quality Basin Inspections over the EARZ

- TCEQ approved Storm Water BMPs
- Located over the Edwards Aquifer Recharge Zone
- Annual inspections of 1114 structures
- 215 additional Basins are proposed
Detection of Illicit Discharges

Inspection, field testing and lab analysis of storm drain outfalls

- Field parameters
- Physical and Chemical analysis
CCTV equipment to locate discharge.
Field Screen Point Inspections

• 500 + Storm Drain outfalls inspected biannually.
• 435 miles of open MS4 channel.
Chapter 34 Waters and Sewers,
Article VI. Water Quality Control, Division 5, Prohibited Discharges to the MS4, Subdivision A

- Allowable Discharges to the Municipal Separate Storm Sewer System:
- Power Washing Registration
- Flood plain permit requirements
- Conservation program
Spill Response

Work with all response organizations to ensure that cleanups from discharges are accomplished by responsible parties and waste is not discharged improperly.

- Assist with containment
- Sampling
- Cleanup & disposal
- Enforcement
Industrial Storm Water Inspections

- Regulated by 40CFR 122.26(b)(14) (i-xi)
- TPDES Multi-sector Industrial General Permit No. TXR050000
- City Code Chapter 34 Article VI, Division 5 C Storm Water Compliance for Industrial & Commercial activities
Storm Water Pollution Prevention Plan (SWP3) & Site Assessment

- Minimum requirements
- Pollution Prevention Team
- Non-Stormwater discharges
- Inventory of exposed significant materials
- Site map
- Spills & leaks
- Outside Processing areas
Annual Comprehensive Site Evaluation

Narrative summary of changes made to the BMPs if the benchmark levels were exceeded.

- Site evaluation
- Annual Numeric effluent limitations testing for Hazardous Metals
- Benchmark testing
- Quarterly Visual Monitoring
- Sampling DMRs
- Summary of benchmark testing and BMP changes
Business License renewals for Salvage yards and Recycling facilities

- COSA Business License requirements into the MSGP requirements in Chapter 34.
- Have to have an approved compliance inspection from SAWS within 12 months of license renewal.
- No TCEQ MSGP permit or a failed inspection can cause no license to be issued.
- Facility that has its license revoked must go before City Council for reinstatement.
Construction Site Monitoring

- **Purpose:** Chapter 34 includes requirements to comply with TPDES Permit:
- Directing the use of BMPs on all construction sites to reduce pollutants into the MS4, requiring a TPDES permit and having a SWP3.
- Makes it unlawful for construction activities to discharge a “measurable volume” of sediment, soils or pollutants into the MS4.
- [www.municode.com](http://www.municode.com)
Construction Pollution Prohibited

**Section 34-804:** General prohibition against Construction Pollution of MS4
Enforcement Tools

Field Corrective Notices & Stop Work Orders

- A violation may result in a **Field Corrective Notice** which affords 2 each 24 hour periods to correct a violation.

- If the site is deemed non-compliant at the time of re-inspection, a **Stop Work Order** may be issued at the discretion of the staff.

- **Stop Work Orders** halt all work at the site until the non-complaint issues are addressed.

- Additional or cumulative enforcement action may be taken upon the seriousness of the alleged pollutant’s encroachment.
Construction Inspector Training Workshop

Low cost educational tool and a compliance mechanism.

Presented in conjunction with COSA, Bexar County and TCEQ Staff

• Training for Engineers
• Training for Contractors
• Training for CPS Energy & SAWS
• Training for City Staff
Education of the Public & Contractors

Workshops & field demonstration projects
GIS Mapping
**Bandera Rd. Storm Water Monitoring Station**

**Drainage Area**
(92.6 Acres)

**Land Use Types:**
- 80% Impervious Cover
- 71% Commercial
- 13% Residential
- 16% Undeveloped
- Drains to Zarzamora Creek

Stations are equipped with Auto-samplers, flow meters, solar power, rain gauges, and flumes.
Sanitary Sewer Overflows & Infiltration

- Emergency Bypass
- Storm events
- Infrastructure failure
Consent Decree - SSO

- Capacity Management Operation Maintenance (CMOM) Program
  - Condition & capacity work performed under CMOM program
  - Sanitary sewer cleaning
- Lift Station Rehab & Elimination
- Root cause analysis for every overflow (including camera insp.).
- Continuous monitoring
- Reporting (training)
- Private lateral program (enforcement)
- FOG Inspection Program
TMDL Implementation Plan Activities

A Total Maximum Daily Load (TMDL) program was initiated by the TCEQ

- River segments are named on the Texas 303(d) list.
- Three impaired waterways locally, with elevated bacteria levels
- Contact recreation criteria has been exceeded ($E. \text{ coli} < 126 \text{ CFU/100 ml}$).
- SAWS is one of the primary stakeholder in the development of an Implementation Plan (I-Plan) provided to TCEQ in 2015 incorporating SWMP activities.
Can you control the pollution?
San Antonio MS4 Program

Martin Miller
Industrial Compliance Supervisor
210.233.3557
Martin.Miller@saws.org
Implementing a MS4 Program –
a Local Perspective

Martin Miller
Industrial Compliance Supervisor
210.233.3557 Martin.Miller@saws.org

2020 National Stormwater Roundtable
San Antonio, Texas
February 4, 2020