Tulsa's Storm Water Quality Permit Responsibilities

by

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Resource Management Conference,
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Tulsa Garden Center

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What is the #1 source of water quality impairments in the US?

NONPOINT SOURCE POLLUTION (NPS)

Nonpoint Source Pollution

NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water.

Nonpoint Source Pollution

These pollutants include:

- Excess fertilizers, herbicides, and insecticides from agriculture and residential areas;
- Oil, grease and toxic pollutants from urban runoff ;
- Sediment from improperly managed construction sites, crops and forested lands;
- Bacteria and nutrients from livestock, pet waste, faulty septic systems and aging sanitary sewer systems.

Why does Tulsa have a Storm Water Discharge Permit?

- Clean Water Act
  - General goal is to make waterways fishable and swimmable

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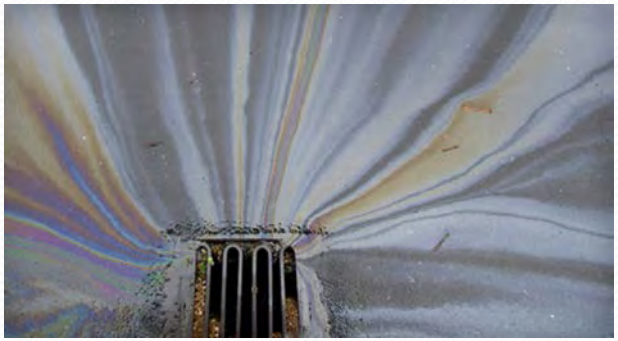
Storm Water Discharge Permits

- Phase 1
  - Municipalities > 100,000 population
  - Construction site 5 acres or greater
  - 26 categories of industries
- Phase 2
  - Construction sites 1 acre or greater
  - Municipalities
    - > 10,000 population
    - Small municipalities located in UA

Tulsa's Stormwater Quality Permit History

- Received the 1st permit in 1993.
- Permit Authority
  - ODEQ
  - US EPA. Region 6
- Most recent permit expired in 2008.
- New permit went into effect October, 2011.



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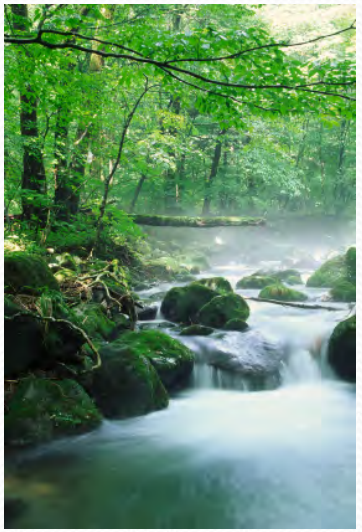
Permit Goals

- No discharge of toxic pollutants in toxic amounts
- No discharge of pollutants that cause violation of Oklahoma Water Quality Standards (WQS)
- No discharge of floatables, oils, or scum
- No discharge of non- stormwater from MS4
- No impairment or loss of beneficial uses as a result of MS4 discharges
- Reduction of pollutants discharged to the MEP

Permit Facts

- Good for 5-years.
- Annual Report required.
- Storm Water Management Plan delineates how Tulsa will comply.
- Permit has 7 parts.
- Part 2 lists requirements.
- Ability to take enforcement actions.
- Permit violations could result in fines.



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Part 2
Stormwater Management Program

1. Stormwater Collection System Operations
2. Areas of New Development and Significant Re-Development
3. Roadways
4. Flood Control Projects
5. Pesticide, Herbicide and Fertilizers Application
6. Illicit Discharge and Improper Disposal

Part 2
Stormwater Management Program (cont.)

7. Spill Prevention and Response
8. Industrial and High Risk Runoff
9. Construction Site Runoff
10. Public Education
11. Employee Education
12. Monitoring Programs

(1) Structural Controls & Collection System Operations

- Stormwater structural controls must be operated in a manner to reduce the discharge of pollutants to the Maximum Extent Possible (MEP)

(1) Structural Controls & Collection System Operations

ABOVE GROUND STRUCTURES	INVENTORY	O&M ACTIVITY	O&M ACTIVITY COMPLETED
Channels/ Streams/ Detention Ponds	1,587.61 acres	Mowing	10x of mowable property (~15,876.1 ac/yr.)
Channels & Streams/ Detention Ponds	1,587.25 acres	Weed control (Herbicide)	All parcels 1x/yr. broad leaf weed control (~1,587.25 acres)
Channels & Streams (Greenco Contractor)	404.97 acres	Weed Control (Herbicide)	All parcels 6x/year for growth control (2,429.82 acres)
Channels & Streams (In-house)	253.19 acres	Weed Control (Herbicide)	All parcels 5x/year for growth control (1,265.95 acres)
Wet Ponds	60.53 acres	Algae Control	All ponds 5x/year for growth control (302.65 acres)
Channels/ Streams/ Detention Ponds	1,366.24 acres	Cleaning/ Sediment Removal (Ponds/Streams)	79,078 cubic yards/period
Roadside Ditches	978 miles	Sediment Removal (Roadside Ditching)	20,335 linear feet/period

(1) Structural Controls & Collection System Operations

BELOW GROUND STRUCTURES	INVENTORY	O&M ACTIVITY	O&M ACTIVITY COMPLETED
Storm Sewer Pipe	972.12 miles	Inspect Flush/clean Repair or Replace	1.70 miles/period 1.47 miles/period 1,905 linear feet units/period
Catch Basin/Inlets	49,787 units	Inspect & Clean Repair	1,079 units/period 268 units/period
Pump Station	14 units	Clean interior, Inspect & Maintain	1,777 maintenance activities

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(2) Areas of New Development and Significant Redevelopment

- Comprehensive master planning process to minimize discharge of pollutants from areas of new development and re-development
- Permittees shall promote low impact development (LID) and other green infrastructure (GI) as effective best management practices (BMP)s

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(2) Areas of New Development and Significant Redevelopment

- Utilization of the Stormwater Criteria Manual/Stormwater Master Drainage Plan, pollution ordinances as well as updating Tulsa's zoning code to be more environmentally friendly
- Tulsa helped sponsor the Green Country LID Design Competition

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(3) Roadways and (4) Flood Control Projects

Roadways

- Public roadways shall be operated in a manner to minimize pollutants
- ❖ Arterial streets – 6x annually, Residential streets 2x annually for a total of 10,436 yds^3 material removed

Flood Control Projects

- Evaluation of retrofitting existing structures to further remove pollutants
- ❖ Natural stream restoration project on Joe Creek

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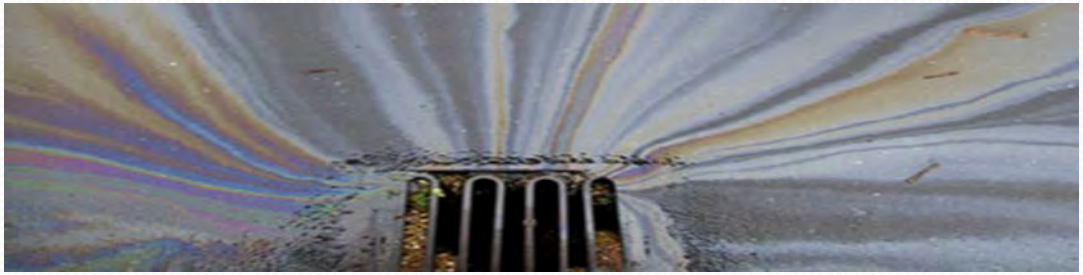
(5)Pesticide Herbicide and Fertilizer Application

- Each permittee shall implement controls to reduce the discharge of pollutants related to pesticides, herbicides and fertilizers
- Required licensing and annual training through OK Pesticide Applicator's Law
- OSU Extension – Master Gardener's Hotline
- Direct mail outs to commercial applicators

(6) Illicit Discharges/Improper Disposal

- Non-stormwater discharges to MS4 are prohibited except those identified in 6.(a)(1) of OPDES Permit #OKS000201
- Enforcement action taken using Title 11-A Chapter 5 “Pollution Ordinance”



(6) Illicit Discharge/Improper Disposal

- **Household Pollutant Collection Event** – 3,879 households participated- collected 5,573 paint containers, 3,120 gallons and 72,839 lbs. of household hazardous waste
- **Sanitary Sewer Overflows** – 182 miles of sewer inspected, ≈27 miles of sanitary sewer were repaired or cleaned
- **Floatables** – 225 field inspections of chronic dump sites resulting in 1,178 yds^3 of waste removed

(7) Spill Prevention and Response

- Permittee must maintain a program to handle spills that may discharge into the MS4 system
- Memorandum of agreement with TFD, City-County Health Department; and Streets & Stormwater Department to ensure compliance with Pollution Ordinance

Construction

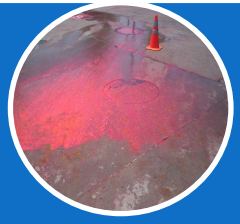
37

Hazmat

22

Drug Labs

101



Stormwater

256

416 Total Investigations

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(8) Industrial and High Risk Runoff

- Program used to identify and control pollutants in stormwater discharges from **municipal landfills**, **hazardous waste/waste facilities**, **EPCRA Title III, Section 313 facilities** and any other facilities determined to be **contributing substantial pollutants** to the MS4
- Database of industrial stormwater sources is maintained. Procedures for inspecting, monitoring and controlling pollutants are in place
- 19 enforcement actions taken

(9)Construction Site Runoff

- A program to reduce the discharge of pollutants from construction sites shall be implemented
- Inspected 1,595 construction sites for ECM violations and issued $3,450 in fines and penalties.
- Starting July 1, 2014 the Stormwater Quality division revised its enforcement policy

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(10) Public Education

- A public education program including public reporting of illicit discharges, proper disposal of motor vehicle fluids/household hazardous wastes, and the proper use of pesticides, herbicides and fertilizers shall be revised and updated as needed

The Met

BLUE THUMB

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OKLEY NATURE CENTER TULSA OKLAHOMA

TULSA ZOO AND LIVING MUSEUM

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(10) Public Education

- Stormwater education material was viewed a total of ≈354,181 times
- 20th Annual Creek Cleanup –Collected 60 bags of litter from Coal Creek and resulted in interpretive panels placed at the entrance to Tulsa Zoo

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- Stormwater Quality commercials that premiered last fall

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Mar 25, 2015
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Stormwater Quality, Maintenance and Pollution Control

Sign Up for the Save Our Streams Quarterly Newsletter

The City of Tulsa has an extensive education program with a goal of reducing pollution in storm water runoff. This program targets the public, as well as commercial and industrial owners and operators within Tulsa.

Education of the public is accomplished through public presentations at conferences and seminars, and presentations at local schools and neighborhood gatherings.

(11) Employee Education

- Shall revise and update a program to educate employees on the rules for permit compliance.
- Development Services, Engineering Services, Street Maintenance, Parks and Recreation, Water Distribution, Stormwater & Land Management and EMD were trained

(12) Monitoring Programs

- **Dry Weather Field Screening (DWFS)**
  - Screened 25% of storm sewer system, out of 155 outfalls 22 contained flow, 4 outfalls required follow-up investigation
- **Industrial and High Risk Runoff Monitoring (IHRR)**
  - Received self-monitoring compliance from 45 EPCRA Title III Section 313 industries. Identified 6 industries required to complete monitoring by July 1, 2015
- **Floatables Monitoring**
  - Continued monitoring of 5 locations
- **Watershed Characterization Program**
  - 8 watersheds sampled for year 3, biological and analytical components, comprehensive assessment end of FY 14/15

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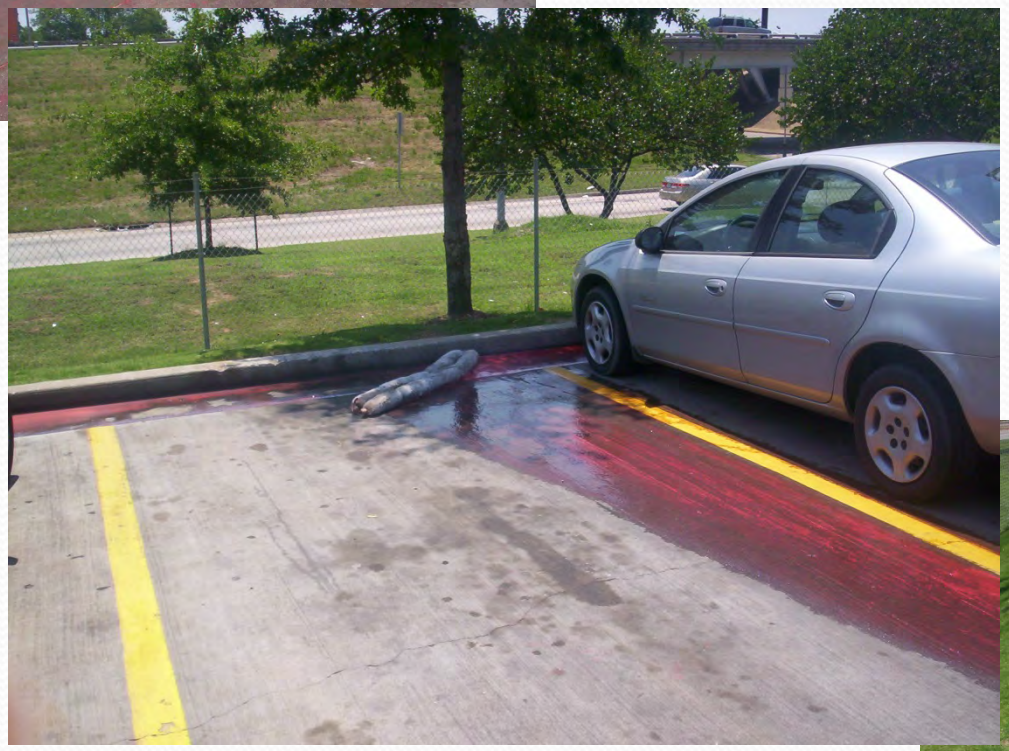
Pollution Ordinance

- Illicit/Illegal Discharges
- Inspections
- Monitoring
- Enforcement
  - Notice of Violation (NOVs) including fines up $1000 /violation/day
  - Cost recovery and mitigation



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Ice cream freezer failure

Paint can in trash dumpster

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Fryer Oil


Storm Drain

Fish Kill

Semi-Truck overturned on Hwy 11 Molasses

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02:17

WEB EXTRA: View Of The F From SkyNews6

02:39

Special Coverage

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Questions???

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