Phase II Cities and Dry Weather Screening

MAY 2022

NPDES/TPDES Stormwater Permits for Cities/Entities

- Phase I – Individual Permits
  - 2005
  - Population of 100,000 in 1990 – are set - will never change
  - Dallas, Fort Worth, Plano, Garland, Arlington, Irving, Mesquite, TXDOT
- Phase II – Small Municipal Separate Storm Sewer System General Permit (MS4)
  - 2007

Phase II Permits!

Small Cities/Entities in Urbanized Areas or Designated by TCEQ

Levels 1-4 based on population

- Level 1: Operators of traditional small MS4s that serve a population of less than 10,000 within a UA;
- Level 2: Operators of traditional small MS4s that serve a population of at least 10,000 but less than 40,000 within a UA. This category also includes all non-traditional small MS4s such as counties, drainage districts, transportation entities, military bases, universities, colleges, correctional institutions, municipal utility districts, etc.;
- Level 3: Operators of traditional small MS4s that serve a population of at least 40,000 but less than 100,000 within a UA;
- **Level 4: Operators of traditional small MS4s that serve a population of 100,000 or more within a UA.**

Ex. Carrollton, Grand Prairie, Frisco, Farmers Branch, DART

MS4 General Permit

- Stormwater Management Program (SWMP) and Notice of Intent
- Six Minimum Control Measures:
  1) Public Education, Outreach, and Involvement
  2) **Illicit Discharge Detection and Elimination (IDDE)**
  3) Construction Site Runoff Control
  4) Post-Construction Runoff Control in New Development/Redevelopment
  5) Pollution Prevention/Good Housekeeping for Municipal Operations
  6) Industrial Sources
  7) *Optional – Authorization for Construction Activities where the Small MS4 is the Site Operator*

MS4 Permit: IDDE – Illicit Discharges and Spills

- Requirements for all MS4s
  - MS4 Mapping
  - Public Reporting of Illicit Discharges and Spills
  - Procedures for training all field staff that may observe an illicit discharge
  - Procedures for Responding to and tracing the source of an illicit discharge
  - Procedures for removing the source of the illicit discharge
  - Notification to other MS4s
- Level 3 and 4 only: Verify that the discharge has been eliminated by conducting a follow-up investigation or field screening

MS4 Permit: IDDE Additional Requirements for Level 4s Only

- Identification of Priority Areas
- Dry Weather Screening
  - Written procedures
  - Conduct Dry Weather Field Screening in Priority Areas
  - Field Observation Requirements
  - Field Screening Requirements
  - Must have 72 hours of dry weather
- Floatables

Carrollton's SWMP Activities for Dry Weather Screening

BMP 2.10	Activity	Year Due	Responsible Department
Dry Weather Discharge Screening	1. All Environmental Quality full time employees or consultants will attend the NCTCOG regional dry weather screening protocol training once at least once. Refreshers will be done as needed.	0	Environmental Services
	2. Determine the priority locations for screening and have a map of the areas.	January 24, 2021	
	3. Review and revise the Dry Weather Field Screening manual once during the permit term.	January 24, 2021	
	4. Continue Dry Weather Field Screening at the priority locations.	0	
	5. Implementation Complete	0	

Carrollton's SWMP Activities for Dry Weather Screening

- Training of all employees who may respond to illicit discharges
- Carrollton's Dry Weather Screening Manual – review and update
  - NCTCOGs manual edited for our sampling activities
- Determine Priority Locations for Screening once in permit term
  - Included as part of the DWS Manual
- Dry Weather Screening at Priority Locations
  - Field Observations and Field Screenings
  - Form
  - Done twice a year

Carrollton: Identification of Priority Areas

Outfalls selected to monitor each permit term based on the following criteria:

1. **Number of Spills and Complaints for an area**
   - These are mapped to see if there are more spills and discharges in certain areas that we may want to select as priority areas.
2. **Surface Water Quality Monitoring Data***
   - This is the main criteria used when selecting our priority areas. We currently have 18 sites we monitor in our 5 creeks.
3. **Outfall size or the size of the area that drains to an outfall**
   - Plays a large role when selecting which outfalls to monitor in the priority areas.
4. **Age of the City's Sewer and Water Lines**
   - As they age we may see more sanitary sewer overflows and water main breaks. We map the locations of SSOs and water main breaks for determining priority locations.
5. **Land Use**
   - Also plays a large role in selecting which outfalls to monitor in the priority areas. Industrial and commercial activities may have a higher pollution potential.

Carrollton: Identification of Priority Areas

Criteria we focused on for our choices this permit term:

1. **Number of Spills and Complaints for an area**
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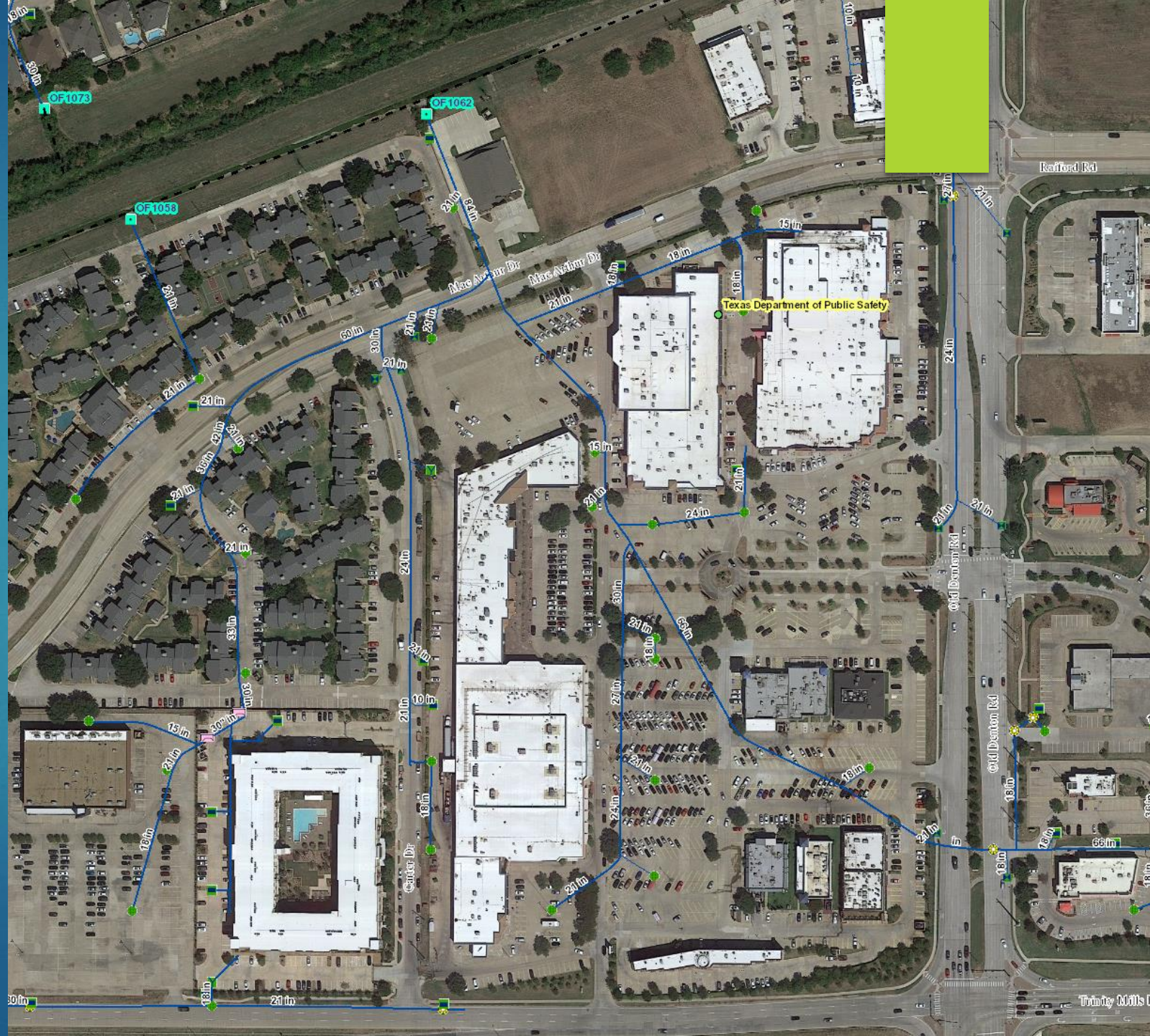
5. **Land Use**
   - Also plays a large role in selecting which outfalls to monitor in the priority areas. Industrial and commercial activities may have a higher pollution potential.

- Large outfall with multiple area connections
- Great area choice, we have found and remediated illicit discharges after DWS



Outfalls to be Monitored for Dry Weather Screening 2015		
Indian Creek:	Reason for Selection:	Site Description:
OF 4040	Kohl's shopping center OF	north of Kohl's on southeast side of detention area
OF 4041	Outfall for apartment, residential & commercial (Kroger shopping center)	north east side of the detention area opposite of Kohl's outfall
OF 0309	Commercial outfall	northwest side behind the shopping center at Old Denton and Hebron - north outfall
OF 0308	Commercial outfall	northwest side behind the shopping center at Old Denton and Hebron - south outfall
OF 0428	Commercial outfall	Huffines and W. Hebron - across from the daycare on Huffines
OF 0382	Large residential outfall	end of Legacy at Creekside
OF 0379	Large residential outfall	Creekside - northeast of OF0382
Hutton Branch:	Reason for Selection:	Site Description:
OF 4355	Apartment Complex outfall - right	drainage channel for Trinity Crossing Apts
OF 1296	Apartment Complex outfall - left	drainage channel for Trinity Crossing Apts
OF 1279	Residential outfall	along Kelly North side of the channel where HB4 sample is taken
OF 1281	Residential outfall	along Kelly North side of the channel upstream of OF1279
OF 1443	Residential outfall	west of Wentwood and Old Mill Rd - drains Renwick and Wentwood
Cooks Branch:	Reason for Selection:	Site Description:
OF 1118	drains large residential area	Northeast side of channel at Nix and Fyke
OF 1112	Large residential outfall	Soutside of Fyke on Farmers Branch Side
VI Channel:	Reason for Selection:	Site Description:
All outfalls	all industrial/commercial outfalls	entire length of Valwood Improvement Channel

Outfalls to be Monitored for Dry Weather Screening 2010

Indian Creek:	Reason for Selection:	Site Description:
OF 423	Oil sheen visible -	West of Creek Valley Middle School & south of residential
OF 425	large outfall; drains large residential area ,	relatively large w/metal bars) between Comanche & Indian Run
OF 434	observed flow during dry weather	Under bridge between Creekvalley & Eisenhower on the south side of Hebron
OF 302	culvert that drains a large area from Eisenhower	corner of Mae "culvert"
OF 443	observed flow during dry weather	between Crystal & Island behind park playground
Furneaux Creek:	Reason for Selection:	Site Description:
OF 601	outfall for large residential area	Alley behind Rambling Ridge
OF 611	large outfall	End of Oakhill & Chestnut
OF 5061	commercial outfall	north of storage facility on Frankford, hidden by a clump of trees
OF 620	commercial outfall	outfall between Walgreens and stopped up outfall
OF 510 (left)	outfall for large residential area	Irvine and Cemetery Hill
OF 4197 (was listed as OF 510 (right))	outfall for apt complex	Irvine and Cemetery Hill
Hutton Branch:	Reason for Selection:	Site Description:
OF 1353	commercial outfall	in Thomson Reuter's parking lot
OF 1351	commercial outfall	under trees at Kellway
OF 2298	have not located yet	have not located outfall but will monitor if we find it
Dudley Branch:	Reason for Selection:	Site Description:
OF 468	Commercial/residential outfall	End of Indian Springs alley
OF 472	residential outfall	end of Silverado
OF 4846	large residential outfall; drains large area	between 2 footbridges east of park north side of creek at the curve for Greenglen
OF 452	large residential outfall; drains large area	Northwest of Raleigh & Old Denton, north side of the channel between Creekview High School and residences
OF 478	outfall for commercial area	Old Denton & Raleigh under bridge on northeast side by Nursing Home
Cooks Branch:	Reason for Selection:	Site Description:
OF 1121 A (north) & B (south)	2 residential outfalls	Lakeland & Valleywood
VI Channel:	Reason for Selection:	Site Description:
OF5060	Industrial/Commercial/Residential outfall	Broadway & Randolph - southeast corner
OF4151 (was listed as OF 1096 (A) left)	Industrial/commercial outfall	west of bridge on Monetary
OF2320 (was listed at OF 1096 (B) right)	Industrial/commercial outfall	west of bridge on Monetary
OF 1391	commercial area w/history of illicit discharge	south of Wallace behind B Braun - second outfall from RR tracks

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Carrollton: Field Observations and Field Screening

- Performed twice a year
- All priority outfalls monitored every time
- MS4 Permit requirement to have 72 hours of dry weather
- DWFS Form includes observations and field screening results (same as NCTCOG)
  - We test/observe for pH, conductivity, ammonia nitrogen, chlorine, detergents, turbidity, color, odor, sewage, trash, oil sheen, surface scum, flow (not measured)
  - Any hits and we look for source – have found water main breaks/leaks, pool discharges, fire training discharge, and construction site discharges

CARROLLTON TEXAS

Dry Weather Field Screening Data Sheet

Sample Collectors Name: _____
Location ID: _____
Location: _____
Receiving Water: _____
Stains or deposits in the outfall:_____
SiteNotes:_____
_____
_____

Calibration (within 24 hours of sampling)	Date	Time	Standard Value	Initial Meter Reading	Meter Adjusted to	Post Calibration

1st Visit Date:_____ Time:_____
Precipitation <72 hours: Yes No
Flow: None Low Med High
pH _____s.u.
Conductivity _____µS
Detergent _____ppm
Ammonia Nitrogen (NH4) _____ppm
Water Temp _____°C
Turbidity _____NTU's
Chlorine _____ppm
Color _____
Odor _____
Sewage Yes No Surface Scum Yes No
Trash Yes No Oil Sheen Yes No
Notes:_____
_____

2nd Visit Date:_____ Time:_____
Precipitation <72 hours: Yes No
Flow: None Low Med High
pH _____s.u.
Conductivity _____µS
Detergent _____ppm
Ammonia Nitrogen (NH4) _____ppm
Water Temp _____°C
Turbidity _____NTU's
Chlorine _____ppm
Color _____
Odor _____
Sewage Yes No Surface Scum Yes No
Trash Yes No Oil Sheen Yes No
Notes:_____
_____

1st Visit Date:_____ Time:_____

Precipitation <72 hours: Yes No

Flow: None Low Med High

pH _____s.u.

Conductivity _____µS

Detergent _____ppm

Ammonia Nitrogen (NH4) _____ppm

Water Temp _____°C

Turbidity _____NTU's

Chlorine _____ppm

Color _____

Odor _____

Sewage Yes No Surface Scum Yes No

Trash Yes No Oil Sheen Yes No

Notes:_____

_____

2nd Visit Date:_____ Time:_____

Precipitation <72 hours: Yes No

Flow: None Low Med High

pH _____s.u.

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Water Temp _____°C

Turbidity _____NTU's

Chlorine _____ppm

Color _____

Odor _____

Sewage Yes No Surface Scum Yes No

Trash Yes No Oil Sheen Yes No

Notes:_____

_____

Materials

- Storm Drain Kit – Lamotte Code: 7446
- 2100_ Turbidimeter – Hach
- Ammonia Nitrogen kit – Lamotte Code: 3315
- Conductivity Meter – Hanna DiST 3 HI 98303
- pH 300 Series - Oakton

QUESTIONS & CONTACT!

Devan Simmons

Stormwater Coordinator

City of Carrollton

Devan.Simmons@cityofcarrollton.com

972-466-3035