

# Basic Dry Weather Field Screening Workshop

May 5, 2022  
9:00am – 3:30 pm



# Agenda:

- ❖ Intro to Dry Weather Field Screening
- ❖ Getting Ready to Sample
- ❖ BREAK
- ❖ Monitoring Procedures
- ❖ LUNCH!
- ❖ MS4 Phase II Presentation - City of Carrollton
- ❖ Field Screening Demonstration
- ❖ Case Studies – City of Dallas

# Introduction to Dry Weather Field Screening

---



# What is a Storm Drain?

Storm drain can be either an **enclosed pipe** OR an **open channel**

❖ Major storm drains

- Enclosed pipe: diameter of 36 inches or greater
- Open channel: drains more than 50 acres

❖ Minor storm drains

- Smaller than mentioned above

BOTH major and minor storm drains can be a source of illicit discharges



# Illicit vs. Acceptable Discharges

---

**Illicit Discharge:** is defined as any discharge to an MS4 that is not composed entirely of stormwater, except allowable discharges pursuant to an NPDES permit, including those resulting from fire fighting activities (40 CFR 122.26 (b)(2))

The only truly "Acceptable" discharge is stormwater (rain, snow, and ice melt)!

ONLY RAIN DOWN THE \*STORM\* DRAIN!!!



# What is Dry Weather Screening?

---

- ❖ Field testing method for inspecting storm drainage areas/ outfalls to help identify illicit discharges to a MS4
- ❖ Visual observations AND water quality analyses components
- ❖ Dry Weather: **72 consecutive hours** of no rainfall (0.1 inches or more)
- ❖ The *general idea* is that when you go out during dry weather you shouldn't see ANY flow
  - Site/MS4 specific
    - Water table level
    - Natural creek level
    - Etc

# Permit Requirements

---



## National Requirements

- The Clean Water Act prohibits anyone from discharging pollutants into waters of the United States unless they have a NPDES permit.
  - NPDES : *National* Pollutant Discharge Elimination System
  - Contains limits on what can be discharged, monitoring and reporting requirements, and etc. to ensure the discharge does not harm water quality.
- The EPA authorized the NPDES permit program to states
  - Allows the state to perform permitting, administrative, and enforcement aspects of the program

## Texas Requirements

- Texas assumed authority from EPA on September 14, 1998
- All MS4's are required to obtain a TPDES (*Texas* Pollutant Discharge Elimination System) permit


# Phase I MS4 (Large MS4)

Population greater than 100,000 (based on 1990 Census)

- "Large" MS4's
- Must apply for an individual permit

❖ Once a Phase I, always a Phase II!

- There are NO NEW Phase I designations



TPDES PERMIT NO.  
WQ0004396000  
*[For TCEQ office use only – EPA  
I.D. No. TXS000701]*

TEXAS COMMISSION  
ON ENVIRONMENTAL QUALITY  
P. O. Box 13087  
Austin, Texas 78711-3087

This is a renewal of TPDES  
Permit No. WQ0004396000,  
issued on October 6, 2011.

PERMIT TO DISCHARGE UNDER THE TEXAS  
POLLUTANT DISCHARGE ELIMINATION SYSTEM  
under provisions of  
Section 402 of the Clean Water Act  
and Chapter 26 of the Texas Water Code

**PART I: AUTHORIZATION**

City of Dallas  
1500 Marilla Street, 6BS  
Dallas, Texas 75201

is authorized to discharge from the City of Dallas municipal separate storm sewer system (MS4)  
(SIC 9111)



# Phase II MS4 (Small MS4)

---

Must obtain authorization under the TPDES General Permit (TXR040000)

"Level" based on the most recent census at time of permit issuance

- Level 1: Population <10,000
- Level 2: Population  $10,000 < x < 40,000$
- Level 3: Population  $40,000 < x < 100,000$
- Level 4: Population >100,000

❖ Once a Phase II, ALWAYS a Phase II

- BUT you CAN move up in levels as your population changes

## Texas Commission on Environmental Quality

P.O. Box 13087, Austin, Texas 78711-3087



### GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM

under provisions of  
402 of the Clean Water Act  
and Chapter 26 of the Texas Water Code

This permit supersedes and replaces  
TPDES General Permit No. TXR040000, issued December 13, 2013

Small Municipal Separate Storm Sewer Systems  
located in the state of Texas  
may discharge directly to surface water in the state

only according to requirements and conditions set forth in this general permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ or Commission), the laws of the State of Texas, and other orders of the the TCEQ. The issuance of this general permit does

# Illicit Discharge Detection and Elimination (IDDE)

---

- ❖ Phase 1: Required to develop programs to prevent, detect, and remove illicit discharges
  
- ❖ Phase 2: MCM 2 under TPDES General Permit TXR040000
  - Must develop, implement, and enforce an IDDE Program.
    - Requires:
      - An up-to-date MS4 map
      - Methods for training field staff
      - SOPs for tracing and eliminating illicit discharges
      - There are some Level specific requirements
        - Level 4's are REQUIRED to do Dry Weather Screening

# City of Cedar Hill Stormwater Management Program



In compliance with the requirements of the  
Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR04000

Permittee Authorization No. TXR040280

Permit Term: January 24, 2019 – January 24, 2024

- B. MCM 2 – Illicit Discharge Detection and Elimination (IDDE)
  - 1. TCEQ Permit Requirements  
Refer to the MS4 General Permit, Part III.B.2 (Appendix B, pages 36-40) for the Illicit Discharge and Elimination requirements.

**2.05. Illicit Discharge Elimination Program**  
The City uses the Field Investigation Guide (FIG) developed by the NCTCOG as a guide to illicit discharge investigations and inspections. Once the discharge has been confirmed as illicit, and the source identified, the City will take the appropriate steps necessary to eliminate the discharge, including follow-up inspections. The City will investigate 100% of potential illicit discharges and spills from dry weather outfall screenings. The City will perform dry weather outfall screenings on at least 60 City outfalls annually.

**2.06. Staff IDDE Training**  
The City uses the IDDE Training Video developed by the NCTCOG to train relevant staff with the potential to spot possible illicit discharges. The training includes what to do when a suspected discharge has been identified. The City will conduct 1 IDDE training annually.

No.	Best Management Practice	Responsible Department	Target Audience	Measurable Goal	Goal Completed By				
					Year 1	Year 2	Year 3	Year 4	Year 5
					Jan 2019 – Sept 2019	Oct 2019 – Sept 2020	Oct 2020 – Sept 2021	Oct 2021 – Sept 2022	Sept 2022 – Jan 2024
2.05	Illicit Discharge Elimination Program	Public Works		A. Investigate 100% of potential illicit discharges and spills from dry weather outfall screenings.	Sept 30	Sept 30	Sept 30	Sept 30	Jan 24
				B. Perform dry weather outfall screenings on 60 City outfalls annually.	Sept 30	Sept 30	Sept 30	Sept 30	Jan 24
2.06	Staff IDDE Training	Public Works		A. Conduct 1 IDDE training annually.	Sept 30	Sept 30	Sept 30	Sept 30	Jan 24



# Stormwater Management Program

City of Grand Prairie, Texas  
Dallas County Flood Control District #1



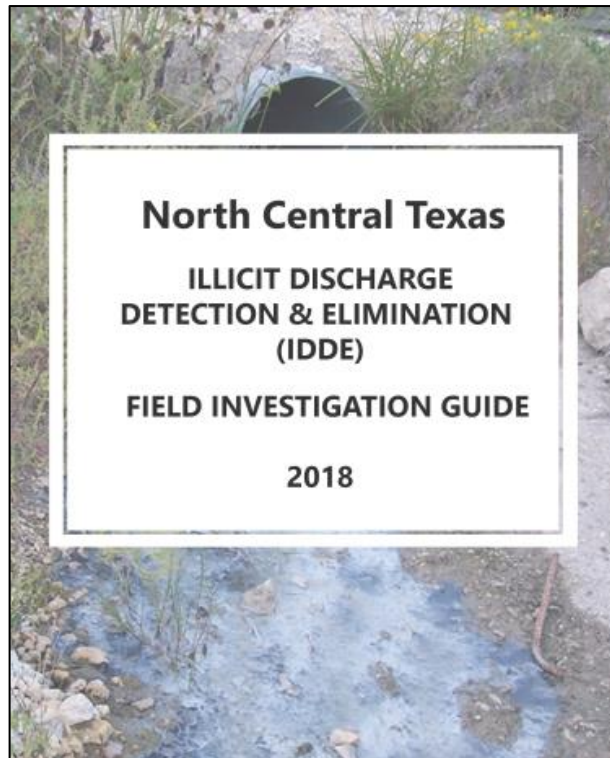
TPDES General Permit TXR040000  
2019-2023

<b>2.3 Dry Weather Field Screening (TMDL)</b>	Develop and implement a program to detect and address non-stormwater discharges, including illegal dumping, into the storm sewer system.	1. Revise dry weather field screening program	Environmental Services Department, Environmental Quality Division	Year 2
		2. Conduct dry weather screening of 1/3 of priority areas as identified in BMP 2.2		Years 1-5
<b>2.5 Illicit Discharge and Spill Procedures (TMDL)</b>	Develop and maintain procedures for responding to illicit discharges and spills.	1. Respond to 100% spill complaints following standard operating procedures spills	Environmental Services Department, Environmental Quality Division	Years 1 – 5
		2. Respond to 100% of the illicit discharges complaints.		Years 1 – 5
<b>2.6 Source Investigation and Elimination (TMDL)</b>	Identify and locate the source of illicit discharges and/or spills. Require responsible parties to perform all necessary corrective actions to eliminate the illicit discharge and/or spill.	1. Conduct source investigations of 100% of illicit discharge to identify and locate illicit discharges as soon as practicable and document all observations, field and lab measurements, and follow up investigation reports.	Environmental Services Department, Environmental Quality Division	Years 1 – 5
		2. Report to the TCEQ 100% of all illicit discharges/spills believed to be an immediate threat to human health or the environment		Years 1 – 5

# NCTCOG and IDDE

Regional protocol was developed with the direction of the Regional Stormwater Management Coordinating Council (RSWMCC)

- ❖ Provides consistent methods for screenings
- ❖ IDDE Field Investigation Guide created
  - Hard copies available for purchase OR downloadable PDF available



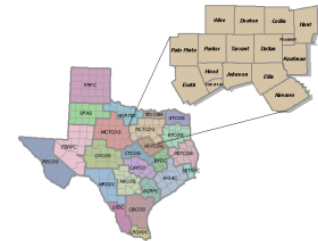
## Dry Weather Field Screening North Central Texas Regional Protocol



This manual was produced by the North Central Texas Council of Governments on behalf of the Regional Stormwater Monitoring Coordinating Council (RSWMCC).



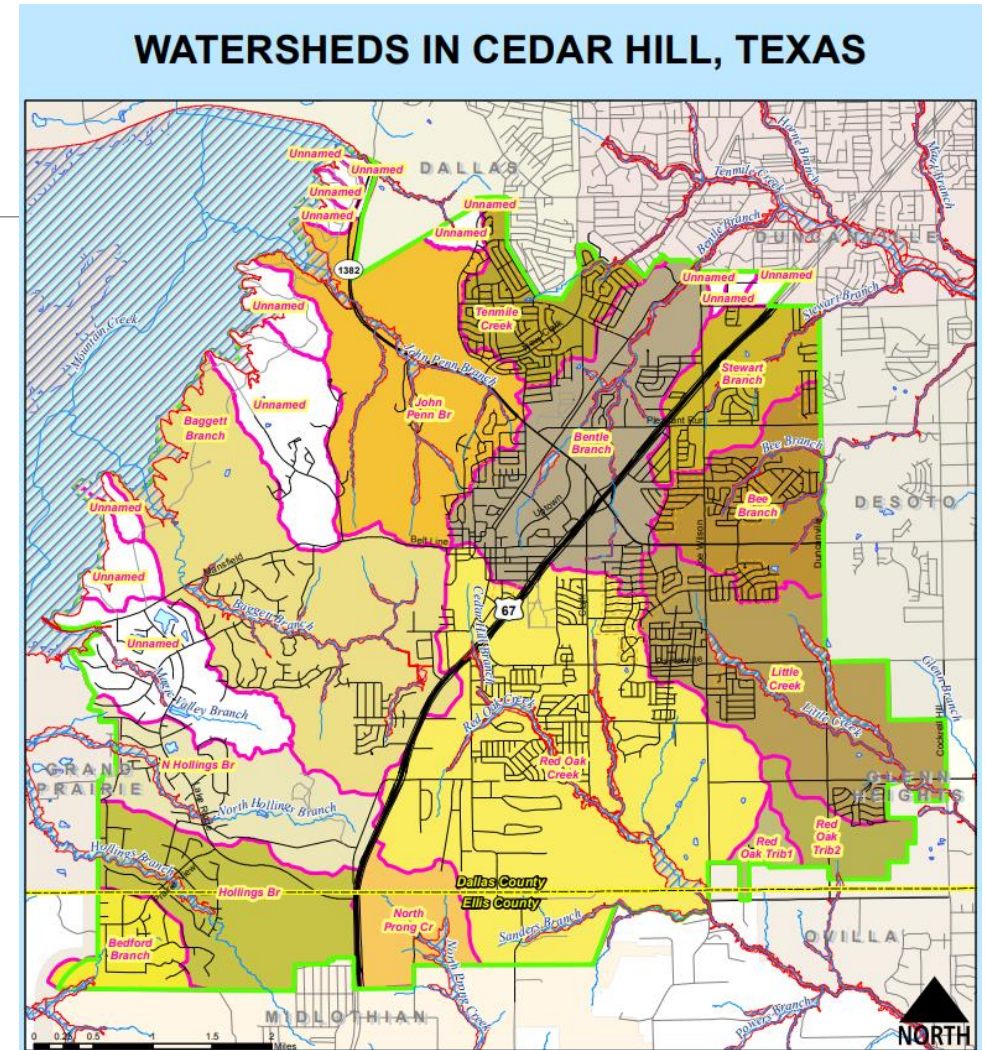
North Central Texas  
Council of Governments



# Program Implementation

## Key tasks of an IDDE program implementation:

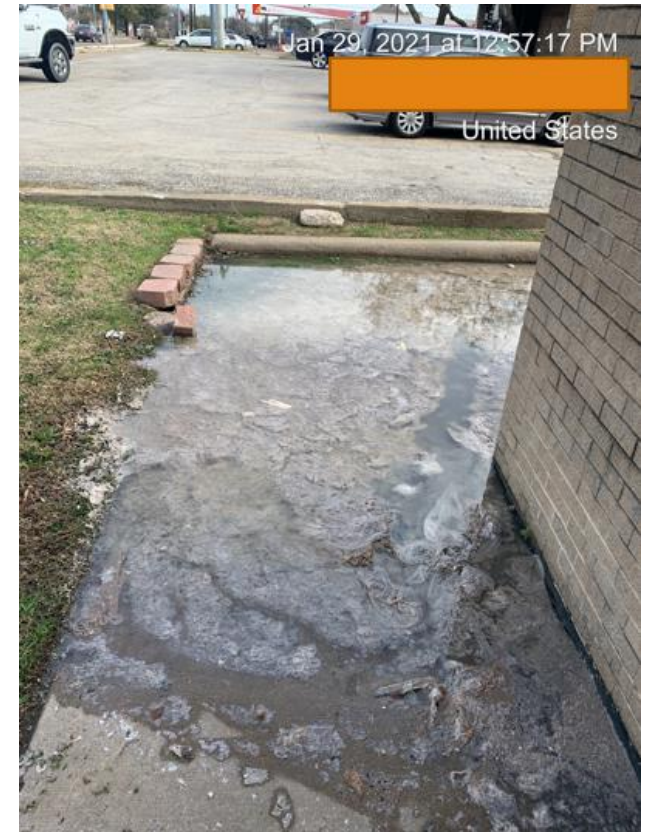
- ❖ Audit existing program and resources
  - Define YOUR specific needs
- ❖ Establish Responsibility, Authority, and Tracking
- ❖ Assess the illicit discharge potential for your community\*
  - What areas may have higher potential?
    - Industrial VS Commercial VS Residential
    - More green space VS dense population
    - Older infrastructure VS newly installed utilities
  - Look at your subwatersheds, which are “higher risk” ?



\* : These are ongoing through the life of your program!

# Program Implementation Cont.

- ❖ Develop program goal and implementation strategies
- ❖ Search for Illicit Discharges\*
- ❖ Isolate and correct discharges\*
- ❖ Prevent illicit discharges\*
  - **Education!!!**
  - Enforcement
- ❖ Evaluate your program\*



\* : These are ongoing through the life of your program!

# Public Education

## ❖ Created a “Welcome to Cedar Hill” folder for all new businesses

- Given at CO inspection
- Created industry specific Stormwater flyers
- Include Liquid Waste hauler list if applicable


## ❖ Created “Pollution Prevention Starts at Home” door hangers to use on complaints when we can’t make direct contact

## ❖ Stormwater brochure

**POLLUTION PREVENTION STARTS AT HOME**

THE FOLLOWING STORMWATER ISSUES WERE FOUND IN YOUR NEIGHBORHOOD:

- ❑ **What to do with yard waste?**  
DO NOT sweep yard clippings and leaves onto the street. Yard wastes clog storm drains and cause flooding! Bag up yard wastes for disposal or compost the yard wastes.
- ❑ **Is it time to drain the pool?**  
DO NOT drain pool water onto the street. Water with high chlorine levels harm aquatic life. Hook up pool discharge hoses to the sanitary sewer cleanout or be sure to dechlorinate the water before draining onto the yard.
- ❑ **Have household hazardous wastes (HHW) like household chemicals, paint, used motor oil, or electronics?**  
DO NOT drain or place HHW onto the street. These wastes cannot go in your regular trash! Bring HHW to a local collection event.
- ❑ **Got a leaking vehicle?**  
If the vehicle cannot be stored under cover, put a drip pan underneath the vehicle to collect leaking fluid until the vehicle can be taken to a repair shop.

  
**CEDAR HILL**  
WHERE OPPORTUNITIES GROW NATURALLY

Environmental Services  
[www.cedarhilltx.com/Stormwater](http://www.cedarhilltx.com/Stormwater)  
City of Cedar Hill, 285 Uptown Blvd #100, Cedar Hill, TX 75104

## Stormwater Program



### Industrial Activities

Illicit discharges shall result in Environmental enforcement including but not limited to notices of violations, judicial proceedings, and citations are up to \$2,000 per violation.



### Chemical/ Used Oil Storage

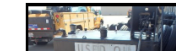
Used oil and chemicals should be stored in closed, labeled containers

## Stormwater Program



### Auto Related Businesses

Illicit discharges shall result in Environmental enforcement including but not limited to notices of violations, judicial proceedings, and citations are up to \$2,000 per violation.



### Chemical/ Used Oil Storage

Used oil and oil filters should be stored in a labeled container

## Stormwater Program



### Restaurants and Food Service

Illicit discharges shall result in Environmental enforcement including but not limited to notices of violations, judicial proceedings, and citations are up to \$2,000 per violation.



### Recycle Oil & Grease

Oil and grease wastes can be recycled. DO NOT pour oil or grease into sinks, floor drains, or onto a parking lot or street. Keep grease bins covered and contained. Keep your grease interceptor maintained to prevent sewer overflows or backups. Keep records of grease waste hauling.



### Dumpster Areas

Keep dumpster lids closed and the areas around them clean. DO NOT fill with liquid waste or hose them out. Contact your trash hauler to replace any dumpsters that are damaged or leaking.



### Cleaning & Maintenance

Clean equipment, floor wash rack, or floor drain

a Licensed  
the event  
ntainers are  
preferably

hem clean.  
ntact your  
maged or  
umpster,

h a Licensed  
the event  
ntainers are  
preferably  
y if you use  
to all spills as

Absorbent  
ossible. Once  
quid, sweep  
er until prop-  
your dump-

er a grit!

**NO POLLUTING  
DRAINS TO CREEK**

**STORMWATER RUNOFF**  
Construction changes the natural condition of the land. Improvements such as roads, houses, etc., create many impervious or impermeable surfaces. Eventually, the stormwater runoff flows into our creeks and streams.

The stormwater runoff may carry anything that has been applied to the ground such as fertilizers or pesticides. As more land is developed, the volume, speed of flow, and pollutant loading of runoff increases. To minimize standing water on and adjacent to the roads and to reduce pollution to our local water bodies, the City is required to implement stormwater management practices.

**WHAT YOU CAN DO**

- Properly dispose of waste at your home.
- Turn off your sprinklers before a rain or install a rain/pressure sensor on the system.
- Do the right thing and pick up after your pets.
- Apply pesticides, herbicides, and fertilizers well before rain is forecasted.
- Use native or drought tolerant plants that are adapted to Texas weather extremes and require less water and fewer fertilizer applications.
- Don't dump motor oil on the ground or in the storm drain, and take used oil to a recycling facility.
- Check cars, boats and motorcycles for leaks and use absorbent materials for clean up. Do not rinse in the street.
- Keep yard clippings and other yard wastes in a compost bin for use in landscape beds.
- Wash your vehicle at a commercial carwash.
- Drain your pool water into the sanitary sewer line by running drain hoses to clean outs.

**EFFECTS OF POLLUTION**

- Sediment** can cloud the water and make it difficult or impossible for aquatic plants to grow, which could dislay aquatic habitats.
- Excess nutrients** can cause algae blooms. Excess algae can sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms cannot exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens** can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris** (plastic bags, six pack rings, bottles, and cigarette butts) washed into water bodies can choke, suffocate, or disable aquatic life such as ducks, fish, turtles, and birds.
- Household hazardous wastes** such as insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick from eating disposed tin and shellfish or ingesting polluted water.

  
**CEDAR HILL**  
WHERE OPPORTUNITIES GROW NATURALLY



Questions?