

COA

TPDES Permit #: WQ0004635000



TPDES Stormwater Annual Report FY 2021

October 1, 2020—September 30, 2021



Submitted: March 2022

Photo Credit: Kassandra Madrid, Env. Mgmt. Intern

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CERTIFICATION

ANNUAL REPORT FOR OCTOBER 1, 2020 THROUGH SEPTEMBER 30, 2021

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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Stormwater Quality Manager
Public Works & Transportation – Stormwater Division
Environmental Management
City of Arlington, Texas

Date



FY21 SUMMARY

The City of Arlington and its co-permittees have operated under Texas Pollutant Discharge Elimination System (TPDES) MS4 permit #WQ0004635000 since its issuance on **August 15, 2019**, when the City of Arlington's TPDES MS4 permit was renewed. The Stormwater Management Program (SWMP) was submitted on **February 10, 2020** and approved on **November 9, 2020**.

The body of this report summarizes the City of Arlington's activities during fiscal year 2021 according to the sections outlined in the 2019 MS4 permit and its approved 2020 SWMP.

- 1: MS4 Maintenance Activities
- 2: Post-Construction Stormwater Control Measures
- 3: Illicit Discharge Detection & Elimination (IDDE)
- 4: Pollution Prevention & Good Housekeeping for Municipal Operations
- 5: Industrial and High-Risk Stormwater Runoff
- 6: Construction Site Stormwater Runoff
- 7: Public Education & Outreach / Public Involvement and Participation
- 8: Monitoring, Evaluation, and Reporting
- 9: Total Maximum Daily Loads (TMDLs)

Each co-permittee reports implementation and/or continuation of activities as required by the MS4 Permit and as outlined in their respective SWMPs. The annual report prepared by the University of Texas – Arlington (UTA) is provided in **Appendix A**. Co-permittees continue to cooperate, and mutual assistance has been readily afforded.



SWMP IMPLEMENTATION STATUS

In accordance with Part IV.C of the City's 2019 permit, this section provides the status of implementing the SWMP, including permit defined minimum control measures (MCMs) during **FY21**.

As part of the 2019 TPDES MS4 permit requirements, the City of Arlington (COA) developed its SWMP to guide and facilitate its stormwater management program and to comply with TPDES requirements for stormwater discharges. The goals of the SWMP are protection and improvement of stormwater and surface water quality through the implementation of a variety of activities (best management practices) including, but not limited to, inspection, maintenance, enforcement, planning, design, monitoring, and education. The SWMP is intended to aid in the City's efforts to reduce stormwater pollutants from the City's storm sewer system to the maximum extent practicable as required by the TPDES General Permit.

The SWMP describes specific actions that will be taken over a five-year period to reduce pollutants and protect the City's Stormwater quality. The specific activities to be implemented are referred to as best management practices (BMPs). Various BMPs have been developed for each of the eight minimum control measures (MCMs) required by the City's MS4 permit. The SWMP also sets measurable goals and provides a schedule for the implementation of the BMPs. Implementation of the selected BMPs is expected to result in reductions of pollutants discharged into the COA's creeks, streams, ponds, and lakes.

The City of Arlington's Public Works and Transportation Department, Stormwater Management Division, Environmental Management Group is responsible for the overall development of the SWMP, but several of the City's departments have some degree of responsibility in the implementation of the plan.

The University of Texas – Arlington (UTA), the City's co-permittee, is responsible for the development and implementation of their own SWMP for those portions of the MS4 within their jurisdiction.

The SWMP is implemented per established compliance schedules and the measures contained therein are implemented as intended to prevent the discharge of pollutants to the MS4 to the maximum extent practicable.

The status of implementing the current SWMP is outlined by each individual MCM in the following section.

It is important to note that many activities in FY21 were impacted by COVID-19 and social distancing requirements. The City has continued to implement its required programs while also following city, state, and CDC guidance to limit Coronavirus exposure.



01. MS4 Maintenance Activities



I. *Structural Controls*

The Stormwater Maintenance Crew maintains the stormwater conveyance infrastructure, i.e. the stormwater conveyance infrastructure that is within the city's rights-of-way including, major bridges, culverts, inlets and barrow ditches. The crew performs inspections to identify maintenance and repair needs. The crew accomplished the following during the reporting period:

	Sum of Labor Hours	Debris Hauled (in cubic yards)
Backfill	83.5	5
Bridge Deficiency Repair	179	44
Clean Concrete Channel	2851.75	166
Clean Culvert/Bridge	1640	159
Clean Earthen Channel	406	15
Clean Flume	771	132
Clean Inlet	469.77	133
Clean/Grade Bar Ditch	688.25	54
Contract Inspection	99.75	8
Control Vegetation	481.6	289
Dirt & Mud Removal	269.25	42
Field Inspection (No Condition)	880.8	1652
Fill Void	0	5
Graffiti Clean Up	78.97	25
Hydro Excavation	113.5	14
Illegal Dumping Response	23.5	9
Inlet Decal Install	83.75	365
Inlet Inspection	1293.035	10811
Inspect	335.75	141
Inspect Channel / Flume	640.85	1139
Larvicide Dunk	3.6	11
Lid Replacement	10	5
Locate Line	21	20
New Installation	32.5	3
On-Call	8	1
Pipe Inspection - Engineer Project	94.25	1
Pipe Inspection - Maintenance Issue	68.75	32
Pipe Inspection - Postconstruction	86	57
Pipe Inspection - Preconstruction	100.25	72
Remove Beaver Dam	18.5	3
Remove Debris or Obstacle	817.75	90
Remove Tree Limbs	531.5	60
Repair Drainage Pipe	206.5	13

Repair Drainage Structure	1904.25	53
Request Line Locate	10.5	9
Saw Cutting	23.5	1
Seal Joint	0	5
Storm Inspection	229.84	558
Trim Trees/Brush	57.5	4
Grand Total	15,614.215	16,206

II. Floatables

a. Source Controls and Monitoring - Sweeping

The Stormwater Maintenance Crew performs maintenance activities that reduce the volume of sediment and floatable materials that have the potential to reach the MS4 and receiving waters. The Stormwater Management Division also contracts street sweeping activities for the removal of sediment and floatables from the MS4. The following tables summarize their contribution to the removal of sediment and floatables.

In-house Street Sweeping:

Activity	Labor Hours	Curb Miles Swept	Debris Removed (Cubic Yards)
Street Sweeping (in-house)	798	878.67	267

In-house Airport Sweeping:

In 2019, the City of Arlington Municipal Airport purchased a “FOD*BOSS Sweeping Mat” to replace contracted sweeping activities. The contractor’s service was unable to remove the smaller items (FOD – Foreign Object Debris) that could damage aircraft. Additionally, the FOD*BOSS is designed solely for collecting FOD from tarmac and aircraft movement surfaces. Sweeping frequency is **1 time** per week, utilizing **two (2) to three (3) man hours** each run. Sweeping for the reporting period is outlined below:

Month	Recorded Mileage
October	56.4
November	29.3
December	34.3
January	35.3
February	29.1
March	63.6
April	43.5
May	65.8
June	91.6
July	73.6
August	45
September	76.3
Grand Total	643.8

Contracted Street Sweeping Activities:

Activity	Quantity
Residential Lane Miles	1,589.787
Major Intersections (each)	360
Entertainment District (cycles)	47
Special Events (hours)	20

b. Litter Pickup

The litter pick up program reduces the discharge of floatables into the MS4 by engaging citizens and businesses in litter collection activities throughout the year. The program consists of litter clean up citizen events as well as contracted litter pick up services. Below is a report of litter pickup activities:

1. Waste Contractor Litter Control Monthly Totals:

Month	Bags Collected	Weight (lbs)
October	1373	39,420
November	1246	37,880
December	1214	45,080
January	797	30,920
February	313	12,140
March	1070	41,520
April	822	31,880
May	967	37,520
June	993	38,520
July	843	32,720
August	405	15,720
September	790	30,660
Grand Total	10,833	393,980

2. Parks and Recreation:

The City of Arlington, Keep Arlington Beautiful affiliate was disbanded in FY18 due to lack of Board activity and participation. However, some of KABs related activities remain were transferred to the Parks and Recreation Department for coordination including Creek and Litter Cleanup Events. *In FY21, Parks and Recreation was unable to conduct any clean-up events due to COVID-19 social distancing restrictions.* While the Parks and Recreation department typically sponsors neighborhood cleanup events by providing trash bags and other materials with use of their Litter Trailer, there was no use of the trailer in FY21. As such, **no** volunteer attendance and volunteer hours are recorded for the fiscal year.

c. Recycling Program – Automated Curbside; Leaf/Brush; and Landfill Coupon

The City of Arlington's automated cart recycling program replaced the previous open bin recycling program in June 2013. The recycling carts are equipped with a lid to reduce the incidence of wind-blown litter that could potentially

pollute streets and water drainage systems. In FY21, with continued implementation and use of the cart system, approximately **47,598,000** pounds (**23,799** tons) of recyclable material was collected.

The City of Arlington Solid Waste & Recycling Division also offers leaf recycling drop off locations throughout the city from November through February of each year. Arlington residents may bring bagged leaves to one of five collection sites for leaf recycling. Arlington residents may also take advantage of the Landfill Coupon Program, a free program in which residents may bring tree limbs, leaves, brush, or large bulky items from their homes directly to the landfill for recycling and/or disposal.

Recycling activities for this reporting period are listed below:

Activity	Collected Amount (tons)
Landfill Coupon Program	3,804.31
Leaf (and Brush) Cleanup/Collection	222
Citywide Leaf Drop Off Locations	390.65
Grand Total	4,416.96

III. Roadways

The City of Arlington operates and maintains public streets and roads in a manner to minimize the discharge of pollutants to the MS4, including those pollutants related to deicing and/or sanding activities. The program includes street sweeping activities (previously described), spill response (hazardous and non-hazardous materials to roads and streets) and deicing and/or sanding activities.

The City spill response program is explained in more detailed under **MCM 3: Illicit Discharge Detection and Elimination, Section VIII: Spill Prevention and Response**.

In times of inclement weather, the city may deploy sanding and/or deicing crews. The city experienced approximately **one (1)** event during the reporting period that necessitated a severe weather response totaling **\$132,121** in labor costs. The following amount of material was deployed during the one event:

Material	Quantity
De-icing Sand Ice-Chat	576 yd ³
Magnesium Chloride Ice-Melt	16 tons
Salt Brine solution	2,950 gallons

Street sweeping recovers deicing material after storm events. The recovered material contains an unknown amount of sediment and debris that were present on streets before deicing. Actual recovery rates of the deicing material vary depending on weather conditions.

02. Post-Construction Stormwater Control Measures



I. Areas of New Development and Significant Redevelopment

The City of The City of Arlington's Unified Development Code (UDC), formerly the Subdivisions Ordinance, acts as the regulatory mechanism for the enforcement of post-structural stormwater controls. The UDC specifies in Article 6, Section 6.1, H, that one of the purposes of the regulation is to: "minimize the pollution of streams and ponds; to provide for the adequacy of drainage facilities; to control stormwater runoff; to minimize erosion and siltation problems, to safeguard the water table; to encourage the wise use and management of natural resources; and enhance the stability and beauty of the community and the value of the land."

The UDC also provides that each subdivision (development) shall provide "adequate public facilities" that include the drainage necessary to serve the proposed development (see UDC, Article 6, Section 6.2.1). Drainage and stormwater facilities are adequate when: (1) stormwater runoff attributable to new development or redevelopment complies with the minimum standards of the UDC and the Design Criteria Manual (DCM); and (2) to the maximum extent practicable, permanent BMPs, as described in the DCM, maintain the predevelopment characteristics of any natural creek that ultimately receives stormwater runoff from the development. That is, "designs for development shall manage stormwater in a manner that protects and/or improves stormwater quality by addressing the development's potential to cause erosion, pollution, siltation, and sedimentation in the MS4 and natural creeks. The goal is to maintain after development, to the maximum extent practicable, the predevelopment characteristics of stormwater runoff from the development. It is the developer's responsibility to ensure that designs for the development meet the stormwater management requirements of adopted City Codes" (see UDC, Article 6, Section 6.5.1, D.)

The Design Criteria Manual (DCM) was adopted by City Council Ordinance in June 2003 and went into effect on August 12, 2003. Various stormwater revisions made between 2003 and 2010 were described in past Annual Reports. Stormwater related revisions to the Design Criteria Manual including the Public Improvements submittal process, stormwater standards, permit process and terminology, definitions and regulations for public improvements and street appurtenances were adopted in January, April, and June of 2010 respectively. Most recent revisions to the DCM were made between 2014 and 2019 with final adoption of all changes in October 2019. The City continues to apply the Design Criteria Manual requirements to new developments.

II. Implementation and Maintenance of Structural BMPs

The Permit requires the City to provide for the "adequate long-term operation and maintenance of BMPs." While BMPs associated with private development are the responsibility of the developer or subsequent property owners, in order for the City to ensure the adequate and long-term maintenance of BMPs, the City shall develop and implement an inspection and maintenance program coordinated by Environmental Management (EM) staff. Over the permit term, EM staff will develop a post-construction inspection program for all *new* private development and construction that incorporates post-construction stormwater drainage, detention, and/or retention features.

BMPs associated with private development must be designed in accordance with the sound engineering practices described in the DCM. Requirements include an agreement for perpetual maintenance of private BMPs be executed with the City prior to acceptance of the final plat. This agreement runs with the land and can be tied to commercial property or to the properties within a homeowner's association. Access is provided by the developer or owner to the City should a public safety concern arise.

Creation of the Arlington Post-Construction Structural Controls began in November 2020 and authorized by City Council with the approval of the new Stormwater Pollution Control Ordinance in December 2021. Two (2)

measurable goals were outlined in the City's SWMP for completion in Year Two of the permit term associated with MCM 2, New Development and Redevelopment:

- Creation of a specific section in the City's Stormwater Pollution Control Ordinance identifying requirements related to Post-Construction Structural Controls
- Creating a minimum of 10 questions to be included on an inspection checklist for Post-Construction Structural Controls

Both goals were met during the reporting period.

III. Flood Control Projects

The City completed the following drainage and/or erosion projects during the reporting period of **October 1, 2020 to September 30, 2021**:

- 2019 Stormwater Maintenance, Phase 1 – Maintenance of existing drainage 1901 Thames Drive, Maywood (from 2017 Miscellaneous Maintenance) and Powder Horn.
- Country Club Rd. Local Drainage and Channel Improvements (South of Park Row) – drainage improvements to alleviate residential flooding and repair creek erosion associated with the transition from concrete channel to natural creek. Includes Park Row location from 2017 Bridge Maintenance Project.
- Lower Johnson Creek Dredging – Dredging of sediment from the Richard Greene Linear Park pond within the Johnson Creek watershed. The dredging project improved the health of aquatic life and reduced hazards by increasing water volume in Johnson Creek and the Richard Greene Linear Park ponds.
- Upper Johnson Creek Dredging – The project involves the dredging of sediment from two City park ponds within the upper Johnson Creek watershed (Gateway Park and Lakes of Matlock), and the design of two grade control structures between the ponds to control future erosion and sediment transport.
- Washington Creek Erosion – Reach based streambank stabilization to reduce erosion and restore aquatic habitat as part of the Erosion Pilot Program. Select locations within WF(A)-2, Tributary 1 between Washington Drive and 505 Franklin Drive are being improved.

The following projects were under construction during the reporting period:

- Flood Mitigation Buyouts – Three residential structures were acquired and demolished utilizing City funds to mitigate the known flood hazard
- Matthews Court Drainage Improvements, Phase 1 and 2 – Drainage improvements to alleviate residential flooding. Includes channel and neighborhood drainage improvements. This project is being constructed in phases. The first and second phase were under construction in this fiscal year and include improvements from Randol Mill Park to Matthews Court.
- Rush Creek at Indian Trail Erosion - Channel improvements in Rush Creek to protect Indian Trail.
- 2019 Erosion – Erosion Maintenance in earthen channels and at outfalls at various locations that are threatening public infrastructure. Locations include: Kee Branch at outfall from Willow Bend project; outfall repairs in North Randol Mill Park (north of I-30); outfall repairs at the intersection of Hinsdale and Whistler
- Kee Branch Trib 4 (Deaver Park to Andalusia Trail) Erosion, Phase 1 – Reach based streambank stabilization to reduce erosion and restore aquatic habitat as part of the Erosion Pilot Program. This project is being completed in phases. Phase 1 included improvements from Deaver Park to Bradley Lane.

- Cottonwood Creek 2 Channel Improvements, Emergency Repairs - Drainage improvements to repair a deteriorating concrete channel and mitigate residential flooding as identified in previous watershed studies. Phase 1 included emergency repairs to the channel and phase 2 will include more permanent improvements to alleviate residential and street flooding.

The following projects were under design during the reporting period:

- 2017 Miscellaneous Drainage Improvements - Drainage improvements at various locations including: Ivycrest Trail to alleviate street and residential flooding.
- 2017 Miscellaneous Erosion Projects, Phase 2 - Erosion maintenance in earthen channels and ditches at various locations including Green Acres Circle, Trail Lake Drive, and Derby Hill Drive.
- 2019 Ditches – Evaluation of maintenance of ditches in 10 different neighborhoods. This project will be designed and constructed in phases.
- 2019 Stormwater Maintenance, Phase 2 – Maintenance of existing drainage systems at 1205 and 1207 Brittany Lane, 100 & 101 N. Collins Street, and Silkcrest.
- 2020 Localized Drainage Improvements – Drainage improvements at various locations including: Bridlegate Drive, 4224 Glen Springs Drive, 719/801 Red Oak Lane, 4414 Storie Road, and Turner Warnell at US 287 Business
- 2020 Stormwater Maintenance – Maintenance of existing drainage systems in the Blake Ashton neighborhood and along Calendar Road, Tennyson Drive, and the Westview Terrace Channel. This project will be constructed in phases.
- 360 Outfall – Replacement of failed concrete outfall on the east side of SH 360 and north of Park Row.
- Bonneville/Greenbrook Drainage Improvements – Study to evaluate drainage improvements to alleviate residential and street flooding.
- California Lane Drainage Improvements – The evaluation of existing drainage systems to determine options to mitigate street and residential flooding within various Sub-basins of the Rush Creek Watershed bordered by Arkansas Lane to the north, Mayfield Road to the south, between Bowen Road to the west, and Fielder Road to the east was completed in May 2020. This project will be designed and constructed in phases. The first phase of design includes improvements in the following areas: Fox Hill Drive, California Lane Park, Gunn JH/Canongate, and Westchester Drive. Future drainage improvements are anticipated in the following areas: Olympia Park, Westchester Place, and Lucas Park.
- Cottonwood Creek 2 Channel Improvements, Phase 2 - Drainage improvements to repair a deteriorating concrete channel and mitigate residential flooding as identified in previous watershed studies. Phase 1 included emergency repairs to the channel and phase 2 will include more permanent improvements to alleviate residential and street flooding.
- Harvest Hills and Briar Meadow Drainage Improvements, Phases 1 and 2 – Drainage improvements to alleviate residential and street flooding. Design and construction will be completed in phases. Phase 1 includes channel improvements. Phase 2 includes neighborhood drainage improvements. Both phases are under design.
- JC-7 Channel Repairs – Erosion mitigation to address erosion adjacent to the Center Street bridge over Johnson Creek Tributary 7.
- JC-9 Watershed Master Plan – Study to determine feasibility and potential phases of drainage improvements to alleviate residential and street flooding throughout the Johnson Creek Tributary 9 Watershed.

- Kee Branch Trib 1 (Green Oaks to Oak Springs) Erosion – Reach based streambank stabilization to reduce erosion and restore aquatic habitat as part of the Erosion Pilot Program.
- Kee Branch Trib 4 (Deaver Park to Andalusia Trail) Erosion, Phase 2 – Reach based streambank stabilization to reduce erosion and restore aquatic habitat as part of the Erosion Pilot Program. This project is being completed in phases. Phase 1 included improvements from Deaver Park to Bradley Lane. Phase 2 includes the stream segment from Bradley Lane to Andalusia Trail.
- Matthews Court Drainage Improvements, Phase 3 – Drainage improvements to alleviate residential flooding. This project is being constructed in phases. The third phase included drainage system improvements from Fielder Road to Matthews Court.
- VC(A)-1: Ridgewood Terrace to Sylvan Drainage and Erosion Project – Drainage improvement project to address flooding and erosion between the Ridgewood Terrace neighborhood and Sylvan Drive along Stream VC(A)-1.

The following watershed studies were underway during this reporting period:

- Rush Creek Watershed – This study is substantially complete. The mapping modifications are currently under FEMA review.
- Trinity River Tributaries and Lower Village Creek Watershed Studies – Three consultants are under contract for individual creek segments. Two of three Watershed Studies have been accepted by FEMA. The LOMRs have been issued and residents have been notified. The last Watershed Study is currently under review by FEMA.
- Lynn/Bowman, Upper Village, Trinity Tribs Watershed Studies – The Upper Village/Trinity Tribs Watershed Study is completed and has been accepted by FEMA. Effective dates have been issued. The Lynn/Bowman Watershed Studies are under review by City.

03. Illicit Discharge Detection and Elimination



I. Illicit and Allowable Discharges

The City of Arlington has listed all allowed and prohibited discharges in its Stormwater Pollution Control Ordinance (SWPCO). The SWPCO was formally adopted by City Council on December 17, 1996, with the most recent amendments in December 2021. The code describes stormwater violations and the associated enforcement actions. The recently updated SWPCO includes changes found in the state regulations (the MSGP and CGP, respectively) that outline prohibited and allowable discharges as well as development regulations.

II. Detection and Elimination of Illicit Discharges

During the permit year, the following IDDE activities were performed:

- **623** Dry Weather Field Verification (1 with flow)
- **371** Monthly Inner-City Creek Screenings
- **3,581** Investigations, inspections, and/or spill responses (includes citizen complaints, SSOs, hazardous response; construction and industrial inspections)
 - **100** citizen complaints
 - **54** industrial inspections
 - **732** hazardous event responses (Fire Department)
 - **104** hazardous event responses/investigations (Environmental Management)
 - **2,231** construction inspections
 - **55** sanitary sewer overflow responses (Environmental Management)
 - **305** Automotive Related Businesses (ARB) Inspections (Environmental Management)
- **177** Corrective actions issued (includes NOV and Stop Work Orders)
- **44** Criminal/Civil citations issued

COA policy is to assign the responsible party a specified time frame to correct the illicit discharge. The time frame for both residents and industrial facilities is no more than 30 days and is determined at the discretion of the Environmental Specialist. Justification is required for any time extensions.

The SWMP includes a list of techniques used for detecting illicit discharges. These techniques include dry weather sampling, monthly routine sampling, complaint investigations, and inspections. Enforcement actions associated with these activities are also outlined in the SWMP.

III. Overflows and Infiltration

The City of Arlington Water Utilities Department (WUD) responds to sanitary sewer overflows and uses a GIS system to track and manage data on stoppages that caused the overflows. Quarterly maps are generated with location, cause, frequency, and type of stoppage. This system is used to identify problems that contribute to sanitary sewer overflows and to issue work orders for correcting the problems.

When a sanitary sewer overflow occurs, the WUD crew checks the public sewer line to determine if the problem is in the public system or in the private sewer service. If the overflow is caused by a problem in a private service, the WUD crew notifies an Environmental Specialist in the Environmental Management Group. The Environmental Specialist initiates enforcement action that requires the responsible party to stop the overflow and remove any sewage that entered the MS4. If the overflow is due to a problem in the public sewer, the WUD crew corrects the problem, removes any sewage that entered the MS4, and reports the overflow to the city's Stormwater Management Division, TCEQ or EPA, as appropriate.

The following table presents the efforts expended during reporting period for maintenance and repairs to prevent sanitary sewer overflows:

Activity	# of Work Orders	Linear Footage
Clean – Manhole/Cleanout	7	N/A
Repair – Sewer Line	38	N/A
Repair – Manhole/Cleanout	29	N/A
Basin Clean – Sewer Line	39	11,674
Grease Remediation – Sewer Line	231	68,405
Clean for TV – Sewer Line	149	44,822
Monthly Clean – Sewer Line	0	0
PM Clean – Sewer Line	3,515	969,646
Root Remediation – Sewer Line	12	5,291
Root Saw – Sewer Line	0	0
Stop Call – Sewer Line	1,152	421,854
TV Sewer Line	1,171	353,696
SL-RAT Sewer Line	0	0
Grand Total	6,343	1,875,388

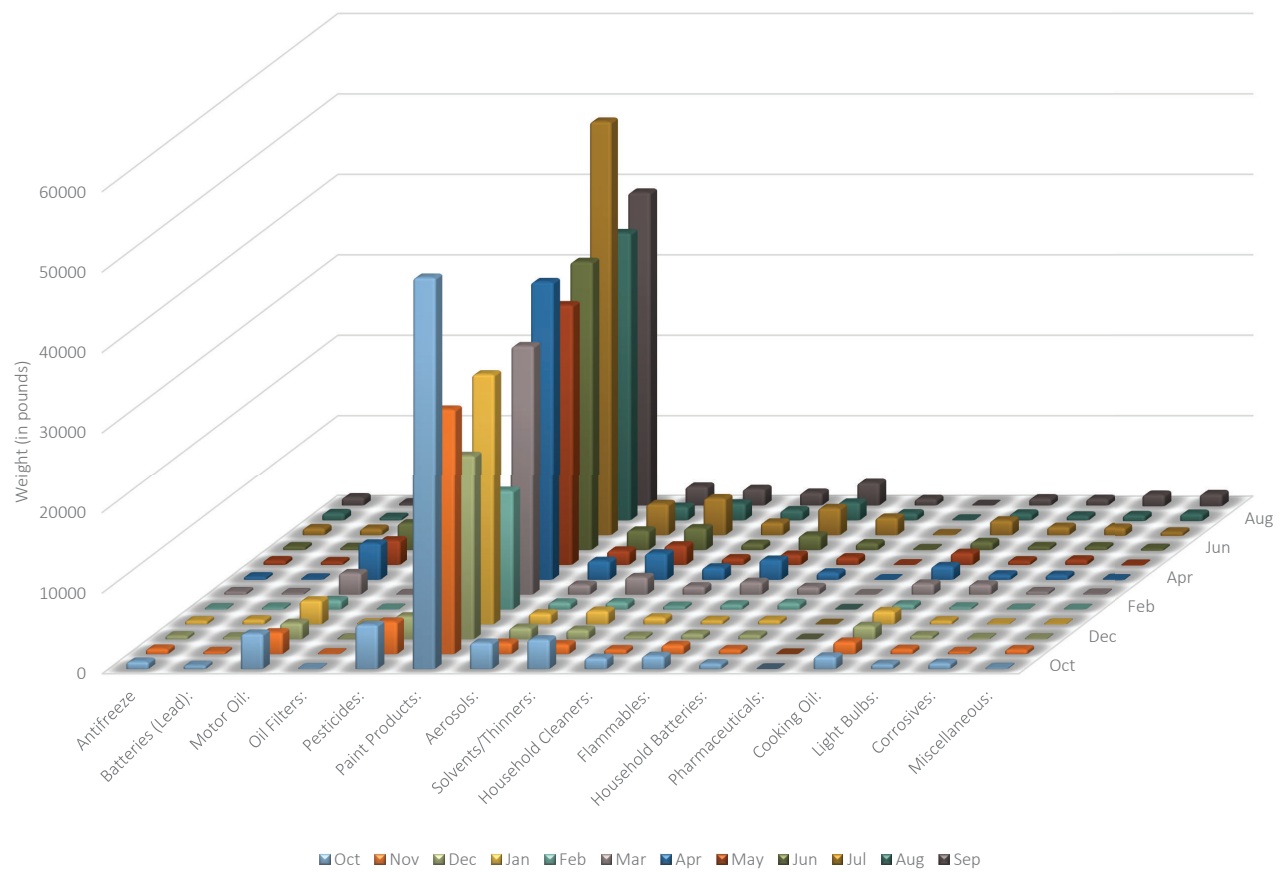
A total of **55** Sanitary Sewer Overflows were reported in FY21. Of the total reported SSO's in FY21, those with incidences of wastewater entering a storm drain or watercourse totaled **45** occurrences.

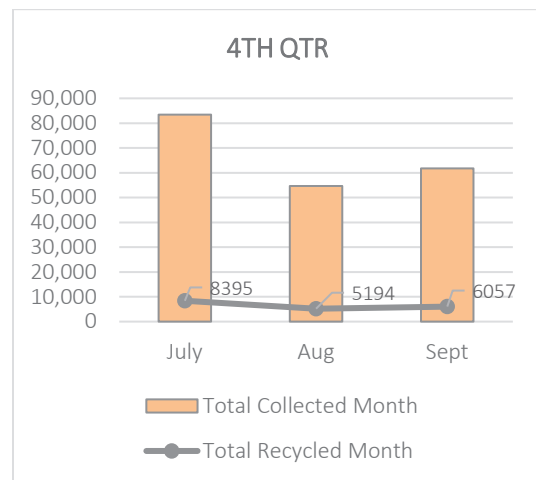
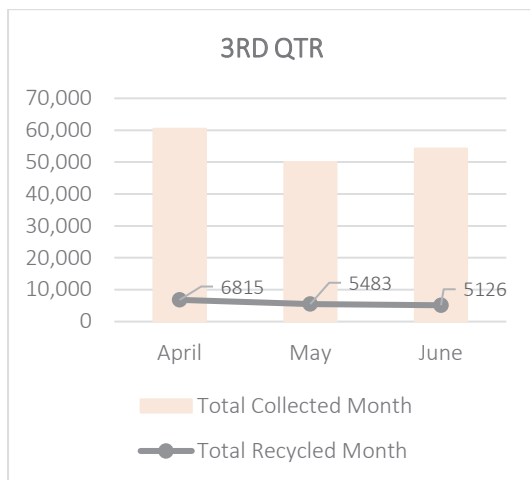
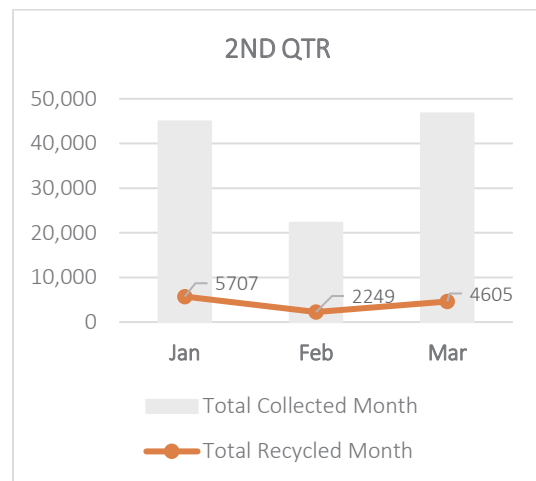
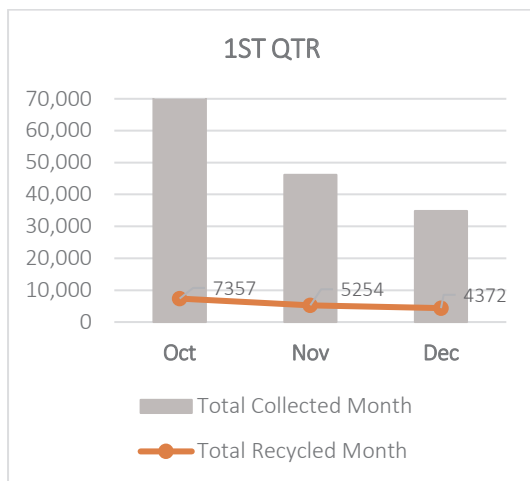
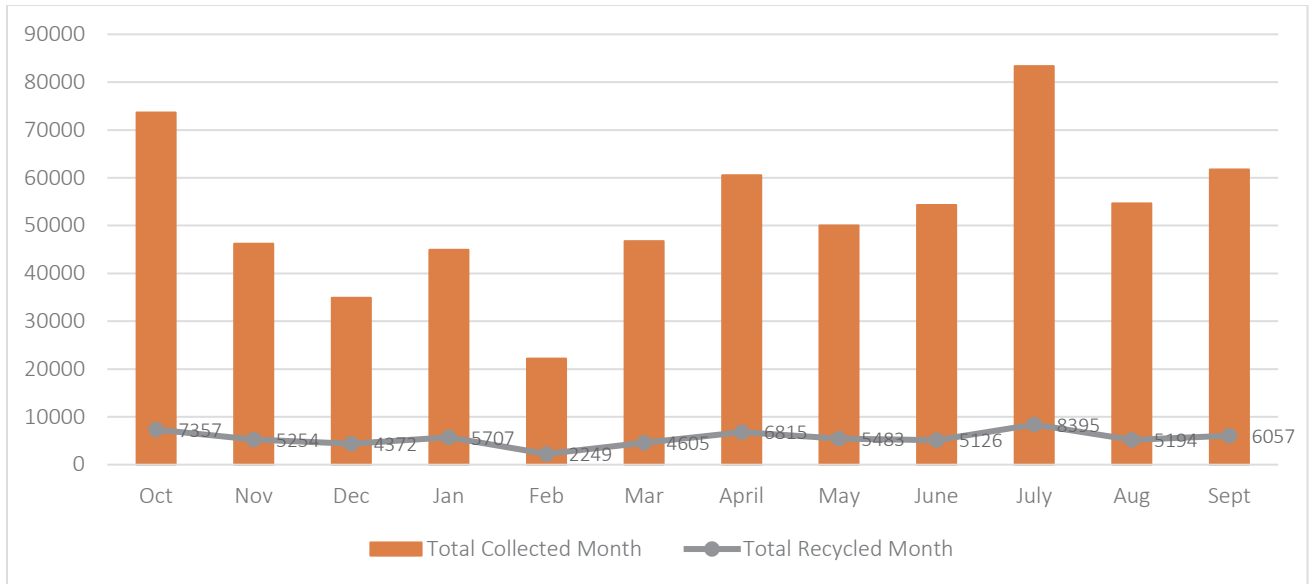
IV. Household Hazardous Waste (HHW) and Used Motor Vehicle Fluids

The City of Arlington continued its participation with the Environmental Collection Center (ECC) operated by the City of Fort Worth, Texas. Under an annual contract, Arlington citizens may take their HHW to the ECC free of charge. A Mobile Collection Unit (MCU) is scheduled once per month (except December) in various areas of the city for satellite collection of HHW and transport to the ECC, however due to COVID-19 these events were canceled. Arlington residents during FY21 were encouraged to take their material directly to the ECC for proper disposal. It is important to note that some of the material collected at the ECC and mobile collection events is recycled.

The amount (in pounds) and type of material collected is represented below. Additionally, an accounting of recycled material by month and quarter are outlined below (in pounds). A total of **633,139** pounds of HHW materials was received by the ECC in FY21, of which **66,614** pounds was recycled.

TOTAL HHW MATERIAL COLLECTED AT THE ECC IN FY21 BY MONTH AND WASTE TYPE





V. *MS4 Screening and Illicit Discharge Inspections*

The City of Arlington has implemented a Dry Weather Screening and Monthly Routine Screening program to locate portions of the MS4 with suspected illicit discharges and improper disposals. Results of screening efforts during this permit term as well as a more complete description of the program may be found in **MCM 8, Monitoring, Evaluation, and Reporting**. The entire MS4, but not necessarily each individual outfall, is screened at least once during the five-year permit term.

VI. *Automotive Related Businesses (ARB)*

The City of Arlington ARB program was created in April 2017 after several routine water quality investigations near concentrations of ARB facilities indicated increased levels of hazardous pollutants. Over 1000 ARBs are located within the Arlington city limits. ARB programming is implemented in three parts: facility verification, facility inspection and education, and monitoring. Verification and inspection results for FY21 are listed below. Results of screening efforts during this permit term as well as a more complete description of the program may be found in **MCM 8, Monitoring, Evaluation, and Reporting**.

ARB Activity	Amount
Inspections	305
Verifications*	64
New Businesses**	15

*Verifications – Verify location and suitability of business to be categorized for ARB programmatic activities

**New businesses – those establishing operations for the first time in the City of Arlington and added to the master list of ARB facilities.

VII. *NPDES and TPDES Permittee List*

The City of Arlington maintains an industrial and construction database containing a list of operators and construction sites that are located within the Arlington city limits. This database contains the name, location, and permit number (when applicable) that authorizes stormwater discharges from construction activities.

VIII. *MS4 Map*

The City of Arlington presently operates a system with approximately **3,511** storm sewer outfalls, **592.2** miles of storm sewer pipe, and about **12,061** inlets. In the previous permit term, the City implemented an asset identification and inventory program to track all MS4 assets. Unique identifiers are assigned to allow for efficient tracking of system conditions, inspections, and maintenance. The system is GIS based and integrates system inventory data into a system map. Outfall verifications, inlet and manhole locations, and storm sewer pipe identification are continuous activities.

IX. *Spill Prevention and Response*

The Hazardous Materials Response Team (HMRT) of the City's Fire Department and Environmental Specialists provide spill response for hazardous material spills. The HMRT provides initial response and containment, while Environmental Specialists ensure removal of the spilled material in a manner that protects water quality. If the spill is minor (i.e. is not of reportable quantity), the HMRT will respond and perform the necessary removal actions themselves. There were no changes to the hazardous material spill response procedures during FY21.

During the reporting period, the HMRT expended over **500** man-hours responding to **732** HAZMAT incidents. These are outlined below.

Type of Response	Number of Responses
Hazardous condition, other	189
Combustible/flammable gas/liquid condition, other	21
Gasoline or other flammable liquid spill	52
Gas leaks	332
Oil or other combustible liquid spill	23
Chemical hazards (Chemical spill or leak)	22
Refrigeration leaks	19
Carbon Monoxide Incidents	57
Radioactive condition, other	10
Biological Hazards, confirmed or suspected	5
Grand Total	732

In addition to supporting the HMRT, Environmental Specialists respond to small spills in the MS4 when the responsible party is unknown or unable to accomplish the cleanup. Absorbents, booms, and pads are used for removing used oil and other petroleum products. The waste is collected and stored in drums for classification and disposal. HAZMAT Contractor services are used for sampling and disposal of these wastes. Additionally, the HAZMAT contractor is contacted for cleanup services when the size or type of spill exceeds the Environmental Specialists capability. Total costs for HAZMAT contract services for the reporting year were approximately: **\$14,840.52.**

Wrecker services operating within the City are required by ordinance to absorb and remove all spilled fluids of 25 gallons or less and to store and dispose of these fluids in accordance with applicable state and federal regulations. For larger spills and accidents where the responsible parties are unable to call a wrecker service, the City's emergency response crew contains the fluids with absorbent and calls a contract wrecker service for cleanup and removal of the absorbent. The contract wrecker service delivers the used absorbent to the City for classification and disposal. Absorbent with automotive fluids from the wrecker service is collected and held in a covered roll-off container. When the waste container is full, the material is characterized then shipped for disposal. During the reporting period, total costs for the rental, sampling, and/or disposal of accumulated wastes from automobile accidents were **\$2711.14.**

The HMRT also receives some household hazardous waste from citizens that could potentially discharge to the MS4. The HMRT offers this assistance to citizens as a courtesy. The HMRT will either dispose of the material or reuse it on station grounds. The HMRT received the following in FY20 as part of the program:

Material Received	Amount
Round-Up Weed Control (10-gallon premix)	17 gallons
Pre-emergent fertilizer 007	300 lbs
Weed and Feed Fertilizer	500 lbs

Cost Recovery: Some costs associated with hazardous material incidents may be recovered through the City's Risk Management Department. In some instances, funds expended to clean up hazardous incidents may be reclaimed by back charging the responsible parties. However, in FY21, **NO** funds were reclaimed through the Cost Recovery Program.

04. PPGH For Municipal Operations



I. Pollution Prevention & Good Housekeeping Program

The City of Arlington has been under continuous MS4 coverage since 1998, therefore some of the components of this MCM such as reduction of pollutants from pesticide, herbicide, and fertilizer use, the maintenance of structural controls, and waste handling procedures were previously established prior to this new program element. For the remaining requirements (employee training and discharge reduction from municipal facilities and operations), staff conducts facility inspections and employee training with the goal of preventing and/or reducing pollutant runoff.

The City of Arlington PPGH program is three-phased to include facility inspections, training, and operations assessments and certification. Environmental Management Group is responsible for conducting PPGH inspections for all city owned and operated facilities. There are 95 identified PP/GH sites with multiple facilities nested within that are owned and/or leased by the City of Arlington. Nine (9) of these sites are currently leased to other organizations and are not maintained by the City of Arlington. They are EXEMPT from PPGH inspections. As such, there are 86 sites with multiple nested facilities that are currently included in the PPGH inspection program. Facilities are delineated by non-hot spot status or “hot spot”/high priority status – i.e. there is potential for discharge from these facilities to the MS4. There are a total of twenty-five (25) hot spot sites with multiple nested facilities and a total of sixty-one (61) non-hot spot sites. *Hot spot sites are inspected annually.* Non-hot spot sites are inspected once in a permit term or every five years. In FY21, a total of 24 PP/GH inspections were conducted. The following tables outline inspections, training, and operations assessments and certifications related to the PPGH program.

PPGH Inspections:

Date Inspected	Facility Name	Address	Department	Hot Spot?
01/27/2021	Landfill	800 Mosier Valley Rd	Landfill	Y
07/30/2021	Fire Resource	1111 W Main St	Fire	Y
05/10/2021	Cravens Park Maintenance	400 Cravens Park Dr	Parks	Y
01/20/2021	Texas Rangers Golf Course	801 Brown Blvd	Parks	Y
07/28/2021	Front Street Maintenance	300 Front St	Parks	Y
05/10/2021	Harold Patterson Sports Center	1000 W Bardin Rd	Parks	Y
07/23/2021	Lake Arlington Golf Course	1516 W Green Oaks Blvd	Parks	Y
01/20/2021	Meadowbrook Golf Course	7009 Golf Dr	Parks	Y
05/10/2021	MLK Maintenance	7001 Golf Club Dr	Parks	Y
07/30/2021	Pierce Burch Park Maintenance Building	1901 Lakewood Dr	Parks	Y
01/21/2021	Randol Mill Maintenance	1934 W Randol Mill Rd	Parks	Y
01/21/2021	River Legacy Maintenance	1301 NW Green Oaks Blvd	Parks	Y
07/23/2021	Tierra Verde Golf Course	7005a Golf Club Dr	Parks	Y
08/24/2021	APD Training Ctr	6000 W Pioneer Pkwy	Police	Y
06/11/2021	Public Works North Operations	801 W Main St	PWT	Y
03/09/2021	Public Works South Operations	1100 SW Green Oaks Blvd	PWT	Y
05/05/2021	Kubala Water Treatment Plant	7001 US Hwy 287	Water	Y
05/05/2021	Pierce Burch Water Treatment Plant	1901 Lakewood Dr	Water	Y
07/09/2021	Water Utilities South Operations	1100 SW Green Oaks Blvd	Water	Y
01/13/2021	Tails and Trails	950 SE Green Oaks Blvd	Parks	Y
01/21/2021	Rush Creek Dog Park	1900 Valleywood Dr	Parks	Y
06/25/2021	Fleet Services - South	1100 SW Green Oaks Blvd	PWT	Y
06/25/2021	Fleet Services - North	5800 Kelly Elliott Rd	PWT	Y
01/16/2021	Deaver Maintenance	1011-1013-1015 W Main St	Parks	Y

PPGH Training:

In FY21, due to continuing COVID-19 issues, PPGH trainings were permanently moved online. In FY20, the City utilized the North Central Texas Council of Governments (NCTCOG's) PPGH portal to conduct online training. In FY21, however, pollution prevention training was transitioned from the NCTCOG portal to the City's internal Cornerstone training system. Permanently moving training to an online format has afforded the City the ability to streamline training and increase efficiency, continue to follow COVID precautions, and create a Spanish language version of the training (to be implemented in FY22). An overview of PPGH Training for FY21 is outlined below.

	Q1	Q2	Q3	Q4
Trainings completed by quarter	95	15*	64	130
Grand Total	289			

**Constitutes training carried out as part of Texas A&M Agrilife Extension Office's Pro's in the Parks Pesticide Applicator Education course. Fifteen COA employees attended but also participated in the City's internal training. These 15 participants are not counted in the COA total.*

Operations Assessments and Certification:

Because Environmental Specialists are not available to continuously monitor PPGH associated with all City Operations, department managers and supervisors that oversee operations that have a potential to pollute are required to assess and certify their activities annually. The Operations Assessment and Certification (OAC) was developed by Environmental Management with the intent to reduce the discharge of pollutants to the maximum extent practicable from municipal operations associated with the following ten city operations groups:

- Public Works Operations: Stormwater, Streets, Traffic (Signs & Markings; Street Lights; Signals)
- Water Utilities Operations
- Parks: Urban Forestry and Beatification, Field Maintenance, Parks Operations
- Fleet Operations (contracted Services)

The goal of this OAC is to protect water quality and to satisfy federal, state, and local water quality requirements. OACs identify the risk level associated with each operation or operational group and also identifies the best management practices each operations group utilizes to prevent discharges to the MS4. Environmental Management staff make recommendations on current BMPs and identify areas of improvement. Environmental Management staff will also identify any deficiencies and require corrections within a specified time frame or by the next annual certification period. Ten (10) OACs were received and recertified in FY20.

II. Structural Control Maintenance

Structural Control Maintenance is addressed in MCM 1 of this report (**MS4 Maintenance Activities: Section I, Structural Controls**).

III. Waste Handling

The City maintains a contract for recycling and proper disposal of used oil and other fluids collected because of equipment maintenance and fleet activities. Contracts are also held with waste disposal and/or recycling contractors for the collection and proper disposal of wastes including but not limited to hazardous, non-hazardous, special, and solid wastes; a variety of lights, lamps, ballasts including high pressure sodium HID lamps, incandescent bulbs, fluorescent lamps and tubes, multi vapor lamps, metal halide HID lamps, and electronic light ballasts that do

not contain PCBs. Contracts are also held to properly dispose of e-wastes, HVAC refrigerants, and biohazardous materials.

HVAC refrigerants and non-functioning lights are stored by the Public Works and Transportation Department. Refrigerants are stored in DOT approved cylinders and lights are piled until contractors and recyclers are called to remove the materials. None of these materials are exposed to stormwater. Removal of these wastes typically occurs on a quarterly schedule.

Additionally, the City maintains a hazardous materials dumpster (housed at the Public Works & Transportation South Field Operations location) as a collection point for hazardous materials spills resulting from automobile accidents or other incidents requiring clean-up of liquids such as motor oil, antifreeze, transmission fluid, hydraulic oil, gasoline, or diesel fuel. The City's contracted wrecker service notifies the Stormwater Utility Crew when they are ready to deliver a new load to the dumpster. The bagged and tagged material is loaded into the dumpster, and type and quantity are logged on a paper form.

IV. Pesticide, Herbicide, and Fertilizer Application

Municipal Uses Management Program

The Parks and Recreation Department applies the majority of the fertilizers, pesticides, and herbicides on city-owned property. The department maintains a staff of licensed applicators to treat parkland and other City grounds as needed, including weed control in rights-of-way and medians. These applicators ensure full compliance with federal and state regulations when applying chemicals to public lands. There have been no changes to the program during this reporting period.

The City of Arlington continues to follow a "least toxic alternative" approach to pesticide management using Integrated Pest Management (IPM) practices. The IPM philosophy uses a coordinated strategy to identify when and where pest suppression treatment is needed, and what strategy and mix of measures should be used that are effective, but also low in cost and environmentally sound. IPM measures include structural, cultural, biological and chemical control in combinations which offer efficient and safe means of keeping pests at tolerable levels.

The following departments have limited uses of pesticides, herbicides and fertilizers for targeted needs such as controlling vegetation growing in pavement joints at the airport and treating for mosquitoes: Public Works and Transportation, Code Compliance Services, Environmental Health, Fire, Water Utilities, and Facility Services. Applications by these departments are accomplished through a combination of their own staff, Parks and Recreation Department's staff, and contractors. All Federal and State regulations are followed, and licensed applicators are used as required.

Pesticide Applicators Program

There are four state agencies which issue certificates and licenses for pest control applicators as mandated by the Texas Pesticide Law. Applicators for restricted-use and state-limited-use pesticides for agricultural related categories are licensed by the Texas Department of Agriculture (TDA). Under Authority of article 135b-6 V.T.C.S., the Structural Pest Control Board (SPCB) tests and licenses businesses, commercial and non-commercial applicators including most municipal applicators. All applicators are required to be licensed by the SPCB under its jurisdiction regardless of the pesticides classification. The Texas Department of Health (TDH) certifies municipal applicators for health-related vector control. Certification and re-certification are provided by the Texas Agricultural Extension Service (TAEX) by means of continuing education for the TDA and SPCB, which are the primary state agencies responsible for pesticide regulation in Texas. Current U. S. Environmental Protection Agency (EPA) regulations include provisions for the control of the use of pesticides through the Federal, Insecticide, Fungicide and

Rodenticide Act (FIFRA). This program outlines the minimum requirements regarding the registration, labeling, and uses of pesticides. Restricted-use pesticides warrant special labeling because they present a potential of harm to human health and the environment.

Categories in which examinations are to be given for licenses are listed as follows: Termite Control, Pest Control, Lawn and Ornamental, Commodity Fumigation, Weed Control, Wood Preservation.

The Parks and Recreation Department has several applicators that are licensed under the SPCB under the Lawn, Ornamental, and Weed Control categories. The department also has applicators licensed under TDA for Ornamental and Turf control, Plant Pest Control, Greenhouse Pest Control, Weed Control, Right-of-Way Pest Control, Aquatic Plant Pest Control and Aquatic Animal Pest Control. The City of Arlington also operates four municipal golf courses under the Programs division of the Parks and Recreation Department. The application of pesticides and herbicides on the golf courses are conducted by licensed applicators. One of the golf courses, Tierra Verde, only utilizes organic fertilizers and herbicides as part of its ongoing commitment to sustainable environmental practices. The City financially supports the re-certification requirements of its licensed applicators.

There are currently:

- 31 TDA applicators – plant, pest, and weed category
- 2 SPCB applicators – lawn, ornamental, and weed category

Along with the golf courses, Parks manages seventy-seven sports fields. Best management practices and natural resource protection measures have been integrated into the daily operations throughout the park system. These practices and measures have not changed from prior years.

All of Parks' playing fields and golf courses are subject to turf management, including weed and pest control and fertilization. The turf management practices are designed to minimize operational effects on the environment. Golf course management is the same as was submitted in the prior years' reports. Tierra Verde Golf Club, a certified Audubon International Signature Sanctuary, continues to be the City's leading facility for integrating environmental standards into the turf management program. Experience gained at this facility is used to develop environmentally friendly practices for other park facilities.

The Fire Department manages all fire station sites. Station personnel apply fertilizers and insecticides for fire ant control and lawn maintenance.

The Environmental Health Department's Vector Control Contractor sprays for mosquitos on an as needed basis for public health reasons (i.e. positive tests for contractible illness). Mosquito control is also accomplished through public education, surveillance, and controlling the breeding of mosquitoes on public property through larvicide with B.T.I. briquettes in areas that are known to have concentrations of larva.

Integrated Pest Management

An Integrated Pest Management (IPM) program is in place for the City of Arlington golf courses and has been introduced at all parks. IPM is a holistic approach to facility maintenance that focuses on identifying pests and pest activity before they reach critical levels as well as all other aspects of maintenance. IPM does not preclude the use of pesticides, but emphasizes the importance of utilizing adapted plant species, understanding environmental conditions, following recommended cultural practices, monitoring pest populations and using the most effective solutions to combat problems. These solutions, which include cultural, biological, and chemical methods, are designed to balance environmental concerns with plant management. Select golf and park employees are designated as "scouts" and are responsible for monitoring and reporting any potential pest activity, recording vital

information such as location, weather conditions, changes in turf appearance, and symptoms. Through early detection of pest activity, cultural practices can be implemented as the first means of reducing pest activity and often the need for chemical control is avoided. As part of the management strategy, nest boxes and bat houses have been erected at the golf courses and various parks to entice insect-eating birds and bats to park properties.

While chemicals continue to be used on an as needed basis, park managers developed an approved list of chemicals for the Parks and Recreation Department. The chemical selection was based on environmental impact and cost effectiveness. In addition, Park Operations has adopted a “just in time” chemical inventory process. This process ensures that chemicals are purchased in quantities for a single application and eliminates the unnecessary storage of chemicals thus reducing potential risks for accidental spills.

The City ensures compliance with established use of guidelines of pesticides with licensed and trained applicators. These applicators apply appropriate rates and use of pesticides according to labels and comply with regulations governing the legal disposal of used containers. Materials are properly stored under cover and protected from stormwater. Licensed applicators consider the climatological conditions such as wind and rain for proper timing of applications. In addition, preventative maintenance programs are conducted to ensure that spray equipment properly dispenses accurate applications and to reduce the possibility of leakage from tanks, hoses or nozzles. Drainage channels are policed to ensure that chemical containers or other hazardous substances, which may threaten water quality, are properly disposed.

The most frequently used control of unwanted vegetation in the City of Arlington’s park system is organic mulches to cover bare soil in ground cover, annual, and shrub beds. Mulches reduce erosion, increase infiltration of rain and irrigation water and reduce irrigation requirements. The organic breakdown of mulches enhances the effectiveness of pesticides, herbicides, and fertilizers. Local tree services also add their tree chips to stockpiles in the various parks for mulching.

Following the IPM philosophy, City personnel conduct soil tests to diagnose soil conditions before fertilizer applications are administered, and before shrubs are planted in the City parks. The City follows proper mowing cycles that reduce the amount of grass clippings of turf for biodegradation. This reuse of plant material provides nutrients, which reduces the amount of fertilizer required. The golf courses and parks use organic and slow release fertilizers to minimize runoff potential. Nutrient experimentation continues with various natural products such as compost, corn gluten, sea kelp and molasses to find the most effective products to use throughout the park system.

V. List of Municipal Facilities

The City of Arlington Public Works & Transportation Department, Stormwater Management Division, Environmental Management Group maintains a list of (owned and leased) municipal facilities and has identified those municipal operations that may have an impact on water quality. These include:

- Park and Open Spaces Maintenance (includes landscaping and linear park maintenance)
- Street Repair and Maintenance (includes salt/sand storage locations)
- Stormwater Maintenance and Operations (maintenance and operations associated with stormwater infrastructure)
- Fleet Vehicle and Equipment Maintenance and Storage Areas
- Water Utilities Operations and Maintenance
- Municipal Landfill Operations
- Municipal Airport Operations

The Asset Management Department’s Facility Services Division also maintains of listing of all city owned properties.

05. Industrial & High Risk Runoff



I. *Priorities and Procedures for Inspections and Implementing Control Measures*

The City of Arlington Public Works and Transportation Department, Stormwater Management Division, Environmental Management Group conducts inspections of all industrial facilities that hold a Multi-Sector General Permit (MSGP). Inspections for these facilities are conducted on an annual or biennial basis depending on the type of MSGP permit – Notice of Intent (NOI) or No Exposure Certification (NEC).

Industrial inspections are scheduled per calendar year. Inspection frequency is outlined below.

Facility Type	Minimum Inspection Frequency
Municipal Landfills	Annual (with more frequent follow-up as necessary)
Facilities Operating with an TPDES MSGP Permit (NOI)	Annual (with more frequent follow-up as necessary)
Facilities with No Exposure Certification (NEC)	Every two years (with more frequent follow-up as necessary)
Non-Compliant Facilities, or sites with benchmark exceedances	Quarterly (with additional follow-up and/or sampling until the site complies).
High Risk Facilities subject to EPCRA Title III, Section 313; SARA 313 facilities	Annual (with more frequent follow-up as necessary)

The Environmental Management Group is responsible for inspecting industrial and high-risk facilities operating with the potential to discharge pollutants to the MS4. Checklists and inspection forms used to ensure consistency and accuracy in inspection reporting and recordkeeping. These forms are reviewed and updated as necessary to ensure permit compliance. An initial inspection at a facility operating under an NOI typically includes a comprehensive inspection of the facility, BMPs, and the facility's SWPPP. If deficiencies and/or discrepancies are noted, the facility may be issued a Notice of Violation (NOV) or citation depending on the severity of the violation and/or the facility's prior knowledge of the violation. The facility is then given the opportunity to comply within a time frame designated by the inspector (typically 30 days or less). Follow-up inspections are then conducted to verify that the discrepancies and/or deficiencies noted in the violation or citation have been remedied and that no other new concerns are found.

Industrial facilities that have an NEC for no exposure of their operations to stormwater are inspected to verify that site conditions warrant the no-exposure waiver.

Unscheduled inspections occur if an industry is unresponsive or an illicit discharge is reported or suspected.

Those facilities that are required by their TPDES industrial stormwater permit to conduct benchmark monitoring are required to submit the results of such tests to the City of Arlington for review. Any facility that is not regulated by a TPDES or NPDES permit but that are determined to contribute a substantial pollutant load to the MS4 may also be required to conduct inspections, monitor discharges, install BMPs, or establish a stormwater pollution prevention plan as determined necessary by the Stormwater Permit Supervisor.

Inspection results are reviewed by the Environmental Management Group who determine if corrective and enforcement actions are needed. If the City is unable to bring the facility into compliance after following the procedures outlined above, the Stormwater Management Division, Environmental Management Group will inform the TCEQ Region 4 investigation team and/or the EPA Region 6 Enforcement Division to further encourage compliance. Industrial Enforcement data for the interim reporting period is outlined below.

Enforcement Action	Quantity
Verbal Warnings	8
Notice of Violation	0
Citations	0
Grand Total	8

City of Arlington records indicate that there are **97** facilities that carry MSGP coverage: **47** facilities hold a Notice of Intent (NOI) and **50** facilities carry a No Exposure Certification (NEC). Due to COVID-19, inspections were limited for FY21. As a result, there were **54** facility inspections completed for industrial stormwater discharges during the reporting period: **31** NOI inspections, **23** NEC inspections, and **1** Follow-Up NOI Inspection. There was a total of **54** industrial pretreatment inspections and **0** surveys (commercial backflow prevention and wastewater treatment inspections) conducted by City of Arlington Water Resource Services during the reporting period. The decrease in inspections and lack of surveys is due to COVID-19.

II. Industrial and High-Risk Monitoring

The details regarding the requirements for Industrial and High-Risk Monitoring are included in MCM 8 (Monitoring, Evaluation, and Reporting).

06. Construction Site Stormwater Runoff



I. Requirements for Structural and Nonstructural BMPs

Structural and nonstructural BMPs are required by construction site operators through local ordinance that requires operators of construction sites to have an NPDES or TPDES permit to discharge stormwater. Additionally, the ordinance requires these facilities to operate in strict compliance with the requirements of its NPDES or TPDES permit. These permits require operators to utilize appropriate erosion and sediment control BMPs.

The City of Arlington's Planning & Development Services (PDS) Department reviews and accepts construction plats, site plans public improvement plans, and issues demolition, commercial, and residential construction permits. During the reporting period, PDS reviewed and/or issued the following:

Reviews	Quantity
Plats (preliminary SWMSP)	109
Site Plans (SWPPP and SWMSP)	56
Public Improvements	9
Commercial / Residential Demo (SWPPP)	96
Grand Total	270

The City requires Stormwater Pollution Prevention Plans (SWPPPs) for all building and construction permit applications greater than one acre. The city's permitting process requires BMPs for erosion and sediment controls to protect water quality for all construction disturbances including those less than one acre. During the reporting period, Environmental Management received **115** reviewed and approved PDS SWPPPs, construction plans, site notices, and/or SWPPP contact sheets as part of the construction application process.

II. Inspection of Construction Sites and Enforcement Requirements

Environmental Specialists inspect construction sites for compliance with stormwater management requirements and practices and initiate enforcement actions as necessary. Inspections are for **large** construction sites (5 acres or greater land disturbance, or that of any size and located within a common plan of development) and **small** construction sites with land disturbances one acre to five acres in size. Sites that disturb less than once acre are also inspected for compliance with the City of Arlington stormwater ordinance. Inspections, investigations, and resulting enforcement actions during the inspection period are itemized below.

Inspection and Enforcement Data (respectively):

Residential & Commercial Construction	Quantity
Construction Projects in Progress (FY21)	250
Total Initial Inspections (New construction)	115
Total Site Inspections in FY21 (All construction)	2,231

Enforcement Actions	Quantity
Notice of Violation	37
Stop Work Orders	5
Citations	2
Grand Total	44

III. Education and Training of Construction Site Operators

The City of Arlington participated with other local municipalities (Dallas, Fort Worth, Irving, Garland, Mesquite, and Plano) in assist the North Central Texas Council of Governments (NCTCOG) in designing a National Pollutant Discharge Elimination System (NPDES) Construction Inspection Training Program. The final program consists of a one (1) day workshop. All aspects of the TPDES program are stressed including SWPPP development, BMP selection, site inspections, and NOI/NOT filing. The course is designed for use by municipal inspectors, site owners and/or operators, and general construction site personnel. The NCTCOG offers this course regularly.

IV. Notification of Requirements to Construction Site Operators

Notification to construction site operators performing work for the City of Arlington is provided through pre-development meetings and pre-construction conferences as well as through the City of Arlington's Design Criteria Manual that requires all public and private construction operators to reduce discharge of pollutants from construction sites via compliance with the TPDES Construction General Permit.

Additionally, construction site plans are reviewed through the development process for conformance with the City of Arlington's Design Criteria Manual. SWPPPs are evaluated by the Planning and Development Services Department. The City's reviewing engineer meets on an individual basis with developers, consulting engineers, and contractors to discuss permit and ordinance requirements for construction sites. The meetings include a discussion of adopting development and construction methods that have the least impact on stormwater quality. Review checklists have been developed by the City and are used to educate the development community about SWPPP requirements.

V. List of Construction Sites

The City of Arlington maintains a database containing a list of developers and/or operators and construction sites located within the city limits. Approximately **250** construction sites were active (in progress) during the reporting period including **115** new construction sites. These sites are regularly inspected by the city's Environmental Specialists. Construction inspections occurring during the reporting period total **2,231**.

07. Public Education and Outreach/Public Involvement and Participation



I. Public Education and Outreach

The City of Arlington's public education, outreach, involvement, and participation program encourages stewardship of the City's surface water resources by raising awareness of the issues, providing information on best management practices that may be used to improve water quality, and providing opportunities for the public to provide meaningful input into the program. The education and outreach program promotes, publicizes, and facilitates public reporting of spills, fish kills, illicit discharges, and improper disposal of materials, and the management and disposal of HHW. The program also focuses on the proper use, application, and disposal of pesticides, fertilizers, and herbicides, pet waste management, and yard waste management and also encourages citizens to report blocked or visibly broken storm drainpipes and other infrastructure to prevent flooding.

During FY21, Stormwater and Water Utilities Educators continued to reach out to the public through a variety of educational activities. The following activities for the three divisions were provided during the reporting period. Supplemental Materials for all COA public education and outreach can be found in [Appendix B](#).

- A. Stormwater:** The Stormwater Educator is responsible for all external citizen education activities in support of the Stormwater Management Program. Stormwater education activities include outreach via web articles and social media, public outreach events, education material distribution, a public and private school education program, an inlet decal placement program, and apartment program.

Public Outreach and Education Presentation and Events:

Presentations and Events related to Stormwater outreach are outlined below:

Activity	Quantity	Attendance
Community Outreach Presentations	4	174
School Education Presentations	4	66
Community Outreach Events	11	770
Grand Total	19	1,010

Materials Distribution:

Educational material (publications, pamphlets, brochures, USB drives) and promotional items distributed at education events and presentations are outlined below. The materials focus on either protecting surface water quality or flood safety and awareness.

Material Type	Quantity
Publications	66
Pamphlets & Brochures	1,320
Water Bill Inserts	188,000
Promotional Items	2,945
New Business and Multi-Family Housing Program	1,426
Floodplain Management Projects Mailings	11,148

***Stormwater Education brochures and pamphlets are placed at local libraries, recreation centers, City Hall, and other city facilities for Arlington residents.*

Inlet Decal Program:

The City of Arlington continues its inlet decal program, developed in 2015, to help reduce flooding attributable to clogged storm drainpipes and to improve water quality throughout the City. Inlet decals are placed on neighborhood inlets that have been identified as flood prone by Stormwater Maintenance personnel. When illegal dumping or clogged inlet concerns are reported to the city, Stormwater Maintenance will place inlet decals on the identified inlet and a stormwater violation door hanger on nearby properties as needed. Environmental Specialists in the Stormwater Environmental Management Division are notified if the location is or becomes prone to repetitive illegal dumping. The Stormwater Educator maintains a database that includes the inlet location, *Cartegraph OMS* asset number, and the number of decals and/or door hangers placed, along with any site-specific notes.

In FY 2021, a total of **366** inlet decals were placed on storm drains throughout the city.

Hazard Communication Program:

The Stormwater Educator is also responsible for providing internal Hazard Communication training to Public Works and Transportation staff. The training covers hazardous chemical labeling systems, Safety Data Sheets, handling and storing hazardous chemicals, proper personal protective equipment, exposure risks and effects, and basic first aid. The training is provided to PWT staff annually. In FY 21, the Stormwater Educator held HAZCOM training virtually due to COVID-19. A total of **123** PWT employees attended the training and submitted answers to the short quiz that accompanied the virtual presentation.

New Business and Multi-Family Housing Education Program:

The City of Arlington continues the Multi-Family Housing complex stormwater pollution prevention outreach program. Arlington Apartment complex managers are provided with presentations and/or printed materials concerning stormwater pollution prevention and fats, oils, and grease (FOG). This program is an effort to prevent sanitary sewer overflows and educate residents regarding surface water quality. In FY21, stormwater pollution prevention postcards were created to welcome new businesses to the community and to address multifamily housing sanitary sewer overflows and other stormwater pollutant issues. Postcards are sent to new businesses and to residents of multifamily housing complexes which have repeated sanitary sewer overflows.

Additionally, in FY21, the Stormwater Educator attend the City of Arlington Code Enforcement Multi-Family Housing Workshop to present on stormwater pollution issues prevalent at multifamily housing locations as well as flood preparedness and safety. In FY21, the Code Workshops were held virtually in May and June with approximately **138** apartment managers in attendance.

B. Water Utilities: The Water Utilities Communications Coordinator (WUCC) is responsible for educational activities in support of maintaining water and sewer infrastructure, including fats, oils, and grease (FOG) education, water use/reuse, water conservation, and drought education. The WUCC participated in **21** activities and/or events during the reporting period including school presentations, library education, and community events. Attendance at these events during the reporting period was approximately **2,759**. The WUCC also held 10 virtual events in conjunction with Tarrant Regional Water District due to COVID-19 restrictions. These online workshops had approximately **1,581** in attendance.

C. Regional Activities: The City of Arlington continues to participate in the NCTCOG Stormwater Public Education Task Force (PETF). The PETF develops regional education efforts, materials, outreach programs,

and procures promotional items in an effort to educate the public about water quality issues. A copy of the NCTCOG PETF Public Education Report is available in [Appendix C](#).

II. Public Involvement and Participation

The City engages the community in stormwater related activities to encourage the protection and enhancement of stormwater quality. Like the education and outreach program, the public involvement and participation program includes opportunities for a wide variety of people who live in Arlington to participate in SWMP development and implementation and other volunteer opportunities.

For example, the City's TPDES MS4 permit, as well as its Stormwater Management Plan, is available for public review at the Public Works and Transportation Department at City Hall and is available online for citizens to make comment. Additionally, the Citizen's Environmental Committee (CEC) – the environmental advisory committee to City Council, discusses all aspects of environmental quality including stormwater issues. A minimum of 4 CEC meetings are held in each reporting period.

Furthermore, the City formed the Floodplain Program for Public Information Committee (FPPIC) in July 2019. The FPPIC is comprised of both city staff and Arlington residents. The committee was tasked with developing a five-year plan for public outreach covering flood safety, preparedness, watersheds, and flood insurance. The plan also included outreach on illegal stream dumping and stream cleanup events allowing the City to address both floodplain and pollution prevention issues. The plan was adopted by the Arlington City Council in January 2020 and was updated in October 2020. The FPPIC meets at least once annually to discuss pertinent flood and pollution prevention topics.

III. Evaluation of the Effectiveness of this MCM

Historically, the effectiveness of this MCM was gauged through citizen surveys. Given the limited response, the effectiveness of the program is gauged through the number of outreach activities in which the educators in each division participate and the attendance/interactions recorded at each event.

08. Monitoring, Evaluation, and Reporting



The City of Arlington maintains a comprehensive monitoring program to protect water quality of receiving waters within the MS4 and comply with permit requirements. The City of Arlington has elected to perform the required storm event discharge monitoring under Section IV, Section A.1: NCTCOG Regional Wet Weather Characterization Program (RWWCP) as supplemented by dry weather monitoring and local monthly grab sampling.

Screening and monitoring efforts include dry weather screening, Inner-City Creek Sampling (Monthly/CRP), wet weather monitoring (RWWCP), and industrial and high-risk runoff monitoring.

I. Dry Weather Monitoring

The City's dry weather screening program focuses on detecting the presence of illicit discharges, eliminating illicit connections, and assessing dry weather water quality changes. In the fourth reporting period (4RP), the historical dry weather database (developed in 2003) was integrated with current GPS MS4 mapping activities to provide a clearer picture of the location of the City's outfalls and other stormwater infrastructure. As a result, dry weather sampling was suspended to avoid incorrect and/or improper screening. Re-implementation of the program was initiated in late FY2016 on June 16, 2016, after the rainy season.

Screenings continued in FY 2021 to meet TCEQ requirements to screen all areas of the MS4 during the permit term, but not necessarily every outfall. Environmental Specialists within the Environmental Management Group are responsible for conducting all dry weather screening activities. Dry weather screening occurs when there has been no significant precipitation (less than 0.10 inches) within 48 hours to ensure flow is not from rainfall runoff. Tests and observations are made when the flow is first observed and again within 24 hours, but no sooner than four hours to increase the potential to detect illicit flows. Five (5) illicit discharges were found as a result of dry weather screening.

The dry weather outfall screening summary for this reporting period is outlined below.

Watershed	Number of outfalls screened/verified	Number of Outfalls with Flow	Illicit Connections or Discharges	Unable to Access
Rush	189	0	0	17
Lower Village	57	0	0	6
Upper Village	23	1	1	2
Fish	52	0	0	2
Trinity Tributaries	92	0	0	10
Cottonwood	40	0	0	0
Lake Arlington	37	0	0	10
Johnson	106	0	0	9
Walnut	1	0	0	0
Lynn	10	0	0	0
Bowman Branch	16	0	0	1
Grand Total	623	1	1	57

II. Monthly Inner-City Creek Sampling – In Situ

Since 1988, the City of Arlington Environmental Management staff has, monthly, conducted sampling activities in its inner-city creek system. The purpose of monthly inner-city creek sampling is to determine and/or detect the present of illicit discharges. Over time, sites have been added, discontinued, or moved to provide a representative sampling of inner-city creeks. Currently, the city monitors thirty-two (32) sample sites. Sampling at each of the thirty-two sites includes eleven (11) water quality parameters determined to provide a good indication of the presence of illicit discharges. Parameters include: pH, dissolved oxygen, specific conductivity, air temperature,

sample temperature, surfactants, chlorine, copper, phenols, ammonia, and visual observation. A total of **371** monthly inner creek sampling events occurred during the reporting period.

III. Wet Weather Monitoring – RWWCP

The City monitors wet weather events through a wet weather screening program designed to identify and investigate areas that may contribute excessive concentrations of pollutants to the MS4, and to establish baseline data on receiving streams. The City's wet weather monitoring efforts are coordinated by the NCTCOG through its RWWCP. Participation in the RWWCP was offered as an option in Part IV.A.1 of the City's TPDES Phase 1 MS4 permit. NCTCOG provides all RWWCP data to the TCEQ on behalf of the participating entities. The City collects water quality data from NCTCOG quarterly or when published.

The fourth term of the RWWCP spans 2018-2022, with no sampling to occur in 2022. The sampling plan for the fourth program term will effectively monitor at least 50% of Arlington's jurisdictional area by the end of the term. Each sampling station will be monitored for a minimum of two years. The results of those monitoring activities are available in **Appendix D**. RWWCP sample locations for FY21 in the fourth monitoring term are identified below.

Watershed	Station ID	Location	Latitude & Longitude	Number of samples taken & type
Rush Creek	AR2101	Rush Creek @ W. Sublett Rd.	32.648889 97.146389	4 (Chemical)
Rush Creek	AR2102	Rush Creek @ Woodland Park Blvd.	32.713889 97.172778	4 (Chemical)

IV. Industrial and High-Risk Monitoring

In FY21, nine (9) industrial facilities were identified as having benchmark requirements. Benchmarks are due to TCEQ and the City of Arlington on March 31 annually and cover the period from January 1 of the previous year through December 31. The benchmark reporting indicated below covers the period **January 1, 2021 through December 31, 2021** – a portion of the FY21 reporting period. **As of the writing of this report**, nine (9) facilities of the nine facilities have submitted a copy of their benchmark data to the City of Arlington. Of the nine submittals, one (3) facilities were compliant; and six (6) were non-compliant, each having exceeded benchmark parameters. Four (4) of the six non-compliant facilities remain on corrective action plans from FY21.

Industrial Facilities – Benchmark Requirements	Quantity
Compliant Facilities	3
Non-Compliant Facilities: Exceeded Benchmarks	6
Facilities on Corrective Action Plans	4

The City will continue to send notice to all facilities on file with benchmark monitoring requirements to remind them of their reporting requirements to TCEQ and will request that a copy of the report also be sent to the Stormwater Management Division, Environmental Management Group. Those who do not submit the benchmark monitoring data to the City will be asked to provide a hard copy of the data upon annual inspection of their facility to be reviewed and filed with industrial inspections records. Compliance Action Plans are reviewed at annual inspection or by March 31 (whichever is later) to determine if corrective measures were effective.

V. Clean Rivers Program (CRP)

The CRP program is coordinated through the Trinity River Authority of Texas (TRA). CRP sampling is conducted at eight predetermined sites on a quarterly basis. In June 2016, the City began sampling monthly for E. coli at the eight

previously established CRP sites and eventually added four (4) additional sites for comprehensive watershed sampling. One additional site was added in FY2017 for a total of thirteen (13) monthly E. coli sampling locations. Quarterly sampling occurs at the eight (8) previously established CRP sites and includes additional water quality parameters including: pH, dissolved oxygen, specific conductivity, air temperature, sample temperature, surfactants, chlorine, copper, phenols, ammonia, and visual observation. Lab analyses include testing for: Cadmium, Chromium, Copper, Manganese, Nickel, Zinc, Iron, Lead, Chlorophyll, TKN, Nitrate, Nitrite, Orthophosphate, Total Phosphate, Hardness, and E. coli.

The eight CRP sites are located on larger bodies of water. This provides a broader view of the health of the entire stormwater collection system as well as indicating the presence of any pollutants from illicit discharges upstream. TRA provides all CRP data to the TCEQ on behalf of the participating entities. In September 2014, the City of Arlington converted to the TRA CRP reporting and sampling schedule, thus sampling may not necessarily align with the City of Arlington's defined fiscal year or annual reporting cycle. Quarterly CRP sampling occurred in **November 2020, February 2021, May 2021, and August 2021.**

VI. Automotive Related Businesses (ARB)

ARBs (auto repair shops, paint shops, auto salvage yards, and the like) can represent some of the largest generators of hazardous waste among small businesses. Many products used by the automotive industry contain a variety of potential pollutants (e.g. solvents, heavy metals, oil and grease, and petroleum products) that are considered toxic and dangerous to human health and the environment when not used properly. As such, these types of businesses can directly and indirectly impact surface water quality.

The Arlington ARB Program was created in April 2017 after several routine water quality investigations near concentrations of ARB facilities indicated increased levels of the hazardous pollutants. ARBs are classified as: (1) Automotive salvage yards; (2) New or used automobile sales, rental, or leasing; (3) Automotive parts sales, new or used, including, but not limited to, tires, tubes, engines, transmissions, exhaust systems, radiators, brakes and body parts, or any aftermarket or replacement parts; (4) Automotive repair and/or replacement shops, including, but not limited to, tires, tubes, engines, transmissions, exhaust systems, radiators, brakes and bodies; (5) Automotive front-end alignment shops; (6) Automotive paint and/or body shops; (7) Automotive oil change and lubrication shops; (7) Automotive washing, cleaning, polishing and detailing (excluding self-serve car washes); (8) Automobile holding yards; (9) Inoperable vehicle holding yards; (10) Automotive Machine shops; and (11) Automotive fueling stations.

Full integration of the Arlington ARB program into EM's stormwater programming was completed in November 2018. ARB programming is implemented in three parts: **facility verification, facility inspection and education, and monitoring.** **Results of monitoring efforts in FY21 are outlined below.** Facility verification and inspection information is outlined in **Section 03: IDDE** of this report.

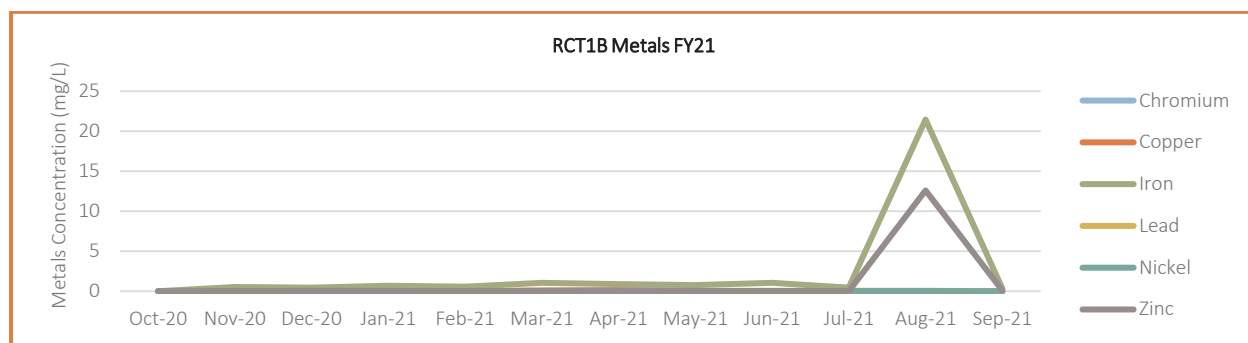
Sampling occurs at five (5) monitoring stations in the most impacted watersheds (listed below). Parameters include: metals, oil and grease (O&G), volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH).

- RCT180 – Rush Creek at 2315 W. Division St. * (formerly RCT180 – Rush Creek at Bowen & Division)
- JC303 – Johnson Creek at the intersection of Davis & Pioneer Parkway
- JC1T – Johnson Creek channel at 2715 S. Cooper St.
- JC3T – Johnson Creek channel near 751 Station Dr. * (formerly JC2T – Johnson Creek at 1921 S. Cooper St.)
- CCF1 – Cottonwood Creek at Forum Dr.

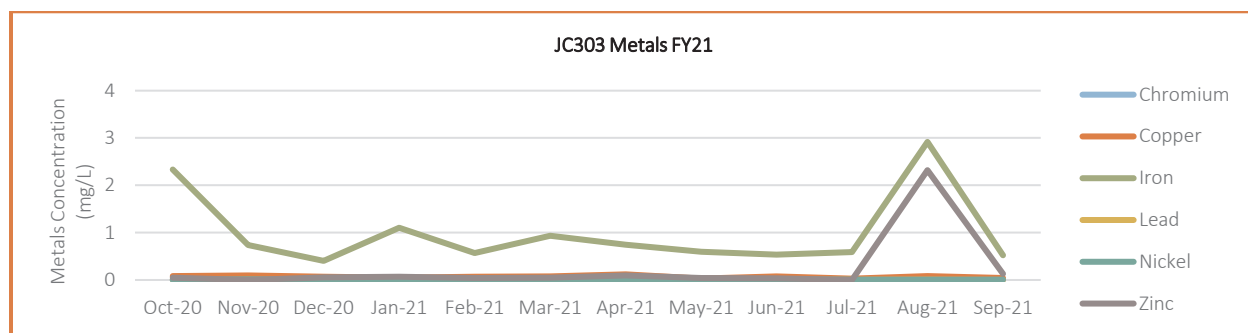
**In October 2020, an assessment of the suitability of the five monitoring stations was conducted. Results of the assessment indicated that two of the five sites consistently did not have enough flow to grab water samples for testing and did not adequately represent the total discharge from ARBs in the surrounding areas. As such, two new sites were established to more effectively measure potential discharges from ARBs in the area.*

Metals data for the five ARB locations is included below.

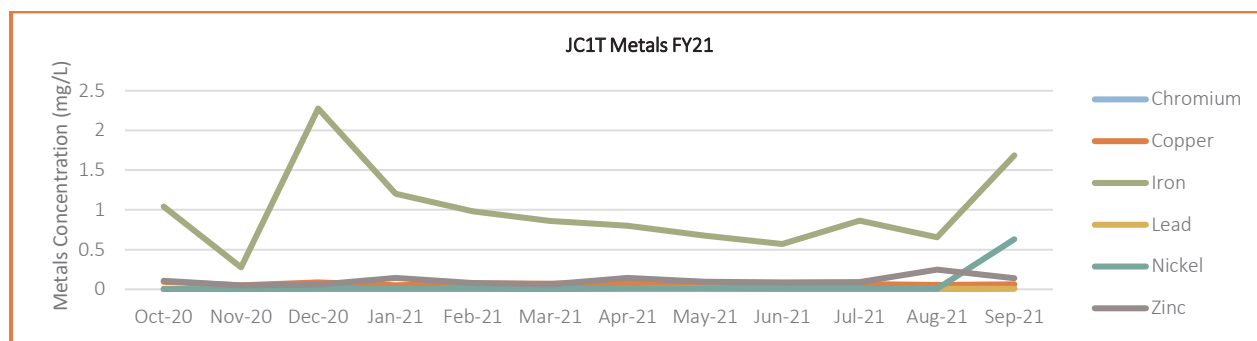
RCT1B	Chromium	Copper	Iron	Lead	Nickel	Zinc
Oct-20	N/A	N/A	N/A	N/A	N/A	N/A
Nov-20	< 0.0045	0.0717	0.5302	< 0.0036	0.0077	< 0.0351
Dec-20	< 0.0045	0.1029	0.4612	< 0.0036	0.0054	0.0525
Jan-21	0.0147	0.0402	0.7053	0.0037	0.007	0.0639
Feb-21	0.0088	0.0415	0.5515	< 0.0036	0.0075	< 0.0351
Mar-21	< 0.0045	0.0764	1.031	0.0038	0.0035	0.0434
Apr-21	0.0174	0.1277	0.8964	0.0051	0.0142	0.1035
May-21	< 0.0045	0.0632	0.7533	0.0057	0.0074	0.053
Jun-21	< 0.0045	0.0577	1.036	< 0.0036	0.0037	< 0.0351
Jul-21	< 0.0045	0.0395	0.4348	< 0.0036	< 0.0032	< 0.0351
Aug-21	0.0238	0.06	21.46	0.0052	0.0161	12.6
Sep-21	< 0.0045	0.0207	0.3159	0.0014	< 0.0032	0.1065



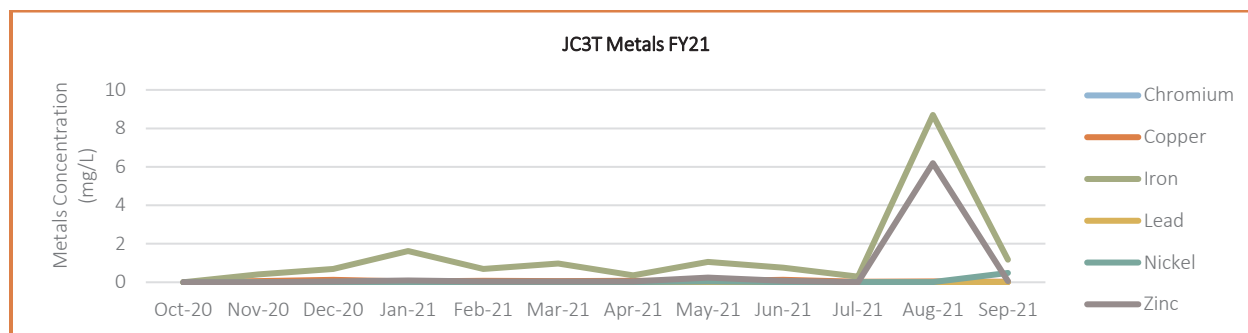
JC303	Chromium	Copper	Iron	Lead	Nickel	Zinc
Oct-20	< 0.0045	0.085	2.332	0.0054	0.005	0.0519
Nov-20	< 0.0045	0.0934	0.7381	< 0.0036	0.0115	< 0.0351
Dec-20	< 0.0045	0.069	0.4035	< 0.0036	0.005	0.0521
Jan-21	0.0123	0.051	1.1	< 0.0036	0.0099	0.0714
Feb-21	0.016	0.0712	0.5697	0.0045	0.0151	0.0446
Mar-21	< 0.0045	0.0741	0.9373	< 0.0036	0.0059	0.0475
Apr-21	0.0138	0.1189	0.7476	< 0.0036	0.0194	0.0983
May-21	< 0.0045	0.0297	0.5943	< 0.0036	0.0088	0.0448
Jun-21	0.005	0.0732	0.5368	< 0.0036	0.0073	0.0351
Jul-21	< 0.0045	0.03	0.5862	0.0066	0.008	< 0.0351
Aug-21	0.0083	0.0804	2.917	0.0053	0.011	2.32
Sep-21	0.0061	0.0394	0.5225	0.003	0.0088	0.1264



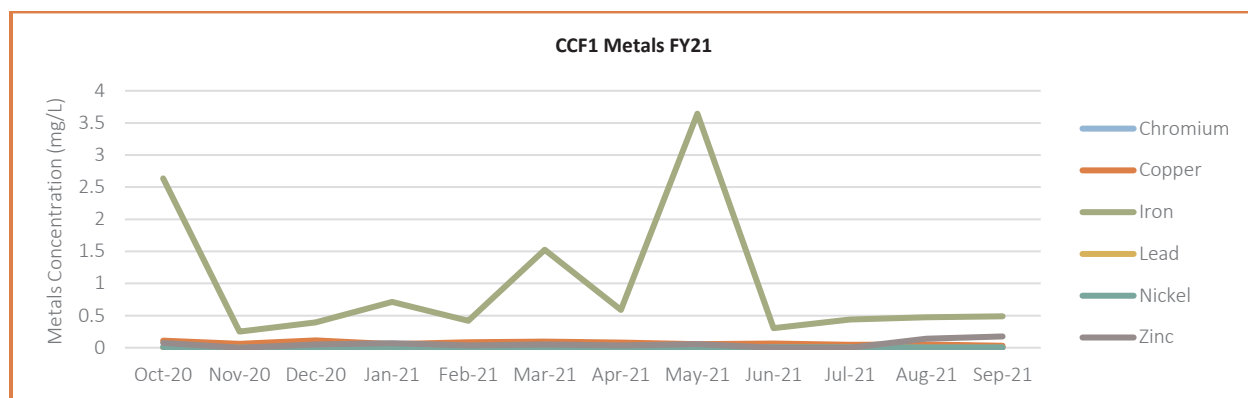
JC1T	Chromium	Copper	Iron	Lead	Nickel	Zinc
Oct-20	< 0.0045	0.0948	1.042	0.0068	0.0041	0.1074
Nov-20	< 0.0045	0.05	0.2768	< 0.0036	0.0032	0.049
Dec-20	< 0.0045	0.0861	2.277	< 0.0036	0.0069	0.0595
Jan-21	0.0112	0.0528	1.205	0.0043	0.0081	0.1436
Feb-21	0.0096	0.0751	0.9836	0.0058	0.0064	0.0794
Mar-21	< 0.0045	0.0715	0.8594	0.0037	0.0038	0.0637
Apr-21	0.0096	0.0772	0.8024	0.0036	0.0112	0.1422
May-21	0.0069	0.0813	0.6763	0.0053	0.0105	0.0939
Jun-21	< 0.0045	0.0791	0.5688	< 0.0036	0.0051	0.0887
Jul-21	< 0.0045	0.0613	0.8637	0.0036	0.0047	0.0906
Aug-21	< 0.0045	0.0548	0.6555	0.0054	0.0069	0.248
Sep-21	0.0122	0.064	1.688	0.0067	0.6306	0.139



JC3T	Chromium	Copper	Iron	Lead	Nickel	Zinc
Oct-20	N/A	N/A	N/A	N/A	N/A	N/A
Nov-20	< 0.0045	0.0584	0.4011	< 0.0036	< 0.0032	< 0.0351
Dec-20	< 0.0045	0.1218	0.6957	< 0.0036	0.0056	0.051
Jan-21	0.0119	0.0495	1.622	< 0.0036	0.0077	0.0894
Feb-21	0.0055	0.0841	0.6896	0.0097	0.004	0.0415
Mar-21	< 0.0045	0.0582	0.9693	< 0.0036	0.0036	0.0449
Apr-21	0.0134	0.0719	0.3528	< 0.0036	0.0143	0.0403
May-21	< 0.0045	0.0683	1.052	0.0049	0.0378	0.2348
Jun-21	0.0092	0.1286	0.7607	< 0.0036	0.0077	0.08
Jul-21	< 0.0045	0.0312	0.2999	< 0.0036	0.0038	< 0.0351
Aug-21	0.0087	0.0427	8.697	0.0052	0.0104	6.191
Sep-21	0.0111	0.0297	1.178	0.0021	0.4839	0.06



CCF1	Chromium	Copper	Iron	Lead	Nickel	Zinc
Oct-20	0.0076	0.1086	2.637	0.0058	0.0088	0.0733
Nov-20	< 0.0045	0.0625	0.2511	< 0.0036	< 0.0032	< 0.0351
Dec-20	< 0.0045	0.1141	0.3952	< 0.0036	0.0071	0.0522
Jan-21	0.0384	0.0577	0.7147	< 0.0036	0.0089	0.0716
Feb-21	0.058	0.0873	0.4183	0.0038	0.0045	0.0364
Mar-21	0.006	0.096	1.527	0.0036	0.0065	0.0525
Apr-21	0.0129	0.0794	0.5882	< 0.0036	0.0137	0.0357
May-21	0.012	0.0551	3.644	0.0038	0.0124	0.0533
Jun-21	0.008	0.0649	0.3054	0.0037	0.0048	< 0.0351
Jul-21	< 0.0045	0.0441	0.4396	< 0.0036	0.0045	< 0.0351
Aug-21	< 0.0045	0.0521	0.4744	0.003	0.0051	0.1399
Sep-21	0.0065	0.0303	0.4886	0.0018	0.0056	0.1754



09. TMDL'S



The City of Arlington MS4 permit now requires targeted BMPs be developed and implemented when an MS4 drains to an impaired waterbody – waterbodies with established TMDLs and those without. While the requirements to address TMDL’s appeared in the City’s renewed permit in August 2019, the City has identified development and implementation of a comprehensive TMDL program to be fully implemented by the end of the permit term in 2024. Goals include **identifying areas of focused effort, creating measurable goals to reduce the discharge of pollutants of concern to impaired and TMDL waters, identifying benchmarks for program effectiveness, and monitoring and assessing progress toward reaching benchmarks.** **The City has outlined TMDL program goals that are to be completed on a yearly basis over the permit term in its Stormwater Management Program (SWMP).** Reporting on the progress of Year 2 goals associated with the TMDL program are outlined below.

Monitoring or Assessment of Progress: Year 1 and Year 2 Goals

Year 2 includes the implementation of seven (7) program goals, in addition to the continuation of the Year 1 goal. The City’s MS4 permit indicates that Permittees may evaluate progress toward meeting the benchmarks established by choosing one of the following options as outlined in the permit: (1) evaluating program implementation measures; OR (2) assessing improvements in water quality. The City has chosen to utilize option 2 which states:

The permittees may assess improvements in water quality by using available data for segment and assessment units of waterbodies from other reliable sources, or by proposing and justifying a different approach such as collection additional instream or outfall monitoring data, etc. that may be acquired from TCEQ, local river authorities, partnerships, and/or other local efforts as appropriate.

Year 1 Goal: Monthly Bacteria Monitoring by the City and its Co-Permittee

In 2016, in anticipation of the promulgation of TMDL bacteria regulations, Environmental Management Group began a monitoring for bacteria impacts in Arlington watersheds. The program (*Interim Monitoring & Reduction Program*) was initially developed to monitor the presence of bacteria (E. coli) at the eight (8) current CRP locations. CRP sites are monitored for indicator bacteria once per quarter, however, in order to fully represent stream flow conditions and presence of bacteria, the EM Group began monitoring these sites on a monthly basis. CRP sites were chosen originally because the sites were identified by the TCEQ as impaired waterbodies not suitable for contact recreation due to the high presence of indicator bacteria.

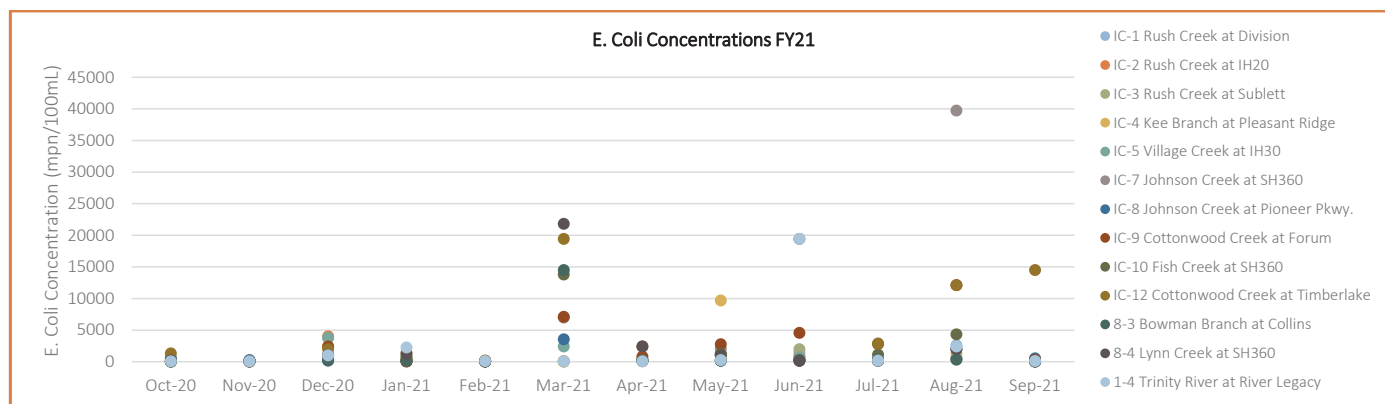
The program was expanded in 2018 to include 5 additional sample locations including the Trinity River for a total of thirteen (13) bacteria monitoring locations. As such, it is practical for the City to assess progress toward established benchmarks by assessing any improvements in water quality by using the available data for segments and assessment units of the waterbodies from our own collected data as well as data available from other reliable sources, namely the Trinity River Authority of Texas (TRA).

Additionally, with the promulgation of the Permit, co-permittees (University of Texas – Arlington (UTA)) will also participate in assessing improvements in water quality. during the permit term, UTA will be responsible for monitoring monthly, those portions of the applicable AUs that traverse those portions of the MS4 within their jurisdiction – a total of four (4) monitoring locations. Water grab samples shall be taken to an accredited laboratory and sampled for the presence of E. coli bacteria. Laboratory results are submitted to the City of Arlington Environmental Management Group once available. It is important to note, however, that *the City of Arlington will be responsible for addressing the TMDL and impaired waterbody requirements outlined in the renewed Permit for the MS4 in its entirety – including the portions located within UTA’s jurisdiction – for the current permit term (2019-permit expiration).*

Bacteria monitoring data for FY21 for the City of Arlington and UTA respectively, is included below. Although the City established bacterial monitoring data in 2016, any comprehensive bacteria (and/or TMDL) trend analyses will utilize FY20 data as the baseline as UTA did not begin monitoring until FY20. **This Year 1 goal is fully implemented and 100% complete and will be continuous for the remainder of the permit term.**

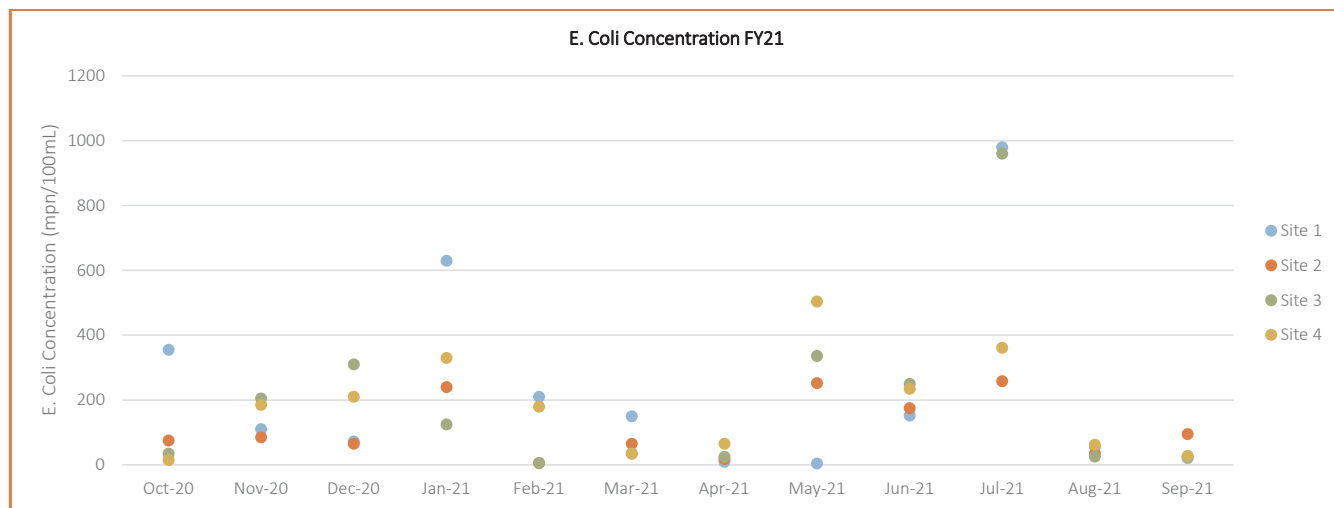
City of Arlington:

	IC-1	IC-2	IC-3	IC-4	IC-5	IC-7	IC-8	IC-9	IC-10	IC-12	8-3	8-4	1-4
Oct-20	16	326	1	36	2	178	548	37.3	23.1	1300	34.1	225	51
Nov-20	79	8.5	4	104	48	171	238	30	34	97	63.7	45.7	52.9
Dec-20	3840	3990	980	2420	3790	219	228	2420	1050	1990	162	1050	980
Jan-21	649	1410	816	72.7	548	129	93.2	N/A	108	461	121	1200	2260
Feb-21	4	140	138	85	93	63	54.6	2	43	176	21.8	65.7	79.4
Mar-21	77.6	27.5	14.6	98.7	2420	6980	3540	7100	13800	19400	14500	21800	44.1
Apr-21	141	178	387	142	88.2	51.2	219	816	219	2420	135	2420	51.2
May-21	1302	249	1102	9678	270	2069	167	2747	1230	992	125	1050	261
Jun-21	1410	921	1990	579	687	225	119	4550	205	19400	261	140	19400
Jul-21	83.6	179	205	411	157	162	157	2810	1120	2880	365	166	179
Aug-21	2586	461	312	1244	508	39726	1990	12098	4332	12098	313	1990	2420
Sep-21	12.1	69.1	6.3	228	60.2	10.9	517	276	42.8	14500	69.1	32.3	103



University of Texas – Arlington

E. Coli		Site 1	Site 2	Site 3	Site 4
	Oct-20	355	75	35	15
	Nov-20	110	85	205	185
	Dec-20	72	65	310	210
	Jan-21	630	240	125	330
	Feb-21	210	6	6	180
	Mar-21	150	65	35	35
	Apr-21	10	18	25	65
	May-21	4	252	336	504
	Jun-21	152	175	250	235
	Jul-21	980	258	960	361
	Aug-21	56	35	26	62
	Sep-21	21	95	25	28



Year 2 Goals:

The City of Arlington has identified seven (7) goals in its SWMP to be implemented in Year 2.

- Review biennially the Texas Integrated Report of Surface Water Quality Sections 305b and 303d to identify POCs for impaired waterbodies within the MS4.
- Identify by the end of FY21, a minimum of three (3) areas of focused efforts to address POCs
- Identify by the end of FY21, a minimum of one (1) BMP associated with each targeted control
- Identify by the end of FY21, a minimum of one (1) measurable goal for each targeted control
- Identify by the end of FY21, a minimum of one (1) benchmark for each POC.
- Continue to implement the Year 1 goal – monitoring bacteria levels monthly at 13 established locations throughout the MS4's watersheds
- By the end of FY21, review all SSO discharges that reached a waterbody occurring from 2010-2019 to determine MS4 contribution.

The City's progress toward meeting these goals is outlined below.

Review biennially the Texas Integrated Report of Surface Water Quality Sections 305b and 303d to identify POCs for impaired waterbodies within the MS4: As of the writing of this report, the most recent version of the Texas Integrated Report was published in 2020. A review of the report still indicates bacteria as the primary pollutant of concern in the waterbodies within the City's jurisdiction. As such, Arlington's TMDL program continues to focus on targeting bacteria reductions in the impaired waterbodies within its boundaries.

Identify by the end of FY21, a minimum of three (3) areas of focused efforts (targeted controls) to address POCs: To aid in identifying the most essential BMPs to implement to reduce discharges of the identified POC, the City of Arlington references those strategies identified in the available TMDL Implementation Plan for the North Central Texas Region: *Implementation Plan for Twenty-Three Total Maximum Daily Loads for Bacteria in the Greater Trinity Region (I-Plan)*. Approved by the TCEQ on December 11, 2013 and revised by the Coordination Committee on June 30, 2020, the I-Plan outlines strategies or best management practices that many entities in the region have completed, will complete, or continue ongoing efforts to address bacteria concerns in TMDL and impaired areas. To this end, the City will continue to implement the relevant strategies outlined in the I-Plan. The I-Plan outlines implementation strategies in nine (9) areas: Wastewater, Stormwater, Planning and Development, Pets, Livestock, and Wildlife, OSSFs, Monitoring Coordination, Education and Outreach, BMP Library, and Strategy Evaluation.

The SWMP identifies eighteen (18) general areas of focused efforts to address bacteria concerns in TMDL and impaired areas. The following table identifies the seven (7) areas of focused effort for bacteria reduction that the City has chosen to address in FY21. Subsequent areas of focused effort (targeted controls) may be added and implemented in future reporting periods.

Implementation Areas	I-plan Strategy	Subsection	Area of Focused Effort (Targeted Control)
Planning & Development	Construction Sites	3.2.1	Construction Site Inspection Programs
		3.2.2	Educational materials for contractors, site owners, developers, and MS4 Operators
		3.2.3	Citizen participation and education efforts
		3.2.4	Training workshops
Monitoring Coordination	Routine Sampling	6.0	Routine Sampling
		6.1	Monitoring Coordination Forum
Education & Outreach	Education & Outreach	7.0	Ongoing Stormwater Education Participation and inclusion of bacteria-specific materials

Identify by the end of FY21, a minimum of one (1) BMP associated with each targeted control: BMPs for each area of focused effort are outlined below.

Implementation Areas	I-plan Strategy	Subsection	Area of Focused Effort (Targeted Control)	Best Management Practice (BMP)
Planning & Development	Construction Sites	3.2.1	Construction Site Inspection Programs	Continue construction inspections via established construction program.
		3.2.2	Educational materials for contractors, site owners, developers, and MS4 Operators	Education Materials for Construction Site Personnel.
		3.2.3	Citizen participation and education efforts	Encourage citizen reporting via established COA electronic reporting system.
		3.2.4	Training workshops	Provide training materials for construction site personnel.
Monitoring Coordination	Routine Sampling	6.0	Routine Sampling	Continue routine and permit-required sampling.
		6.1	Monitoring Coordination Forum	Participation in NCTCOG Monitoring Forums.
Education & Outreach	Education & Outreach	7.0	Ongoing Stormwater Education Participation and inclusion of bacteria-specific materials	Stormwater Education materials with TMDL/bacteria focus.

Identify by the end of FY21, a minimum of one (1) measurable goal for each targeted control: Measurable goals for each targeted control are outlined below

I-Plan Strategy	Subsection	Area of Focused Effort (Targeted Control)	Measurable Goal	Metrics
Construction Sites	3.2.1	Construction Site Inspection Programs	Inspect at least once monthly, a minimum of 50% of private construction sites for compliance with city ordinance and state CGP requirements.	A total of 250 construction sites were in progress in FY21; a total of 2,231 inspections were conducted during FY21.
	3.2.2	Educational materials for contractors, site owners, developers, and MS4 Operators	Provide a minimum of one Quick Training and Review (QTR) at initial construction site inspection.	Implementation of QTR began mid-August 2021; Ten (10) trainings were conducted by end of FY21.
	3.2.3	Citizen participation and education efforts	Encourage citizens to report negligent construction sites	Citizens may report negligent sites by using the City's Ask Arlington Request System. In FY21, 18% of complaints received were directly related to construction site issues.
	3.2.4	Training workshops	Develop one construction training video for construction site operators	One construction training video was created and implemented in FY21.
Routine Sampling	6.0	Routine Sampling	Monitor bacteria levels monthly at 13 established locations throughout the MS4's watersheds as well as continuing permit required monitoring programs.	Monthly bacteria monitoring occurred at 13 city sites and 4 UTA sites in FY21. (See Year 1 Goal above.) See MCM 8 for all other monitoring results.
	6.1	Monitoring Coordination Forum	Continue participation in the NCTCOG's regional monitoring	A total of 3 Regional SW Monitoring Task Force meetings were held. The

			forum by attending a minimum of 1 meeting per year.	Stormwater Quality Manager attended 3 out of three meetings.
Education & Outreach	7.0	Ongoing Stormwater Education Participation and inclusion of bacteria-specific materials	Include one explainer video related to TMDLs on the City's website.	One TMDL explainer video was incorporated on the City's Stormwater webpage in FY21.

Identify by the end of FY21, a minimum of one (1) benchmark for each POC: The permit requires that benchmarks be determined for POCs identified by permittees. The primary POC for the City of Arlington is bacteria. The benchmark must be determined by either of the two methodologies (A or B) outlined in the City of Arlington's MS4 permit.

The City chose to utilize the methodology outlined in Option A: waste load allocations for permitted MS4 stormwater sources. Waste Load Allocations (WLAs) for regulated stormwater sources for TMDL and impaired waters are calculated and outlined in the I-plan. WLAs for impaired assessment units (AUs) within Arlington's jurisdiction are listed below. These WLAs will serve as the benchmarks for TMDL and impaired waters within Arlington. All loads are expressed as billion MPN/day.

Assessment Unit (AU)	Stream Name	WLA _{sw}
0841_02	Lower West Fork Trinity River	1920.0
0841F	Cottonwood Creek	46.053
0841K	Fish Creek	103.393
0841L	Johnson Creek	491.0
0841M	Kee Branch	184.4
0841R	Rush Creek	678.7
0841T	Village Creek	357.9

Continue to implement the Year 1 goal – monitoring bacteria levels monthly at 13 established locations throughout the MS4's watersheds: See Year 1 Goal outlined above.

By the end of FY21, review all SSO discharges that reached a waterbody occurring from 2010-2019 to determine MS4 contribution: Based on the available data, the City has determined that it *may be* a source of the pollutant of concern identified in the SWMP and the CWA 303d list and that discharges from the MS4 would likely contain the POC above the LOC. Between 2010 and 2020 a total of **618** SSO's have entered a waterbody or drainage course with a total of over 9 million gallons of sewage discharged.

PROPOSED CHANGES TO THE SWMP

The City of Arlington proposes no changes to the approved 2020 SWMP. The City's MS4 permit was renewed on August 15, 2019, with the new SWMP submitted on February 10, 2020. The 2020 SWMP was approved on November 9, 2020 and is currently implemented.

ANNUAL AND PROPOSED EXPENDITURES

The following addresses department and/or divisional expenditures related to the Stormwater Management Program. The information represents the actual costs during the reporting period and proposed program costs for the subsequent fiscal year. During the reporting period, the City expended **\$26,175,736.62** related to implementing the major elements of the SWMP. The City expects to spend **\$35,858,127.68** related to implementing the major SWMP elements in FY 2022.

Annual and proposed expenditures are outlined on the following page.

Program / Activities	Actual Program Costs (FY21)	Proposed Program Costs (FY22)
Public Works & Transportation – Stormwater Management Administration		
- Floodplain Administration - Watershed Studies - Environmental Education - Stormwater Utility Fund Administration - Bond Payments	\$9,071,346.00*	\$11,244,301.00*
Public Works & Transportation – Stormwater Capital Improvements	\$13,356,000.00	\$19,835,000.00**
Infrastructure Design, Contracts, & Management		
Public Works & Transportation – Stormwater Environmental Management		
- TPDES / SWMP Coordination - Inspection & Enforcement - Water Quality Monitoring - Hazardous Response & Monitoring - Regional Stormwater Monitoring & Mgmt. (Contracts) - HHW Collection & Disposal	\$1,269,695.00	\$1,510,125.00
Public Works & Transportation – Stormwater Maintenance Crew	\$1,387,050.00	\$2,056,811.00
MS4 Maintenance Activities		
Public Works & Transportation – Engineering Operations	\$333,738.20	\$400,000.00
SW Pollution Prevention (CIP)		
Asset Management – Solid Waste & Recycling		
- Curbside Recycling - Public Education	\$86,478.00	\$77,428.00
Airport		
MSGP Administration & Monitoring	\$15,911.00	\$20,897.00
Planning & Development Services		
Coordination of Construction Plan Reviews	\$44,036.79	\$42,715.68
Parks & Recreation – Construction		
Construction Installation and Maintenance of BMPs	\$453,650.00	\$500,000.00
Parks & Recreation – Operations		
- P2 Practices for Parks Operations & Maintenance - Integrated Pest Management (IPM) - Litter Clean Up - Erosion Controls	\$48,590.00	\$50,000.00
Water Utilities – Engineering Operations	\$108,460.64	\$120,000.00
Water Utilities - GIS	\$517.74	\$600.00
Water Utilities – Water Resource Services		
Stormwater Related Efforts during Pretreatment	\$263.25	\$250.00
Grand Total	\$26,175,736.62	\$35,858,127.68

* includes bond debt payments or bond principal and interest. **includes new bonds and PayGo

REVISIONS TO ASSESSMENT OF CONTROLS OR BUDGET FROM PREVIOUS REPORTING PERIOD

There are no necessary revisions to the assessment of controls or fiscal year analysis reporting in the FY21 Annual Report covering the period beginning October 1, 2020 through September 30, 2021.

SUMMARY OF WATER QUALITY IMPROVEMENTS, DEGRADATIONS, AND PROGRESS TOWARD MEASURED REDUCTION IN POLLUTANTS

The City of Arlington assesses improvements and/or degradations in water quality by analyzing Clean Rivers Program (CRP) data. The purpose is to monitor changes in and to determine overall watershed health. Assessment of CRP data offers the most comprehensive view of watershed health as it captures chemical, bacteria, and nutrient indicators. Also, CRP program data is collected from sample sites in most of Arlington's watersheds (including impaired segments of the Trinity River). An evaluation of the trends in the analytes measured can be used to assess water quality improvements, degradations, and progress.

Quarterly CRP monitoring was conducted in November 2020, February 2021, May 2021, and August 2021. The table below provides a summary of water quality parameters for FY 2021. Data from FY 2020 is included for comparative purposes.

A table summary of water quality parameters is outlined below.

Parameter	Fiscal Year 2020	Fiscal Year 2021	Difference	Percent Change
Water Temperature				
Minimum	9.24	4.88	-4.36	0.47
Maximum	31.1	30.79	-0.31	0.01
Mean	17	17.34	0.34	0.02
Dissolved Oxygen				
Minimum	4.05	2.45	-1.6	0.4
Maximum	11.59	15.87	4.28	0.37
Mean	7.74	7.77	0.03	0.004
Specific Conductance				
Minimum	102.4	10.2	-92.2	0.9
Maximum	1212	5360	4148	3.42
Mean	538.35	562.74	24.39	0.05
pH				
Minimum	6.54	6.55	0.01	0.002
Maximum	8.79	8.8	0.01	0.001
Mean	7.56	7.46	-0.1	0.01
Total Phosphorus				
Minimum	0.02	0.02	0	0
Maximum	0.335	0.859	0.524	1.56
Mean	0.08	0.08	-0.0004	0.006
E. Coli				
Minimum	12	1	-11	0.92
Maximum	24196	39726	15530	0.64
Mean	476.42	300.93	-175.49	0.37
Nitrate				
Minimum	0.05	0.05	0	0
Maximum	1.52	1.32	-0.21	0.14
Mean	0.23	0.21	-0.02	0.1
Flow (ft³/s)				
Minimum	0.05	0.05	0	0
Maximum	0.05	0.05	0	0
Mean	0.05	0.05	0	0

Additional analytes may be added in subsequent reporting periods to gauge overall watershed health.

SUMMARY OF NPDES AND/OR TPDES PERMIT NOTIFICATION RECEIVED

The City of Arlington receives notices of intent for construction activity that will disturb five acres or more and are received by the City of Arlington's Community Planning and Development Department as part of the SWPPP. Notifications are cross referenced with the TCEQ's General Water Quality Permit Database (GWQPD). The City received in FY21: 26 Notices of Intent, 6 Notices of Termination, and 5 Notices of Change. TCEQ GWQPD indicates 56 distinct approved NOI's and 14 distinct NOT's submitted to the state during FY21.

Eight(8) distinct TPDES MSGP NOIs and thirty-three (30) MSGP NECs were approved by TCEQ during the reporting period according to the TCEQ General Water Quality Permits database. Four (4) MSGP NOIs and two (2) MSGP NECs terminated coverage during the reporting period. Any MSGP facilities that were approved but not included on the COA's current industrial list were added as appropriate. Any facilities terminating without renewing coverage were removed from the City's lists as necessary.

SUMMARY OF ENFORCEMENT ACTIONS AND INSPECTIONS

Environmental Specialists conduct construction inspections a minimum of once per month, with additional inspections occurring more often when corrective actions are required. Industrial inspections occur according to the schedule provided under **MCM 5: Industrial & High-Risk Runoff**. Environmental Specialists maintain records of site conditions observed during inspection and record all violations.

The City maintains legal authority to inspect construction and industrial sites, require site compliance, and provide enforcement of non-compliance via Education, Notices of Violation (NOVs), Criminal and Civil Citations, and Stop Work Orders (SWOs).

Enforcement Data: Construction

Enforcement Actions	Quantity
Notice of Violation	37
Stop Work Orders	5
Citations	2
Grand Total	44

Enforcement Data: Industrial

Enforcement Action	Quantity
Verbal Warnings	8
Notice of Violation	0
Citations	0
Grand Total	8

SUMMARY OF INDUSTRIAL AND CONSTRUCTION INSPECTIONS

During the reporting period, approximately **250** construction sites were active (in progress) during the reporting period including **115** new construction sites. These sites are regularly inspected by the City's Environmental Specialists. Construction inspections occurring during FY21 reporting period total **2,231**.

City of Arlington records indicate that there are **97** facilities that carry MSGP coverage: **47** facilities hold a Notice of Intent (NOI) and **50** facilities carry a No Exposure Certification (NEC). Due to COVID-19, inspections were limited for much of FY2021. There were **54** facility inspections completed for industrial stormwater discharges during the reporting period; **31** NOI inspections, **23** NEC inspections, and **1** Follow-Up NOI Inspections. There were a total of **54** industrial pretreatment inspections and **0** surveys (commercial backflow prevention and wastewater treatment inspections) conducted by City of Arlington Water Resource Services during the reporting period.

SUMMARY OF REPRESENTATIVE MONITORING DATA (AND ANY OTHER DATA)

Representative monitoring data and any additional data collecting over the reporting period is outlined above. Data accumulated during the reporting period is summarized in Section 1, MCM 8: Monitoring, Evaluation, and Reporting. Water quality samples are obtained as part of several ongoing stormwater management programs, including dry weather screening, routine monthly screening, the Clean Rivers Program, and the NCTCOG Wet Weather Monitoring Program. Sampled analytes vary by program and are explained in MCM 8 above.

During the reporting period, **623** outfalls were screened as part of the dry weather program. No illicit discharges or connections were detected. A total of **371** monthly inner creek samples were taken to determine the presence of illicit discharges. Parameters measured include level of flow, pH, DO, specific conductivity, water temperature, surfactants, chlorine, copper, phenols, ammonia, and other visual indicators. One **(1)** illicit connection or discharge was found and corrected.

The Trinity River Authority (TRA) provides all Clean Rivers Program (CRP) data to the TCEQ on behalf of the participating entities. In September 2014, the City of Arlington converted to the TRA CRP reporting and sampling schedule, thus sampling may not necessarily align with the City of Arlington's defined fiscal year or annual reporting cycle. CRP sampling occurred in **November 2020, February 2021, May 2021, and August 2021.**

The City monitors wet weather events through a wet weather screening program designed to identify and investigate areas that may contribute excessive concentrations of pollutants to the MS4, and to establish baseline data on receiving streams. The City's wet weather monitoring efforts are coordinated by the NCTCOG through its RWWCP. Participation in the RWWCP was offered as an option in Part IV.A.1 of the City's TPDES Phase 1 MS4 permit. NCTCOG provides all RWWCP data to the TCEQ on behalf of the participating entities. The City collects water quality data from NCTCOG quarterly or when published.

The fourth term of the RWWCP spans 2018-2022, with no sampling to occur in 2022. The sampling plan for the fourth program term will effectively monitor at least 50% of Arlington's jurisdictional area by the end of the term. Each sampling station will be monitored for a minimum of two years. The results of those monitoring activities are available in **Appendix D.**

Appendices



Appendix A: UTA Annual Stormwater Report



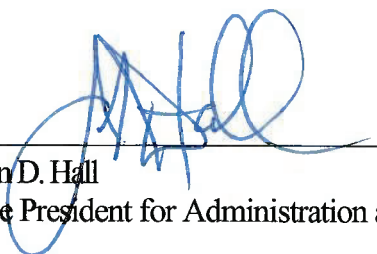
UNIVERSITY OF
TEXAS
ARLINGTON

OFFICE OF ADMINISTRATION
AND CAMPUS OPERATIONS

**Annual Report – TPDES Permit No. TXS000301
October 1, 2020– September 30, 2021**

CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or these persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



John D. Hall

Vice President for Administration and Campus Operations



UNIVERSITY OF
TEXAS
ARLINGTON



Texas Pollutant Discharge Elimination System (TPDES) Annual Report

Reporting Period: September 1, 2020 - August 31, 2021



UNIVERSITY OF
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HEALTH & SAFETY

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Executive Summary

The University of Texas at Arlington (UTA) has implemented a Storm Water Management Plan covering that portion of the Municipal Separate Storm Sewer System (MS4) within the corporate boundary of the City of Arlington operated by UTA. UTA is a co-permittee with the City of Arlington (the City) and has an interlocal agreement with the City of Arlington to clearly identify the respective roles and responsibilities of the parties. That part of the municipal separate storm sewer system operated by UTA is located on lands held by The Board of Regents of The University of Texas System (Board) and over which the Board exercises jurisdiction.

The Board is authorized and directed to govern, operate, support, and maintain each of the component institutions that are now or may hereafter be included in a part of The University of Texas System. See Texas Education Code, Section 65.31(a). UTA is a component of The University of Texas System. See Texas Education Code, Section 65.02(a)(1). The Board further has the sole and exclusive management and control of the lands set aside and appropriated to, or acquired by, The University of Texas System. See Texas Education Code, Section 65.39.

The original Municipal Separate Storm Sewer System (MS4) Permit for the UTA storm sewer system was issued from the Environmental Protection Agency under the National Pollutant Discharge Elimination (NPDES) program in 1998. Under this original MS4 permit the University was a co-permittee with the City of Arlington. UTA and The City of Arlington each developed Storm Water Management Programs (SWMP) that complimented each other by outlining areas of responsibility in areas where there was jurisdictional overlap. Since the original permits issuance, the permitting authority for MS4 permits was transferred to the Texas Natural Resource Conservation Commission (TNRCC), now known as the Texas Commission on Environmental Quality (TCEQ) under the Texas Pollution Discharge Elimination System (TPDES)

Under the TPDES permit, the MS4 operator is required to develop a Storm Water Management Program (SWMP) in which 9 elements are developed and implemented to address and minimize potential pollutants from being transported in storm water runoff leaving the Campus' through the storm sewer systems and negatively impacting surface waters of the state. Receiving watersheds include Waller Creek, Shoal Creek and ultimately the Colorado River in stream segment 1429. This annual report summarizes the measurable goals of the UT Arlington SWMP and the accomplishments of the involved departments within the University to minimize the impacts of university operations on storm water runoff.

References

1. The City of Arlington, SWMP Permit Term: 2019 – 2024
2. Implementation Plan for Five Total Maximum Daily Loads for Bacteria in Four Austin Streams, Texas Commission on Environmental Quality, January 2015.
3. The University of Texas at Austin, SWMP February 2019.
4. SITES (v2) Rating System for Sustainable Land Design and Development, June 2015.
5. City of Arlington Design Criteria Manual, April 2020
6. National Management Measures to Control Nonpoint Source Pollution from Urban Areas, United States Environmental Protection Agency, November 2005.

*: When practices in criteria manual conflict with UTA Standards, the University standards will supersede.

Acronyms

COA	City of Arlington
EH&S	Environmental Health and Safety
NCTCOG	North Central Texas Council of Governments
OFM	Office of Facilities Management
OFM-BO	OFM Building Operations (Maintenance Operation & Special Projects)
OFM-CP	Capital Projects
OFM-EMMO	OFM Energy Management and Mechanical Operations
OFM-FS	OFM Facilities Service (Automotive)
OFM-CPDM	OFM Construction Planning, Design and Management
OFM-GRD	OFM Grounds
PTS	Parking and Transportation Service
UTA-UHD	University Housing and Dining
UTA-S	Office of Sustainability
UTS-CP	UT System Capital Project

**When “All” is used, this refers to any department which contributes data to the UTA MS4 Annual Report

I. MS4 Maintenance Activities

A. Structural Controls

The storm drainage system requires regular maintenance and inspection to mitigate and/or reduce negative impacts to water quality and to ensure that control structures intended to prevent pollution are functioning. Maintenance activities include implementing a comprehensive program to address structural controls, floatables, and roadways to decrease potential impacts to the MS4.

1. Inspection, Monitoring, and Maintenance:

- a. **Open Channel Drainage Systems** - Annually and more frequently as needed, inspect open channel drainage systems, including bar ditches, and remove any materials that could impede flow or increase erosion. The purpose of this activity is to maintain an appropriate flow rate in flood conditions and to maintain water quality.
- b. **Open Channel Restrictions** - Quarterly, inspect culverts, bridges, exposed utility conveyances, and other civil or natural open channel restrictions, and remove sediment, debris, and vegetation. The purpose of this activity is to maintain an appropriate flow rate in flood conditions and to maintain water quality.
- c. **Storm Sewer Mains** - Continue the ongoing program of inspection, and if necessary cleaning of the storm sewer system. Suspect segments of the storm sewer mains will be inspected and cleaned immediately if necessary or annually at a minimum. The purpose of this activity is to maintain an appropriate flow rate in flood conditions, identify illicit discharges, and evaluate the condition of the system so that necessary repairs and replacements can be made. Waste materials removed from drainage conveyances will be disposed of in accordance with all applicable regulations promulgated by governmental authorities with jurisdiction.
- d. **Repair or replace piping in the storm sewer to maintain optimal operating conditions on an as-needed basis.** The purpose of this activity is to maintain an appropriate flow rate in flood conditions, identify illicit discharges, and evaluate the condition of the system so that necessary repairs and replacements can be made. Waste materials removed from drainage conveyances will be disposed of in accordance with all applicable regulations promulgated by governmental authorities with jurisdiction.

This MCM has been in effect for some time as a flood control management practice, and includes clean out of curb inlets, repair of broken pipe, stoppage control, and other activities. Infrastructure maintenance activities will be managed to reduce or minimize the discharge of floatables and other pollutants to surface waters.

2. Flood Control Projects:

- a. **Structural controls** – UTA operates two detention type flood control structures. Additional details of these structural controls are discussed in MCM II Post-Construction Storm Water Control Measures in section A (2).

B. Floatables

1. The University has established a program to reduce the discharge of floatables and other solid wastes primarily through source control strategies. Ground maintenance crews with litter pickup duties are active on a daily basis. Numerous trash receptacles and recycling bins are distributed throughout the campus. These station locations were selected based on the size of the discharge outfall and the collection area served. UTA determined that these are an adequate representation of the floatable debris entering the MS4 system and they are maintained daily during business days.

As technology develops, additional structural controls will be evaluated and implemented in strategic areas to supplement overall program effectiveness.

C. Roadways

1. Street/impervious cover sweeping – UTA removes sediment, trash, and organic detritus on university owned streets, mall areas, sidewalks, and in parking garages. UTA may construction projects to utilize a contractor or rent sweeper for street and parking area during construction projects when necessary. UTA sweeps University owned streets on a as needed basis to accommodate increased leaf litter and recover sand from deicing operations in the winter.

Table 1 – MCM 1 Maintenance Activities Activity Summary

BMP	2020-2021 Progress
Open Channel Drainage Systems	EHS staff inspected all open channels for debris on 5/20/2020.
Open Channel Restrictions	EHS staff inspected all open channel restrictions each quarter of the monitoring period. The unnamed tributary which flows into Johnson Creek is scheduled to be dredged in the Spring 2022.
Storm Sewer Mains-	During the reporting period UTA replaced domestic water & sewer lines as part of the Campus West Street Utility Infrastructure project.
Flood Control Projects-	EH&S inspected the two flood control structures at The Green at College Park and the Science and Engineering Innovation and Research Building (SEIR). No maintenance was required.
Floatables Monitoring-	OFM-LS conducted regular maintenance to minimize floatable from entering campus waterways and collected 57,750 pounds of debris.
Street/Impervious Cover Sweeping-	During the reporting period, parking lots and streets were swept by an outside contractor at the Trinity Hall and at the School of Social Work and College of Nursing and Health Innovation construction (SSW & CoNHI) projects and 2 cubic yards were collected, as needed.

II. Post –Construction Storm Water Control Measures

A. Areas of New Development and Significant Redevelopment

UTA formed a SWMP working group composed of individuals from EH&S and individuals from OFM (Auxiliary Operations & Logistics, Building Operations, Construction Planning, Design & Management, Energy Management and Mechanical Operations, Facilities Service). The focus of the working group is to identify areas of improvement and implement feasible goals to enhance water quality across the MS4. The group met regularly during the SWMP review period and will continue to bi-annually to identify and address areas of further improvement.

Representatives of the SWM team shall review all major construction plans for potential impacts on storm water quality to determine if proposed construction and post construction meet the requirements of this SWMP and shall recommend drainage and runoff controls to reduce erosion and peak flows and to mitigate impacts on water quality. A representative of the SWM team shall attend meetings of the campus master planning committee to address storm water management concerns relating to future construction.

During the implementation of the original SWMP, EH&S along with the appropriate departments of the OFM, reviewed construction plans for potential impacts on storm water quality to determine if the proposed construction met the requirements of the plan and recommended drainage and runoff controls to reduce erosion and peak flows, and to mitigate poor water quality. EH&S and OFM has continued the review of construction plans and submits comments to designers in an effort to identify impacts to the MS4 system and compliance with the SWMP.

UTA has a policy document called *Construction Site Procedures for Contractors* outlining procedural best management practices ("BMPs") that contractors are required to follow to achieve Maximum Extent Practicable ("MEP") goals. This document is distributed during planning or pre-construction meetings to construction contractors working on University projects. This document, together with the controls outlined in this SWMP, will be incorporated by reference into the construction standards manual UTA Design and Construction Standards. Private developments on lands leased from UTA are not subject to UTA Design and Construction Standards or this SWMP.

To help reduce pollution into the MS4, UTA requires any food waste compactors and permanent dumpsters with the potential to contaminate storm water to have plugs installed.

In addition, OFM Grounds services performs maintenance activities along several sections of the unnamed tributary which enters Johnson Creek near the intersection of South Center Street and South Mesquite Street. This involves soil management, vegetation maintenance, and removing excessive accumulation of sediment. They also implement several other general landscape management activities. These include the use of only organic material on site and utilizing erosion and compaction measures to ensure soils can support plants. Susceptible areas are monitored, and slopes and banks are repaired when required.

1. New Development

Design criteria and specifications for permanent and temporary structural controls contained in the UTA Design and Construction Standards for Erosion Control reference the appropriate sections of the Texas Pollutant Discharge Elimination System (TPDES) and the City of Arlington's Drainage Criteria Manual. UTA contractors use these manuals, with any modifications approved by UTA, as design guidelines for structural controls.

- a. Pre-construction - Construction details are reviewed by one or more of UTA's SWM team to determine if erosion, sedimentation, and pollution controls meet the requirements of the UTA Design and Construction Standards or the University Construction Site Procedures for Contractors. UTA holds pre-design conferences and schematic (proposed design) reviews allowing for site-specific construction phase and post-construction phase controls to be included in the scope of work.
- b. Construction-Phase Controls - Guidelines for new construction are outlined in the UTA Design and Construction Standards. This document requires construction-phase controls to prevent contaminated water from any source with any substance which may cause water pollution or extraordinary maintenance of the storm sewer system from leaving the construction site. It applies to all new development construction projects, where there is any anticipated impact to storm water runoff.

At incremental stages of design development, UTA conducts construction plan reviews. These reviews provide an opportunity to change the scope of work as necessary to accommodate or mitigate unanticipated impacts on storm water quality and conveyance systems caused by the new development. OFM Construction Planning, Design and Management has been assigned responsibility to determine if modifications to construction-phase controls are necessary to meet requirements and goals of the management plan and to require implementation of such controls.

- c. Post-construction Phase Controls - Storm water management planning at the pre-construction phase will focus on aspects of the site plan, grading plan, and proposed storm water utilities. To achieve MEP reduction in pollutant loading of runoff, architectural and structural controls after construction is complete will also be considered. Where the scope of work warrants, UTA will look for retrofit opportunities to manage runoff from existing facilities up gradient from the project site.

2. Redevelopment

Except where there is no anticipated impact to storm water runoff, redevelopment will follow the same guidelines with respect to erosion and sediment and pollution control as new development. Contractors will be required to implement site-appropriate controls (including BMPs) during redevelopment construction. EH&S will review redevelopment projects for opportunities to improve post-construction storm water management. Retrofits of existing storm water infrastructure will be considered, in order to achieve water quality improvements. When sites are redeveloped, the retrofit storm water infrastructure can continue to serve the new facilities.

a. Comprehensive master plan

The University's current Campus Master Plan was approved by The University of Texas System Board of Regents in May 2000. The intent at that time was to update the Master Plan every 5 to 7 years. UTA is in the is in the early process of reviewing and updating the Campus Master Plan.

b. Regulatory mechanism

The mission of the UTA Environmental Health & Safety Office is to promote a safe and healthy working, learning, and living environment for the campus community and protect the natural environment against adverse impact. EH&S provides services that support and enhance the University's efforts in research and education by providing technical consultation, training, investigation, and inspection to ensure compliance with applicable federal, state, and local laws and regulations. UTA's EH&S policies are found in the University Procedures.

c. Flood Control Projects

The Office of Facilities Management shall recommend appropriate approaches to flood problem areas and shall evaluate opportunities for retrofitting existing structural controls. UTA OFM has taken the opportunity to improve drainage on campus when needed.

Table 2 – MCM 2 Post Construction Storm Water Control Measures Activity Summary

BMP	2020-2021 Progress
New Development/Redevelopment	Two capital construction projects were reviewed during the monitoring period and UTA incorporated permanent BMPs to minimize storm water pollution (Trinity Hall and the SSW & CoNHI projects).
Comprehensive Master Plan	In the Fall of 2020, EHS, revised the UT Arlington SWMP. TCEQ accepted and approved the new UTA SWMP on November 12, 2020. A new stormwater management plan was designed to identifies short- and long term improvements with the UTA Master Plan.
Regulatory Mechanism	EHS performed monthly inspections at two active construction sites with outdoor disturbance > 1 acre, and spot inspections at five sites with disturbance < 1 acre.
Flood Control Projects	Two capital construction projects and five inhouse projects reviewed during the monitoring period UTA incorporated and maintained flood control structures.

III. Illicit Discharge Detection and Elimination

- A. The UTA EH&S office monitors all storm water regulated activities, including small and large construction sites with NPDES or TPDES permits. EH&S will continue to monitor activities to ensure discharges from any permittees do not contribute pollutants into the UTA MS4.

As stated in III.A.1 all permitted operators on UTA MS4 properties will be monitored to prevent potentially polluted runoff from entering the UTA MS4.

UTA maintains will develop an online Discharge Request system for all batch discharges of water to the sanitary and/or storm sewer systems on UTA Campus. EH&S will maintain and approve discharges after reviewing the information submitted and consulting with the requestor to prevent unintentional discharges of prohibited pollutants to sewer systems. This system will allow EH&S staff to analyze non-storm water discharges prior to release in order to investigate, and potentially sample to identify any pollutants. Those discharges that are acceptable under the TPDES permit will also be subject to this review and approval process. Should a requested discharge be found to have significant pollutants, the discharge will be denied, and the requestor may have to pump and haul the water offsite for proper disposal.

The following list of non-storm water discharges are allowed on the UTA Campus:

- *Water line flushing*
- *Landscape irrigation*
- *Diverted stream flows*
- *Rising ground water*
- *Uncontaminated pumped ground water*
- *Discharges from potable water sources*
- *Foundation drains*
- *Dechlorinated swimming pool water*
- *Other allowable non-storm water discharges listed in 40 CFR§(d)(2)(iv)(B)(1)*
- *Other allowable non-storm water discharges listed in*
- *A/C condensate*
- *Water from crawl space pumps*
- *Footing drains*
- *Hand watering*
- *Street and other wash water using only potable water w/o detergents/chemicals*
- *Individual residential vehicle washing*
TPDES CGP TXR150000, and
TPDES MSGP TXR050000
- *Program descriptions must address discharges or flows from firefighting only where such discharges or flows are identified as significant sources of pollutants.*

All other discharges of non-storm water are prohibited without written authorization from EH&S.

Should an illicit discharge be identified through one of the detection techniques, the operator of the discharge is requested to discontinue the discharge as soon as discovered. If the immediate cessation of the discharge is not possible, an expedited schedule of addressing the discharge is required. Most identified illicit discharges are able to be

addressed within 30 days, however, should the situation arise that the discharge cannot be properly routed or eliminated, EH&S and OFM works with the operator to minimize the discharge through appropriate BMPs which may include the pumping and hauling of all non-storm water discharges to an authorized wastewater treatment and disposal facility.

- B. UTA will continue the existing program of illicit discharge detection. As part of this updated SWMP a list of techniques being used for detecting illicit discharges as well as the actions and enforcement procedures to be taken are discussed below.

UTA OFM and EH&S will implement a dye testing program to identify and eliminate illicit connections to the storm sewer system as part of the SWMP. The dye testing will test suspected buildings on UTA. All permanent illicit discharges identified under this program will be addressed during this initiative to prevent cross contamination of storm water discharges with sanitary discharges. Whenever an illicit discharge is suspected, UTA may use this technique, as well as other methods to identify the discharge and expeditiously eliminate the discharge. In addition to this program the techniques used to detect illicit discharges to the storm sewer system by UTA will include:

1. Regular maintenance of sanitary sewer lines including visual inspection and cleaning of grease traps and known problem areas as needed to prevent overflows.
2. Responding to emergencies using appropriate equipment and materials to control overflows
3. Proper disposal of waste materials
4. Implementation of necessary repairs immediately or as soon as practicable

UTA EH&S office has an emergency and spill response program that provides coverage for environmental emergencies 24-hours a day 7 days a week. Should an illicit discharge from a storm sewer be suspected and reported to EH&S, an investigation into the source of the discharge is initiated. UTA OFM or EH&S will affect an immediate cessation of illicit discharges upon notice of such discharge to OFM or EH&S. The Directors of OFM and EH&S has been given express authorization for specified individuals to require an immediate cessation of activities.

- C. UTA will continue the programs established under previous versions of the SWMP to minimize or prevent overflows and infiltrations from sanitary sewers into the MS4. The elements of these programs include:

1. Regular maintenance of sanitary sewer lines including visual inspection, cleaning of grease traps, and maintaining known problem areas as needed to prevent overflows.
2. Emergency response using appropriate equipment and materials to control overflows.

3. Proper disposal of waste materials.
 4. Implementation of necessary repairs immediately or as soon as practicable.
- D. UTA will control the illicit discharge of motor vehicle fluids, hazardous wastes, animal wastes, and landscape maintenance wastes generated by UTA, its employees and agents, by employing the following strategies:
1. Motor Vehicle Fluids – All UTA motor vehicles are maintained at storm water protected central facilities with provisions for proper collection, accumulation, and transfer of waste fluids. Maintenance protocols and practices in place to prevent contaminated discharges to storm water from motor vehicle fluid handling facilities include containment around storage drums and tanks, use of oil drip pans where necessary, and covered and contained storage for used parts at service centers if the parts present a potential for release of contaminants. Fleet maintenance facilities utilize EH&S for spill response and have posted notices to call EH&S should a spill occur.
 - a. Motor Oil - UTA has an established program to collect and recycle used motor oil. Automotive service operations include protocols for safely storing used motor oil, which is picked up by EH&S. Motor oil and other waste oil products such as filters and oily rags, are manifested to an approved vendor for reprocessing to the maximum extent allowed under federal regulations.
 - b. Antifreeze - UTA has established a policy and program to collect and properly manage antifreeze wastes.
 2. Hazardous Waste Materials - UTA is a generator of hazardous wastes and maintains multiple EPA ID numbers. UTA maintains a hazardous waste accumulation facility. The hazardous waste accumulation facilities are secured, limited access buildings. These facilities are operated as 90-day accumulation facilities consistent with UTA's status as a large quantity generator. Hazardous wastes are picked up from the point of generation and transported to the accumulation facilities by the EH&S hazardous waste team. If there is a release of hazardous materials during transport, the safety specialists have access to spill response supplies (e.g. hydrophilic and hydrophobic absorbents, boom and dike materials, and bioremediation supplies), which reduce the risk of introducing hazardous materials to the storm water system. UTA employees transport these wastes only within the UTA property where the waste was generated. The accumulation facility is inspected on a weekly basis by a safety specialist. All hazardous waste containers are inspected to ensure that proper labeling requirements are met, that containers are tightly sealed, and that no containers are leaking.
 3. Animal Wastes - UTA's policy for disposal of animal wastes is as follows:

Research Laboratory Animals - UTA maintains an Industrial Wastewater Permit from the City of Arlington (COA) for the disposal of sanitary wastes through the sewage conveyance system to publicly owned treatment works operated by the

COA. In the event that non-infectious metabolic wastes from research animals are disposed of through washing into sanitary sewer lines as well as disposal with other municipal trash. Animal carcasses are disposed of on-site in our TCEQ permitted incineration.

4. Landscape Maintenance Wastes - Leaf litter and grass clippings are managed as a renewable resource by shredding, mixing, composting, and mulching. Grounds maintenance controls for leaf litter and grass clippings involve blowing, raking, and sweeping plant wastes into piles for transportation to an on-campus storage location.
- F. UTA monitors activities on the covered campus for any TPDES permitted activities that would contribute to the MS4 system. These separately permitted facilities will be tracked by maintaining a list of the activity including the name, location, and permit number of the discharger. EH&S continuously monitors campus activity to identify such discharges and works with operators to ensure permit requirements are met.
- G. UTA OFM Construction Planning, Design and Management maintains composite utility maps for sewer systems on the UTA Campus. These map(s) include locations for MS4 discharge outfalls, and all receiving waters. The MS4 map(s) were developed through field reconnaissance or visual identification as well as keeping the map(s) updated utilizing the design development construction plan reviews discussed in other MCMs within this SWMP.
- H. UTA has had a spill response program for many years and will continue to maintain and improve the program as necessary to prevent, contain, and respond to spills that may enter the MS4. University policy is that any discharge to surface waters of any substance which could or does cause pollution to surface waters is strictly prohibited. Criteria used to determine whether a substance may cause pollution include color, odor, sheen, impacted aquatic life, turbidity, and sampling and analysis when any of these characteristics are observed.

Procedural Components

1. Prevention Measures

EH&S Training Programs – The University provides hazard communication & waste management training as required by Texas law. Hazard communication training includes, among other information, information on interpreting labels, and safety data sheets; general instruction on the handling and disposal of hazardous chemicals; and general instructions relating to spill cleanup procedures. This training is required of employees of UTA who manage chemicals or handle hazardous materials, including teaching assistants. EH&S requires additional site-specific training relating to chemical safety and disposal procedures by Principal Investigators.

Additionally, HAZWOPER training is made available to UTA employees responsible for managing hazardous wastes. This training is customized to fit the needs of each department and includes information on disposal of waste materials and the reporting and handling of spills. The training sessions are publicized

through venues such as the EH&S web page and other appropriate means of communication.

EH&S is currently developing a training module that includes stormwater components that must be met by all campus stakeholders when projects are ongoing. This training will outline the requirements of the MS4 permit, proper waste disposal, dye testing, required BMPs, among other topics.

In addition, UTA will complete an extensive storm drain marking program. This program is ongoing and newly installed storm drains are labeled after construction projects are complete and/or drains have the labels replaced when they are no longer legible, broken, or removed.

2. Response Measures

Personnel - The University implemented an on-call system for responding 24 hours a day, 7 days a week to spills on UTA properties which threaten or impact surface water quality, regardless of whether the responsible party is affiliated with UTA. Staff members coordinate response and clean-up activities with appropriate state and local governmental offices and ensure that any necessary corrective action is taken. EH&S is prepared to respond to spill incidents originating on UTA property which have impacted or threaten to impact any of the various surface water bodies in the corporate boundary or the extra-territorial jurisdiction of the COA.

Equipment and Materials - UTA maintains a well-stocked spill kits equipment and materials cache for mitigating and abating spills which threaten or have impacted surface waters, including hydrocarbon absorbing/hydrophobic booms, dikes, and pads, absorbent clay, storage container liners, pumps, skimmers, shovels, brooms, mops, personal protective gear, and a trailer mounted recovery/storage tank.

Structural Components

1. Prevention Measures

Underground Storage Tanks - UTA maintains compliance with regulatory requirements for underground storage tanks by employing strategies such as double walled USTs, cathodic protection, spill and overflow appurtenances, continuous monitoring, and integrity testing.

Aboveground Storage Tanks - Aboveground storage tanks containing bulk process materials such as lubricating oils, acids, scale and corrosion inhibitors, and large outdoor liquid-cooled transformers are designed or retrofitted with secondary containment and/or neutralization. In cases where the secondary containment feature is not protected from rainfall, UTA uses an established protocol for the release of trapped storm water. Sampling and analysis of the rainwater will be completed if there is a reasonable suspicion of contamination based upon the

criteria of color, odor, sheen, turbidity, or impacted aquatic life. Trained personnel use these criteria to assess storm water quality prior to release from secondary containment.

**Table 3 – MCM 3 Illicit Discharge Detection and Elimination
Activity Summary**

BMP	2020-2021 Progress
Monitor permitted discharges	EHS staff reviewed notice to proceed for two capital projects and submitted five CSN for in house projects.
Monitor non-storm water discharges	EHS responded to four potential illicit discharges, two of which were potential water quality concerns reported by the campus community
Maintain online discharge report system	EHS is in the process of developing an online reporting system of illicit discharge on campus.
Maintain sanitary sewer system	During the reporting period UTA replaced domestic water & sewer lines as part of the Campus West Street Utility Infrastructure project.
Grease trap service/maintenance	University owned grease traps were serviced six times and a total of 14,000 gallons of waste grease and water was removed from those traps
Spill response program	EHS responded to 4 spills
Collect and properly dispose of wastes-	EHS disposed of 33,282 lbs. of hazardous waste and 14,237 pounds of biological waste

IV. Pollution Prevention / Good Housekeeping Program for University Operations

- A. As part of the process of updating the UT Arlington's SWMP in 2020 this MCM was developed and implemented. UTA EH&S conducted an investigation of university operations storage yards on campuses to identify those with a potential to contribute pollutants to storm water runoff. EH&S works with the responsible departments to develop best management practices to minimize storm water impacts.
1. As was discussed previously in MCM 1, UTA OFM removes sediment, trash, and organic detritus on mall areas, sidewalks, and in parking garages. UTA may utilize a contractor for street and parking area sweeping services. UTA sweeps University owned streets on an as needed basis and as needed to accommodate increased leaf litter and to recover sand from deicing operations in the winter.

UTA OFM is responsible for the maintenance of roadways and impervious areas evaluate re-pavement projects and utility repair projects for opportunities to retrofit storm water controls during the design development process.

2. UTA EH&S staff will inspect the campus falling under the jurisdiction of this SWMP to identify those areas exposed to storm water that would be considered university operations associated with road repair, equipment yards, and material storage, or maintenance facilities. These areas are listed in Section 4D below. The operators of these areas are instructed to minimize the pollutants leaving the area by implementing certain good housekeeping measures in the storage and maintenance of the materials and equipment stored in their areas. The good housekeeping measures that are implemented include;
 - Storing only essential items necessary for the work that is performed by the department to reduce the volume of exposed materials.
 - Storing materials away from storm drains as much as possible, and protecting receiving storm drain(s) with diversion structures or other BMPs to minimize pollutant transport.
 - Whenever possible, covering materials or equipment either with permanent structures or temporary tarps that will be stored for long periods of time.
 - Storing materials off the ground on racks, pallets, or other means to minimize contact with storm water runoff.
 - Regular sweeping of impervious cover in areas where aggregate or other materials easily transported to storm drains by storm water runoff sheet flow.
 - Proper maintenance of oil containing vehicles and equipment to minimize the staining of impervious cover from leaks of oil and fuel. Equipment and vehicles with known leaks that are parked shall utilize drip pans or oil absorbent pads under the equipment to capture leaks prior to staining the ground.
3. EH&S will work with responsible departments who oversee the areas identified during the investigation to ensure UTA staff are aware of the potential pollutants and the good housekeeping practices necessary to minimize the impact of their activities on storm

water runoff. The training will be incorporated into the orientation and other training as appropriate for employment with UTA.

- B. UTA conducts storm drain cleaning annually on campus. The wastes that are removed from the MS4 are temporarily staged in a holding area until all wastes are accumulated. This staging also allows for the visual assessment of the waste to ensure there are no hazardous or prohibited materials being disposed of. Once all materials have been collected the material is transported to an area landfill for proper disposal.

Wastes that are generated from other university operations are evaluated on a case by case basis and either disposed of in a landfill as municipal solid waste or disposed of through the EH&S Hazardous Waste Program.

- C. UTA requires all pesticide, herbicide and fertilizer application be conducted in a standard uniform manner by applicators trained and licensed by the Texas Department of Agriculture, or work under a licensed applicator. Both UTA employees and contractors must receive annual training covering basic topics of storage, application, and disposal as well as any other requirements as stated in applicable regulations.

The best management practices for UTA include the following:

- Use of natural organic fertilizers and soil supplements in lieu of synthetic fertilizers.
- Applying/using techniques that minimize the application to sidewalks, streets, and un-vegetated areas.
- Only apply in dry and low wind conditions. Do not apply just before rain events.
- Apply according to the labels recommended application rate.
- Store in rainfall protected locations within secondary containment.
- Do not leave pesticide, herbicide, or fertilizer containers uncovered.
- Do not rinse containers, equipment, or dispose of pesticides, herbicides, or fertilizers in sinks, storm drains, on the ground outside, or in dumpsters.
- Clean up spills immediately by dry cleanup methods only. Sweep up granular products or utilize absorbent material such as kitty litter to clean up liquids.

- D. The following table lists the areas of the MS4 with outdoor storage and maintenance areas that were identified at the time of this SWMP development. This list is dynamic and will change as the campuses evolve with future re-development projects and departmental changes.

Table 4– Outdoor Storage and Maintenance Areas

<u>Main Campus:</u>				
<u>Building</u>	<u>Location</u>	<u>Inventory (exposed)</u>	<u>Level of concern 0-4</u>	<u>Responsible Department</u>
Facilities Management Complex	1225 W. Mitchell	Trash/Recycling dumpsters	2	OFM
		Sand/dirt storage area	3	OFM
		Fleet parking area	1	OFM
Facilities Management Complex	Electric Shop/ 1225 W. Mitchell	Storage yard for Electrical Dist.	1	OFM-BO
		Cable rolls for Electrical Dist.	0	OFM-BO
		Piping for Mechanical Dist.	1	OFM-BO
Facilities Management Complex	Fleet Maintenance/ 1225 W. Mitchell	Vehicles/equipment	2	OFM-FS
Facilities Management Complex	Capital Asset Management/ 1225 W. Mitchell	Outside storage surplus materials	2	CAM
		Scrap Metal Dumpster	1	CAM
		Equipment storage	2	CAM
Facilities Management Complex	Landscaping/ 1225 W. Mitchell	Fertilizer storage	1	OFM-GRD
		Fuel storage	2	OFM- GRD
Civil Engineering Building	1221 W. Mitchell	Concrete work	0	CE
		Hydraulic equipment	1	CE
		Scrap metal	3	CE
Compost Site	Landscaping/ 500 Summit Ave.	Mulch piles	1	OFM- GRD
		Topsoil storage	1	OFM- GRD
		Brush piles	0	OFM- GRD
Material Accumulation Center	1000 S. Davis Street	Hazard Waste Accumulation Center	3	EH&S
University Center	200 W, 1 st Street	Trash Dumpster	2	OFM-UHD
		Compactor	2	OFM-UHD

Table 5 – Indirect Measures as Indicators of Expected Pollutant Reductions

Program Measure	Pollutant Reduction
Hazardous Waste Disposed	33,2821 lbs..
Biological Waste Disposed	14,237 lbs.
Material collected from storm curb inlets	400 lbs.
Litter and trash from outside trash cans--	57,750 lbs.
Landscape waste composted or reused as Mulch	55 cubic yards
Food waste composted	41,849 lbs.
Multiply stream recycling	During the reporting period UTA recycled 551 tons material (mixed paper corrugated containers, metal, wood, pallets, electronic waste, tires, oil, etc.)
Creek Clean-up (trash removed from creek)	52 pounds trash/bulky items

Table 6 – MCM 4 Pollution Prevention / Good Housekeeping for University Operations
Activity Summary

BMP	2020-2021 Progress
Inventory	EHS reach out to the relevant departments to ensure list is accurate. Annually inspect 100% of locations.
Training	EH&S is in the process of developing updated stormwater protection training UTA staff.

V. Industrial and High Risk Runoff

UTA does not operate industrial & highrisk facilities as defined by 40 CFR 122.26(d)(2)(iv)(C). On the properties covered by this permit, UTA does not own or operate a municipal landfill, hazardous waste treatment, disposal and recovery facilities, or industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Further, UTA has not identified any industrial facilities on its properties that contribute a substantial pollutant loading to the storm sewer system.

VI. Construction Site Storm Water Runoff

- A. UTA's EH&S policies, procedure and standards protects the environmental health and safety of the campus community and visitors. EH&S ensures water quality compliance for all construction sites, including those less than 1 acre, with the requirement of a site-specific erosion and sediment control plan. For sites larger than 1 acre, the appropriate TPDES procedures are followed.
- B. UTA has maintained a construction storm water program since the first permitting period. The following control measures will continue to be mandatory for all construction activities occurring on the sites covered under this MS4 permit.
 - 1. Requirements to use and maintain appropriate erosion and sediment control BMPs
 - 2. Requirements to control site waste
 - 3. Inspection of construction sites and enforcement of control measures
 - 4. Appropriate Education and Training Measures for Construction Site Operators, including UTA's Construction Inspectors and Coordinators
 - 5. Contractor Notification of Potential Responsibilities for Construction Site Runoff
 - 6. Site Plan Review and Consideration of Water Quality Impacts
 - 7. Public Input Considerations
 - 8. Maintenance programs for structural and non-structural BMPs
- C. OFM and EH&S maintains a list of all construction activities that occur on UTA campuses affected by this SWMP. Previous sections of this MCM and SWMP discussed the provisions that require construction site operators to implement erosion and sediment control BMPs to minimize pollutants from leaving construction sites and entering the UTA MS4.

UTA continues to require installation of BMPs on all construction sites with soil disturbance. The UTA Construction Standard for Storm Water Management provides details of the requirements. Through construction plan review, site investigation, and responses to calls received, EH&S representatives ensure that BMPs are installed and maintained according to TPDES, and UTA construction standards.

Table 7 - Capital Planning and Construction Projects for 2020-2021

Project Number	Project Name/ Description	Expensed
20042	Tunnel for ERB replacement condensate receiver pump	\$15,560.96
20049	1210 Pecan & 1218 Oak Houses Abatement & Demo Full abatement on both houses, full property demolition & regrade of lots. 7/6/2020	\$46,623.73
20056	Campus West Street Utility Infrastructure. Replacement of domestic water & sewer lines.	\$247,573.25
20072	Tunnel Replace Expansion Joints & Steam Traps.	\$3,771.37
21014	Trinity Hall Parking Lot Resurfacing/Striping.	\$55,913.40
21029	1302 S Pecan & 1202 S Oak Houses Abatement & Demo. Full abatement & demolition of both houses.	\$75,431.69
21041	Parking Lot 47 Relocation of South ADA Parking	\$100,461.91
21057	1222 S Pecan House Abatement & Demo. Full abatement & demolition of house.	\$49,008.97
21079	Parking Lot F9 Sealcoat & Crack Fill	\$ 21,850.50
21092	UTA Community Design Build Lab Backflow Preventer. Install a backflow preventer onto the sprinkler system main line.	0.00
21013	Trinity Hall Landscaping.	\$61,588.00
21020	Campus West at Mitchell Oncor Feeder Relocation. ONCOR to relocate feeder 1291 & set-up future power connection for SSW/CoNHI.	\$ 71,243.85
21039	Science Hall East/South Corner Drainage Corrections. Gutter downspouts, drainage corrections & Landscaping Improvements	\$28,022.18
	TOTAL EXPENSE	\$777,049.91

Table 8 – Landscape Projects for 2020-2021

Project Name/ Description	Expensed
OFM Pole Barn	\$250.00
Research Institute Circle Drive Landscape	\$550.00
Library Mall Phase I	\$4,700.00
UC Parking lot and Entry	\$51,000.00
Life Science	\$1,100.00
Mitchell St. Magnolia Installation	\$17,700.00
BSM Irrigation and Landscape	\$1,500.00
Greenhouse installation	\$2,300.00
Seasonal Color Installation	\$4,600.00
Rye Grass Installation	\$13,464.00
Tree Trimming/Removal/Chipping	\$64,375.00
TOTAL	\$161,539.00

Table 9 – MCM 6 Activity Summary

BMP	2020-2021 Progress
Require installation of phase control BMPs for active construction sites—	Erosion control and stormwater compliance goals were included in comments during the revision of seven projects.
Require the designation of a vegetation and soils protection zone	OFM-Grounds installed sod at the Trinity Hall project and is in the process of adding green space west of Trinity Hall.
Inspection of construction sites for compliance with phase control installation and maintenance	EHS performed 84 monthly inspections of exterior projects within the MS4 boundaries.
Maintain and distribute guidance documents developed	OFM distributes Construction Site Procedures to Contractors outlining procedural best management practices to minimize impact on the stormwater discharge.
Maintain list of permitted construction sites	EHS maintained a list of all permitted construction sites, seven sites were identified as requiring storm water controls.

Maintain list of BMPs installed at constructionsites	A list of specific BMPs in use was maintained for the seven active construction sites with outdoor disturbance > 1 acre.
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VII. Public Education and Outreach / Public Involvement and Participation

A. UTA will maintain the public education campaign initiated during the first permitting term and update the program as necessary to include those elements described in the current permit with the following components:

1. Promote, publicize, and facilitate reporting of illicit discharges and improper disposal of materials into the MS4.
 - a. UTA EH&S will establish an "online pollution reporting form" to facilitate reporting of observed illicit discharges or other environmental concerns by the public. The online reporting form we be forwarded to EH&S Office email. EH&S will investigate all reported incidents involving spills or other environmental emergencies.

Twice a year EH&S will publish an announcement in the Safety Matters newsletter on how to report illicit discharges, protection of storm drains, proper disposal of materials such as; automotive fluids, and household hazardous waste, as well as other tips to protect the MS4 system. Similar information will be also available on the EH&S web site at all times. EH&S staff will also participate in outreach events on campus, one such outreach event is the UTA Earth Day.

2. Promote, publicize, and facilitate proper disposal of used motor vehicle fluids and hazardous wastes.
 - a. In addition to the program elements that are described in MCM III.3.D.1-4 of this SWMP, UTA will maintain the storm drain marking program that was initiated during the first permitting term of the MS4. This drain labeling program is described further in Appendix D.
 - b. UTA is not permitted to collect household hazardous waste (HHW) from campus residents. The majority of campus residents are also City of Arlington residents, and as such all residents of the City of Arlington are eligible to participate in the City's HHW program allowing for the drop off of accumulated HHW. UTA encourages and educates all campus students, staff, and faculty to properly dispose of their wastes generated for personal use through referral to community programs and opportunities such as these.
3. Promote, publicize, and facilitate the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators, and distributors.

UTA Facility Landscaping Services, University Housing and Dining, and Athletics are the three main departments identified as having employees that may apply pesticides, herbicides, and/or fertilizers. Those employees applying pesticides receive annual training and are supervised by individuals licensed by the Texas Department of Agriculture. An integrated pest and fertilizer management program with the following elements has been in place at UTA since the first permitting period to reduce pollutant discharges associated with storage, application, and disposal of fertilizers and pesticides (including herbicides):

- a. Identification of all UTA departments or offices with employees that apply pesticides and fertilizers on UT properties.
 - b. Requirement that application of pesticides and fertilizers be performed only by trained individuals and in a standard, uniform manner.
 - c. Require an annual training on pesticide and fertilizer management techniques addressing, at a minimum, the following:
 - Storage - pesticides and fertilizers of any type will be stored in rainfall protected locations within secondary containment.
 - Application - pesticides and fertilizers will be applied using techniques that minimize their application to impervious cover and un-vegetated areas.
 - Disposal - unused pesticides and fertilizers and pesticide and fertilizer residues will be properly disposed of according to applicable state and federal regulations.
 - Other considerations required by law.
 - d. In addition to the proposals put forth in this SWMP, UTA notifies contracted commercial landscapers associated with new construction and re-vegetation projects of the required compliance with the procedures of this SWMP.
- B. EH&S organized and facilitated a working group involving key departments and stakeholders throughout the University community to ensure a wide range of input was reflected in the Stormwater management program.

Table 10 – MCM 7 Activity Summary

BMP	2020-2021 Progress
Maintain pollution “online report form” for the reporting of illicit discharges.	EHS received and responded to one calls related to storm water issues from the concerned public.
Publish announcements in EH&S newsletter and website-	Earth Week events were published in the MavWire by the Office of Sustainability
Storm Drain Labeling Program	10 storm drains were labeled.
Stakeholder Involvement	EHS sent the approved SWMP to all campus stakeholders in December 2020.

VIII. Monitoring, Evaluation, and Reporting

A. Dry Weather Screening Program

UTA does not conduct dry weather screening. UTA dry weather monitoring efforts are coordinated by the City of Arlington (COA). The COA conducts dry weather screening to meet the permit requirements.

B. Wet Weather Screening Program

UTA and the City of Arlington do not conduct wet weather screening. Wet weather screening is conducted by the North Central Texas Council of Governments (NCTCOG). The COA monitors wet weather events through a wet weather screening program designed to identify and investigate areas that may contribute excessive concentrations of pollutants to the MS4, and to establish baseline data on receiving streams. The COA's wet weather monitoring efforts are coordinated by the NCTCOG through its Regional Wet Weather Characterization Program.

C. High Risk Runoff Monitoring Program

As stated in MCM V, UTA does not operate industrial & high- risk facilities as defined by 40 CFR 122.26(d)(2)(iv)(C), however, UTA has an on-going program to identify potential sources of surface water pollution. Visual surveys of loading areas, garbage disposal facilities, and a general survey of the campus grounds have been conducted during previous permitting periods and continue to be monitored.

In lieu of monitoring these facilities as outlined at 40 CFR 122.26 (d)(2)(iv)(C), EH&S conducted site inspections of each facility during the first permitting period. EH&S continues ongoing monitoring for any indication of pollutant discharges to the MS4 from these facilities.

D. Storm Event Discharge Monitoring

UTA does not have an outfall to monitor. COA coordinate monitoring with NCTCOG the Regional Wet Weather Characterization Program (RWWCP).

IX. Total Maximum Daily Load Compliance

The permit promulgated on August 15, 2019 includes new requirements to address discharges of pollutants to impaired water bodies with and without approved TMDLs. The methodology for managing these discharges are discussed in a new section entitled: Impaired Waterbodies and TMDL Requirements.

The City of Arlington (COA) is responsible for addressing the TMDL AND IMPAIRED WATERBODIES IN ARLINGTON, TEXAS

The City of Arlington and UTA, as co-permittees, have agreed that the City (in this current permit term), will coordinate and implement the TMDL programmatic activities for the MS4 in its entirety – which will include UTA. Because the City and UTA afford each other mutual assistance, both entities have determined, in this permit term, that the City is better suited to coordinate and implement TMDL programmatic activities with assistance from UTA. UTA has already begun bacteria monitoring at locations approved by both entities with UTA providing those results to the City to be integrated into their comprehensive MS4 analysis. Both entities believe that this coordinated effort is the best approach to TMDL programmatic implementation at this time.

The Texas Commission on Environmental Quality (TCEQ) has adopted an implementation plan (I-Plan) for total maximum daily load (TMDL). A TMDL is a scientifically-derived target that tells us the greatest amount of a particular substance that we can add to a waterway and still keep it healthy. These substances are not necessarily harmful in and of themselves. For example, bacteria, which occur naturally in both human and animal waste. But too much bacteria can make it more hazardous to swim or wade in a creek, lake, or bay—activities called “contact recreation” in the state’s standards for water quality.

TMDL

Those waterbodies identified in the 2016 Report will be the focus of the COA’s TMDL and Impaired Waters program. As delistings and new listings occur, the City will revise its list of targeted waterbodies accordingly. The COA will continue to implement the relevant strategies outlined in the I-Plan. The I-Plan outlines implementation strategies in nine (9) areas: Wastewater, Stormwater, Planning and Development, Pets, Livestock, and Wildlife, OSSFs, Monitoring Coordination, Education and Outreach, BMP Library, and Strategy Evaluation. The following table identifies the areas of focused effort for bacteria reduction for UTA based on the I-Plan.

- #1- F parking lot 5 (vicinity of UTA BLVD and Summit)
- #2- Trinity S (vicinity of Greek Rd and Kerby St.)
- #3- Mitchell St bridge (vicinity of W. Mitchell and S. Cooper St.)
- #4- Lot 5 S2 (vicinity of S. Pecan and Doug Russell Rd)



IMPAIRMENT FOR BACTERIA

If one of the POCs identified by is bacteria, COA and UTA will include focused BMPs to address the impairment for bacteria.

A. Benchmark Identification

UTA will conduct bacteria testing for E Coli on a monthly basis at four locations on the unnamed tributary which flows into Johnson Creek. UTA will provide monthly analyses of the bacteria test to the COA. UTA does conduct visual monitoring is examining and assessing a grab sample of stormwater for these characteristics, or parameters: color, clarity, oil sheen, odor, solids, foam, and other obvious indicators of Stormwater pollution. UTA will conduct monthly turbidity test at four locations on the unnamed tributary which flows into Johnson Creek. The current and proposed ways in which UTA plans to address the bacterial loads in its MS4 are discussed below.

Bacterial contamination generally comes in two different forms – runoff loads and in-line loads. Below are some ways in which UTA proposes to address each of these loads.

B. Runoff Loads

Runoff loads are those that come from the general landscape and are considered non-point sources of pollutants. These types of loads are best treated with source reductions, community education and upland treatment systems. In this vein, UTA proposes the following:

- Working cooperatively with the City of Arlington to implement BMPs to help achieve bacterial load reductions
- Explore additional locations for BMPs, such as bioswales, which have proven successful in reducing bacterial contamination

C. In-Line or End-of-Pipe Loads

In-line loads typically come from leaking sanitary infrastructure and sanitary sewer overflows that drain into the storm sewer network. UTA will conduct dye testing when plumbing changes warrant to ensure there are no cross connections between storm and sanitary sewer systems. OFM contractors clean and inspect all the sanitary sewers as needed. Additionally, OFM will continue to TV lines on an as needed basis when there is a suspected sanitary infrastructure leak and perform preventive maintenance in known problem areas. OFM also partners with City of Arlington ensure their sanitary infrastructure in the MS4 is well maintained, inspected, and leaks are identified and repaired.

Table 11 - Bacterial Level Monitoring Results for 2020-2021

Location	Units	Q1	Q2	Q3	Q4
#1- F parking lot 5	CFU/100ml for E Coli	582	1,065	164	1188
#2- Trinity S		1875	701	335	468
#3- Mitchell St bridge		279	166	396	1236
#4- Lot 5 S2		802	1205	604	658

Table 12 – MCM 9 TMDL Activity Summary

BMP	2020-2021 Progress
Implement and monitor BMPs to achieve bacterial load reductions	UTA OFM-LS conducted revegetation project through campus due to February 2021, Winter Ice Storm
Maintain sanitary sewer system-	OFM replacement of domestic water & sewer lines at Campus West Street Utility Infrastructure.

Appendix B: City of Arlington Public Education & Outreach Supplemental Materials

Texas Tough, Texas True: Smartscape Gardens are Drought Tolerant as Well as Pest and Disease Resistant

Texas Tough, Texas True: Smartscape Gardens are Drought Tolerant as Well as Pest and Disease Resistant

By Melissa Walker, Environmental Education Specialist

Posted on Monday, March 01, 2021



March is Texas SmartScape™ Month! This is a regionally coordinated effort to promote water conservation, pollution prevention, composting, proper lawncare maintenance and waste reduction principles of Texas SmartScape™.

These principles offer a variety of advantages for local ecosystems and homeowners' wallets. SmartScape™ methods not only add aesthetic value, but also contribute to the control of temperature, erosion, and invasive species while providing a habitat for a variety of pollinators. These methods also mitigate excessive amounts of fertilizer and water required by conventional lawns, which can harm local bodies of water and the wildlife that rely on them.

SmartScapes™ are adapted to the Texas heat, drought tolerant, pest and disease resistant, and beneficial to animals and insects. They are not desert scapes, rock gardens or cactus patches. SmartScapes™ utilize native and adaptive plants to conserve water, reduce stormwater runoff, reduce water pollution, provide wildlife habitat and save money. Learn more at txsmartscape.com.

By incorporating Texas SmartScape™ plants and strategies into your lawn care routine, you have the potential to save money, time, water, and reduce harmful chemical use. SmartScape™ approved plants are native and adapted to the North Central Texas climate and need less water and fertilizer to thrive in the intense heat of Texas summers. Try looking up the plants featured in our ad this year – Penstemon, Blackfoot Daisy, and Gayfeather – to see how these tough Texas plants thrive in a variety of light and soil conditions. In addition, the Texas SmartScape™ program encourages proper design, care, and maintenance techniques to better protect the environment. Since March kicks off landscaping season in North

Texas, this is an excellent time to turn your yard into a resilient and attractive SmartScape™ yard by planting native and adapted plants. This year when you turn your lawn into a Texas SmartScape™ yard your yard will be Texas Tough, Texas True!

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Turn Around, Don't Drown: Flooded Roadway Crossings Can Be Extremely Dangerous

Turn Around, Don't Drown: Flooded Roadway Crossings Can Be Extremely Dangerous

By Melissa Walker, Environmental Education Specialist

Posted on Wednesday, April 07, 2021



Floods are the most frequent and costly natural disaster in the United States. With spring approaching, the City of Arlington reminds everyone that floodwaters can be swift, powerful and, at times, deadly.

Most flood-related deaths occur in motor vehicles. These deaths usually take place when people drive into flooded roadways or low-lying drainage areas. During high-flow or flash flooding conditions, water runs over these roadways blocking vehicular and pedestrian traffic.

These locations are monitored for flood conditions by Public Works Operations and Emergency Management Staff. Barricades are then used to prevent motorists and pedestrians from crossing these intersections.

It is important to remember that it only takes six inches of moving water to knock an adult off their feet and most vehicles can be swept off the roadway with one to two feet of rushing water. The depth of water may not always be obvious due to roadways being washed out. Flooded roadway crossings are extremely dangerous.

- Be cautious. More than half of all low-water crossing vehicular related deaths occur at night when there is low visibility which makes it hard to recognize flood dangers.
- Never drive around barricades. Barricades are there for your protection.
- Do not move roadway barricades. It is against the law and could result in a fine.
- Report blocked storm drain inlets or culverts.

- Never walk, swim, bike or drive through flooded roadways. Turn Around Don't Drown®!

Visit www.arlingtontx.gov/floodsafety for more information on how to keep you, your family and/or employees safe during a flood event.

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2021 Doo the Right Thing Pet Photo Contest Opens May 1

2021 Doo the Right Thing Pet Photo Contest Opens May 1

By Melissa Walker, Environmental Education Specialist

Posted on Thursday, April 29, 2021



City of Arlington dog owners, It's time for the annual Doo the Right Thing (DTRT) contest. We are asking dog owners to take the DTRT pledge to pick up their dog's doo and enter a photo of their dog(s).

The winner of the photo contest will be the featured Watershed Protector on the DTRT Facebook page. Additional winners will be featured in daily/monthly posts on all the DTRT Social Media Channels between October 2021 and September 2022.

Why is it important to pick up after your dog? We all know dog waste is unsightly and smells bad, but dog waste can also harbor bacteria and parasites that are dangerous to people, other pets and wildlife. When it rains bacteria such as E. coli and fecal coliform can be washed into our local waterways making them unfit for human contact. Diseases such as Salmonellosis, Yersiniosis and Campylobacteriosis can cause serious illnesses while parasites like Cyclospora, roundworms and tapeworms cause intestinal infections and gastroenteritis in humans.

There are estimated 1.5 million dogs in the North Central Texas Region. One pile of doo might not seem like a big deal, but a few piles a day from 1.5 million dogs is a monumental problem. Dog waste that gets into local streams, creeks and lakes causes algae growth that harms aquatic life and while some animal waste can be used as fertilizer, dog waste is harmful to your lawn and gardens.

Here are some tips to help you keep your pledge:

- Keep spare baggies in your car and on the leash. If you don't have a portable waste bag dispenser for the leash, you can tie a regular grocery, sandwich, newspaper or produce bag around the handle.
- Always throw bagged doo in a trash can or flush un-bagged doo down the toilet.
- Pick up doo in your yard at least once a week and before forecasted rain.

Visit www.dfwstormwater.com/petwaste to make your pledge to pick up after your dog while on walks and at home. You can then submit your dog(s) picture for the photo contest. You can make one pledge per dog. Past pledgees and contest participants are welcome (and encouraged!) to re-pledge and submit photos for the new contest. The contest begins May 1 and ends on June 30, 2021.

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Celebrate World Bee Day

Celebrate World Bee Day
By Office of Communication
Posted on Thursday, May 20, 2021



World Bee Day raises awareness about the importance of bees and other pollinators in our ecosystem. It is celebrated May 20 in honor of Anton Jansa who is considered a pioneer of modern beekeeping. Anton Jansa was born in 1734 in Breznica, Carniola which is in modern day Slovenia. He studied engraving and painting with his brothers in Vienna. However, his passion and fascination for bees, which was developed at a very young age, inspired him to become a beekeeper. As an imperial beekeeper for the Austrian Empress Maria Theresa, he traveled the Austrian empire providing lectures on bees and beekeeping. He also wrote two books on beekeeping and popularized the method of smoking bees to collect honey. His most important contribution was changing the size and shape of hives to a form where they could be stacked together like blocks. Because he was a painter, Jansa decorated the drawers of his hives with paintings. These were typically decorated with characters and scenes from folk tales.

Remembering Anton Jansa's contributions and other beekeeping pioneers should be an important part of celebrating World Bee Day, but we should also use this day to learn how to protect bees and other pollinators and pledge to help create and conserve pollinator habitat. It is common knowledge that honey bees provide important food like honey, royal jelly and pollen but propolis, beeswax and even honey bee venom are used in a variety of products especially in the healthcare field. Most importantly, bees and other pollinators are responsible for pollinating 90 percent of flowering plants and more than 70 percent of the world's agricultural crops. Pollination is the process by which plants produce seeds and thus reproduce.

A variety of animals help facilitate that process and are called pollinators. Pollinators such as bees, butterflies, moths, bats and hummingbirds provide the vital ecological service of pollination. These pollinators are essential to natural ecosystems and the human food supply. Pollinators face increasing threats from intensive farming practices, land-use changes, habitat loss, introduced diseases and pesticide use.

Arlington residents, business owners and other property owners can help bees and other pollinators by signing the Pollinator Protection Pledge.

- Grow pollinator friendly flowers
- Provide nest sites for pollinators
- Avoid/Reduce your usage of pesticides, fungicides and herbicides.
- Spread the word

Celebrate World Bee Day by taking the Pollinator Protection Pledge and learning about native bees and other pollinators in Arlington.

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Evaluate Your Flood Risk and Take Steps to Protect Your Family and Property During Flood Awareness Week 2021

Evaluate Your Flood Risk and Take Steps to Protect Your Family and Property During Flood Awareness Week 2021

By Melissa Walker, Environmental Education Specialist

Posted on Friday, May 21, 2021



Flood Awareness Week is part of the City of Arlington's effort to encourage our residents and business owners to assess their flood risk and flood preparedness.

Floods occur throughout the year; however, floods have a higher frequency during the spring and fall. Thunderstorms which produce intense rainfall or slow-moving tropical storms can cause a rapid rise of water. Flash floods can develop within minutes. Therefore, our local leaders recognize the importance of being prepared for flood emergencies. On May 18, Arlington Mayor Jeff Williams signed a proclamation declaring May 24 through May 28 as the City of Arlington's Flood Awareness Week.

All residents should evaluate their flood risk. Residents and business owners can learn their flood risk by contacting the City of Arlington's Stormwater Management Division. Our staff can assist in identifying a property's flood hazard risk by providing a property's flood hazard zone, historical flooding information, local drainage issues and other flood related data. Our staff is available to explain the natural floodplain functions and discuss protection for these areas. Contact Stormwater Management staff at 817-459-6550 for more information.

Most property insurance such as homeowner's insurance doesn't cover flood damage. Because the City of Arlington participates in the National Flood Insurance Program, Flood insurance is available for all commercial and residential properties in the City. Owners of these properties are eligible for building and content coverage. Content coverage is also available to residents who rent these properties. It is important to remember that it takes 30 days for a flood policy to become effective. Purchase flood insurance by contacting your local insurance agent or visit www.fema.gov/national-flood-insurance-program.

Being prepared for emergencies can reduce stress and anxiety during a flood event. Understand the implications of flood watches and warnings.

You should also assemble an emergency supply kit, develop a communication plan and designate a meeting place in case of evacuation.

Click [here](#) to visit the Arlington Fire Department's Emergency Preparedness webpage to learn more tips.

Visit www.arlingtontx.gov/floodsafety or www.floodsmart.gov for more ideas on protecting your family, home and property.

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Learn More About the Vital Role Bees, Butterflies, Bats and Other Small Creatures Play During National Pollinator Week 2021

Learn More About the Vital Role Bees, Butterflies, Bats and Other Small Creatures Play During National Pollinator Week 2021

By Melissa Walker, Environmental Education Specialist

Posted on Friday, June 18, 2021



On June 8th, Mayor Jeff Williams and the Arlington City Council issued a proclamation to observe June 21-27, 2021, as National Pollinator Week.

Pollinators such as bees, butterflies, moths, beetles, birds, and bats play an essential role in our environment. They help create and maintain diverse ecosystems and are vital to our food supply. Approximately 80% of the global food crops require pollination. In the United States, 150 food crops rely on pollinators with an estimated worth of \$10 billion dollars per year.

Pollination occurs when pollen is moved in and between flowers of the same species leading to fertilization, which produces seeds. Pollen can be transferred by animals or by the wind. Animals that facilitate pollination are called pollinators. Pollinators provide ecosystem services that support wildlife and native plant communities in the following ways:

- Native plant diversity provides food and shelter for birds and other wildlife
- Pollinator habitat helps remove pollutants from stormwater runoff improving local water quality
- Diverse plant communities prevent erosion and maintain healthy watersheds
- Flowering plants help return moisture to the atmosphere which is integral to the water cycle
- Flowering plants utilize carbon dioxide to produce oxygen.

The City of Arlington encourages residents to learn about the importance of pollinators in our community and promotes the creation of pollinator habitat on public and private property. Residents and businesses can help by using native and adapted plants in landscapes and gardens. This attracts pollinators, reduces pesticide and fertilizer use, and conserves water resources.

Visit Arlington Bee City USA webpage to learn about our local pollinators. www.arlingtontx.gov/beecityusa.

Residents should also contact the Tarrant County Master Gardener Association at www.tarrantmg.org or the North Central Texas Chapter of the Native Plant Society of Texas at www.txnativeplants.org/about/ to find out which native plants grow well in our region.

Certain plants that thrive in the western or southern regions may not survive in the north central part of the state of Texas.

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Celebrate National Moth Week by Exploring Nature at Nighttime

Celebrate National Moth Week by Exploring Nature at Nighttime

By Melissa Walker, Environmental Education Specialist

Posted on Friday, July 16, 2021



Celebrate National Moth Week's 10th anniversary by exploring nature at nighttime. Get outside to observe moths in their local habitat and learn about their role as pollinators in North Texas.

Many night blooming plants rely on moths and other nighttime visitors to spread their pollen. Moths are among the most diverse and successful organisms on earth. It is estimated that there are 150,000 to more than 500,000 species! Shapes and sizes span from the size of a pinhead to as large as your hand and their colors and patterns vary from bright and vibrant to muted for camouflage.

Plants benefit from attracting a particular type of pollinator to its flower. This ensures that its pollen will be carried to another flower of the same species and hopefully resulting in successful reproduction. Recent studies show that pollen transport by moths has networks that are larger and more complex than networks for daytime pollinators. Moths may be less efficient pollinators than butterflies and bees but may help create more diversity in the ecosystem.

Flowers that are visited by moths are typically white or dull in color and are typically in clusters, open in the late afternoon or at night and provide a landing platform. Moths look for flowers that produce ample nectar such as morning glory, tobacco, yucca and gardenia.

Finding moths can be as simple as leaving a porch light on and checking it after dark.

- Any type of light will attract moths. Use your porch light or purchase blacklights at a party supply store.
- Drape a white sheet over a clothesline outside and set up a light to shine on it. Moths use this surface to rest. This makes them easy to observe and photograph.

- Provide moths with fermented sugar and fruit recipe. Brush the mixture on a tree trunk an hour before dusk then check every 30 minutes to see what's coming to the food.
- Document what you find by taking photographs and uploading them to sites like iNaturalists, Project Noah or BugGuide. These platforms provide a place for nature enthusiasts and citizen scientist to share their findings and provides data for future research.

Visit www.nationalmothweek.org for kid friendly activities and local moth events. You can find more information on Moths and other pollinators at <https://www.xerces.org/pollinator-conservation>.

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Learn How to Protect These Tiny, Important Pollinators During National Honey Bee Day

Learn How to Protect These Tiny, Important Pollinators During National Honey Bee Day

By Melissa Walker, Environmental Education Specialist

Posted on Friday, August 20, 2021



Saturday, Aug. 21 is National Honey Bee Day. Although the Western Honey bee (*Apis mellifera*) was brought to America in the 1600s by European colonists and isn't a native bee to Texas, these honey bees produce products which are collected and used by people for food, household products, and various nutritional and medicinal purposes. Honey, pollen, royal jelly, beeswax, propolis and venom are all economically important agricultural products. According to the 2019 USDA honey report, US consumption of honey was 554 million pounds which is about 1.69 pounds per person. Production of domestic honey was valued at \$309.14 million, which only accounts for 32% of the honey consumed in the US.

US agriculture depends on pollinators of all kinds but especially honey bees which help pollinate 50 different food crops valued at over \$20 billion. Many food crops are completely dependent on honey bees. For example, 80% of the world's almonds are produced in California. Almond producers are entirely dependent on over 1.8 million honey bee colonies for pollination services. Other crops like apples, avocados, blueberries, cherries, cranberries and sunflower are 90% dependent on honey bees.

Honey bees are also important to local community gardens, small farmers and home gardens. Honey bees are generalist pollinators, which means they will collect pollen from a variety of flowering plants. Using honey bees for their pollination services is an economically smart decision since they can be used for a wide variety of fruits, vegetables and garden flowers.

It is important to learn how to protect honey bees, since 1/3 of the food we eat is pollinated by honey bees. Honey bee colonies face many threats. Greater and Lesser Wax Moths, Varroa Mites, Tracheal Mites, American Foulbrood bacteria and Colony Collapse Disorder all pose a threat to honey bee populations. Activities by people can be harmful as well. Overuse of chemicals in our landscapes can harm beneficial insects like the

honey bee. Reducing usage of synthetic pesticides, herbicides, fertilizers and neonicotinoids while increasing our use of natural predators and organic pest control will protect all our beneficial insects.

Use National Honey Bee Day to Learn more about Honey bees and beekeeping by visiting www.thehoneybeeconservancy.org/ and the Texas Beekeepers Association's website at www.texasbeekeepers.org.

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City's 'Know Your Flood Risk' Community Presentation Set for Sept. 2 at Southwest Branch Library

City's 'Know Your Flood Risk' Community Presentation Set for Sept. 2 at Southwest Branch Library

By Melissa Walker, Environmental Education Specialist

Posted on Tuesday, August 31, 2021



Flooding is the most common and costly natural disaster. However, most residents don't know how to determine their flood risk.

The City of Arlington Public Works and Transportation Department's Stormwater Education Specialist will present "Know Your Flood Risk" from 6:30 p.m. to 7:45 p.m. Thursday, Sept. 2 at the Southwest Branch Library, 3311 SW Green Oaks Blvd.

This presentation is designed to provide property owners and tenants in the City of Arlington with information on how to determine flood risk by understanding the types of flooding common to our community, the natural functions of our floodplains, and community floodplain management.

The presentation will also cover flood hazard zones, FEMA flood insurance rate maps (FIRMS) and the National Flood Insurance Program.

For more information on flood risk and ways you can protect your property visit www.floodsmart.gov or www.arlingtontx.gov/floodplain.

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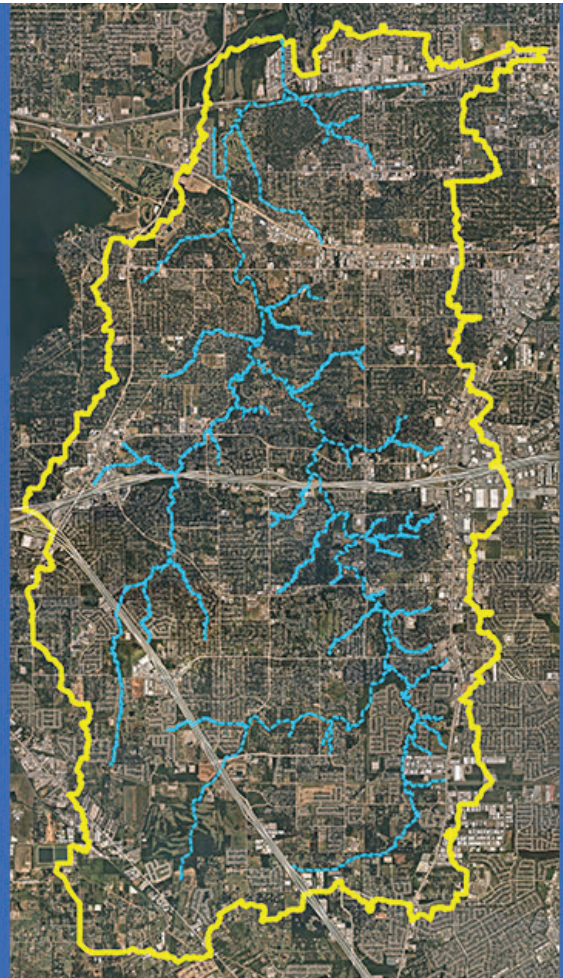
Preliminary Flood Map Issued for Rush Creek Watershed; 90-Day Appeal and Comment Period Open for Property Owners

Preliminary Flood Map Issued for Rush Creek Watershed; 90-Day Appeal and Comment Period Open for Property Owners

By Melissa Walker, Environmental Education Specialist

Posted on Tuesday, September 14, 2021

Rush Creek Preliminary Map Update



The City of Arlington's Public Works and Transportation Department developed the Rush Creek Watershed Study as part of its ongoing effort to manage the FEMA Special Flood Hazard Area (SFHA) and protect Arlington residents and business owners from flood risk. This study uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA has accepted the City's data and the preliminary floodplain map update for Rush Creek is available for viewing on the City's map revisions webpage. The floodplain limits will change for certain properties in this watershed and property owners may be required by their lenders to carry flood insurance.

Property owners should be aware that all properties with federally backed loans within the SFHA will require flood insurance. Tenets of properties in the floodplain are encouraged to buy content coverage. Don't wait to purchase flood insurance. It takes 30-days for a flood policy to take effect so contact your insurance agent for more information or visit www.floodsmart.gov.

When a preliminary flood map is issued, FEMA provides a 90-day appeal and comment period for new or revised Base Flood Elevations (BFEs), flood hazard zones, and/or floodway boundaries. The 90-day appeal and comment period is open to residents, business owners, developers and other property owners that may disagree with the flood risk shown on the preliminary map.

A virtual map for viewing and comparing the current FEMA SFHA and the preliminary changes to the FEMA floodplain can be accessed at www.arlingtontx.gov/maprevisions.

Comments or appeals to the preliminary flood map changes must be submitted to the City and will be reviewed for technical validity. Appeals and comments that are determined to have sufficient information and data will be forwarded to FEMA. After the appeal period, FEMA will evaluate the data from these appeals and comments and request additional data, as necessary. Once all appeals are resolved, FEMA will send an appeal resolution letter to the community and all appellants and revise the preliminary flood map as appropriate. After that, FEMA will finalize the flood map and send a Letter of Final Determination to each community, stating that the map will become effective in six months. All comments or appeals to the floodplain changes must be submitted to the City by Oct. 22, 2021.

- An appeal which is a formal written objection to a new or modified BFE, Special Flood Hazard Area (SFHA), floodway, or flood zone. This must be supported by an analysis or scientific evidence showing that the information on the preliminary map is scientifically or technically incorrect.
- A comment points out changes needed for any other information related to the updated map. For example, an incorrect street name or jurisdictional boundary.

Contact the Public Works and Transportation Department at 817-459-6550 or publicworks@arlingtontx.gov if you have questions on the upcoming map update, would like to make an appointment to review Floodplain Maps in person, or would like to submit a comment or appeal.

For more information about FEMA map revisions visit the Community Members' Guide to Initiating Map Revisions at www.fema.gov/flood-maps/change-your-flood-zone/guide-community-members.

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Learn How to Become an Arlington Citizen Scientist at Stormwater Management's iNaturalist Workshop on Oct. 2, 2021

Learn How to Become an Arlington Citizen Scientist at Stormwater Management's iNaturalist Workshop on Oct. 2, 2021

By Melissa Walker, Environmental Education Specialist

Posted on Thursday, September 23, 2021



Are you interested in Arlington's plant and animal diversity? Do you want to have a fun outdoor family activity? Would you like to help local biologists and other scientists gather data about our local ecosystem? Arlington's Bee City Committee and the City's Stormwater Management Division are inviting residents to become part of our Citizen Science Program.

Citizen science projects and programs are developed to assist professional scientist with the collection and analysis of data relating to the natural world through public participation. These projects provide the general public the opportunity to share and contribute to data monitoring and collection programs. By participating in these projects, citizens can increase their scientific knowledge, develop a deeper understanding of the scientific process and bring their curiosity, passion and commitment to scientific and research matters.

The Arlington Citizen Science Program will utilize the iNaturalist nature phone app to gather species observations to better understand our local biodiversity. The iNaturalist nature phone app documents your observations and helps identify the plants and animals around you. It was developed in 2008 as a master's degree final project at UC Berkeley and is now a joint venture between the California Academy of Sciences and the National Geographic Society. It has become one of the most popular nature apps in the world. By using this program, you can record and share your observations with scientists, naturalists and other citizen scientists while also learning from other app users' observations. The data collected is used to better understand and protect the natural world.

The iNaturalist Workshop will be held at 9 a.m. Saturday, Oct. 2, 2021, at the Fish Creek Neighborhood Park Pavilion, 2121 Havenwood Dr, Arlington, TX 76018. The workshop will last for an hour and then our committee members will assist attendees in using the iNaturalist app to

make species observations and identifications of the local plants and animals.

Register for this event by contacting the Stormwater Education Specialist, Melissa Walker at 817-459-6572 or stormwatereducation@arlingtontx.gov.

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Flood Information Services

Arlington's Stormwater Management Division provides information on flood protection, flood depth or other flood related data, historical flooding information, local drainage issues and other site-specific protection assistance to all residents and property owners. Services include:

- Explanation of natural floodplain functions and their protection along with special flood hazards such as uncertain flow paths
- One-on-one site visits to property owners to review flooding and drainage problems while providing information on barrier walls, soil stabilization, lot regrading and other structural solutions for specific drainage or flooding issues.
- Provide advice on retrofitting techniques; such as elevating buildings, dry-flood proofing and wet-flood proofing.
- Supplies information on hazard mitigation grants and loans through FEMA, Small business Administration, US Department of Agriculture and other state and local agencies.
- Information found on the Flood Insurance Rate Map (FIRM) needed for writing a flood insurance policy including FIRM zones, panel numbers, and Base Flood Elevations as well as other non-insurance related information on FIRMs such as floodway delineations and protected areas outside Special Flood Hazard Areas (SFHA's)
- Elevation Certificates for some properties in the SFHA are available and copies made upon request
- National Flood Insurance Program purchase requirements, coverage options and assistance with maintaining or increasing coverage

Our staff is available to meet with you and discuss your situation and strategies to reduce flood damages. Call 817-459-6550 or visit our website www.arlingtontx.gov/stormwater

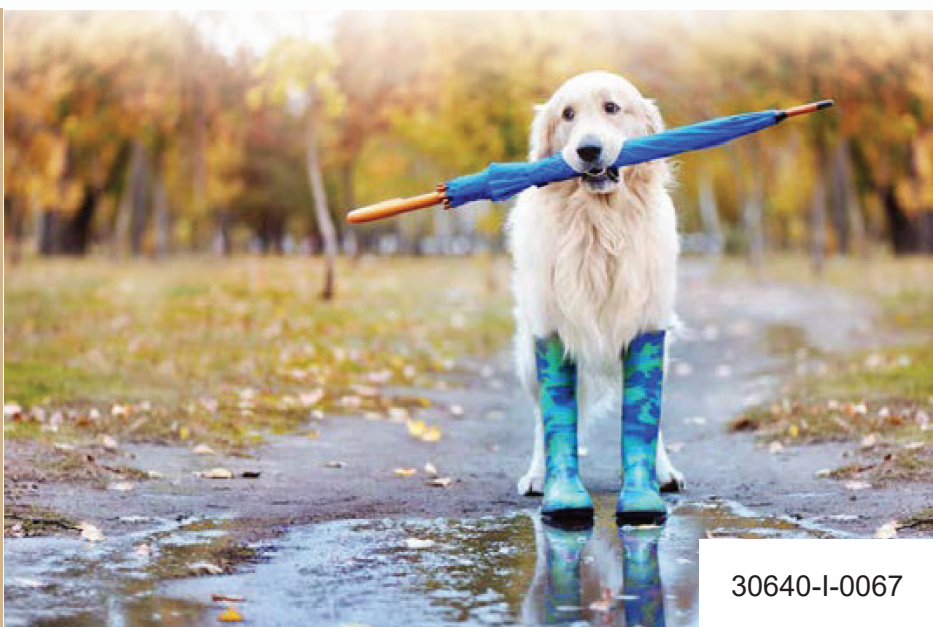


AFTER A FLOOD

If your home has flooded, there are steps you need to take to protect your family, save your home, prevent health hazards, and recoup as much of the cost of repairs as possible from your insurer.

- **Wait until officials have declared the area safe to return to your home or business.** A flood damaged building can be dangerous.
- **Protect Yourself.** Floodwaters can contain many harmful things such as raw sewage, chemical waste, lumber, broken glass, trash and other debris.
- **Document Flood Damage.** Take photos or video of all property damage including water line depths.
- **Be Aware of Electrical Hazards.** Don't turn power on or off while standing in water. Contact an electrician to check the electrical system before turning the power back on.
- **Prevent Mold Growth.** Remove floodwater, increase air flow, and throw away items that can't be cleaned or dried quickly.
- **Clean properly.** Use a 10% bleach solution on all surfaces.

If your property has flooded,
visit www.disasterassistance.gov
or www.arlingtontx.gov/mypropertyflooded.



30640-I-0067

REPORT ILLEGAL DUMPING

Illegally dumped trash and debris can get washed into the streets, storm drains and/or local waterways which can cause problems such as localized flooding, stream bank erosion, stormwater pollution, and can significantly increase infrastructure maintenance costs to the City of Arlington.

The streets, storm drains and/or local waterways which can cause problems such as localized flooding, stream bank erosion, stormwater pollution, and can significantly increase infrastructure maintenance costs to the City of Arlington. Visit www.arlingtontx.gov/city_hall/departments/city_secretary/city_code_of_ordinances to learn more about the Stormwater Pollution Control Ordinance.

The Community's help is essential to catching and deterring illegal dumping. If you observe someone illegally dumping into the storm drain system, creek, stream or lake call the City of Arlington's Action Center at 817-459-6777 or file an online report at www.arlingtontx.gov/contact.

Provide the following information:



Date, Time
and Location
of incident



Description
of vehicle
and license
plate number



Description
of person(s)
dumping
material



What items/
materials
were being
dumped



Public Works and Transportation's
Stormwater Management Division
817-459-6550

www.arlingtontx.gov/stormwater

30640-I-0071

Protect Arlington's Waterways

Stormwater Pollutants such as plastic bottles, food containers and other trash are easy to see, but other harmful pollutants are sometimes harder to detect. These pollutants include:

- **Sediment** from construction and land development
- **Pesticides, herbicides and fertilizers** from landscaping and gardening activities
- **Pathogens and nutrients** from pet waste and sanitary sewer line failures
- **Oil, gasoline, grease** and other toxic chemicals from motor vehicles
- **Heavy metals** from roof shingles, motor vehicles and electronic wastes
- **Household Chemicals and Waste** such as bleach, detergents, degreasers, cooking oil, paint and batteries



Learn about Stormwater Pollution Prevention at www.arlingtontx.gov/stormwatereducation



Public Works and Transportation Dept.
P.O. Box 90231 MS 01-0220
Arlington TX—76004-3231

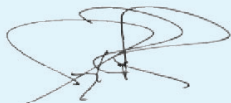
Be Flood
Prepared



Dear Neighbors and Friends,

Flooding is the most common and costly natural disaster in the United States. You don't have to live near a major waterway to have your home or property damaged from flooding. It can happen anywhere and at any time of the year. Severe weather can bring heavy downpours, downed trees and other debris which can all cause flooding. Flooding doesn't always happen in defined floodplains. Approximately 25% of flood insurance claims are outside high-risk areas. The City continues to implement programs and procedures to reduce the impacts of flooding. We want all our residents and businesses to Be Flood Prepared!

Sincerely,



City of Arlington Mayor Jim Ross

Get Flood Insurance, It's for everyone!

- ◆ Flood damages are not covered by homeowner's insurance.
- ◆ Your residence or business doesn't have to be in a flood hazard zone to purchase flood insurance.
- ◆ You don't have to own a structure to purchase flood insurance, renters can purchase content coverage.
- ◆ Remember FEMA has a 30-day waiting period before coverage becomes effective.

Take the first step in protecting your property by visiting

www.floodsmart.gov



Public Works and Transportation Dept.
P.O. Box 90231 MS 01-0220
Arlington TX—76004-3231



Dear Resident or Business Owner,

Your structure is located near a low water crossing or a flood barricade location. The City of Arlington's Stormwater Management Division would like to remind you that driving through flooded roadways is dangerous. Provided are some flood safety tips to help keep you, your family, and/or employees safe during a flood event.

For more flood safety and preparedness information visit www.arlingtontx.gov/floodsafety.

Flood Safety Tips

- ▶ Don't walk, swim, bike or drive through flooded roadways.
 - 6 inches of water can knock an adult off their feet and can cause the loss of control or stalling of a vehicle.
 - 1 to 2 feet of rushing water can carry away most vehicle including SUVs and pick-ups.
 - The depth of the water may not always be obvious. The road maybe washed out under the water and you could be stranded or trapped.
- ▶ Never drive around a barricade. Barricades are there for your protection. Turn around and go the other way.
- ▶ Do not move roadway barricades. It is against the law and could result in a fine.
- ▶ Be cautious. Especially driving at night when it is harder to recognize flood dangers.

Apartment Complex Residents

Did you know that excess rainwater, or **stormwater**, runs over impervious surfaces and picks up pollutants such as motor oil, fertilizers, pesticides, fertilizers, pet waste, litter and other debris? These **stormwater pollutants** are washed down the City's storm drainage system and discharged into our local streams, creeks, rivers and lakes.

Stormwater pollutants can have a negative effect on our local waterways and drinking water resources.

Become part of Arlington's Healthy Watersheds Program and help prevent stormwater pollution by visiting www.arlingtontx.gov/chwp

Stormwater Pollution Prevention Tips

- ✓ Pick up litter and trash
- ✓ Pick up your pet's waste and properly dispose of it in the trash.
- ✓ Repair vehicle leaks quickly
- ✓ Cleanup vehicle leaks and spills with sand or kitty litter.
- ✓ Learn about the Fats, Oils, and Grease program at www.arlingtontx.gov/water
- ✓ Report sanitary sewer overflows or waterline breaks to your maintenance staff
- ✓ Learn about Household Hazardous Waste disposal www.arlingtontx.gov/recycle



Public Works and
Transportation Department
P.O. Box 90231 MS 01-0220
Arlington TX—76004-3231



Protect Arlington's Waterways
Stormwater Management Division
www.arlingtontx.gov/stormwater 817-459-6550

Welcome New Arlington Business Owner

Watersheds are areas of land in which all surface water drains to a common body of water such as a creek, stream, river or lake. Land use activities within a watershed have the greatest impact on local water quality.

Urban pollutants such as motor oil, fertilizers, pesticides, litter and landscape wastes are picked up by excess rainwater or **stormwater** and transported into our local waterways.

Become part of Arlington's Community Healthy Watersheds Program and help prevent stormwater pollution by visiting www.arlingtontx.gov/chwp.

Property Maintenance Tips

- ✓ Sweep outdoor areas daily for trash and litter control
- ✓ Provide trash receptacles for employees and customers.
- ✓ Keep dumpster area clean. Make sure the clean-out plug is properly secured.
- ✓ Don't use detergents or chemical cleaners on sidewalks or driveways.
- ✓ Never pour wash water onto a parking lot, alleyway, sidewalk, or street.
- ✓ Sponsor a business community cleanup day.



Public Works and
Transportation Department
P.O. Box 90231 MS 01-0220
Arlington TX—76004-3231



Protect Arlington's Waterways
Stormwater Management Division
www.arlingtontx.gov/stormwater 817-459-6550

As part of ongoing efforts to manage the FEMA Special Flood Hazard Area (SFHA) and protect Arlington residents and business owners from flood risks, the City developed the Rush Creek Watershed Study. This study, which was reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA has accepted the City's data and the preliminary floodplain map update for Rush Creek is available for viewing on the City's map revisions webpage. The floodplain limits will change for certain properties in this watershed and property owners may be required by their lenders to carry flood insurance.

All properties with federally backed loans within the SFHA will require flood insurance. Tenets of properties in the floodplain are encouraged to buy content coverage.

How can I view and comment on the preliminary changes to the map updated?

A virtual map for viewing and comparing the preliminary changes to the FEMA floodplain can be accessed at www.arlingtontx.gov/maprevisions.

Comments or appeals to the preliminary floodplain changes must be submitted to the City and will be reviewed for technical validity.

For comments, appeals or questions on the upcoming map update or to make an appointment to review Floodplain Maps in person, contact the Public Works and Transportation Department at 817-459-6550 or publicworks@arlingtontx.gov.

All comments or appeals to the floodplain changes **must be** submitted to the City by October 22, 2021.



Public Works and
Transportation Department
P.O. Box 90231 MS 01-0220
Arlington TX—76004-3231

**RUSH CREEK FEMA
FLOODPLAIN MAP UPDATE
WEBSITE INFORMATION**





Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream VC(A)-1 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream VC(A)-1 on December 3, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream VC(A)-5 on March 8, 2021, Stream WFT_001 on March 22, 2021, Stream VC(A)-3 on March 22, 2021, Stream WFT_002 on March 25, 2021, Stream VC(A)-4 on April 1, 2021 and Stream VC(A)-6 on April 19, 2021. In addition, FEMA has reviewed and accepted the data from the City's Rush Creek Watershed Study.

The information below will help you determine if your property is included in a floodplain, also called a Special Flood Hazard Area, and what options are available to you prior to the upcoming Flood Insurance Rate Map update.

Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

Paper copies of the new Flood Insurance Rate Maps are available for viewing by appointment Monday through Friday between 9 a.m. and 4 p.m. at the Public Works and Transportation Department. This department is located on the 2nd floor of Arlington City Hall, 101 W. Abram St. For questions about the updated maps or to make an appointment, contact the Public Works and Transportation Department at 817-459-6550 or email publicworks@arlingtontx.gov.

Maps can also be downloaded and viewed on the City's website at www.arlingtontx.gov/maprevisions.

How will the updated maps affect you?

Lenders and insurance companies utilize the Flood Insurance Rate Maps to analyze the flood risk to any individual property. If you have a mortgage or secured loan from a federally regulated or insured lender and the principle structure on this parcel is shown to be within the floodplain, then your lender may require you to carry flood insurance.

Typically, Lenders check if a property is in the Special Flood Hazard Area once the updated maps become effective on December 3, 2021. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



Notification of Updates to Flood Hazard Maps



What can you do if your home or business is mapped in the floodplain?

Through the National Flood Insurance Program, all property owners and tenants within the City of Arlington are eligible to purchase federally backed flood insurance.

Flood insurance policies are separate policies from your standard homeowners, renters, or property insurance. Standard insurance policies do not cover damages from floods. Should you find your property status has changed from earlier mapping or your property is now included in or near the Special Flood Hazard Area, contact your insurance agent to discuss your flood risk and purchasing a flood insurance policy.

Visit www.floodsmart.gov/how/how-do-i-buy-flood-insurance for more information.

What to do if you believe you've been inadvertently included in the floodplain?

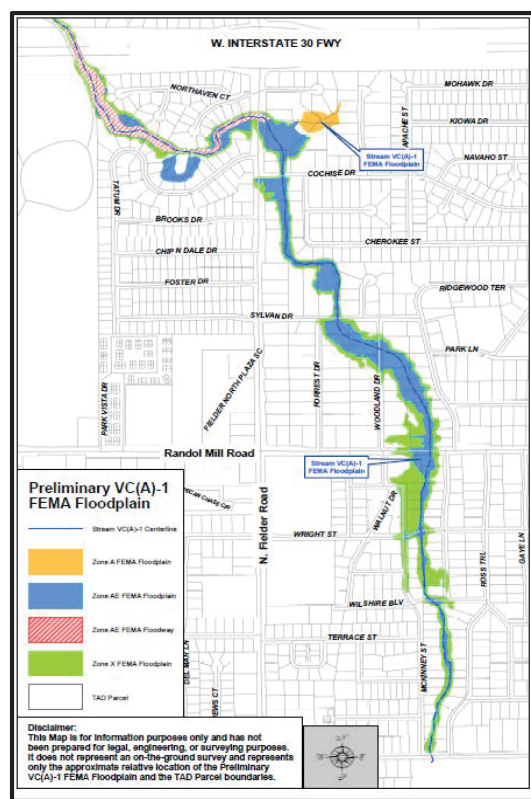
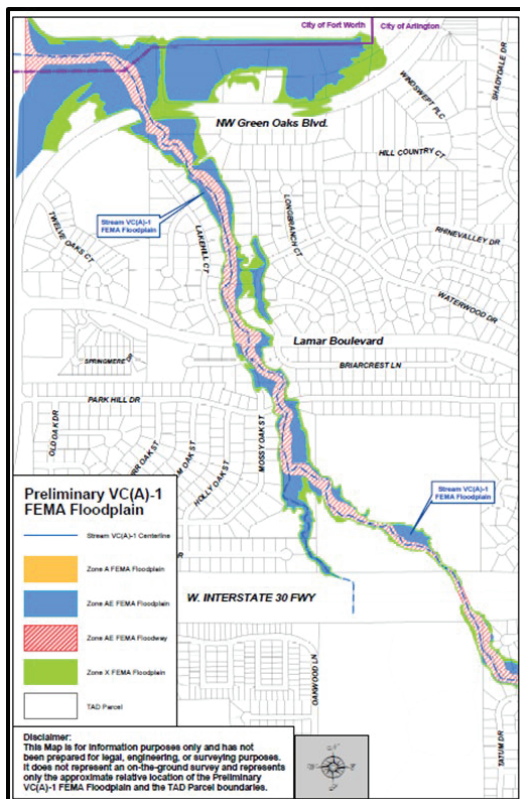
If you believe your structure and/or parcel is higher than the actual flood elevation, there is a procedure for appeals known as a Letter of Map Amendment. Traditionally, a Letter of Map Amendment involves hiring a surveyor to verify the lowest ground touching the structure, deck or stairs is above the 100-year flood elevation.

Details about this appeal process and application can be found on FEMA's website at www.fema.gov/letter-map-amendment-loma.

What can be done to mitigate flood risk and/or reduce premiums?

Elevating, retrofitting or floodproofing a structure may help to reduce both risk and insurance premiums. For more information visit <https://www.fema.gov/how-can-i-pay-less-flood-insurance>.

The City of Arlington's Floodplain Management Staff is available to answer questions and assist residents with questions concerning the map update. Contact us at 817-459-6550 or visit www.arlingtontx.gov/floodplain for more information.



There is a 30-Day waiting period for flood policies to take effect. Contact your local agent for more information on rates and policies. Don't wait to purchase insurance!



Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream VC(A)_3 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream VC(A)_3 on March 22, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020, Stream WF(A)_1 on October 22, 2020, Stream VC(A)_5 on March 8, 2021, Stream WFT_001 on March 22, 2021. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

The information below will help you determine if your property is included in a floodplain, also called a Special Flood Hazard Area, and what options are available to you prior to the upcoming Flood Insurance Rate Map update.

Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

Paper copies of the new Flood Insurance Rate Maps are available for viewing by appointment Monday through Friday between 9 a.m. and 4 p.m. at the Public Works and Transportation Department. This department is located on the 2nd floor of Arlington City Hall, 101 W. Abram St. For questions about the updated maps or to make an appointment, contact the Public Works and Transportation Department at 817-459-6550 or email publicworks@arlingtontx.gov.

Maps can also be downloaded and viewed on the City's website at www.arlingtontx.gov/maprevisions.

How will the updated maps affect you?

Lenders and insurance companies utilize the Flood Insurance Rate Maps to analyze the flood risk to any individual property. If you have a mortgage or secured loan from a federally regulated or insured lender and the principle structure on this parcel is shown to be within the floodplain, then your lender may require you to carry flood insurance.

Typically, Lenders check if a property is in the Special Flood Hazard Area once the updated maps become effective on March 22, 2021. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



Notification of Updates to Flood Hazard Maps



What can you do if your home or business is mapped in the floodplain?

Through the National Flood Insurance Program, all property owners and tenants within the City of Arlington are eligible to purchase federally backed flood insurance.

Flood insurance policies are separate policies from your standard homeowners, renters, or property insurance. Standard insurance policies do not cover damages from floods. Should you find your property status has changed from earlier mapping or your property is now included in or near the Special Flood Hazard Area, contact your insurance agent to discuss your flood risk and purchasing a flood insurance policy.

Visit www.floodsmart.gov/how/how-do-i-buy-flood-insurance for more information.

What to do if you believe you've been inadvertently included in the floodplain?

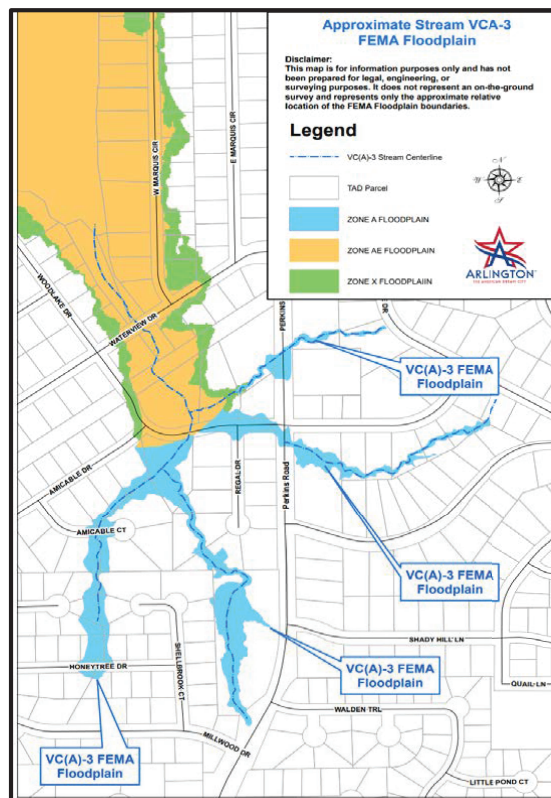
If you believe your structure and/or parcel is higher than the actual flood elevation, there is a procedure for appeals known as a Letter of Map Amendment. Traditionally, a Letter of Map Amendment involves hiring a surveyor to verify the lowest ground touching the structure, deck or stairs is above the 100-year flood elevation.

Details about this appeal process and application can be found on FEMA's website at www.fema.gov/letter-map-amendment-loma.

What can be done to mitigate flood risk and/or reduce premiums?

Elevating, retrofitting or floodproofing a structure may help to reduce both risk and insurance premiums. For more information visit <https://www.fema.gov/how-can-i-pay-less-flood-insurance>.

The City of Arlington's Floodplain Management Staff is available to answer questions and assist residents with questions concerning the map update. Contact us at 817-459-6550 or visit www.arlingtontx.gov/floodplain for more information.



There is a 30-Day waiting period for flood policies to take effect. Contact your local agent for more information on rates and policies. Don't wait to purchase insurance!



Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream VC(A)_4 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream VC(A)_4 on April 1, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020, Stream WF(A)_1 on October 22, 2020, Stream VC(A)_5 on March 8, 2021, Stream VC(A)_3 on March 22, 2021, Stream WFT_001 on March 22, 2021 and Stream WFT_002 on March 25, 2021. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

The information below will help you determine if your property is included in a floodplain, also called a Special Flood Hazard Area, and what options are available to you prior to the upcoming Flood Insurance Rate Map update.

Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

Paper copies of the new Flood Insurance Rate Maps are available for viewing by appointment Monday through Friday between 9 a.m. and 4 p.m. at the Public Works and Transportation Department. This department is located on the 2nd floor of Arlington City Hall, 101 W. Abram St. For questions about the updated maps or to make an appointment, contact the Public Works and Transportation Department at 817-459-6550 or email publicworks@arlingtontx.gov.

Maps can also be downloaded and viewed on the City's website at www.arlingtontx.gov/maprevisions.

How will the updated maps affect you?

Lenders and insurance companies utilize the Flood Insurance Rate Maps to analyze the flood risk to any individual property. If you have a mortgage or secured loan from a federally regulated or insured lender and the principle structure on this parcel is shown to be within the floodplain, then your lender may require you to carry flood insurance.

Typically, Lenders check if a property is in the Special Flood Hazard Area once the updated maps become effective on April 1, 2021. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



Notification of Updates to Flood Hazard Maps



What can you do if your home or business is mapped in the floodplain?

Through the National Flood Insurance Program, all property owners and tenants within the City of Arlington are eligible to purchase federally backed flood insurance.

Flood insurance policies are separate policies from your standard homeowners, renters, or property insurance. Standard insurance policies do not cover damages from floods. Should you find your property status has changed from earlier mapping or your property is now included in or near the Special Flood Hazard Area, contact your insurance agent to discuss your flood risk and purchasing a flood insurance policy.

Visit www.floodsmart.gov/how/how-do-i-buy-flood-insurance for more information.

What to do if you believe you've been inadvertently included in the floodplain?

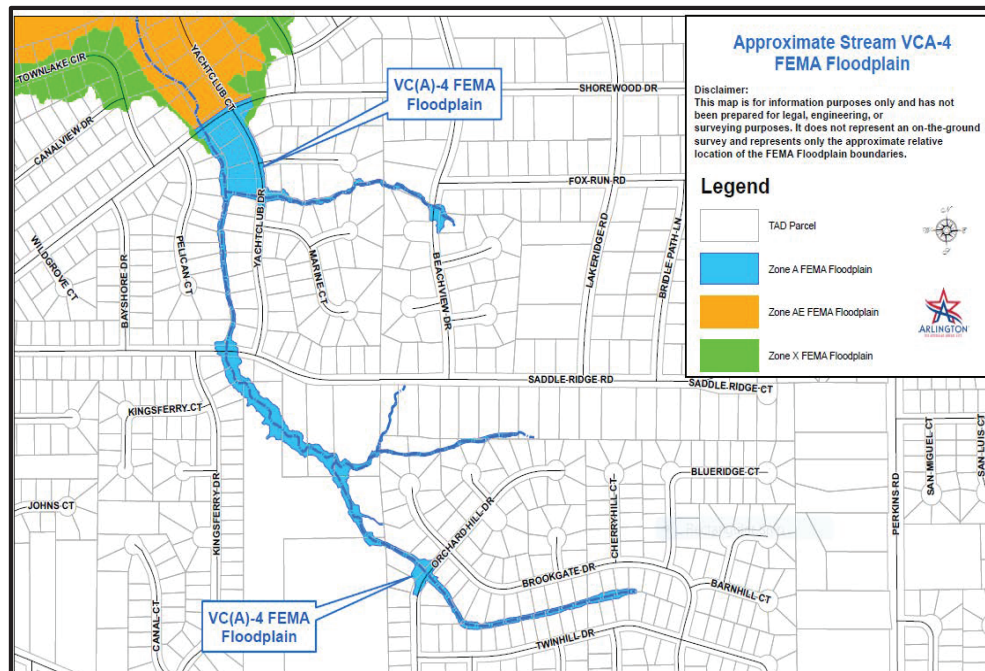
If you believe your structure and/or parcel is higher than the actual flood elevation, there is a procedure for appeals known as a Letter of Map Amendment. Traditionally, a Letter of Map Amendment involves hiring a surveyor to verify the lowest ground touching the structure, deck or stairs is above the 100-year flood elevation.

Details about this appeal process and application can be found on FEMA's website at www.fema.gov/letter-map-amendment-loma.

What can be done to mitigate flood risk and/or reduce premiums?

Elevating, retrofitting or floodproofing a structure may help to reduce both risk and insurance premiums. For more information visit <https://www.fema.gov/how-can-i-pay-less-flood-insurance>.

The City of Arlington's Floodplain Management Staff is available to answer questions and assist residents with questions concerning the map update. Contact us at 817-459-6550 or visit www.arlingtontx.gov/floodplain for more information.



There is a 30-Day waiting period for flood policies to take effect. Contact your local agent for more information on rates and policies. Don't wait to purchase insurance!



Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream VC(A)_5 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream VC(A)_5 on March 8, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020 and Stream WF(A)_1 on October 22, 2020. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

The information below will help you determine if your property is included in a floodplain, also called a Special Flood Hazard Area, and what options are available to you prior to the upcoming Flood Insurance Rate Map update.

Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

Paper copies of the new Flood Insurance Rate Maps are available for viewing by appointment Monday through Friday between 9 a.m. and 4 p.m. at the Public Works and Transportation Department. This department is located on the 2nd floor of Arlington City Hall, 101 W. Abram St. For questions about the updated maps or to make an appointment, contact the Public Works and Transportation Department at 817-459-6550 or email publicworks@arlingtontx.gov.

Maps can also be downloaded and viewed on the City's website at www.arlingtontx.gov/maprevisions.

How will the updated maps affect you?

Lenders and insurance companies utilize the Flood Insurance Rate Maps to analyze the flood risk to any individual property. If you have a mortgage or secured loan from a federally regulated or insured lender and the principle structure on this parcel is shown to be within the floodplain, then your lender may require you to carry flood insurance.

Typically, lenders check if a property is in the Special Flood Hazard Area once the updated maps are effective on March 8, 2021. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



Notification of Updates to Flood Hazard Maps



What can you do if your home or business is mapped in the floodplain?

Through the National Flood Insurance Program, all property owners and tenants within the City of Arlington are eligible to purchase federally backed flood insurance.

Flood insurance policies are separate policies from your standard homeowners, renters, or property insurance. Standard insurance policies do not cover damages from floods. Should you find your property status has changed from earlier mapping or your property is now included in or near the Special Flood Hazard Area, contact your insurance agent to discuss your flood risk and purchasing a flood insurance policy.

Visit www.floodsmart.gov/how/how-do-i-buy-flood-insurance for more information.

What to do if you believe you've been inadvertently included in the floodplain?

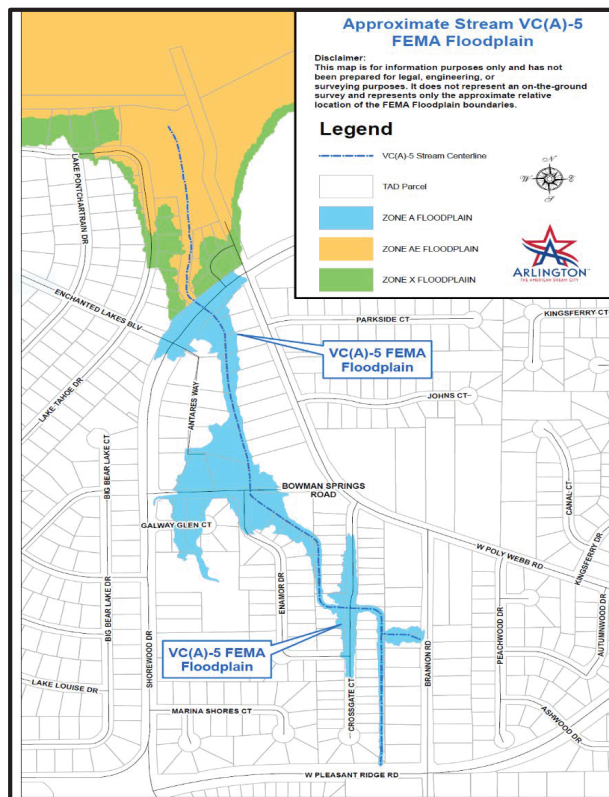
If you believe your structure and/or parcel is higher than the actual flood elevation, there is a procedure for appeals known as a Letter of Map Amendment. Traditionally, a Letter of Map Amendment involves hiring a surveyor to verify the lowest ground touching the structure, deck or stairs is above the 100-year flood elevation.

Details about this appeal process and application can be found on FEMA's website at www.fema.gov/letter-map-amendment-loma.

What can be done to mitigate flood risk and/or reduce premiums?

Elevating, retrofitting or floodproofing a structure may help to reduce both risk and insurance premiums. For more information visit <https://www.fema.gov/how-can-i-pay-less-flood-insurance>.

The City of Arlington's Floodplain Management Staff is available to answer questions and assist residents with questions concerning the map update. Contact us at 817-459-6550 or visit www.arlingtontx.gov/floodplain for more information.



There is a 30-Day waiting period for flood policies to take effect. Contact your local agent for more information on rates and policies. Don't wait to purchase insurance!



Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream VC(A)-6 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream VC(A)_6 on April 19, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020, Stream WF(A)_1 on October 22, 2020, Stream VC(A)_5 on March 8, 2021, Stream VC(A)_3 on March 22, 2021, Stream WFT_001 on March 22, 2021, Stream WFT_002 on March 25, 2021 and VC(A)_4 on April 1, 2021. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

The information below will help you determine if your property is included in a floodplain, also called a Special Flood Hazard Area, and what options are available to you prior to the upcoming Flood Insurance Rate Map update.

Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

Paper copies of the new Flood Insurance Rate Maps are available for viewing by appointment Monday through Friday between 9 a.m. and 4 p.m. at the Public Works and Transportation Department. This department is located on the 2nd floor of Arlington City Hall, 101 W. Abram St. For questions about the updated maps or to make an appointment, contact the Public Works and Transportation Department at 817-459-6550 or email publicworks@arlingtontx.gov.

Maps can also be downloaded and viewed on the City's website at www.arlingtontx.gov/maprevisions.

How will the updated maps affect you?

Lenders and insurance companies utilize the Flood Insurance Rate Maps to analyze the flood risk to any individual property. If you have a mortgage or secured loan from a federally regulated or insured lender and the principle structure on this parcel is shown to be within the floodplain, then your lender may require you to carry flood insurance.

Typically, Lenders check if a property is in the Special Flood Hazard Area once the updated maps become effective on April 19, 2021. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



Notification of Updates to Flood Hazard Maps



What can you do if your home or business is mapped in the floodplain?

Through the National Flood Insurance Program, all property owners and tenants within the City of Arlington are eligible to purchase federally backed flood insurance.

Flood insurance policies are separate policies from your standard homeowners, renters, or property insurance. Standard insurance policies do not cover damages from floods. Should you find your property status has changed from earlier mapping or your property is now included in or near the Special Flood Hazard Area, contact your insurance agent to discuss your flood risk and purchasing a flood insurance policy.

Visit www.floodsmart.gov/how/how-do-i-buy-flood-insurance for more information.

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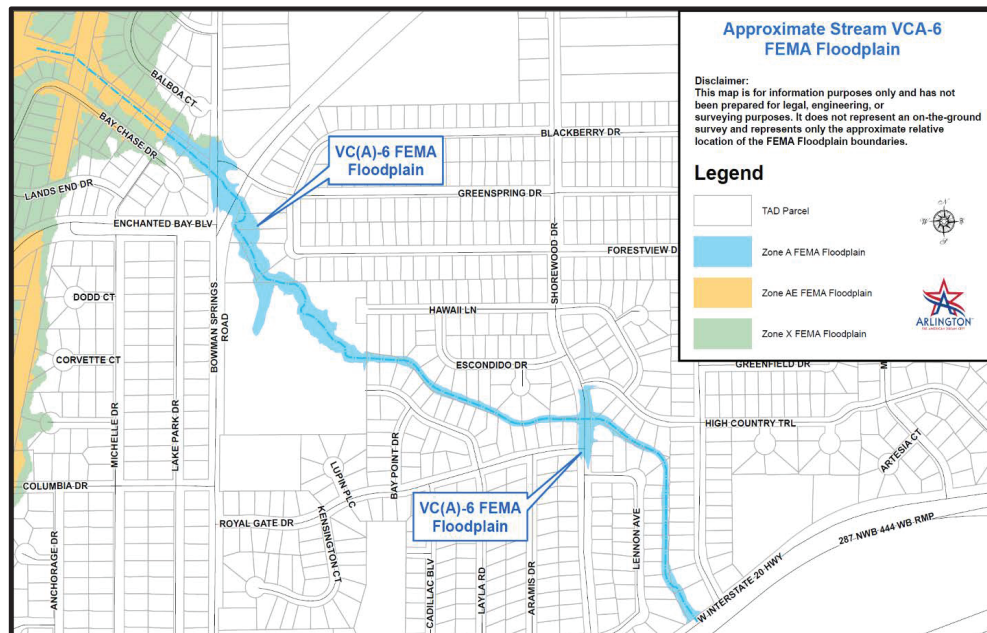
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What can be done to mitigate flood risk and/or reduce premiums?

Elevating, retrofitting or floodproofing a structure may help to reduce both risk and insurance premiums. For more information visit <https://www.fema.gov/how-can-i-pay-less-flood-insurance>.

The City of Arlington's Floodplain Management Staff is available to answer questions and assist residents with questions concerning the map update. Contact us at 817-459-6550 or visit www.arlingtontx.gov/floodplain for more information.



There is a 30-Day waiting period for flood policies to take effect. Contact your local agent for more information on rates and policies. Don't wait to purchase insurance!



Notification of Updates to Flood Hazard Maps



To help residents protect against the loss of life and property, the City of Arlington works closely with the Federal Emergency Management Agency (FEMA) to develop and update flood protection plans and participates in the National Flood Insurance Program to provide homeowners, business owners and renters with access to affordable flood insurance.

As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream WF(A)-1 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's new data that will update the floodplain map for the Stream WF(A)-1 area on October 22, 2020. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Cottonwood and Fish Creeks in March 2019, Crystal Canyon Creek in December 2019, Ditto Creek in November 2019, and Stream WF(A)-2 in September 2020. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

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Please note that taking action earlier rather than later will help keep your flood insurance rates down, should you be required by your lender to carry a policy.

Property owners and tenants whose properties are in a Special Flood Hazard Area can get discounted flood insurance through the FEMA sponsored National Flood Insurance Program by purchasing a Preferred Risk Policy more than 30 days before the updated maps become effective. This policy would be available for the first year and would make less expensive options available to you in the future.

How can I view the updated maps?

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Lenders check if a property is in the Special Flood Hazard Area once the updated maps become effective on October 22, 2020. Lenders will send a letter to all properties they identify to be in the floodplain to notify them that they must purchase flood insurance within 45 days. If a policy is not purchased within this time period, a lender may purchase a flood insurance policy that may be more expensive for the property owner and/or provide less protection.



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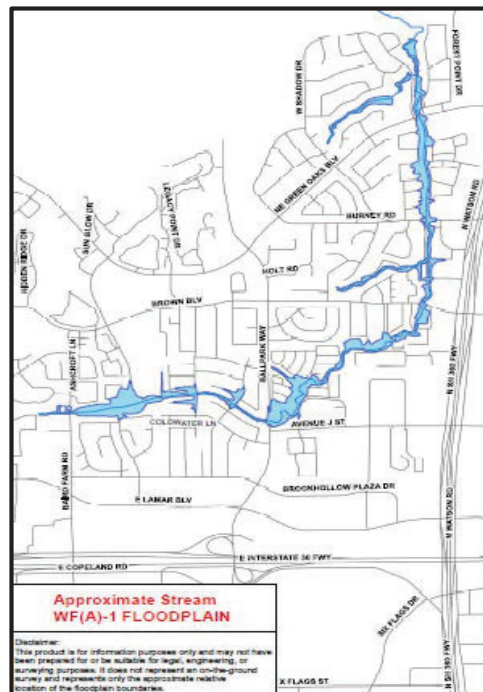
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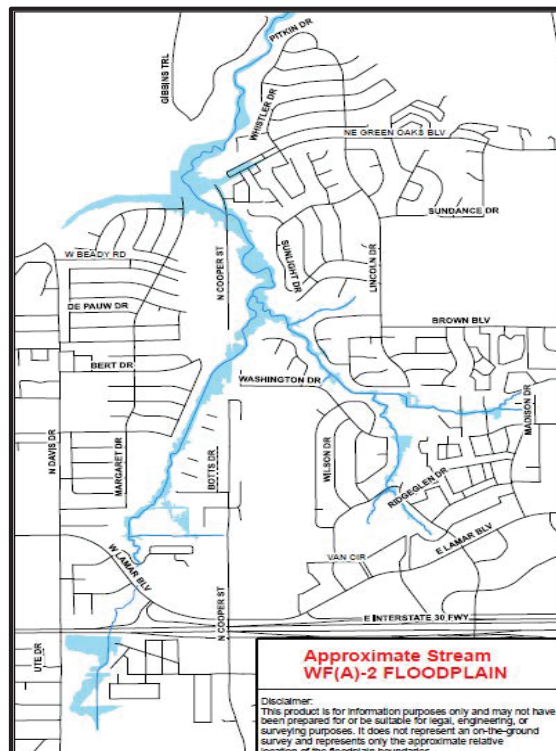
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As part of ongoing efforts to manage the floodplain and protect Arlington citizens from flood risks, the City developed the Stream WFT-001 Watershed Study. This study, which was recently reviewed by FEMA, uses comprehensive and up-to-date technical data to more accurately identify and map areas that may be subject to flooding.

FEMA accepted the City's data that will update the floodplain map for the Stream WFT_001 on March 22, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020, Stream WF(A)_1 on October 22, 2020, Stream VC(A)_5 on March 8, 2021 and Stream VC(A)_3 on March 22, 2021. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

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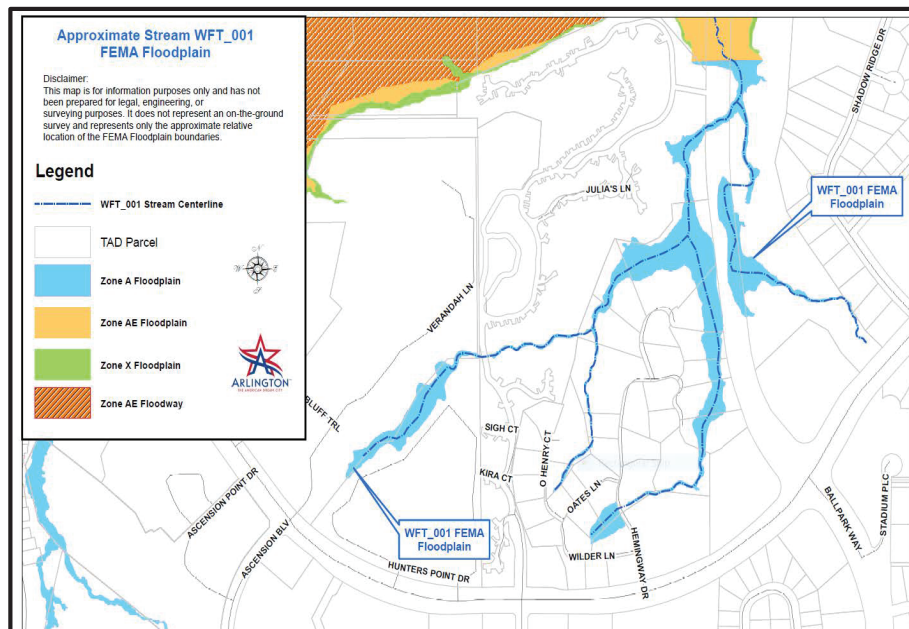
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FEMA accepted the City's data that will update the floodplain map for the Stream WFT_002 on March 25, 2021. As a result of the map update, the limits of the floodplain will change along some of the properties that are adjacent to this creek and property owners may be required by their lenders to carry flood insurance. FEMA approved similar updates for the following watersheds: Stream WF(A)_2 on September 25, 2020, Stream WF(A)_1 on October 22, 2020, Stream VC(A)_5 on March 8, 2021, Stream VC(A)_3 on March 22, 2021 and Stream WFT_001 on March 22, 2021. FEMA has reviewed the City's Rush Creek Watershed Study and is currently scheduling it for map updates.

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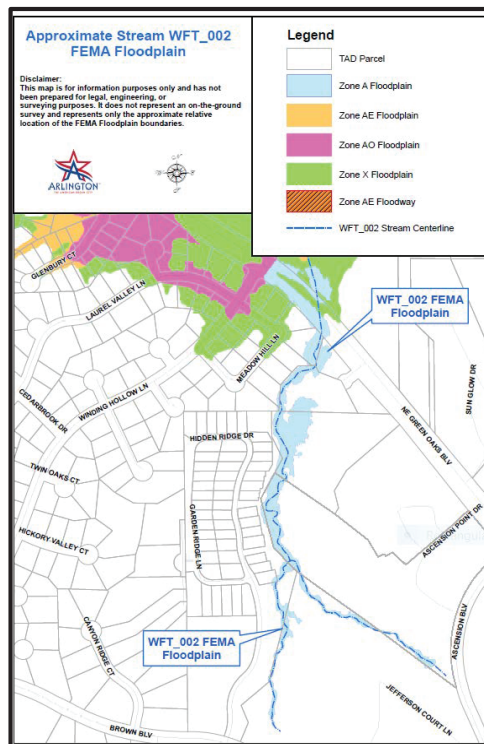
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Groundwater and High Mineral Content

Groundwater will normally look clear and clean because the ground naturally filters out particulate matter from rain water which has soaked into the soil. But as water flows through the ground in some areas of Arlington, metals such as iron and manganese are dissolved and may later be found in high concentrations as groundwater leaches out of the ground. In these areas you will typically see staining of the streets, sidewalks and driveways. This is a common natural occurrence.



Sanitary Sewer Overflows and Back Ups

Wastewater can be a significant source of harmful bacteria and other pollutants into our creeks, streams and lakes.

The Water Utilities Department is responsible for operating, maintaining, and repairing water lines and sanitary sewer lines throughout the City of Arlington.

Report sewer or water line leaks, breaks, sewer overflows or water contamination issues to the Water Utilities Department's 24 Hour Emergency Service at 817-459-5900.

For non-emergency customer care questions contact 817-275-5931 or visit www.arlingtontx.gov/contact.

Mosquito Concerns

The City of Arlington relies upon monitoring and observation by both residents and city crews, to identify and eliminate any standing water which could serve as a breeding place for mosquitoes and larvae. Typically mosquito larvae will thrive in still, shallow water less than 15 inches deep. Bird baths, pet bowls, wading pools, tire swings, flower pots or any similar receptacle with standing water can serve as a breeding place for mosquitoes.

For more information
Contact the City of Arlington's
Environmental Health Department at
817-459-6502
or visit

[www.arlington-tx.gov/city_hall/departments/
planning_development_services/
health_services](http://www.arlington-tx.gov/city_hall/departments/planning_development_services/health_services)



Protecting Arlington's Waterways

Public Works and Transportation
Stormwater Management Division

101 W. Abram St
P.O Box 90231 MS 01-0220
Arlington TX 76004-3231
Phone: 817-459-6550
Fax: 817-459-6585

stormwatereducation@arlingtontx.gov



Protect Arlington's Waterways



The Municipal Separate Storm Sewer System

The City's Municipal Separate Storm Sewer System (MS4) or storm drain system was designed to divert excess rainwater or stormwater to the many creeks and streams found in the City of Arlington. However, as stormwater flows over yards and impervious surfaces like driveways, streets, roofs and parking lots it picks up pollutants and transports them to these same creeks and streams. These pollutants can have a negative effect on the water quality and increase drinking water treatment costs. The most common pollutants in urban areas are grass clippings, leaves and other yard waste.

- ◆ Grass clippings and leaves can clog storm drains. This can result in street flooding that can damage public and private property.
- ◆ Lawn clippings and leaves blown inside storm drains will decay, use up oxygen and release nutrients. Excess nutrients encourage weed and algae growth in the our local waterways.
- ◆ Grass clippings and leaves that are blown into the streets or left on sidewalks are eyesores that make neighborhoods less attractive.
 - ◆ It is illegal to dump, sweep or blow grass clippings or any yard waste into the storm drain.

Stormwater Pollution Ordinance is located at www.arlingtontx.gov/city_hall/departments/city_secretary/city_code_of_ordinances



Report Illegal Dumping

The storm drain system is separate from the sanitary sewer system which conveys wastewater from your home, business and schools to a wastewater treatment plant. Sanitary Sewer wastewater is cleaned and treated before being discharged back into the environment. Stormwater runoff is directly discharged to our local waterways and is not treated to remove pollutants.

Report Illegal dumping of yard waste or other debris into our storm drains or local waterways at www.arlingtontx.gov/contact or 817-459-6777.

Don't Bag It !

In an effort to save landfill space, the City of Arlington banned the curbside collection of bagged grass clippings when we adopted the "Don't Bag It" program in 1993. According to the Don't Bag It program, leaving grass clippings on the lawn and allowing them to work their way back into the soil, helps produce a beautiful, green lawn.

- ◆ Mulch the grass back into your yard as you mow.
- ◆ Create a composting area in your yard for grass clippings.
- ◆ If you do bag your clippings, you'll need to take them to the City's landfill. The landfill will take bagged clippings at an area specifically reserved for yard waste. The charge to bring a pick-up truck load of clippings to the landfill is \$6.00 for residents. If you have any questions about what the landfill will or will not accept, you can call Republic Waste Services at 817-354-2300.

For more information about the City of Arlington's Don't Bag It program visit www.arlingtontx.gov/recycle

Backyard Composting

Compost forms when you mix together things like leaves, grass clippings, vegetable and fruit scraps, coffee grounds and filters, and used tea bags. The mixture breaks down into compost, a material rich in humus and nutrients that can enrich your soil. Compost has many of the nutrients that plants need. You can use it as a mulch or topdressing or can mix it into the soil.

Learn how to improve the quality of your soil and help prevent yard waste from entering our storm drain system by attending a free monthly class on composting.

For more information call 817-459-6778 or email recycling@arlingtontx.gov.



Leaf Recycling

In an effort to prevent leaves from entering our storm drain system, The City of Arlington provides several collection sites for free leaf recycling starting at the end of November. For more information visit www.arlingtontx.gov/recycle.



Definitions

The Municipal Separate Storm Sewer System (MS4) is the storm drain system owned and operated by the City. The MS4 is comprised of stormwater facilities used to convey excess rainwater or **storm-water runoff** away from streets, homes and businesses and into local streams, creeks and lakes to reduce the risk of flooding. Stormwater is not treated prior to discharging into a natural waterway.

Sanitary Sewer System—An underground series of pipes and other structures which collects and conveys **wastewater** from homes and businesses to a city operated waste treatment facility.

Stormwater Storage Facility—A drainage structure designed to capture, treat and/or store runoff and then slowly release downstream or into the ground.

Drainage Easement—A part of your property where the City has limited rights of access and/or use. Generally, you cannot make any improvements in a drainage easement. That means no fences, sheds, walls, or buildings. Impeding the stormwater flow in these areas can lead to localized flooding issues.

Swale—a low lying or depressed tract of land used to manage or direct stormwater runoff.

French Drain—a trench filled with gravel or rock and containing a pipe that is typically recommended for groundwater or standing water issues.

Barrow or Bar Ditch - a roadside channel used or installed for drainage purposes.

Lot to Lot Drainage - Private property owners are responsible for ensuring and maintaining proper drainage on their property. It does not violate city ordinance for a residential or commercial property to drain to another.

Mosquito Concerns

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stormwatereducation@arlingtontx.gov

A Citizen's Guide To Stormwater Quality



Streambank Erosion

Streambank Erosion is a natural process where soil, gravel, and rock within the bank of a waterway becomes mobilized by the flow of water. However, activities that alter the surrounding environment can greatly increase the rate of erosion, threatening property and adversely impacting water quality.

The reduction in vegetation within a waterway's riparian zone is one of the primary causes of streambank erosion. The **riparian zone** is the area of trees, shrubs and groundcover adjacent to streams, creeks, lakes and other water bodies. Extensive root systems in these areas binds the soil and helps prevent erosion. The introduction of ornamental species, low growing lawn grasses and the removal of trees and shrubs contributes to the rate of erosion. Property owners in these areas can help minimize erosion.

Maintain a 5 to 10 foot vegetated buffer zone between the stream bank and your regular yard.

Use pervious material for patios and walkways. This will allow runoff to infiltrate the soil.

Replant barren slopes with native plants, taller grasses, trees and shrubs. This can reduce erosion and filter out harmful lawn chemicals improving the overall water quality and local wildlife habitat.

Remember that any grading or construction activity in or near a waterway such as a stream or creek may require a permit from the city. Contact the Planning and Development Services Department at 817-459-6502 or apply for a permit at www.arlingtontx.gov/pds.

For information about native and/or adaptive plants visit
www.wildflower.org
www.texassmartscape.com
www.txnativeplants.org

Storm Drain System and Natural Creek Maintenance

The Stormwater Maintenance Division is responsible for the inspection and upkeep of the City's **Municipal Separate Storm Sewer System (MS4)** or storm drain system. The MS4 system includes improved channels, flumes, storm drain pipes, storm drain inlets and other stormwater facilities which convey stormwater away from homes and businesses and into our creeks, streams, and lakes.

Using routine inspections, timely maintenance and repairs, the stormwater maintenance crew strives to efficiently remove obstructions like leaves, trees and other debris along with tires, trash, fencing and building debris or illegally dumped material from the storm drain system. This includes removing trees and debris adjacent to bridges or culvert crossings. The city's maintenance program helps to improve our local water quality and reduce flooding throughout the city.

Private property owners are responsible for most drainage features within property limits.

This includes natural creeks, streams, and adjacent banks, as well as any privately owned stormwater facilities such as French drains, swales or retention ponds. The maintenance crew will remove fallen trees or debris in a natural waterway if it is blocking the flow of the water and/or becoming a potential downstream hazard.

Report blocked, broken or defaced stormwater facilities or material illegally dumped into our local waterways through the City's Action Center at 817-459-6777 or online at www.arlingtontx.gov/contact under the Drainage and Flooding section. Private property maintenance or other nuisance issues should be reported under the Code Compliance Division section.

Groundwater and High Mineral Content

Groundwater will normally look clear and clean because the ground naturally filters out particulate matter from rain water which has soaked into the soil. But as water flows through the ground in some areas of Arlington, metals such as iron and manganese are dissolved and may later be found in high concentrations as groundwater leaches out of the ground. In these areas you will typically see staining of the streets, sidewalks and driveways. This is a common natural occurrence.



Sanitary Sewer Overflows and Back Ups

Wastewater can be a significant source of harmful bacteria and other pollutants into our creeks, streams and lakes.

The Water Utilities Department is responsible for operating, maintaining, and repairing water lines and sanitary sewer lines throughout the City of Arlington.

Report sewer or water line leaks, breaks, sewer overflows or water contamination issues to the Water Utilities Department's 24 Hour Emergency Service at 817-459-5900.

For non-emergency customer care questions contact 817-275-5931 or visit www.arlingtontx.gov/contact.

Appendix C: NCTCOG Public Education Task Force (PETF) Summary Report



North Central Texas Council of Governments

Public Education Activity Report

October 1, 2020 to September 30, 2021



The purpose of this activity report is to document the public education-related initiatives conducted by the Stormwater Public Education Task Force (PETF) under the direction of the Regional Stormwater Management Coordinating Council (RSWMCC) that took place from October 1, 2020 to September 30, 2021 (the “report time period”). The PETF’s mission is to promote Municipal Stormwater Public Education in North Central Texas through the exchange of professional experience and to explore, develop, and implement opportunities for mutual cooperation. Participation in the PETF and education campaigns is a volunteer effort to help meet stormwater public educational requirements.

During this reporting period, the PETF continued to focus on five educational campaigns: Stormwater Education Resources, Lawn and Garden Care, proper management of Pet Waste, Yard Waste, and Fats, Oils, and Grease (FOG). Other cooperative efforts were also conducted during the report time period (identified in the “Other” section). See the following sections for specifics.

Note that FY refers to the NCTCOG Fiscal Year, which runs from October 1 to September 30 of each year.

STORMWATER EDUCATION RESOURCES

1. Social Media Templates

The PETF has continued to identify increased social media presence as a regional need to help spread stormwater education to their residents. As such, social media templates and toolkits have been created in relation to specific program areas.

For FY18 the PETF chose “Social Media Templates” as the special project. NCTCOG staff created month-by-month templates that covered each of PETF’s topic areas (SmartScape, Doo the Right Thing, General Stormwater Education, Educator’s Toolbox) as well as Fats, Oils, and Grease. Each document included posts relevant to specific days (such as World Environment Day, National Pollinator Week, etc.) and a variety of posts within each of the previously listed topic areas. Each month also has a folder of visuals that correspond with some of the posts, but all posts can be stand-alone if a municipality does not want to pair it with a picture. Several of the optional visuals also included space for customization, such as city logos or individualized messaging. Despite being developed as the special project for FY18, much of the content is still able to be used by new PETF members or reused by historical members should they choose. All templates and associated visual files can still be accessed under the “Outreach Materials and Resources” heading at <https://www.nctcog.org/envir/watershed-management/stormwater/public-education-task-force>.

The PETF partnered with the Total Maximum Daily Load (TMDL) committee to create social media templates for Pet Waste and the Doo the Right Thing (DTRT) program for the 2020 calendar year. The TMDL group received a condensed toolkit for the 2020 calendar year while the PETF has received a monthly toolkit for each month beginning December 2019 and running through July 2021. Additional details on this toolkit and project can be found in the Pet Waste section of this report. All DTRT social media templates and associated visual files can be accessed at <https://www.nctcog.org/envir/watershed-management/stormwater/public-education-task-force> under the “Outreach Materials and Resources” heading.

The FY20 special project for the PETF focused on public education and awareness of litter and floatables in stormwater. This special project had a two-part approach, one on a regional community cleanup challenge, which was postponed until 2021 due to COVID-19, and one on public education messaging via social media and the creation of toolkits, otherwise referred to as the “Plastic Pollution Educational Toolkit”. Additional details on the regional community cleanup challenge can be found in the “Other” section of this report under item 2 - North Texas Community Cleanup Challenge. The “Plastic Pollution Educational Toolkits” focused on a different type of litter each month (such as balloons, straws, to-go containers) and were created monthly for the period of February 2020 to September 2020. All FY20 “Plastic Pollution Educational Toolkit” templates and associated visual files can be accessed at <https://www.nctcog.org/envir/watershed-management/stormwater/public-education-task-force> under the “Outreach Materials and Resources” heading.

2. Stormwater Educator’s Toolbox

The educator’s toolbox was initially developed by the PETF as a FY2013 project. In April 2015, a complementary Educator’s Toolbox webpage was created (www.nctcog.org/envir/SEEclean/stormwater/program-areas/public_education/toolbox.asp), compiling a list of helpful links for environmental educators related to stormwater issues.

The main focus of the FY17 work program was to update and overhaul the educator’s toolbox. The toolbox currently has about 61 resources, 1 of which were new additions during this report time period. It is meant to be a living, expanding set of resources; organizations or individuals are encouraged to make suggestions about resources that might be helpful to stormwater educators. Suggestions may be sent to: cguzman@nctcog.org. A couple of key resources of PETF origin are detailed in items 3 and 4 below.

3. Educational Videos by NCTCOG

“Freddy the Fish Teaches About Stormwater” (4 min. 28 sec.), is geared toward elementary school-age kids. The video aims to make children aware that their actions, and those of their friends and parents, can affect water quality. This complements the “Freddy the Fish” lessons presented by some city educators. This video was released in December 2014.

“Stormwater to Drinking Water” (6 min. 8 sec.), is geared toward high-school students with a similar goal as the first. (It could also be used as an introduction to stormwater education for municipal employees.) This video was released in January 2015.

“Stormwater Pollution Prevention – Litter” (1 min. 54 sec.) is geared towards middle-school students to adults. The video explains how easily litter can be picked up and carried to watersheds through the wind, rain and stormwater. The video goes on to explain why this is harmful for the environment and actions that residents can take to help reduce litter and floatables from winding up in our waterways. This video was released in April 2020.

“Stormwater Pollution Prevention – Lawn Care” (2 min. 7 sec.) is geared towards property and/or homeowners. In this video the connection between traditional lawn care practices, such as the use of pesticides and fertilizers, and their impacts on the quality of stormwater, watersheds and the environment is explained. The video also highlights best practices as well as practices to avoid such as sweeping leaves and grass clippings into the street and/or stormdrain. This video was released in April 2020.

“Proper Pool Draining in North Texas” (2 min. 18 sec.) is geared towards property and/or homeowners. This video highlights common do’s and don’ts across different municipalities when it comes to properly draining a pool in North Texas. This video was released in June 2020.

All of these videos are available on the Stormwater Education playlist on the NCTCOG E&D channel on [YouTube](#).

4. Stormwater Quiz Show Game

The Stormwater Quiz Show game was created in 2012. It is an interactive question-and-answer game for group education. There is a set of pre-written questions and answers, but there is also an option to customize so that educators may tailor the experience to their audience and objectives. The Stormwater Quiz Show Game and Game Editor are available online at www.nctcog.org/envir/SEEclean/stormwater/program-areas/public_education/stormwatergame.asp.

LAWN AND GARDEN CARE

The purpose of the lawn and garden care campaigns supporting the Texas SmartScape™ program is to encourage the public (specifically homeowners and/or landscape companies) to use native and adapted plants in the landscape and adopt proper design, care, and maintenance techniques. Texas SmartScape™ plants need less water, pesticides, and fertilizers to thrive, thus reducing these pollutants from landscape runoff.

“March Is Texas SmartScape Month” has been identified as a Regionally Developed Initiative (RDI) and provides local governments with the opportunity to join others in a common goal to educate citizens on stormwater pollution prevention. SmartScape was the main focus of the FY16 work program; the website update and push for increased social media presence carried over into FY17.

1. Bookmarks

The Texas SmartScape bookmarks were developed in 2003. The bookmarks were updated in 2013 with a new layout and new photographs. Each bookmark has a photo of a SmartScape plant on the front with the Texas SmartScape website address. On the back of the bookmarks, there is a description about the environmental benefits of Texas SmartScape plants. Additional details on obtaining the bookmarks can be found in the “Other” section under item 3.

2. Website

The Texas SmartScape™ website (www.txsmartscape.com) was developed for the North Central Texas region in 2003 and for the West Texas region in 2005 through the sponsorship of several organizations. It is an interactive how-to guide that teaches concepts of landscaping with native and adapted plants; it also offers proper design, care, and maintenance techniques that are environmentally friendly. The most popular feature of this website is the plant search database, which helps the public select SmartScape plants that are appropriate for their yards/projects. On March 28, 2021, the Texas SmartScape website had its highest number of daily visitors, 2,343, since the launch of the website. The previous record single day record was set in 2020 at 2,127 visitors.

In early 2017, NCTCOG completed the FY16 initiative to overhaul the website. This effort included moving the website to a new platform and web host, improvements to search functions, ability for users to add photos, online web administration, and mobile-friendly web design. New content included plant cross-references, a map of demonstration gardens, and the updated plant database, which increased from 324 to 470 plants.

Comparing the report time period to the same period the year prior (October 1, 2020 to September 30, 2021):

- Users increased from 197,798 to 250,261 (26.52% increase)

- Sessions increased from 249,986 to 317,885 (27.16% increase)
- Page views increased from 572,317 to 689,685 (20.51% increase)
- Average session duration decreased from 1 min. 44 sec. to 1 min. 34 sec. (9.42% decrease)

Table 1: User statistics for the Texas SmartScape website (www.txsmartscape.com) by month.

Month	Users	Sessions	Page Views	Avg. Session Duration (min:sec)
October 2020	17,707	21,183	45,904	01:37
November 2020	11,235	13,244	28,908	01:40
December 2020	7,529	8,774	18,787	01:32
January 2021	10,831	12,970	29,445	01:37
February 2021	12,191	14,589	33,902	01:45
March 2021	39,052	47,951	118,755	01:52
April 2021	45,412	56,205	128,363	01:41
May 2021	33,548	41,143	82,790	01:29
June 2021	24,529	29,119	57,595	01:20
July 2021	19,849	23,940	46,881	01:19
August 2021	20,241	23,871	47,906	01:19
September 2021	20,814	24,896	50,449	02:03
Total	250,261	317,885	689,685	Avg. 01:34

Table 2: User statistics for the Texas SmartScape website (www.txsmartscape.com) based on location (only organizations located in the North Central Texas region are listed).

Organization	Sessions	Pages per Session	Avg. Session Duration (min:sec)	New Sessions (%)	Bounce Rate (%)
Addison	73	5	03:16	66%	53%
Aledo	320	2	02:01	76%	70%
Allen	2,490	3	02:31	71%	69%
Alvarado	81	2	00:48	86%	75%
Anna	368	2	01:44	84%	70%
Argyle	70	2	02:03	87%	71%
Arlington	3,817	3	02:25	72%	65%
Athens	134	2	01:15	75%	78%
Aubrey	29	1	00:37	79%	83%
Azle	173	3	02:13	77%	69%
Balch Springs	90	2	01:29	84%	86%
Bartonville	3	3	04:16	100%	67%
Bedford	595	3	02:27	81%	69%

Benbrook	327	3	03:01	67%	65%
Bonham	58	2	00:32	84%	81%
Brashear	13	1	00:09	69%	69%
Bridgeport	18	3	02:46	72%	61%
Brownsboro	10	1	00:00	80%	100%
Burleson	650	3	01:59	79%	72%
Caddo Mills	44	1	00:05	89%	93%
Campbell	11	2	01:04	91%	73%
Canton	145	2	01:24	83%	75%
Carrollton	2,578	3	02:24	70%	64%
Cedar Hill	328	3	02:36	64%	68%
Celina	487	2	01:42	81%	73%
Chandler	28	2	01:08	64%	68%
Clarksville	6	2	00:55	67%	83%
Cleburne	260	3	02:12	87%	68%
Clifton	18	12	10:33	50%	56%
Colleyville	96	3	01:52	67%	71%
Comanche	43	2	02:13	74%	67%
Commerce	13	6	02:48	100%	31%
Cooper	12	2	00:29	92%	83%
Coppell	1,254	3	02:00	77%	69%
Copper Canyon	6	2	00:13	100%	67%
Corinth	306	3	02:35	67%	67%
Corsicana	58	2	01:32	84%	72%
Crandall	30	3	01:51	77%	63%
Cross Roads	169	3	01:58	75%	69%
Crowley	121	3	01:55	77%	69%
Dallas	38,605	2	01:40	76%	75%
Dawson	4	4	02:30	100%	50%
De Leon	19	1	01:57	89%	84%
Decatur	212	3	01:53	67%	79%
Denton	3,136	3	02:13	70%	69%
DeSoto	222	3	01:50	79%	73%
Duncanville	352	3	03:32	62%	58%
Ector	2	1	00:00	100%	100%
Emory	23	2	00:37	91%	83%
Ennis	137	4	03:44	86%	74%
Eules	930	2	01:43	77%	77%
Fairfield	22	3	01:12	82%	73%

Fairview	117	3	02:59	79%	66%
Farmers Branch	608	5	03:53	69%	61%
Farmersville	48	3	03:02	77%	56%
Ferris	33	2	01:19	91%	70%
Flower Mound	2,077	3	02:39	74%	69%
Forney	469	3	01:48	86%	71%
Fort Worth	13,444	3	02:38	71%	65%
Frisco	4,583	3	02:02	78%	68%
Gainesville	130	3	03:01	72%	65%
Garland	2,306	3	02:50	71%	63%
Glen Rose	47	2	01:21	70%	66%
Godley	122	2	01:32	87%	72%
Granbury	787	3	02:18	77%	71%
Grand Prairie	780	4	02:57	75%	65%
Grandview	29	2	02:45	93%	66%
Grapevine	2,002	3	02:20	71%	69%
Greenville	235	2	01:21	79%	74%
Gun Barrel City	105	2	01:56	72%	75%
Haltom City	92	3	02:11	77%	76%
Hamilton	30	2	01:08	80%	87%
Haslet	3	1	01:01	100%	67%
Hico	10	2	01:06	80%	80%
Highland Park	58	3	01:43	69%	78%
Highland Village	385	2	01:32	78%	73%
Hillsboro	43	2	01:52	81%	79%
Honey Grove	4	1	00:21	100%	75%
Hubbard	4	2	00:17	100%	50%
Hurst	289	3	01:40	77%	66%
Hutchins	2	4	00:26	100%	50%
Irving	1,915	3	02:25	74%	67%
Italy	4	1	00:00	75%	100%
Itasca	7	1	00:00	71%	100%
Jacksboro	6	7	03:10	100%	50%
Joshua	76	2	02:14	79%	68%
Justin	209	2	02:30	31%	77%
Kaufman	49	2	00:49	80%	80%
Keene	22	2	01:53	73%	68%
Keller	822	3	02:27	66%	67%
Kemp	7	2	00:50	100%	71%

Kennedale	17	8	09:24	47%	41%
Kerens	6	2	00:40	83%	83%
Krum	69	3	03:09	74%	70%
Ladonia	4	2	00:13	50%	50%
Lake Dallas	9	1	00:05	67%	89%
Lancaster	71	2	02:27	83%	76%
Lavon	20	3	03:22	70%	80%
Leonard	172	3	02:33	83%	70%
Lewisville	1,264	3	02:00	73%	68%
Little Elm	1,054	2	01:38	80%	72%
Lucas	137	2	02:44	75%	74%
Mabank	12	1	00:09	92%	83%
Malakoff	11	2	00:31	100%	73%
Mansfield	1,136	3	02:39	71%	66%
McKinney	4,214	3	02:09	78%	69%
Melissa	257	3	01:40	81%	69%
Mesquite	577	3	01:45	76%	69%
Midlothian	560	2	01:35	76%	74%
Milford	3	1	00:00	100%	100%
Mineral Wells	123	2	01:38	82%	75%
Muenster	158	2	01:54	73%	75%
Murphy	37	3	01:06	68%	76%
Nevada	53	7	06:53	58%	57%
North Richland Hills	1,981	3	02:14	73%	68%
Palestine	140	3	02:10	89%	73%
Palmer	2	2	06:08	100%	50%
Paradise	39	3	02:42	69%	67%
Paris	78	2	00:27	86%	86%
Pilot Point	85	3	01:26	85%	67%
Plano	6,477	3	02:19	73%	68%
Point	6	1	00:00	100%	100%
Ponder	43	7	02:44	70%	60%
Princeton	148	3	01:55	80%	67%
Prosper	960	2	01:54	79%	73%
Quinlan	109	2	01:17	92%	77%
Red Oak	180	3	02:20	82%	72%
Rice	5	1	00:11	80%	80%
Richardson	3,081	3	02:46	66%	65%
Roanoke	66	6	02:03	55%	61%

Rockwall	952	3	01:53	77%	73%
Rowlett	531	3	02:02	80%	69%
Royse City	302	2	01:09	77%	75%
Sachse	7	6	02:23	100%	43%
Saginaw	11	2	01:11	82%	73%
Sanger	161	4	02:19	76%	74%
Scurry	10	4	01:13	70%	70%
Seagoville	121	2	01:26	55%	74%
Southlake	814	3	03:09	71%	67%
Springtown	612	3	02:21	80%	73%
Stephenville	258	10	10:35	66%	64%
Sulphur Springs	64	2	01:05	86%	77%
Sunnyvale	76	3	01:25	79%	71%
Terrell	214	3	02:22	76%	71%
The Colony	1,082	3	01:42	71%	73%
Trenton	15	2	02:37	93%	60%
Trinidad	7	3	06:34	100%	86%
Trophy Club	217	3	01:49	75%	65%
University Park	134	2	01:24	79%	75%
Valley View	62	3	02:15	82%	71%
Venus	29	9	04:37	69%	59%
Watauga	96	4	03:54	82%	70%
Waxahachie	814	2	01:53	80%	72%
Weatherford	1,783	3	02:11	75%	72%
Westlake	8	1	00:00	100%	100%
Weston	11	1	00:11	82%	82%
Whitney	198	3	01:41	91%	69%
Willow Park	140	2	01:22	71%	71%
Wills Point	54	1	00:49	74%	81%
Wolfe City	2	3	02:13	100%	50%
Wylie	1,425	3	01:50	73%	71%

3. Social Media

The Texas SmartScape social media accounts consist of Facebook and Twitter pages that were created on April 7, 2017, and a Pinterest account that was created on November 16, 2017. These platforms serve as a great resource for educating the public and promoting events for Texas SmartScape related activities. Stakeholder municipalities and organizations are welcome to bring any events or posts to the attention of NCTCOG staff for potential social media sharing in the future. The Texas SmartScape Facebook page currently has 658 Page Likes and 728 Followers. The Texas SmartScape Twitter account currently has 43 Tweets and 131 Likes for the reporting period, 335 Followers, and is following 141 accounts. The Texas SmartScape Pinterest account

currently has 421 Pins on 12 Boards, 360 Followers, 184,666 Average Monthly Impressions and 434 Average Monthly Engaged.

4. Planning Tools

A number of planning tools were made available to help local governments and other organizations promote Texas SmartScape in their communities. For FY21, which coincides with the 20th Annual “March Is Texas SmartScape Month”, PETF participants chose the slogan “Texas Tough, Texas True.” to highlight the beauty and appeal of native and adaptive plants. Materials prepared to align with this theme included graphics for public service announcements (for use in water bill inserts, flyers, posters, and other marketing materials).

Materials prepared for past Texas SmartScape Months are still available online, including public service announcements for radio, sample resolution/proclamation (to assist in officially designating March as Texas SmartScape Month), brochures and posters, press release templates, and public service announcements for print. The materials listed above were made available through the web (www.nctcog.org/envir/watershed-management/stormwater/texas-smartscape) for local governments to customize and distribute as desired.

The FY16 work program included production of the “Proper Use of Pesticides and Fertilizers and Related Best Management Practices” document. This document was reviewed by PETF members from the City of Plano and the City of Frisco, as well as Texas A&M AgriLife staff. It is still available as a resource on the NCTCOG SmartScape website.

5. Nursery/Landscape Company Partnership Program

Information about 14 Texas SmartScape-friendly companies in this region has been posted to the Texas SmartScape website. Landscape design/maintenance companies that wish to promote the Texas SmartScape program are encouraged to notify NCTCOG if they use Texas SmartScape ideas and techniques in their landscape design and maintenance. NCTCOG lists these companies in a page titled “Texas SmartScape-friendly companies” on the Texas SmartScape website.

6. Texas SmartScape-Related Events

The Texas SmartScape Calendar (www.txsmartscape.com/events/index.asp) provides a common location for organizations to post information about upcoming Texas SmartScape-related events going on across the region. One hundred and forty-nine Texas SmartScape-related events held, or planned to be held, during the report period were posted on this webpage. The following 19 municipalities and local governments hosted these events, many in partnership with other organizations: Cities of Allen (4), Arlington (8), Carrollton (1), Collin County (1), Dallas (25), Denton (4), Flower Mound (1), Fort Worth/Fort Worth Botanical Gardens (22), Frisco (3), Grand Prairie (2), Irving (4), Lewisville (6), Mansfield (3), McKinney (4), North Richland Hills (2), Plano (25), Prosper (1), Richardson (2), Watauga (2). In addition, the following organizations hosted SmartScape related events throughout the region: chapters of the Native Plant Society of Texas (NPSOT) (3), Tarrant County/TRWD (15), Texas A&M AgriLife (6) and Other (5).

7. DART Message Boards

The annual Texas SmartScape public service announcement (PSA) was placed on the Dallas Area Rapid Transit (DART) bus fleet message boards within the 13 city DART service area. The first PSA was deployed on March 1, 2021, and ran until August 30, 2021. There were approximately 484 buses running the PSA. The estimated impressions from the ads are 7,512,648 at a market value of \$78,021.

PET WASTE

The purpose of the pet waste management campaign Doo the Right Thing! is to educate dog owners about the importance of picking up dog waste and disposing of it properly, and to help persuade dog owners to adopt these practices. The campaign was primarily promoted during the months of May through August; however, activities occurring outside these months falling in the report time period are included.

1. Bookmarks

The dog waste bookmarks were developed in 2006 and updated in 2012 and 2014. On the back of the bookmarks, there is a description about how pet waste left on the ground can be carried away by stormwater runoff, and that pet waste can contain bacteria and parasites that can harm humans and other pets. The bookmarks also offer tips for dealing with pet waste. Additional information about Dog Waste bookmarks can be found in the “Other” section under item 3.

2. Web Page

A web page (www.dfwstormwater.com/petwaste) was created in 2006 to provide additional information to dog owners about the importance of picking up their dog's waste and disposing of it properly. The health risks and water quality issues associated with leaving dog waste on the ground is discussed on this web page. Tips for dealing with dog waste and sources for additional information are also provided. Major updates to the web page were made in July 2013 with minor updates occurring on an as needed basis.

Comparing the report time period to the same period the year prior (October 1, 2020 to September 30, 2021):

- Users decreased from 2,568 to 1,903 (25.90% decrease)
- Page views decreased from 3,104 to 2,189 (29.48% decrease)
- Average session duration increased from 3 min. 54 sec. to 4 min. 5 sec. (4.55% increase)

Table 3: User statistics for the pet waste web page (www.dfwstormwater.com/petwaste) by month.

Month	Users	Page Views	Average Time on Page (min:sec)
October 2020	101	122	3:48
November 2020	67	75	2:00
December 2020	72	83	3:09
January 2021	119	128	2:43
February 2021	141	164	6:09
March 2021	100	113	4:24
April 2021	201	235	5:38
May 2021	302	350	3:24
June 2021	318	379	3:07
July 2021	167	176	2:42
August 2021	162	188	5:34
September 2021	153	176	4:44
Total	1,903	2,189	Avg 4:05

3. Online Pledges for 2021 Doo the Right Thing Social Media Photo Contest

Dog owners were encouraged to take an online pledge (posted to www.dfwstormwater.com/petwaste) promising to pick up after their dog(s) and dispose of the waste properly. Dog owners who took the pledge were invited to submit photos of their dog(s) to be entered in the “Social Media Photo Contest” on the website. The submission period ran from May 1, 2021, to June 30, 2021. The voting period was open from July 26, 2021, to August 20, 2021. The photo contest was revamped in FY20 to draw a stronger connection for residents between pet waste and the health of stormwater and watersheds. The new contest and messaging portray pets and their owners who take the pledge as a “Watershed Protector” or “Watershed Defender” of their nearest water body and watershed. As part of the retooling of this program, the calendar contest was turned into a social media photo contest with winners posted on the social media accounts for the DTRT program. While there will only be 12 featured “Watershed Protectors” of the month, all eligible entries will still be shared on a weekly basis throughout the FY to help educate the public and promote the program.

During the **contest period**, a total of 109 pledges from 27 cities were collected through NCTCOG’s online system from people in the North Central Texas region. Of those, there were 102 eligible entries. The pledges came from the following cities/towns in the region: Argyle (1), Arlington (23), Bedford (6), Burleson (1), Carrollton (1), Corinth (1), Dallas (6), Decatur (1), Denton (1), Duncanville (1), Flower Mound (1), Fort Worth (and surrounding cities) (35), Garland (1), Grand Prairie (1), Grandview (1), Grapevine (2), Haltom City (3), Haslet (1), Hurst (1), Jacksboro (1), Keene (1), Keller (3), Lake Worth (1), North Richland Hills (1), Southlake (1), Springtown (1), Weatherford (1). Due to some participants sharing only their zip code without a city or street address, reporting under Fort Worth may be artificially higher as there is some sharing of some zip codes between Fort Worth and its neighboring cities. Solutions to this challenge will be explored for future contests.

4. Social Media

The Doo The Right Thing mascot and logo underwent a brand “refresh” in the fall of 2019. The updated logo and mascot were launched in coordination with the creation of social media profiles for the Doo The Right Thing program. The purpose of the DTRT social media profiles are to help drive more authentic user engagements and educational opportunities centered around pet waste in the North Central Texas region. A Facebook profile was launched on October 2, 2019, Twitter on November 1, 2019, and Instagram on November 1, 2019.

The DTRT Facebook page currently has 122 Likes/Followers. The DTRT Twitter account is currently suspended so no analytics are available for the reporting period. The DTRT Instagram account currently has 82 Followers, is following 42 accounts, and has 201 posts.

5. Planning Tools

Social media posts, web tiles, and web banners highlighting the social media photo contest were made available via the FY21 Social Media Toolkit.

The PETF partnered with the Total Maximum Daily Load (TMDL) committee to create social media templates for Pet Waste and the Doo the Right Thing (DTRT) program for the 2020 calendar year. The TMDL group received a condensed toolkit for the 2020 calendar year which is available here <https://www.nctcog.org/envir/natural-resources/tmdl> under the dropdown “Resources and Funding Opportunities”. The PETF has received a monthly toolkit for each month beginning December 2019 and running through July 2021. All DTRT social media templates and associated visual files can be accessed at <https://www.nctcog.org/envir/watershed-management/stormwater/public-education-task-force> under the “Outreach Materials and Resources” heading.

YARD WASTE

The purpose of the leaf/yard waste management campaign is to educate the public about the importance of properly disposing of fallen tree leaves and other yard waste (e.g., grass clippings).

1. Brochures

Yard waste brochures were developed in September 2007 to target landscape maintenance companies and in September 2008 to target homeowners. These brochures seek to show landscape maintenance companies and homeowners how to save time and money and still have a beautiful yard. Homeowners and landscape maintenance companies are encouraged to instead leave the yard waste on the lawn or compost it. These brochures were developed in English and Spanish. Cooperative Purchase information for Yard Waste Brochures can be found in the "Other" section of this report under item 3.

2. Web Page

A web page (www.dfwstormwater.com/yardwaste) was created in September 2008 to provide additional information to both homeowners and landscape maintenance companies about the importance of properly disposing of fallen tree leaves and other yard waste. This web address is also included on the back of the yard waste brochures.

Due to an error that occurred with this webpage when the website platform was moved in June 2018, the link for the webpage was broken and not displaying content from June 2018 to November 2019. This error was discovered and fixed in November 2019 but resulted in comparison data not being available for the part of the previous report period to make an accurate comparison on this section of the Activity Report.

Comparing the report time period to the same period the year prior (October 1, 2020 to September 30, 2021):

- Users increased from 303 to 774 (155.45% increase)
- Page views increased from 343 to 834 (143.15% increase)
- Average session duration increased from 3 min. 18 sec. to 4 min. 19 sec. (30.98% increase)

Table 4: User statistics for the yard waste web page (www.dfwstormwater.com/yardwaste) by month.

Month	Users	Page Views	Average Time on Page (min:sec)
October 2020	18	26	1:24
November 2020	41	41	8:10
December 2020	18	21	3:24
January 2021	25	31	2:53
February 2021	17	18	3:03
March 2021	58	60	2:01
April 2021	60	62	1:01
May 2021	78	81	2:57

June 2021	91	101	3:48
July 2021	152	159	7:07
August 2021	111	122	9:01
September 2021	105	112	4:18
Total	774	834	Avg. 4:19

FATS, OILS, AND GREASE

The PETF has an interest in educating the public about the importance of properly disposing of fats, oils, and grease (FOG), and has partnered up with the Wastewater And Treatment Education Roundtable (WATER) on FOG-related educational efforts. WATER is an educational partnership between municipalities and water utilities in North Texas and is supported through a different program area, but elements that the PETF were informed about for participation purposes are included below.

WATER continues to make several educational materials and tools available to PETF participants, such as videos that target apartment dwellers, restaurant staff, and residential homeowners. WATER also completely updated its website as part of their FY18 and FY19 project (www.defendyourdrainsnorthtexas.com) and merged CeasetheGreaseNTX.com into the new website. PETF members are encouraged to refer to the new website and the resources available there. A handy city-by-city Grease Interceptor Brochure for restaurants in the region (updated in 2015) remains available at <http://defendyourdrainsnorthtexas.com/restaurants.html>.

1. Holiday Grease Roundup

The 2020 Holiday Grease Roundup was held November 23, 2020 to January 4, 2021. The entities who reported holiday grease collection to NCTCOG included: the Cities of Arlington, Azle, Carrollton, Cedar Hill, Cleburne, Colleyville, Coppell, Corinth, Dallas, Denton, Duncanville, Edgecliff Village, Euless, Farmers Branch, Fort Worth, Garland, Grand Prairie, Irving, Lancaster, Lavon, Lewisville, Mansfield, McKinney, North Richland Hills, Princeton, Red Oak, Richardson, Southlake, Westworth Village, and White Settlement; and the North Texas Municipal Water District and the Trinity River Authority. The participants partnered with Wastewater and Treatment Education Roundtable (WATER), American BioSource, and NCTCOG. The municipalities aimed to educate their residents about the negative impacts of improper FOG disposal and to make it easy for residents across the region to recycle their holiday meal FOG at several drop-off locations. About 6,700 gallons of FOG were collected at the locations promoted during the event.

OTHER

1. PETF Meetings

Stormwater program participants and other interested organizations were invited to attend four meetings to discuss the previously mentioned campaigns as well as other opportunities for regional cooperation. Each meeting concluded with a roundtable in which representatives had the opportunity to discuss initiatives going on in their communities and/or ask for assistance on specific issues.

Table 5. PETF Meeting Schedule and Attendance

Date	Attendees
October 21, 2020	Addison (1), Allen (1), Arlington (1), Burleson (1), Carrollton (1), Cedar Hill (1), Cleburne (1), Dallas (3), Dallas County (1), Farmer's Branch (1), Flower Mound (1), Fort Worth (1), Frisco (2), Garland (1), Grand Prairie (1), Grapevine (1), Irving (1), Mansfield (1), Richardson (2), Southlake (1), Town of Prosper (1), North Texas Municipal Water District (2), Tarrant County (1), Trinity River Authority (1), VRX – NTTA (1)
January 20, 2021	Allen (1), Arlington (1), Addison (1), Carrollton (1), Colleyville (1), Dallas (1), Garland (1), Grand Prairie (1), Grapevine (1), Hurst (1), Irving (1), Lewisville (1), McKinney (1), Mesquite (1), North Richland Hills (1), Plano (1), Town of Prosper (1), Richardson (1), Tarrant County (1), Tarrant Regional Water District (2), VRX-NTTA (1)
April 21, 2021	Addison (1), Allen (1), Arlington (1), Carrollton (1), Cedar Hill (2), Copper Canyon (1), Dallas (3), DFW Airport (1), Farmer's Branch (1), Flower Mound (1), Fort Worth (3), Garland (1), Grapevine (1), Irving (1), Lewisville (1), Mansfield (1), Mesquite (1), North Richland Hills (1), Richardson (2), Tarrant Regional Water District (1), North Texas Municipal Water District (1), Trinity River Authority (1), VRX-NTTA (1)
July 21, 2021	Arlington (1), Carrollton (1), Cleburne (1), Dallas (2), Garland (1), Grand Prairie (1), Irving (1), Lewisville (1), North Richland Hills (1), North Texas Municipal Water District (1), Richardson (2), Southlake (1), University Park (1), Tarrant County (2), VRX-NTTA (1)

All PETF meeting summaries, including sign-in sheets, can be found at <http://www.nctcog.org/envir/committees/rswmcc/PubEd/index.asp>.

2. North Texas Community Cleanup Challenge

For FY20 the PETF special project focused on public education and awareness of litter and floatables in stormwater. This special project had a two-part approach, the first of which was focused on public education messaging via social media and the creation of toolkits, otherwise referred to as the “Plastic Pollution Educational Toolkit”. The “Plastic Pollution Educational Toolkits” focused on a different type of litter each month (such as balloons, straws, to-go containers) and were created monthly for the period of February 2020 to September 2020 and a holiday edition for November and December of 2020. All FY20 “Plastic Pollution Educational Toolkit” templates and associated visual files can be accessed at <https://www.nctcog.org/envir/watershed-management/stormwater/public-education-task-force> under the “Outreach Materials and Resources” heading.

The second part of the approach was the creation of a regional community cleanup challenge, which has been named the North Texas Community Cleanup Challenge (NTCCC). Originally scheduled for September and October of 2020, due to COVID-19 related challenges and restrictions, the cleanup challenge was postponed until September 1st – October 31st, 2021. A landing page for the regional cleanup challenge was started during FY20 with further work and updates completed in FY21. The special project landing page can be found at <http://www.communitycleanupchallenge.com/>. For the 2021 NTCCC twenty-one (21) communities signed on to compete in the challenge including: Allen, Anna, Arlington, Carrollton, Cleburne, Keep Denton Beautiful, Keep Ennis Beautiful, Fort Worth, Frisco, Garland, Grand Prairie, Keep Grapevine Beautiful, Keep Greenville Beautiful, Irving, Keep Lake Dallas Beautiful, Keep Little Elm Beautiful, Lucas, Mansfield, Mesquite, Plano, Keep Rowlett Beautiful.

3. Cooperative Purchase

Regional Stormwater Management Program has historically conducted one purchase annually of several education and outreach related items. The goal was to combine as many orders as possible to achieve the lowest unit cost. Due to the ability of local government agencies to now order items at a “best price” directly from specific contracts made available to them, the Cooperative Purchase underwent a significant scaling back to just several items in FY19. Several print items, that were previously available for purchase, have been made available to participating members by way of free graphic and print files upon their request to NCTCOG.

No cooperative purchase was coordinated for this reporting period. The items listed in the following table represent those that are available to be cooperatively purchased or print files obtained for the purpose of distributing, displaying, and/or installing.

Table 5: Cooperative purchase and free print files available and those organizations that requested them.

Item	Quantity/Files Sent	Purchased By
Landscape		
Texas SmartScape bookmarks	Azle, Southlake	Free graphic and print files made available
Texas SmartScape sticker	0	Free graphic and print files made available
Yard Waste Brochures	0	Free graphic and print files made available
Dog Waste		
Dog waste bookmarks	0	Free graphic and print files made available
Fats, Oils, And Grease (Fog)		
Fat trapper bags	0	Cities of Colleyville, North Richland Hills, Mansfield and the North Texas Municipal Water District
Fat trapper bag container	0	City of North Richland Hills
FOG doorhanger	0	Free graphic and print files made available
Stormwater Drain Markers		
Plastic curb markers	0	City of North Richland Hills
Aluminum curb markers	0	Cities of Colleyville and Haltom City
Curb Marker Adhesive	0	City of Haltom City

Appendix D: NCTCOG Regional Wet Weather Characterization Program (RWWCP) Data Reports for Arlington, TX
(Quarter 1 through Quarter 4)

**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2020**

**Sample Collection Report
Event Date: October 23, 2020**

Storm Summary

Storm description: Heavy rain moving from northwest to southeast.

AR 2001

Station location description: Rush Creek @ West Sublett Road

Rain event start time and date: 0751 10/23/20 Rainfall total: 0.48 in
Rain event end time and date: 0935 10/23/20 Peak 1-hr rate: 0.40 in/hour

Rainfall station: Rush Creek @ West Sublett Road (6650)
Antecedent dry period: 744 hours

Comments: Antecedent dry period determined by Rush Creek @ West Sublett Road (6650) from <https://gptx.onerain.com/home.php>.

Flow start time and date: 0755 10/23/20 Time first aliquot collected: 0803 10/23/20
Flow end time and date: 1115 10/24/20 Time last aliquot collected: 1018 10/23/20

Peak depth: 0.94 ft Aliquots collected: 6
Average depth: 0.169 ft Total sample volume: 3.5 gal

Comments: None

AR 2002

Station location description: Rush Creek @ Woodland Park Blvd.

Rain event start time and date: 0740 10/23/20 Rainfall total: 0.56 in
Rain event end time and date: 1005 10/23/20 Peak 1-hr rate: 0.44 in/hr

Rainfall station: Rush Creek @ Woodland Park Blvd. (6610)
Antecedent dry period: 745 hours

Comments: Antecedent dry period determined by Rush Creek @ Woodland Park Blvd. (6610) from <https://gptx.onerain.com/home.php>.

Flow start time and date: 0745 10/23/20 Time first aliquot collected: 0757 10/23/20
Flow end time and date: 0300 10/25/20 Time last aliquot collected: 1002 10/23/20

Peak depth: 0.91 ft Aliquots collected: 6
Average depth: 0.309 ft Total sample volume: 3.5 gal

Comments: None

Prepared By: 

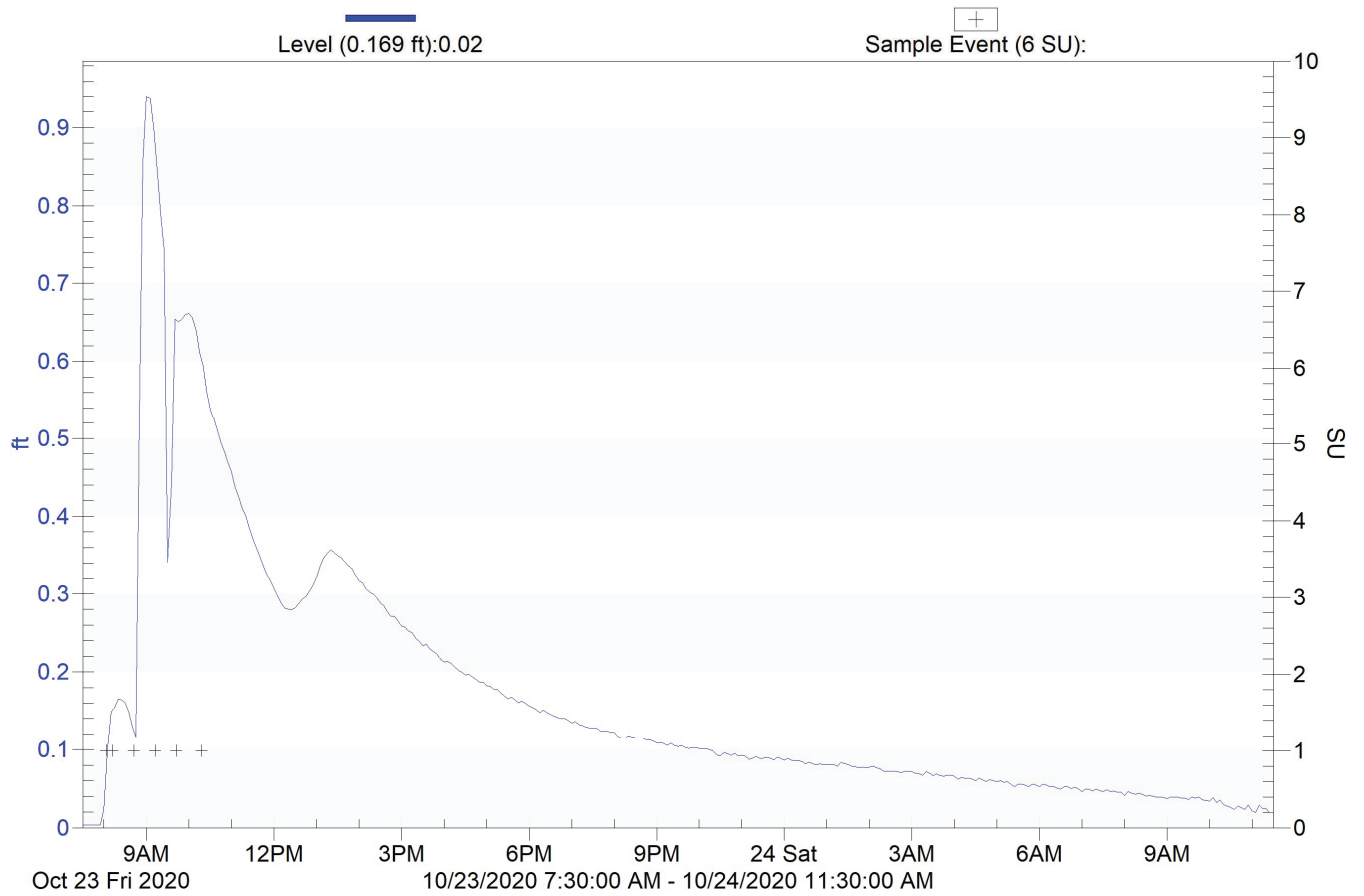
Date: January 7, 2021

Checked By: Ryan Deal

Date: January 7, 2021

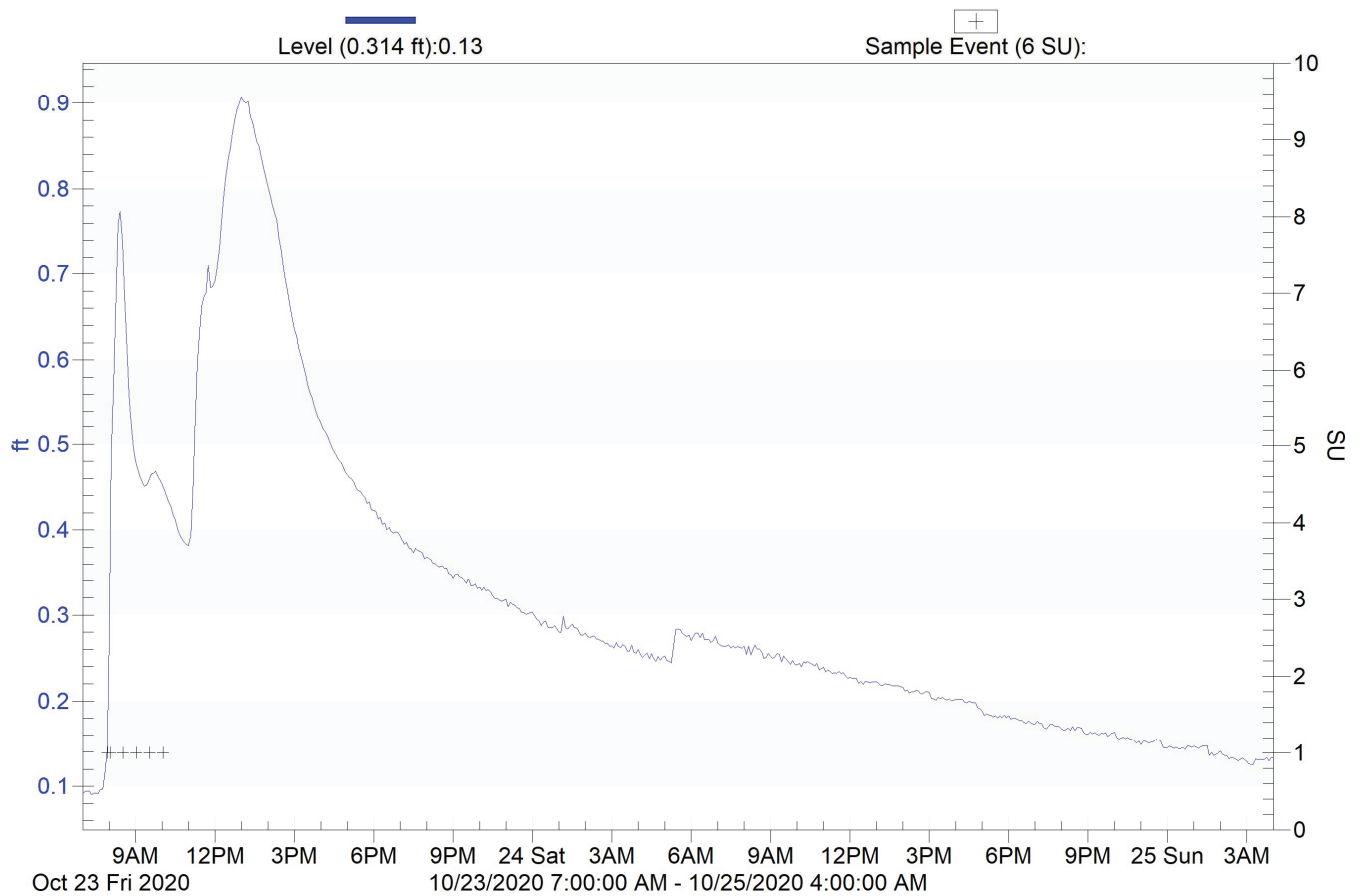
Arlington Rush Creek

AR2001-4



Arlington Rush Creek

AR2002-4



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752
CITY OF ARLINGTON 2020

Storm Event: 10/23/2020 Project Number: 100072752	AR2001	AR2002	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	334 R1	271	mg/L
Total Suspended Solids (TSS)	211	72.5	mg/L
Biochemical Oxygen Demand (BOD)	46.2	24	mg/L
Chemical Oxygen Demand (COD)	93	50.3	mg/L
Total Nitrogen	4.9	2.1	mg/L
Nitrate N	0.48	0.55	mg/L
Ammonia N	0.29	0.068 J	mg/L
Orthophosphate	0.11	0.19	mg/L
Phosphorus, Dissolved	0.077	0.15	mg/L
Phosphorus, Total	0.74	0.3	mg/L
Atrazine	0.239	0.425	µg/L
Arsenic, Total	0.0160	0.002	mg/L
Chromium, Total	0.0030 J	0.0025 J	mg/L
Copper, Total	0.0140	0.01	mg/L
Lead, Total	0.0044	0.0024	mg/L
Zinc, Total	0.049	0.059	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease(HEM)	1.1 J	< 0.35	mg/L
pH	7.9	8.2	su
Ambient Air Temperature (field)	64	64	°F
Water Temperature (field)	65	67	°F
<i>E. Coli</i>	161.0	10.0	MPN/100 mL
Specific Conductivity	930	734	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

R1 - RPD Value was Outside Control Limits

**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2021**

**Sample Collection Report
Event Date: January 25, 2021**

Storm Summary

Storm description: Moderate rain moving from west to east.

Rain event start time and date: 0515 01/25/21 Rainfall total: 0.2 in
Rain event end time and date: 0545 01/25/21 Peak 1-hr rate: 0.2 in/hr

Rainfall station: Rush Creek @ West Sublett Road (6650)
Antecedent dry period: 107 hrs

Comments: Antecedent dry period determined by Rush Creek @ West Sublett Road (6650) from <https://gptx.onerain.com/home.php>.

AR 2101

Station location description: Rush Creek @ West Sublett Road

Flow start time and date: 0525 01/25/21 Time first aliquot collected: 0613 01/25/21
Flow end time and date: 0445 01/26/21 Time last aliquot collected: 0834 01/25/21

Peak depth: 0.90 ft Aliquots collected: 6
Average depth: 0.285 ft Total sample volume: 3.5 gal

Comments: None

AR 2102

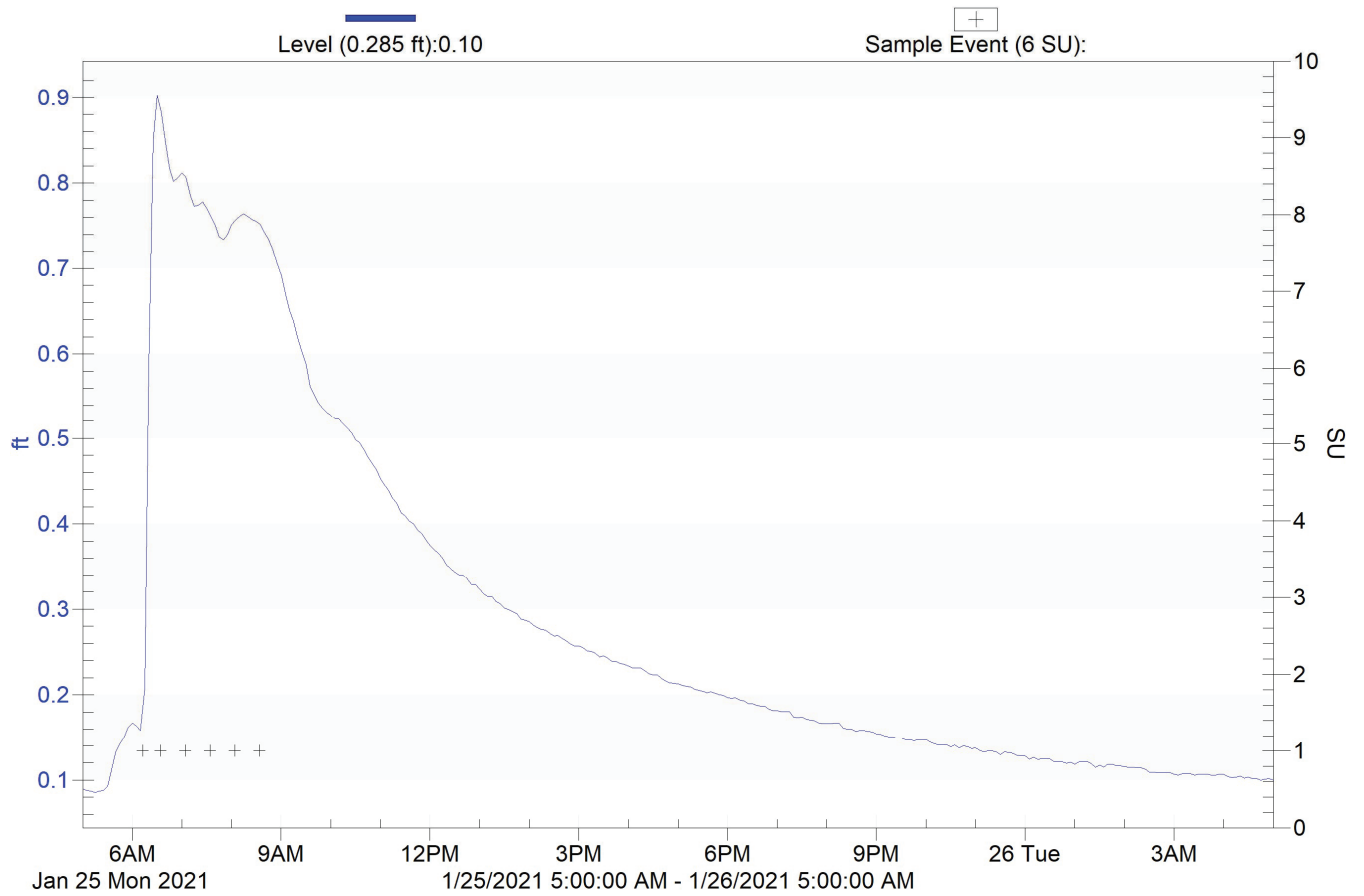
Station location description: Rush Creek @ Woodland Park Blvd.

Comments: AR2102 was not sampled during this storm event.

Prepared By: Ryan Deal Date: 4/2/2021
Checked By: Charles Dobby Date: 4/5/2021

Arlington Rush Creek

AR2101-1



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752

CITY OF ARLINGTON 2021

Storm Event: 1/25/2021 Project Number: 100072752	AR2101	AR2102	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	223 R1	NA	mg/L
Total Suspended Solids (TSS)	53.0	NA	mg/L
Biochemical Oxygen Demand (BOD)	4.1	NA	mg/L
Chemical Oxygen Demand (COD)	48.7	NA	mg/L
Total Nitrogen	0.97	NA	mg/L
Nitrate N	0.21	NA	mg/L
Ammonia N	< 0.028	NA	mg/L
Orthophosphate	0.035 J	NA	mg/L
Phosphorus, Dissolved	0.020 J	NA	mg/L
Phosphorus, Total	0.20	NA	mg/L
Atrazine	0.134	NA	µg/L
Arsenic, Total	0.0014	NA	mg/L
Chromium, Total	0.0023 J	NA	mg/L
Copper, Total	0.0051	NA	mg/L
Lead, Total	0.0018	NA	mg/L
Zinc, Total	0.035	NA	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease (HEM)	< 0.35	NA	mg/L
pH	8.7	NA	su
Ambient Air Temperature (field)	48	NA	°F
Water Temperature (field)	55.1	NA	°F
<i>E. Coli</i>	598.0 1t, D6	NA	MPN/100 mL
Specific Conductivity	881	NA	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

1t - Calculated RPD is 50%. RPD limit is 20%

D6 - The precision between the sample and sample duplicate exceeded laboratory control limits.

R1 - RPD value was outside control limits.

**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2021**

**Sample Collection Report
Event Date: February 25-26, 2021**

Storm Summary

Storm description: Heavy rain moving from southwest to northeast.

AR 2101

Station location description: Rush Creek @ West Sublett Road

Comments: AR2101 was previously sampled on January 25, 2021.

AR 2102

Station location description: Rush Creek @ Woodland Park Blvd.

Rain event start time and date: 1759 02/25/21 Rainfall total: 1.88 in
Rain event end time and date: 0514 02/26/21 Peak 1-hr rate: 1.01 in/hr

Rainfall station: KTXARLIN305
Antecedent dry period: 756 hrs

Comments: Antecedent dry period determined by KTXARLIN305 from
<https://www.wunderground.com/dashboard/pws/KTXARLIN305/graph/2021-02-26/2021-02-26/weekly>.

Flow start time and date: 0000 02/26/21 Time first aliquot collected: 0017 02/26/21
Flow end time and date: 2335 02/26/21 Time last aliquot collected: 0223 02/26/21

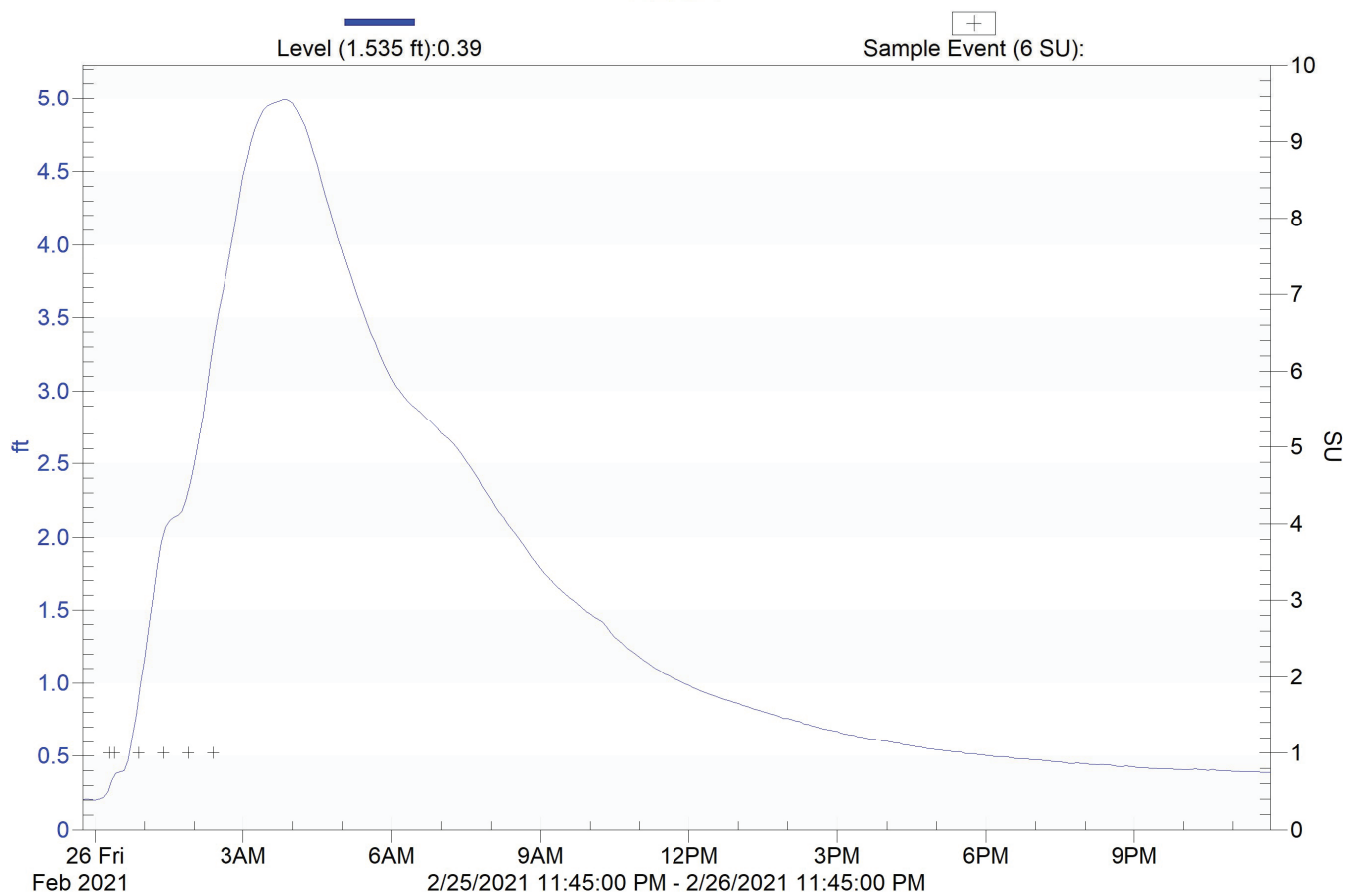
Peak depth: 4.99 ft Aliquots collected: 6
Average depth: 1.535 ft Total sample volume: 3.5 gal

Comments: None

Prepared By: Ryan Deal Date: 4/15/21
Checked By: Charles Dobby Date: 4/15/21

Arlington Rush Creek

AR2102-1



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752

CITY OF ARLINGTON 2021

Storm Event: 2/25/2021 Project Number: 100072752	AR2101	AR2102	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	NA	253	mg/L
Total Suspended Solids (TSS)	NA	162	mg/L
Biochemical Oxygen Demand (BOD)	NA	7.5	mg/L
Chemical Oxygen Demand (COD)	NA	82.1	mg/L
Total Nitrogen	NA	2.0	mg/L
Nitrate N	NA	0.32	mg/L
Ammonia N	NA	0.13	mg/L
Orthophosphate	NA	0.091	mg/L
Phosphorus, Dissolved	NA	0.030 J	mg/L
Phosphorus, Total	NA	0.35	mg/L
Atrazine	NA	3.47	µg/L
Arsenic, Total	NA	0.0025	mg/L
Chromium, Total	NA	0.0052	mg/L
Copper, Total	NA	0.0087	mg/L
Lead, Total	NA	0.0051	mg/L
Zinc, Total	NA	0.048	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease (HEM)	NA	2.5 J	mg/L
pH	NA	8.9	su
Ambient Air Temperature (field)	NA	47	°F
Water Temperature (field)	NA	52.5	°F
<i>E. Coli</i>	NA	2046.0	MPN/100 mL
Specific Conductivity	NA	869	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2021

Sample Collection Report
Event Date: April 23, 2021

Storm Summary

Storm description: Moderate rain moving from southwest to northeast.

Rain event start time and date: 1520 04/23/21 Rainfall total: 0.32 in
Rain event end time and date: 1809 04/23/21 Peak 1-hr rate: 0.28 in/hr

Rainfall station: Rush Creek @ West Sublett Road (6650)
Antecedent dry period: 163 hrs

Comments: Antecedent dry period determined by Rush Creek @ West Sublett Road (6650) from <https://gptx.onerain.com/map/?view=24ffe2cd-8893-4c38-9337-a29860a31ed2#>.

AR 2101

Station location description: Rush Creek @ West Sublett Road

Flow start time and date: 1800 04/23/21 Time first aliquot collected: 1805 04/23/21
Flow end time and date: 0935 04/24/21 Time last aliquot collected: 2034 04/23/21

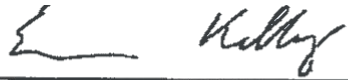
Peak depth:	1.530 ft	Aliquots collected:	6
Average depth:	0.403 ft	Total sample volume:	3.25 gal

Comments: None

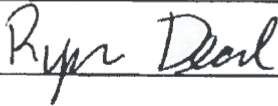
AR 2102

Station location description: Rush Creek @ Woodland Park Blvd.

Comments: AR2102 was successfully collected on April 13, 2021. However, the sample was inadvertently canceled by the laboratory. A make up sample for AR2102-2 will be collected.

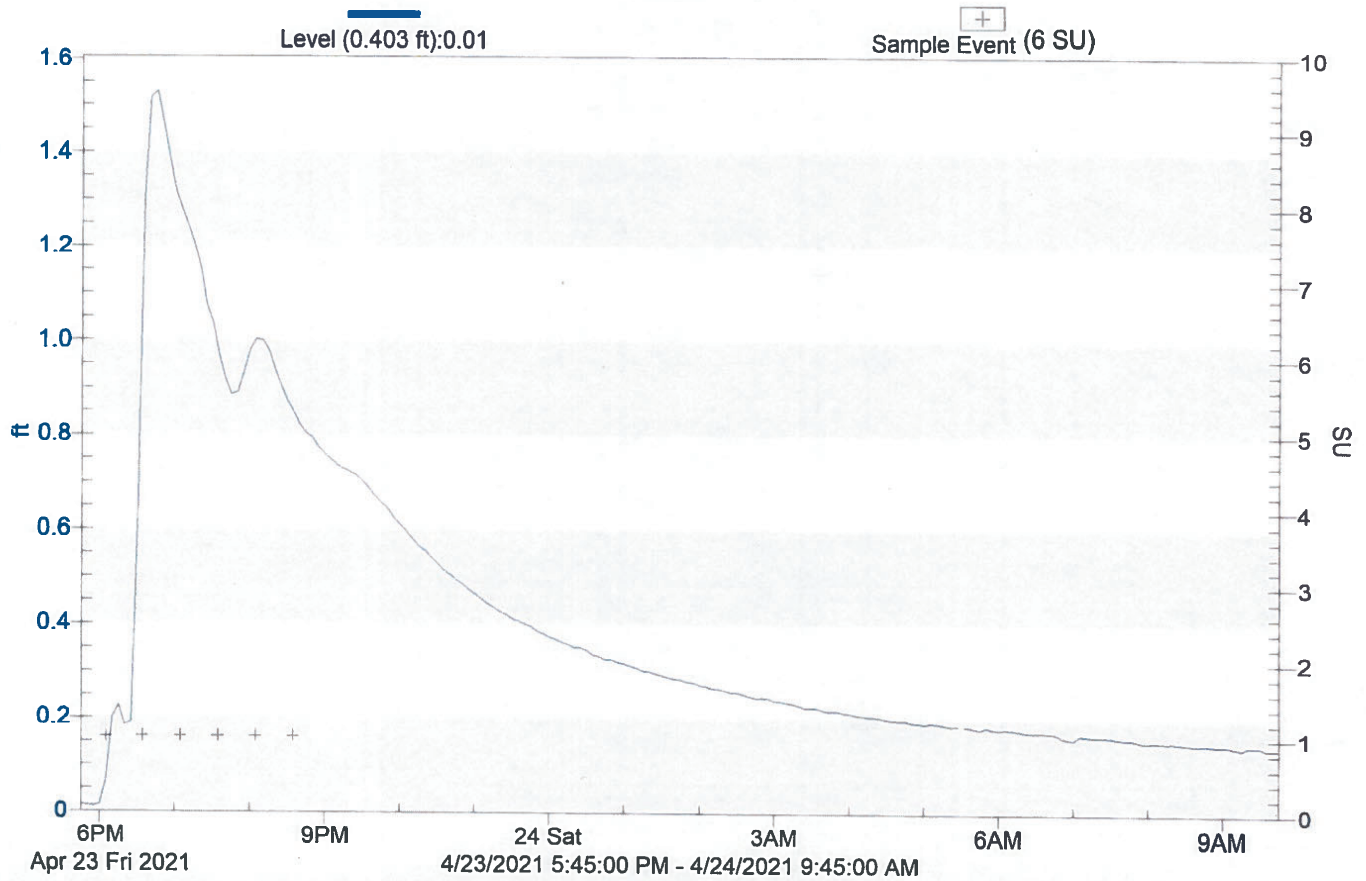
Prepared By: 

Date: 7/23/21

Checked By: 

Date: 7/23/21

Arlington Rush Creek
AR2101-2



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752

CITY OF ARLINGTON 2021

Storm Event: 4/23/2021 Project Number: 100072752	AR2101	AR2102	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	229	NA	mg/L
Total Suspended Solids (TSS)	47.2	NA	mg/L
Biochemical Oxygen Demand (BOD)	5.89	NA	mg/L
Chemical Oxygen Demand (COD)	35.8	NA	mg/L
Total Nitrogen	0.966	NA	mg/L
Nitrate N	0.253	NA	mg/L
Ammonia N	0.006 J	NA	mg/L
Orthophosphate	0.175	NA	mg/L
Phosphorus, Dissolved	0.0713	NA	mg/L
Phosphorus, Total	0.176	NA	mg/L
Atrazine	2.18	NA	µg/L
Arsenic, Total	0.00164	NA	mg/L
Chromium, Total	0.00272 J	NA	mg/L
Copper, Total	0.00595	NA	mg/L
Lead, Total	0.00165	NA	mg/L
Zinc, Total	0.0246	NA	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease (HEM)	13.4	NA	mg/L
pH	9.1	NA	su
Ambient Air Temperature (field)	68	NA	°F
Water Temperature (field)	64.7	NA	°F
<i>E. Coli</i>	> 2419.6	NA	MPN/100 mL
Specific Conductivity	783	NA	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2021**

**Sample Collection Report
Event Date: July 11, 2021**

Storm Summary

Storm description: Heavy rain moving from northwest to southeast.

AR 2101

Station location description: Rush Creek @ West Sublett Road

Comments: AR2101 was not sampled during this event.

AR 2102

Station location description: Rush Creek @ Woodland Park Blvd.

Rain event start time and date: 0445 07/11/21 Rainfall total: 0.40 in
Rain event end time and date: 0610 07/11/21 Peak 1-hr rate: 0.36 in/hr

Rainfall station: Rush Creek @ Woodland Park (6610)
Antecedent dry period: 106 hrs

Comments: Storm summary determined by Rush Creek @ Woodland Park (6610) from
<https://gptx.onerain.com/map/?view=24ffe2cd-8893-4c38-9337-a29860a31ed2#>.

Flow start time and date: 0505 07/11/21 Time first aliquot collected: 0507 07/11/21
Flow end time and date: 2130 07/11/21 Time last aliquot collected: 0713 07/11/21

Peak depth: 3.853 ft Aliquots collected: 6
Average depth: 1.129 ft Total sample volume: 3.5 gal

Comments: During data collection, the sample event data was unable to be retrieved.
Stream level date was recovered and is included in this report.

Prepared By: Alyxes Martinez

Digitally signed by Alyxes Martinez
DN: cn=US, E=alyxes.martinez@freese.com,
o="Freese and Nichols, Inc.", ou=1170
Environmental Science, cn=Alyxes Martinez
Reason: I agree to the terms defined by the placement
of my signature on this document
Date: 2021.11.30 10:32:35-06'00'

Date: 11-30-2021

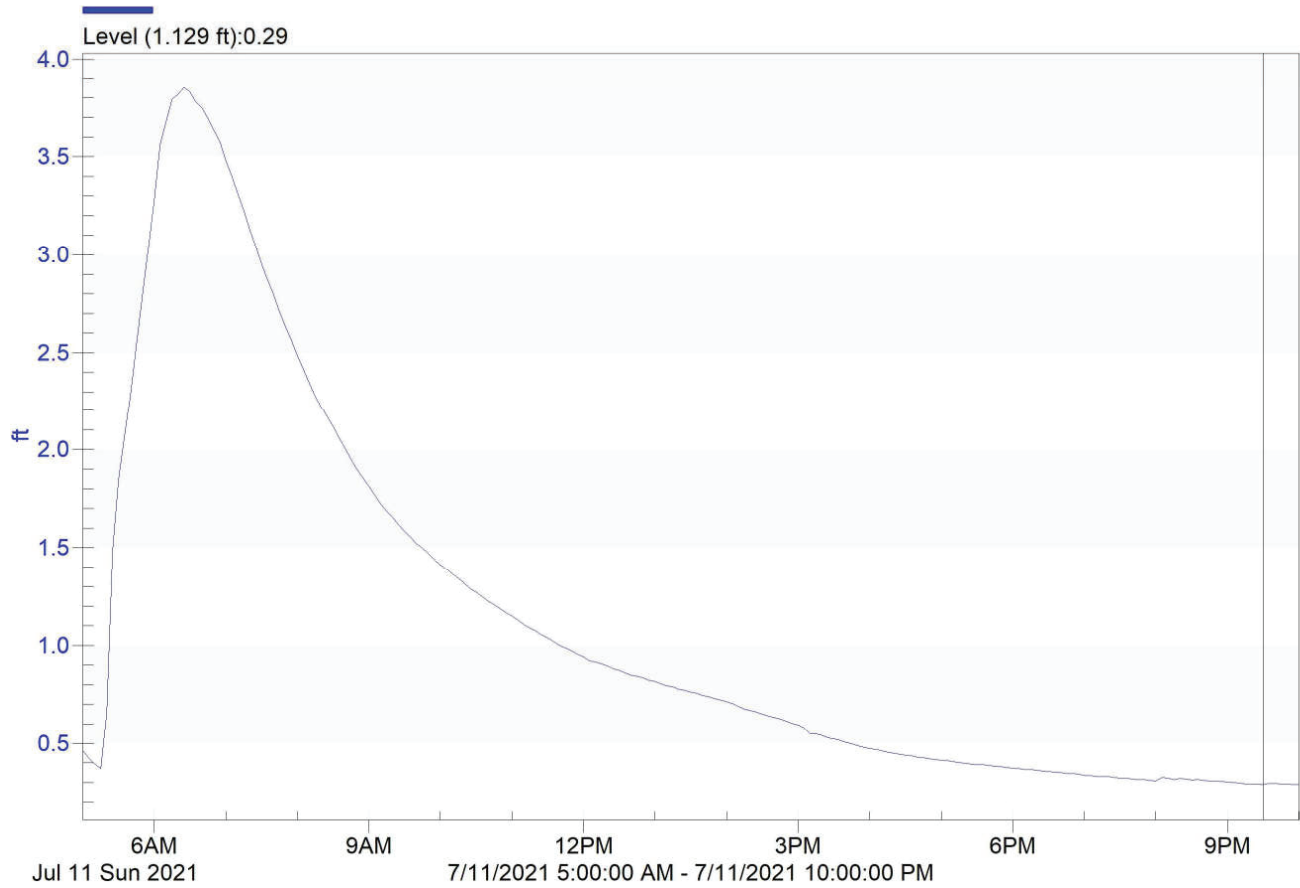
Checked By: Ryan Deal

Digitally signed by Ryan Deal
Date: 2021.11.30 10:33:49-06'00'

Date: 11-30-2021

Arlington Rush Creek

AR2102-3



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752
CITY OF ARLINGTON 2021

Storm Event: 7/11/2021 Project Number: 100072752	AR2101	AR2102	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	NA	313	mg/L
Total Suspended Solids (TSS)	NA	97.0	mg/L
Biochemical Oxygen Demand (BOD)	NA	6.08 B1	mg/L
Chemical Oxygen Demand (COD)	NA	39.6	mg/L
Total Nitrogen	NA	1.11	mg/L
Nitrate N	NA	0.306	mg/L
Ammonia N	NA	0.0592 J	mg/L
Orthophosphate	NA	< 0.0200	mg/L
Phosphorus, Dissolved	NA	0.0395 J	mg/L
Phosphorus, Total	NA	0.159	mg/L
Atrazine	NA	0.134	µg/L
Arsenic, Total	NA	0.00231	mg/L
Chromium, Total	NA	0.00334	mg/L
Copper, Total	NA	0.00529	mg/L
Lead, Total	NA	0.00254	mg/L
Zinc, Total	NA	0.0222	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease (HEM)	NA	< 0.350	mg/L
pH	NA	8.2	su
Ambient Air Temperature (field)	NA	73	°F
Water Temperature (field)	NA	81.4	°F
<i>E. Coli</i>	NA	517.0	MPN/100 mL
Specific Conductivity	NA	813	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

B1 - The blank depletion was greater than the recommended maximum depletion of 0.2 mg/L

**NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG Regional Stormwater Monitoring Program
NCTCOG PROJECT ID 100072752
City of Arlington 2021**

**Sample Collection Report
Event Date: August 1, 2021**

Storm Summary

Storm description: Heavy rain nearly stationary, with slight motion toward the south.

Rain event start time and date: 1600 08/01/21 Rainfall total: 2.84 in
Rain event end time and date: 2235 08/01/21 Peak 1-hr rate: 2.56 in/hr

Rainfall station: Rush Creek @ West Sublett Road (6650)
Antecedent dry period: 513.5 hrs

Comments: Storm summary determined by Rush Creek @ West Sublett Road (6550) from <https://gptx.onerain.com/map/?view=24ffe2cd-8893-4c38-9337-a29860a31ed2#>.

AR 2101

Station location description: Rush Creek @ West Sublett Road

Flow start time and date: 1605 08/01/21 Time first aliquot collected: 1617 08/01/21
Flow end time and date: 0255 08/02/21 Time last aliquot collected: 1828 08/01/21

Peak depth: 5.672 ft Aliquots collected: 6
Average depth: 1.471 ft Total sample volume: 3.5 gal

Comments: None

AR 2102

Station location description: Rush Creek @ Woodland Park Blvd.

Comments: AR2102 was previously sampled on July 11, 2021.

Prepared By: Alyxes Martinez

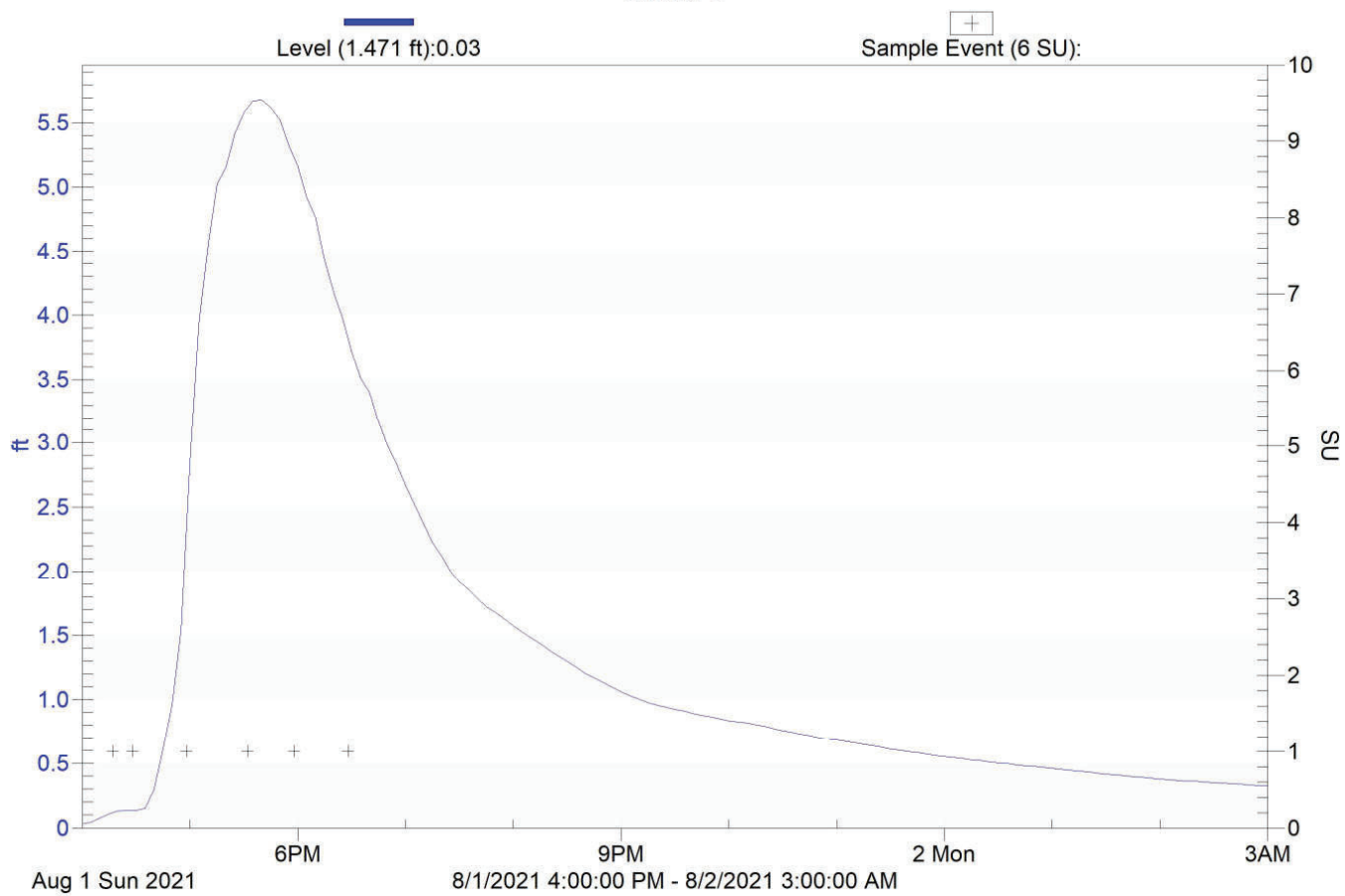
Date: 11-8-2021

Checked By: Ryan Deal

Date: 11-8-2021

Arlington Rush Creek

AR2101-3



Analytical Results Summary
NCTCOG Regional Stormwater Monitoring Program
NCTCOG Project 100072752

CITY OF ARLINGTON 2021

Storm Event: 8/1/2021 Project Number: 100072752	AR2101	AR2102	
PARAMETER NAME	COMPOSITE	COMPOSITE	UNIT
Total Dissolved Solids (TDS)	160	NA	mg/L
Total Suspended Solids (TSS)	85.4	NA	mg/L
Biochemical Oxygen Demand (BOD)	12.2 B	NA	mg/L
Chemical Oxygen Demand (COD)	51.3	NA	mg/L
Total Nitrogen	1.68	NA	mg/L
Nitrate N	0.413	NA	mg/L
Ammonia N	0.0877 J	NA	mg/L
Orthophosphate	0.0720	NA	mg/L
Phosphorus, Dissolved	0.100	NA	mg/L
Phosphorus, Total	0.238	NA	mg/L
Atrazine	< 0.100	NA	µg/L
Arsenic, Total	0.00259	NA	mg/L
Chromium, Total	0.00478	NA	mg/L
Copper, Total	0.00799	NA	mg/L
Lead, Total	0.00270	NA	mg/L
Zinc, Total	0.0306	NA	mg/L
PARAMETER NAME	GRAB	GRAB	UNIT
Oil & Grease (HEM)	1.90 J	NA	mg/L
pH	8.9	NA	su
Ambient Air Temperature (field)	76	NA	°F
Water Temperature (field)	90	NA	°F
<i>E. Coli</i>	> 2419.6	NA	MPN/100 mL
Specific Conductivity	477	NA	µS/cm

">" - Not Identified Above the Upper Detection Limit

"<" - Not Identified Below the Lower Detection Limit

J - Positively Identified Below the Lower Detection Limit

B - The same analyte is found in the associated blank