Draft Environmental Impact Statement	APPENDICES
	APPENDIX N: Water Resources



ADDENDUM 24-MARCH-2022

APPENDIX N - WATER RESOURCES - Proposed ROW Change

SPUR 399 EXTENSION EIS - US 75 to US 380, Collin County CSJs 0364-04-051, 0047-05-058, and 0047-10-002; Dallas District

PURPOSE OF ADDENDUM:

Changes were made to the proposed right-of-way (ROW) limits for the Spur 399 Extension in the 60% Geometric Schematic Design submittal made on 3-JAN-2022. A copy of that submittal is included in Appendix B of this DEIS.

This addendum is an UPDATED Water Features Report, Surface Water Analysis Form, and 404-10 Impact Table incorporating the JAN-2022 proposed ROW changes and the updated EO 11988 finding that this project will involve a significant encroachment in the floodplain. The revised impacts based on the proposed ROW changes are disclosed in the DEIS.

UPDATED SPUR 399 EXTENSION PROJECT DESCRIPTION:

With submittal of the 60% Geometric Schematic Design on 3-JAN-2022, the description of the proposed Spur 399 Extension has been updated as follows:

The proposed Spur 399 Extension is comprised of improvements within the existing section of SH 5 between US 75 and Stewart Road, and new location improvements from Stewart Road to US 380 east of McKinney. Within the section of SH 5 between US 75 and Stewart Road, one new travel lane in each direction would be striped and ramping improvements would be constructed within the existing ROW and roadway pavement section to be established by the recently cleared SH 5 project (CSJs 0135-03-046 and 0135-04-033).

From Stewart Road to US 380, the Spur 399 Extension would be constructed on new location as an 8-lane, access-controlled freeway with 2-lane, one-way frontage roads on each side, starting east of Couch Drive, within an anticipated average ROW width of 400 feet, but with areas of ROW ranging from 165 feet to 696 feet wide depending on location. Frontage roads may be eliminated, and the primary travel lanes may be elevated on structure to minimize impacts on sensitive resources. The freeway facility would also include ramps, frontage roads, and arterial roadways to support connectivity to the existing roadway network along with safety lighting/signage/ITS. Grade-separated interchanges would be constructed at major crossroads.

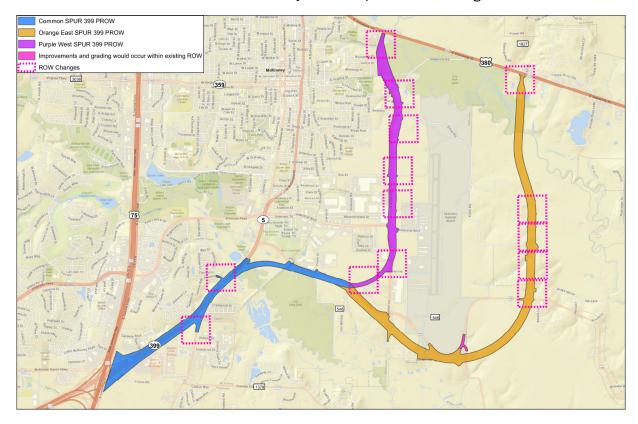
DESCRIPTION OF THE PROPOSED ROW CHANGE

The JAN-2022 submittal made minor adjustment to the proposed ROW limits throughout the length of the new location sections of both build alternatives to account for drainage, access, and geometric improvements. The following table summarizes the proposed ROW changes.

Proposed ROW Change - July 2021 to January 2022

Build Alternative	July 2021 Proposed ROW	October 2021 Proposed ROW	January 2022 Proposed ROW
PURPLE ALTERNATIVE	303.9 acres 340 acres (Purple Option 2)	259.7 acres	263.4 acres
ORANGE ALTERNATIVE	396.0 acres	366.4 acres	366.1 acres

Illustration of the January 2022 Proposed ROW Changes





Water Features Delineation Report – Final

Spur 399 Extension (CSJ 0364-04-051, 0047-05-058, 0047-10-002)

Texas Department of Transportation, Dallas District

April 2022

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1.0 Introduction

The Texas Department of Transportation (TxDOT) conducted a delineation of water features for the proposed extension of Spur 399 on new location from US 75 to US 380 in McKinney, Collin County, Texas (the Project) (CSJ 0364-04-051, 0047-05-058, 0047-10-002). The delineation was completed on August 28; September 8, 10, 11, 24, 25; October 12, 13, 14, 15; and December 1, 3, 2020, and June 8, August 16, and September 22, 2021. The delineation was performed to evaluate water features and identify their boundaries within the Project area.

Waterbodies were delineated according to United States Army Corps of Engineers (USACE) Regulatory Guidance Letter (RGL) 05-05 Ordinary High Water Mark (OHWM) Identification for non-tidal waters. As required under Section 404 of the Clean Water Act (CWA), wetlands were delineated using the routine method described in the USACE 1987 Wetlands Delineation Manual (1987 Manual; USACE, 1987) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (2010 Regional Supplement; USACE, 2010). Wetland types and boundaries were determined through initial map review, followed by fieldwork involving the examination of three (3) parameters: hydrology, vegetation, and soils. Delineation criteria and indicators for each of these parameters are outlined in the 1987 Manual and the 2010 Regional Supplement. The 2010 Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Great Plains Region, per the regional supplement. Wetlands were classified according to the Cowardin Classification System used for the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI).

This document contains the following five (5) attachments:

- Attachment 1 Figures: contains maps of the Project area
- Attachment 2 Wetland Determination Data Forms and Stream Data Forms
- Attachment 3 Antecedent Precipitation Tool for McKinney, Texas
- Attachment 4 Site Photographs: contains photographs taken during the site visit(s)
- Attachment 5 Historical Aerial Photographs: contains historical aerial imagery, starting with the oldest photographs first

2.0 Project Overview

TxDOT proposes to extend and upgrade Spur 399 in McKinney, Texas to interstate standards. The Spur 399 extension would be an eight-lane, access-controlled freeway with one-way frontage roads on each side within an anticipated right-of-way (ROW) width of between 330 to 350 feet (ft) depending on location. Frontage roads may be eliminated, and the primary travel lanes may be elevated (on bridge/viaduct). The freeway facility would also include ramps, direct connector roadways, frontage roads, and arterial roadways to support connectivity to the existing roadway network. Grade-separated interchanges would be constructed at major crossroads including U.S. Route (US) 75 / State Highway (SH) 5 and existing US 380. The Project area is approximately 920.72 acres (ac), extends approximately 13.24 miles, and intersects 174 parcels. Permanent and temporary easements are included in Project design plans.

The Project begins near the intersection of Spur 399 and US 75 (approx. lat/long: 33°9'28.56"N, 96°38'44.18"W), continues northeast toward South McDonald Street (approx. lat/long: 33°10'24.97"N, 96°37'18.55"W), then extends east toward the McKinney National Airport (approx. lat/long: 33°10'10.13"N, 96°36'18.65"W). The east alignment of the Project then continues toward the intersection of Farm-to-Market Road (FM) 317 and Old Mill Road (approx. lat/long: 33°9'33.55"N, 96°35'10.78"W) and concludes to the north near FM 1827 (approx. lat/long: 33°11'51.39"N, 96°34'32.65"W). The west alignment of the Project from the McKinney National Airport location continues north toward the intersection of Enloe Road and Airport Drive

(approx. lat/long: 33°11'36.69"N, 96°35'45.87"W). The first west alignment option concludes north near the intersection of FM 1827 and Airport Drive (approx. lat/long: 33°12'4.41"N, 96°35'17.10"W). The second west alignment option concludes near the intersection of FM 1827 and Greenville Road (approx. lat/long: 33°12'3.43"N, 96°35'9.07"W).

Attachment 1 – Figures contains numbered maps of the Project area. Figure 1 provides a vicinity map that depicts the location of the Project area. Figure 2 is an aerial overview map of the Project area. Figure 3 is a 7.5-minute series United States Geological Survey (USGS) topographic overview map. Figure 4 is an NWI map. Figure 5 is a Natural Resources Conservation Service (NRCS) soil unit map. Figure 6 is a Federal Emergency Management Agency (FEMA) 100-year floodplain map. Figure 7 is a TxDOT Contour map showing 2-foot contours of the Project area. Figure 8 is a series of Water Features maps depicting delineated water feature boundaries.

3.0 Ecological Site Description

The Project area is located within the Southwestern Prairies Cotton and Forage Land Resource Region (LRR J) of the Great Plains and is more specifically located in Major Land Resource Area (MLRA) 86A (Texas Blackland Prairie, Northern Part). This area is characterized by level to gently sloping and dissected plains with steep slopes along river and creek valleys, meander belts associated with major streams, and wide floodplains along stream terraces (NRCS, 2006). Geology in this area consists of chalk, claystone, marl, and shale. Average annual precipitation in the area ranges from 30 to 46 inches. Average annual temperature in the area ranges from 63°F to 69°F.

Historic vegetation was little false bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), yellow Indian grass (*Sorghastrum nutans*), and tall dropseed (*Sporobolus asper*). Other species commonly encountered included Silveus' dropseed (*Sporobolus silveanus*), Mead's sedge (*Carex meadii*), long-spike fluff grass (*Tridens strictus*), asters (*Aster sp.*), prairie clovers (*Dalea sp.*), and coneflowers (*Rudbeckia sp.*). Lowland sites and swales were often dominated by eastern gamagrass (*Tripsacum dactyloides*) and switchgrass (*Panicum virgatum*). Riparian areas included burr oak (*Quercus macrocarpa*), Shumard oak (*Quercus shumardii*), sugar-berry (*Celtis laevigata*), elm (*Ulmus sp.*), ash (*Fraxinus sp.*), eastern cottonwood (*Populus deltoides*), and pecan (*Carya illinoinensis*). Currently, only remnants of this system exist, with most of the historical distribution replaced by crop production or improved pasture.

The Project area is within the East Fork Trinity River-Lavon Lake Watershed, Clemons Creek-East Fork Trinity River Sub Watershed within the northern portion of the Project area, and the Lower Wilson Creek Sub Watershed within the southern portion of the Project area, of the Trinity River Basin (Hydrologic Unit Code 8: 12030106). The Project area consists of existing ROW, residential areas, pastures, rangelands, and forested and emergent wetlands.

4.0 Methods

4.1 Map and Database Review

The following information sources were considered and, if applicable, consulted prior to and during the field delineation to assist in the identification of water features within the Project area.

4.1.1 USGS Topographic Maps

USGS topographic maps illustrate elevation contours, drainage patterns, and hydrography. The McKinney East, Texas, USGS Quadrangle map was reviewed to determine the likelihood of the Project area containing water features (USGS, 7.5 Minute Topographic Map Series, McKinney East, Texas, 2011).

4.1.2 USFWS NWI Data

NWI data was reviewed as a contributing resource to help identify potential wetland features located within the Project area.

4.1.3 NRCS Soil Survey Data

The United States Department of Agriculture (USDA) NRCS maintains an online Web Soil Survey database. The data provided in the Web Soil Survey provides a good basis for the soil textures and types one can expect to find at a particular delineation area. NRCS-mapped soil types at the Project area were reviewed to determine which of the soils exhibit hydric characteristics. NRCS-mapped soil types are assigned a hydric indicator status of "hydric" or "non-hydric" by the National Technical Committee for Hydric Soils.

4.1.4 Aerial Photography

Aerial photography provides good insight to the state and function of land resources. Signs of inundation and vegetative signatures on aerial images indicate whether land might be functioning as a wetland or supporting a stream system. Historic and current aerial photography was reviewed utilizing Google Earth, prior to and during the field delineation, in order to further understand the nature of the Project area. Historic and current aerial photography was utilized to photo-interpret water features for areas without access and with limited ground verification from the public ROW.

4.1.5 FEMA FIRM

FEMA maintains flood insurance rate maps (FIRMs). The FIRM including the Project area was reviewed to determine if the 100-year floodplain is mapped. The USACE utilizes the 100-year floodplain to assist in determining presence of water features. FEMA FIRM data was reviewed to evaluate the location of any mapped floodplain in relation to water features located within the Project area.

4.1.6 LiDAR

Light detection and ranging (LiDAR) is a remote sensing technique that measures spatial and temporal data. LiDAR was not available for the Project area; however, TxDOT contours collected in 2011 were reviewed for microtopographic changes in elevation within the Project area.

4.2 Water Features Delineation Methodology

With respect to any non-tidal water features located within the Project area, biologists followed the methodology outlined in USACE Regulatory Guidance Letter (RGL) 05-05.

Data collected for any water features includes average water depth, average width per water features, length of linear segments within the Project boundary, and water flow classification (i.e., tidal, non-tidal, ephemeral, intermittent, and/or perennial).

Any wetland delineation was conducted based on the 1987 Manual and the 2010 Regional Supplement, as well as the three (3) parameters described within. The three-parameter approach requires investigation of hydrological characteristics, hydrophytic vegetation, and hydric soils at selected sample points within a Project area. Sample points are located to ascertain upland/wetland boundaries and to record significant spatial changes in wetland plant communities. All three (3) indicator parameters must be met in order for the area to be classified as a wetland. See subsections on Hydrology, Vegetation, and Soils, below, for indicator-specific information.

Geospatial data was collected utilizing a Trimble GeoXT 2007 Series Global Positioning System (GPS) and Trimble Nomad 5 with sub-meter accuracy.

4.2.1 Hydrology

Wetland hydrology is characterized when, under normal circumstances, the surface is either inundated or the upper horizon(s) of the soil are saturated at a sufficient frequency and duration to create anaerobic conditions. Seasonal and long-term rainfall patterns, local geology and topography, soil type, local water table conditions, and drainage are factors that influence hydrology.

Wetland hydrology indicators include: oxidized rhizospheres along living roots, saturated soils, standing surface water, algal mat, aquatic fauna, high water table, iron deposits, sparsely vegetated concave surface, geomorphic position, moss trim lines, water-stained leaves, crawfish burrows, watermarks, drainage patterns, and surface soil cracks.

During the field survey, these indicators were used to determine if an area exhibited wetland hydrology.

4.2.2 Vegetation

In accordance with the procedure set forth in the 1987 Manual and the 2010 Regional Supplement, the hydrophytic status of vegetation communities was determined by identifying dominant species and, if necessary, calculating a "Prevalence Index," as defined in the 1987 Manual.

Individual plant species were checked against the current National Wetland Plant List (NWPL), and their regional wetland indicator status was determined. Species are classified as follows:

- Obligate Wetland (OBL) if they almost always occur in wetlands (>99 percent of the time)
- Facultative Wetland (FACW) if they usually occur in wetlands (67-99 percent of the time)
- Facultative (FAC) if they are equally likely to occur in wetlands and non-wetlands (34-66 percent of the time)
- Facultative Upland (FACU) if they usually occur in non-wetlands (67-99 percent of the time)
- Obligate Upland (UPL) if they almost always occur in non-wetlands (>99 percent of the time)

A no indicator (NI) status is recorded for those species for which insufficient information is available to determine an indicator status.

Hydrophytic (wetland) vegetation is considered present where more than 50 percent of the dominant species in a plant community have an indicator status of OBL, FACW, or FAC. However, in cases where the vegetation community does not meet this hydrophytic threshold, but indicators of hydric soils and wetland hydrology are present, the prevalence index can be applied. Calculation of this index is based on consideration of both dominant and non-dominant plants in the vegetation community, whereby each indicator status category is given a numeric code and weighted by absolute percent cover. The prevalence index ranges from 1.0 to 5.0, and an index of 3.0 or less signifies that hydrophytic vegetation is present. In the current delineation, and as shown on the Wetland Determination Data Forms in Attachment 2, a prevalence index was calculated for each sample point's vegetation community.

4.2.3 Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizons. Anaerobic conditions created by repeated or prolonged saturation or flooding result in permanent changes in soil color and chemistry. The changes in soil color are used to differentiate hydric from non-hydric soils.

At each sample point, in areas where the absence of inundation or heavy saturation allowed, a pit was excavated to a depth of at least 16 inches below the ground surface to reveal soil profiles and to determine whether positive indicators of hydric soils were present. Hydric soil indicators relate to color, structure, organic content, and the presence of reducing conditions. Color characteristics (Hue, Value, and Chroma) were recorded using Munsell® Charts.

5.0 Results

5.1 Map and Database Review

5.1.1 USGS Topographic Maps

Topographic maps reviewed for the Project area reported elevations of 650 to 600 ft above sea level (abs) near roadways, 550 ft abs near Wilson Creek, and 500 ft abs near the East Fork Trinity River. Surface water flow in the Project area is assumed to be to the southeast toward Lavon Lake. A topographic overview map is included in Attachment 1, Figure 3.

5.1.2 USFWS NWI Data

The table below summarizes the NWI features within the Project area. Refer to Figure 4 in Attachment 1 for an illustration of the NWI features in and surrounding the Project area.

Table 1: NWI Features

Classification Code	Code Description	Wetland Type
PUBHh	Palustrine Unconsolidated Bottom Permanently Flooded and Dike/Impounded	Freshwater Pond
PUBHx	Palustrine Unconsolidated Bottom Permanently Flooded Excavated	Freshwater Pond
PFO1C	Palustrine Forested Broad-Leaved Deciduous Seasonally Flooded	Freshwater Forested/Shrub Wetland
PFO1Cx	Palustrine Forested Broad-Leaved Deciduous Seasonally Flooded Excavated	Freshwater Forested/Shrub Wetland
PFO1A	Palustrine Forested Broad-Leaved Deciduous Temporarily Flooded	Freshwater Forested/Shrub Wetland
R5UBH	Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded	Riverine
R4SBC	Riverine Intermittent Streambed Seasonally Flooded	Riverine
PEM1A	Palustrine Emergent Persistent Temporarily Flooded	Freshwater Emergent Wetland
PEM1Ah	Palustrine Emergent Persistent Temporarily Flooded and Dike/Impounded	Freshwater Emergent Wetland
PEM1C	Palustrine Emergent Persistent Seasonally Flooded	Freshwater Emergent Wetland
PEM1Ch	Palustrine Emergent Persistent Seasonally Flooded and Dike/Impounded	Freshwater Emergent Wetland

Classification Code	Code Description	Wetland Type
PEM1Cx	Palustrine Emergent Persistent Seasonally Flooded Excavated	Freshwater Emergent Wetland

5.1.3 NRCS Soil Survey Data

The table below summarizes the soil units represented within the Project area based on information collected from the Web Soil Survey database. Refer to Figure 5 in Attachment 1 for an illustration of the mapped soil units in and surrounding the Project area.

Table 2: NRCS Soil Units

0-1111-14	Onit Hait Name	Description.	I buduia Oail
Soil Unit	Soil Unit Name	Description	Hydric Soil
AID2	Altoga silty clay, 5 to 8 percent slopes, eroded	Very deep, well drained, moderately permeable soils of gently to strongly sloping soils on risers on stream terraces.	No
AuB	Austin silty clay, 1 to 3 percent slopes	Moderately deep, well drained, moderately slowly permeable soils on nearly level to sloping erosional uplands.	No
AuC2	Austin silty clay, 2 to 5 percent slopes, moderately eroded	Moderately deep, well drained, moderately slowly permeable soils on nearly level to sloping erosional uplands.	No
AuD2	Austin silty clay, 5 to 8 percent slopes, moderately eroded	Moderately deep, well drained, moderately slowly permeable soils on nearly level to sloping erosional uplands.	No
BcA	Burleson clay, 0 to 1 percent slopes	Very deep to clayey alluvium, moderately well drained soils of nearly level to gently sloping soils on treads of Pleistocene stream terraces.	No
ВсВ	Burleson clay, 1 to 3 percent slopes	Very deep to clayey alluvium, moderately well drained soils of nearly level to gently sloping soils on treads of Pleistocene stream terraces.	No
EdD2	Eddy gravelly clay loam, 3 to 8 percent slopes, eroded	Soils on gently sloping to moderately steep uplands and native pasture.	No

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric Soil
НоА	Houston Black clay, 0 to 1 percent slopes	Nearly level to sloping uplands found in center of a micro-pasture.	No
НоВ	Houston Black clay, 1 to 3 percent slopes	Nearly level to sloping uplands found in center of a micro-pasture.	No
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded	Nearly level to sloping uplands found in center of a micro-pasture.	No
LeB	Lewisville silty clay, 1 to 3 percent slopes	Very deep, well drained, moderately permeable soils of upland pasture.	No
LeC2	Lewisville silty clay, 3 to 5 percent slopes, eroded	Very deep, well drained, moderately permeable soils of upland pasture.	No
Tf	Tinn clay, 0 to 1 percent slopes, frequently flooded	Very deep, moderately well drained, very slowly permeable soils on flood plains of dissected plains that drain the Blackland Prairies.	Yes
То	Trinity clay, 0 to 1 percent slopes, occasionally flooded	Very deep, moderately well drained, very slowly permeable soils on flood plains on river valleys and large streams on dissected plains.	Yes

5.1.4 Aerial Photography

Historic aerial imagery for the Project and surrounding areas was evaluated using images provided by Google Earth, Texas Orthoimagery Program (TOP), National Agriculture Imagery Program (NAIP), and Pictometry. Historic and recent natural color aerial photography, color infrared, and Pictometry were reviewed. The table below summarizes observations for the Project area for each year reviewed. Attachment 5 contains copies of the historic aerial photographs reviewed for the Project area.

Table 3: Historic Aerial Photography Observations

Year	Observations
1952	US 75, both landfills, and airport have not been constructed yet. Small quarry located on the site of the current northern-most landfill (near US 380). Area has been heavily cleared for cultivated fields.
1972	Area between US 380 and East Fork Trinity River (just west of where the northernmost landfill is currently location) is ditched to drain water out of the floodplain, resulting in the loss of wetlands and stream channel.
1985	Spur 399 and US 75 interchange and SH 5 are noted on aerial imagery in the far southwest extent of the Project area. Southern-most landfill is operational. Small airstrip constructed where the airport is now located.
1995	Airport appears to be larger than 1985. Large industrial complex construction begins on the west side of Project area.
2003	Large housing development begins near Stewart Road and SH 5. Development in this area results in modifications to the floodplain of Wilson Creek and its tributaries.
2005	Airport Drive constructed, including the construction of several ditches to drain water from road.
2011	Airport is expanded. Spur 399 and US 75 interchange is modified to its current alignment, and construction on medical complex is complete.
2017	Harry McKillop Boulevard is constructed in the southern extension of the Project area.
2019	More industrial facilities are constructed along west side of Airport Drive.

5.1.5 FEMA FIRM

A review of FEMA FIRMs indicated the Project area is intersected by the 100-year floodplain, 500-Year floodplain, and regulatory floodway hazard areas. The floodplains are associated with Wilson Creek and the East Fork Trinity River. Base Flood Elevation (BFE) for Wilson Creek is between 524 and 547 ft. Refer to Figure 6 in Attachment 1 for an illustration of the FEMA FIRM data within and surrounding the Project area.

5.1.6 LiDAR

LiDAR was not available for the Project area; however, TxDOT contours were reviewed for microtopographic changes in elevation within the Project area. Two-foot TxDOT Contours (2011) were reviewed. Reduced elevation occurs within the Wilson Creek and the East Fork Trinity River floodplains. Refer to Figures 7-1 through 7-14 in Attachment 1 for illustrations of TxDOT Contours within the Project area.

5.2 Water Features Delineation Results

Table 4 summarizes the water features identified within the Project area. Refer to Figure 8 in Attachment 1 for a depiction of the boundaries of each water feature, as well as the location within the Project area where sample point data was collected. Refer to Attachment 2 – Wetland Determination Data Forms and Stream Data Forms

that provide the wetland and stream data collected. Refer to Attachment 4 - Representative Site Photos, for representative photographs of each water feature observed within the Project area.

Table 4: Summary of Water Features					
Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
1*	Isolated Emergent Wetland	Palustrine Emergent Wetland	33.160187/ - 96.643283	0.87	-
2*	Isolated Emergent Wetland	Palustrine Emergent Wetland	33.161304/ - 96.642664	0.34	-
3*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.161168/ - 96.641351	0.01	138
4*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.166914/ - 96.630355	0.08	587
5	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.164526/ - 96.642213	0.002	34
6A*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.166753/ - 96.630500	0.16	1,717
6B*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.170044/ - 96.628353	0.08	880
7*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.164761/ - 96.631175	0.03	417
8*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.169584/ - 96.626335	0.14	1,977
9*	Unnamed Tributary to Wilson Creek	Perennial Stream	33.170896/ - 96.626128	0.05	250

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
10A	Unnamed Tributary to Wilson Creek	Perennial Stream	33.171331/ - 96.625606	0.03	117
10B	Unnamed Tributary to Wilson Creek	Perennial Stream	33.173781/ - 96.622437	0.01	45
11	Swale	Swale Drainage Feature	33.172715/ - 96.622777	-	296
12	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.172422/ - 96.622261	0.02	167
13	On-Channel Pond Associated with Wilson	On-Channel Pond	33.172031/ - 96.622076	0.09	-
14	Wilson Creek	Perennial Stream	33.173425/ - 96.621130	0.78	1,139
15	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.172391/ - 96.620405	0.03	63
16	Emergent Wetland Associated with Wilson Creek	Palustrine Emergent Wetland	33.172524/ 33.172524	0.57	-
17	Forested Wetland Associated with Wilson Creek	Palustrine Forested Wetland	33.172524/ - 96.617385	0.20	-
18	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.172691/ - 96.615773	0.07	411

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
19*	Isolated Emergent Wetland	Palustrine Emergent Wetland	33.172141/ - 96.614265	0.95	-
20	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.170985/ - 96.610544	0.005	69
21	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.179995/ - 96.597478	0.06	501
22	Upland Pond	Upland Pond	33.182848/ - 96.598656	0.26	-
23	Ditch	Ditch Drainage Feature	33.184729/ - 96.597270	0.19	417
24	Ditch	Ditch Drainage Feature	33.189701/ - 96.597077	0.13	380
25	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.193435/ - 96.596189	0.21	916
26	East Fork Trinity River	Perennial Stream	33.195836/ - 96.593573	0.56	820
27*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.196549/ - 96.597218	0.04	333
28	Swale	Swale Drainage Feature	33.197474/ - 96.597721	-	52

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
29	Upland Pond	Upland Pond	33.197545/ - 96.597430	0.09	-
30	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.197814/ - 96.597755	0.02	217
31	Swale	Swale Drainage Feature	33.197709/ - 96.597613		44
32	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.197805/ - 96.597506	0.22	-
33	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.198135/ - 96.597761	0.01	99
34	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.198125/ - 96.597553	0.01	-
35*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.198151/ - 96.597863	0.004	45
36	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.198516/ - 96.598396	0.08	556

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
37*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.198439/ - 96.599698	0.03	208
38*	Unnamed Tributary to East Fork Trinity River	Perennial Stream	33.202213/ - 96.600338	0.17	334
39	Unnamed Tributary to East Fork Trinity River	Perennial Stream	33.202817/ - 96.598338	0.42	839
40	East Fork Trinity River	Perennial Stream	33.203347/ - 96.596554	0.87	754
41	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.204744/ - 96.598906	0.01	79
42	Upland Pond	Upland Pond	33.202124/ - 96.592053	0.33	-
43	Upland Pond	Upland Pond	33.200242/ - 96.590364	0.32	-
44	Upland Pond	Upland Pond	33.196839/ - 96.591423	0.03	-
45	Upland Pond	Upland Pond	33.200091/ - 96.584822	0.23	-
46*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.200781/ - 96.584406	0.02	53

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
47	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.199761/ - 96.584386	0.30	875
48*	Upland Pond	Upland Pond	33.197562/ - 96.597549	0.22	-
49	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.199615/ - 96.583051	0.03	261
50*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.198593/ - 96.579630	0.12	645
51	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.199136/ - 96.578274	0.01	35
52*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.164171/ - 96.598187	0.13	1,108
53	Isolated Forested Wetland	Palustrine Forested Wetland	33.160887/ - 96.592964	0.34	-
54	Isolated Pond Not Connected to Wilson Creek	Isolated Pond	33.160121/ - 96.593174	0.89	-
55	Swale	Swale Drainage Feature	33.159884/ - 96.592759	-	28

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
56	Unnamed Stream Not Connected to Wilson Creek	Intermittent Stream	33.159687/ - 96.592967	0.03	291
57	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.158742/ - 96.586122	0.29	1,791
58*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.159099/ - 96.586518	0.02	107
59	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.157379/ - 96.585613	0.01	143
60*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.156620/ - 96.586265	0.04	274
61	Upland Pond	Upland Pond	33.160371/ - 96.584348	0.35	-
62	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.168470/ - 96.575379	0.09	677
63	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.168889/ - 96.575029	0.02	226
64	Swale	Swale Drainage Feature	33.172187/ - 96.575119	-	750
65	Unnamed Tributary to East Fork Trinity River	Perennial Stream	33.173965/ - 96.575261	0.21	1,521

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
66	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.173355/ - 96.575367	0.01	118
67	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.173500/ - 96.576277	0.01	176
68	Upland Pond	Upland Pond	33.176258/ - 96.574621	0.17	-
69	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.177019/ - 96.574545	0.25	-
70	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.177301/ - 96.574543	0.03	-
71	Unnamed Tributary to East Fork Trinity River	Perennial Stream	33.178192/ - 96.575152	0.11	803
72	Swale	Swale Drainage Feature	33.180202/ - 96.575108	-	550
73	Upland Pond	Upland Pond	33.182042/ - 96.576591	0.08	-
74	Upland Pond	Upland Pond	33.182216/ - 96.576698	0.03	-

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
75	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.184532/ - 96.576455	0.10	761
76	Swale	Swale Drainage Feature	33.185640/ - 96.576338	-	773
77	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.185750/ - 96.577583	0.47	-
78	Swale	Swale Drainage Feature	33.187465/ - 96.577711	-	362
79	East Fork Trinity River	Perennial Stream	33.190432/ - 96.577086	0.61	664
80	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.190741/ - 96.576669	0.04	220
81	Swale	Swale Drainage Feature	33.191062/ - 96.576944	-	262
82	Swale	Swale Drainage Feature	33.191515/ - 96.577212	-	379
83	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.191981/ - 96.576895	0.07	-

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
84	Swale	Swale Drainage Feature	33.192316/ - 96.576886	-	101
85	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.192739/ - 96.577013	0.20	-
86	Swale	Swale Drainage Feature	33.193388/ - 96.577320	-	170
87	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.192350/ - 96.578094	0.21	-
88	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.193188/ - 96.578276	0.15	-
89	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.193789/ - 96.578028	0.05	-
90	Swale	Swale Drainage Feature	33.193874/ - 96.577993	-	41
91	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.194060/ - 96.578004	0.10	-

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
92	Upland Pond	Upland Pond	33.195270/ - 96.576019	1.22	-
93	Upland Pond	Upland Pond	33.196064/ - 96.577033	0.47	-
94	Unnamed Stream Not Connected to East Fork Trinity River	Ephemeral Stream	33.197015/ - 96.573861	0.01	133
95	Ditch	Ditch Drainage Feature	33.197244/ - 96.573647	0.01	85
96	Ditch	Ditch Drainage Feature	33.197244/ - 96.573647	0.01	52
97	Ditch	Ditch Drainage Feature	33.196927/ - 96.572034	0.02	207
98	Ditch	Ditch Drainage Feature	33.197413/ - 96.572278	0.04	386
99*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.196049/ - 96.570272	0.01	148
100	Ditch	Ditch Drainage Feature	33.196269/ - 96.570130	0.01	59
101	Ditch	Ditch Drainage Feature	33.196138/ - 96.569053	0.05	440

Water Feature Number*	Name	Туре	Lat/ Long	Acres within Project area (all water features including streams)	Linear feet (LF) within Project area (streams only)
102	Ditch	Ditch Drainage Feature	33.196209/ - 96.568093	0.01	90
103	Ditch	Ditch Drainage Feature	33.196209/ - 96.568093	0.005	43
104	Unnamed Stream Not Connected to East Fork Trinity River	Ephemeral Stream	33.195442/ - 96.567532	0.01	140
105	Ditch	Ditch Drainage Feature	33.195561/ - 96.567351	0.02	209
106	Ditch	Ditch Drainage Feature	33.195904/ - 96.567046	0.02	136
	To	otal		16.55 AC	31,192 LF

^{*} indicates a Photo-Interpreted Feature

Ephemeral streams are characterized as having a defined OHWM but only flowing during, and for a short duration after, precipitation events, and do not exhibit seasonal flow. Swales do not have a defined OHWM and are characterized by low volume and infrequent, short duration flow. Artificial lakes and ponds are characterized as having been constructed or excavated in uplands.

An area of particular interest is the complex between US 380 and East Fork Trinity River (Water Feature 79). Between 1952 and 1972 (see Table 3) a ditch was excavated to the northwest of the Project area to reroute the former alignment of Intermittent Stream Water Feature 80 and drain the floodplain, likely eliminating a historic wetland area. This modification resulted in a split watershed. Forested Wetland Water Feature 88, On-Channel Pond Water Feature 87, 89, and 91, and Swale Water Feature 90 drain into the man-made alignment of the former stream and drain northwest to the East Fork Trinity River outside the Project area. Alternately, a patchwork of channel scars drain south, where some portions of the old stream persist as deep, open water depressions and currently function as open water features (On-Channel Pond Water Features 83 and 85). These ponds are connected by upland, vegetated swales (Swale Water Features 81, 82, 84, and 86). These swales and ponds drain to the only remaining portion of the original stream, Intermittent Stream Water Feature 80, which flows into the East Fork Trinity River (79). All water features in this complex are flooded by the East Fork Trinity River in a typical year.

Additionally, in the southern portion of the Project area, Water Feature 56 is an intermittent stream that outfalls from Isolated Pond Water Feature 54 with Forested Wetland Water Feature 53, then dissipates into upland

floodplain without a defined hydrologic connection to Wilson Creek. In the northern portion of the Project area, Water Feature 29 is an upland pond that was excavated between 1985 and 1995 and does not have a defined hydrologic connection downstream to the East Fork Trinity River.

5.2.1 Hydrology

A review of the Antecedent Precipitation Tool (APT) reported mostly normal conditions that ranged from moderate wetness to incipient drought conditions present within the Project area at the time of the field investigations. The table below summarizes wetland hydrological indicators identified within the Project area. Refer to the Wetland Determination Data Forms in Attachment 2 to see the specific hydrology recorded at each sample point. Refer to the APT for McKinney, Texas in Attachment 3 for hydrologic conditions during field investigations.

Table 5: Wetland Hydrological Indicators

Wetland Type	Water Feature Number(s)	Primary Wetland Hydrological Indicators	Secondary Wetland Hydrological Indicators
Palustrine Forested Wetland	17, 32, 34, 70, 88	A1 – Surface Water A3 – Saturation B1 – Water Marks B7 – Inundation Visible on Aerial Imagery B9 – Water-Stained Leaves	C9 – Saturation Visible on Aerial Imagery D5 – FAC-Neutral Test
Palustrine Emergent Wetland	16, 69, 77	A2 – High Water Table A3 – Saturation B7 – Inundation Visible on Aerial Imagery	C9 – Saturation Visible on Aerial Imagery D5 – FAC-Neutral Test

5.2.2 Vegetation

Normal conditions were reported within the Project area at the time of the field investigations. Representative dominant taxa for each distinct habitat type encountered within the Project area are listed in the tables below. Indicator status for each species was obtained from the 2018 NWPL.

Table 6: Wetland Dominant Forested Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Tree	Salix nigra	black willow	FACW
Tree	Acer negundo	boxelder	FAC
Tree	Fraxinus pennsylvanica	green ash	FAC
Tree	Ulmus americana	American elm	FAC
Tree	Celtis laevigata	sugar-berry	FAC
Tree	Populus deltoides	eastern cottonwood	FAC
Sapling/Shrub	Acer negundo	boxelder	FAC
Sapling/Shrub	Fraxinus pennsylvanica	green ash	FAC

Strata	Scientific Name	Common Name	NWPL Classification
Sapling/Shrub	Ulmus americana	American elm	FAC
Sapling/Shrub	Celtis laevigata	sugar-berry	FAC

Table 7: Wetland Dominant Emergent Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Herbaceous	Leersia oryzoides	rice cut grass	OBL
Herbaceous	Persicaria hydropiperoides	swamp smartweed	OBL
Herbaceous	lva annua	annual marsh-elder	FAC
Herbaceous	Eleocharis palustris	common spike-rush	OBL
Herbaceous	Xanthium strumarium	rough cocklebur	FAC
Herbaceous	Juncus torreyi	Torrey's rush	FACW

Table 8: Upland Dominant Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Tree	Acer negundo	boxelder	FAC
Tree	Fraxinus pennsylvanica	green ash	FAC
Tree	Maclura pomifera	Bois d'arc	FACU
Tree	Ulmus americana	American elm	FAC
Sapling/Shrub	llex vomitoria	yaupon	FACU
Sapling/Shrub	Acer negundo	boxelder	FAC
Herbaceous	Toxicodendron radicans	poison ivy	FACU
Herbaceous	Elymus virginicus	Virginia wildrye	FAC
Woody Vine	Vitis riparia	riverbank grape	FAC

5.2.3 Soils

Normal conditions were present within the Project area at the time of the field investigations. Refer to the Wetland Determination Data Forms in Attachment 2 to see the specific soil indicators recorded at each sample point. The table below summarizes hydric soil data identified within the Project area.

Table 9: Hydric Soil Indicators

Wetland Type	Water Feature Number(s)	Hydric Soil Indicator(s)
Palustrine Forested Wetland	17, 32, 34, 70, 88	F3 – Depleted Matrix F6 – Redox Dark Surface F7 – Depleted Dark Surface F8 – Redox Depressions
Palustrine Emergent Wetland	16, 69, 77	F3 – Depleted Matrix F8 – Redox Depressions Other – Sample Point within disturbed pipeline ROW, inundation and saturation on aerial imagery shows sufficient hydrology

6.0 Conclusion

A water feature delineation was conducted for Spur 399 (from US 75 to US 380) in McKinney, Collin County, Texas (CSJ 0364-04-051, 0047-05-058, 0047-10-002). The field delineation was completed on August 28; September 8, 10, 11; October 12, 13; and December 3, 2020, and June 8, August 16, and September 22, 2021. Refer to Section 5.2, above, for a table summarizing the water features (i.e., waterbodies/wetlands) identified within the Project area.

The Project area contained intermittent and perennial tributaries, palustrine forested and emergent wetlands, open water features (ponds), excavated upland ponds, ephemeral streams, swales, ditches, water-filled depressions associated with road construction, and stormwater retention ponds and wetlands.

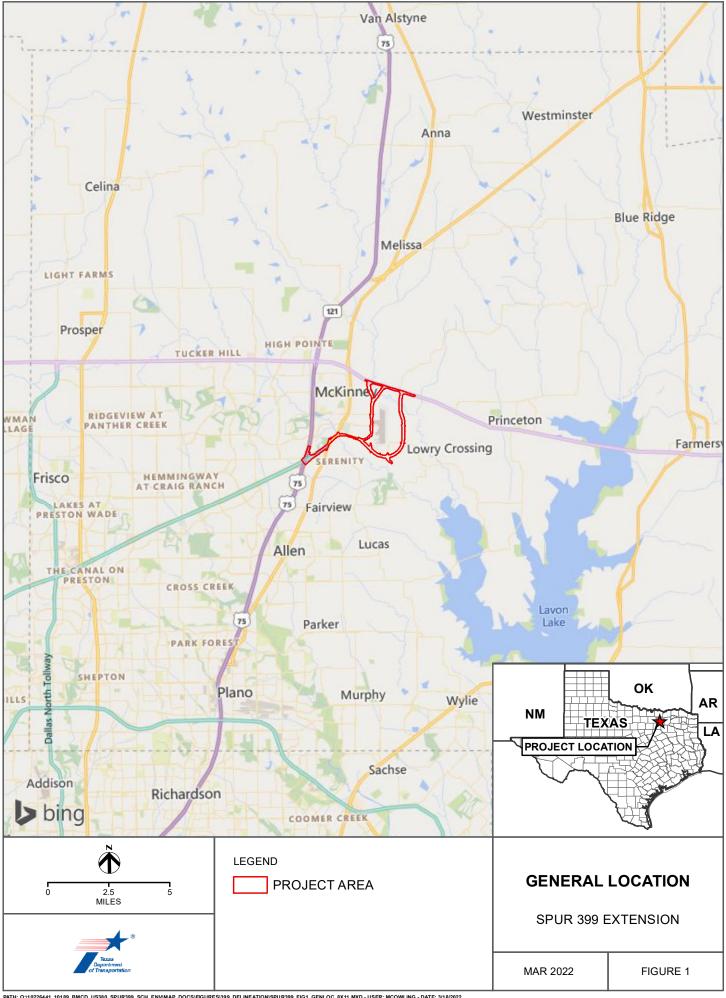
7.0 References

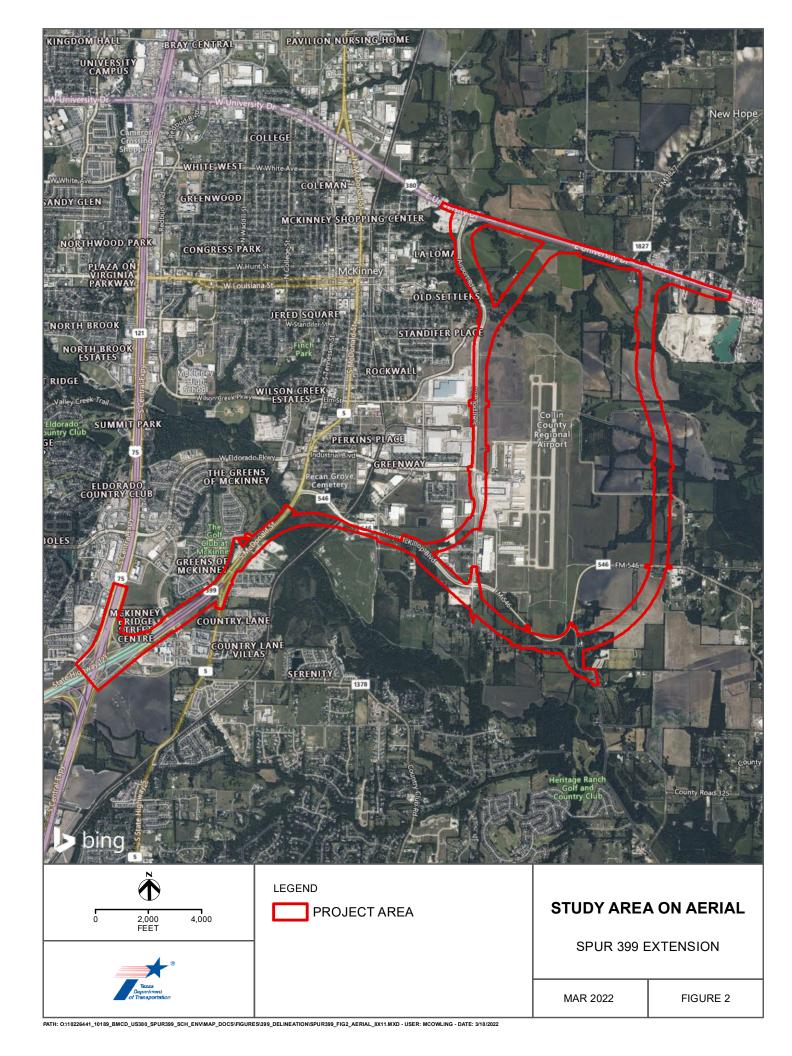
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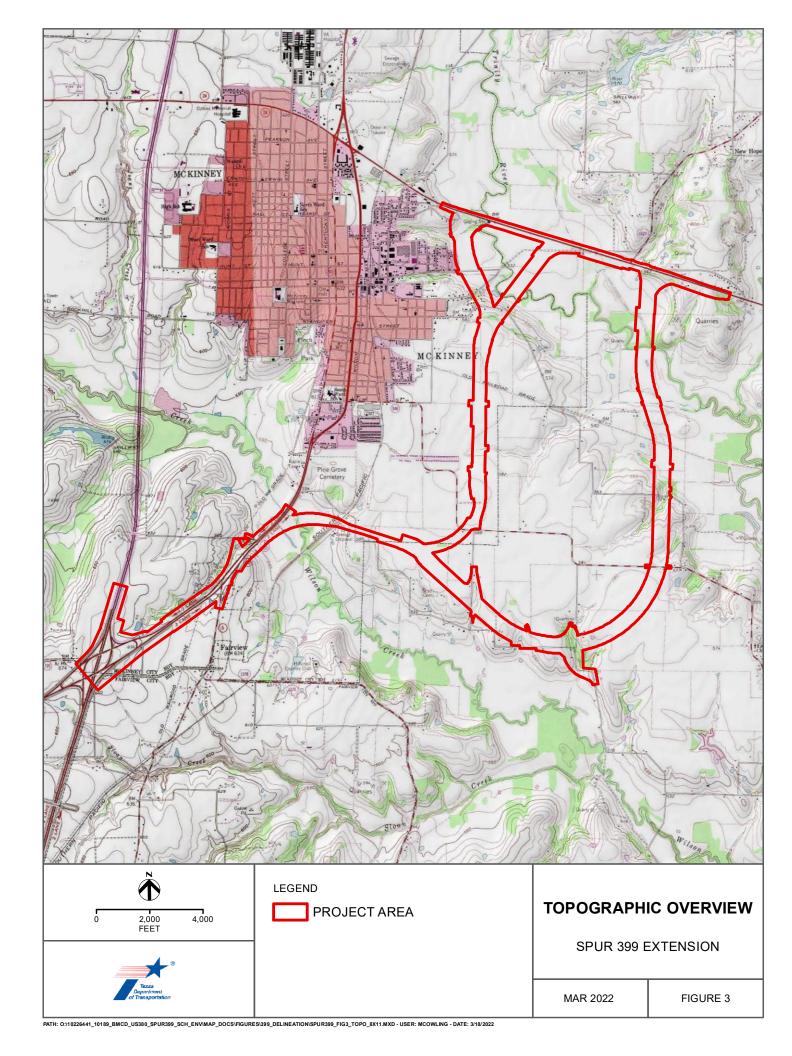
8.0 Attachments

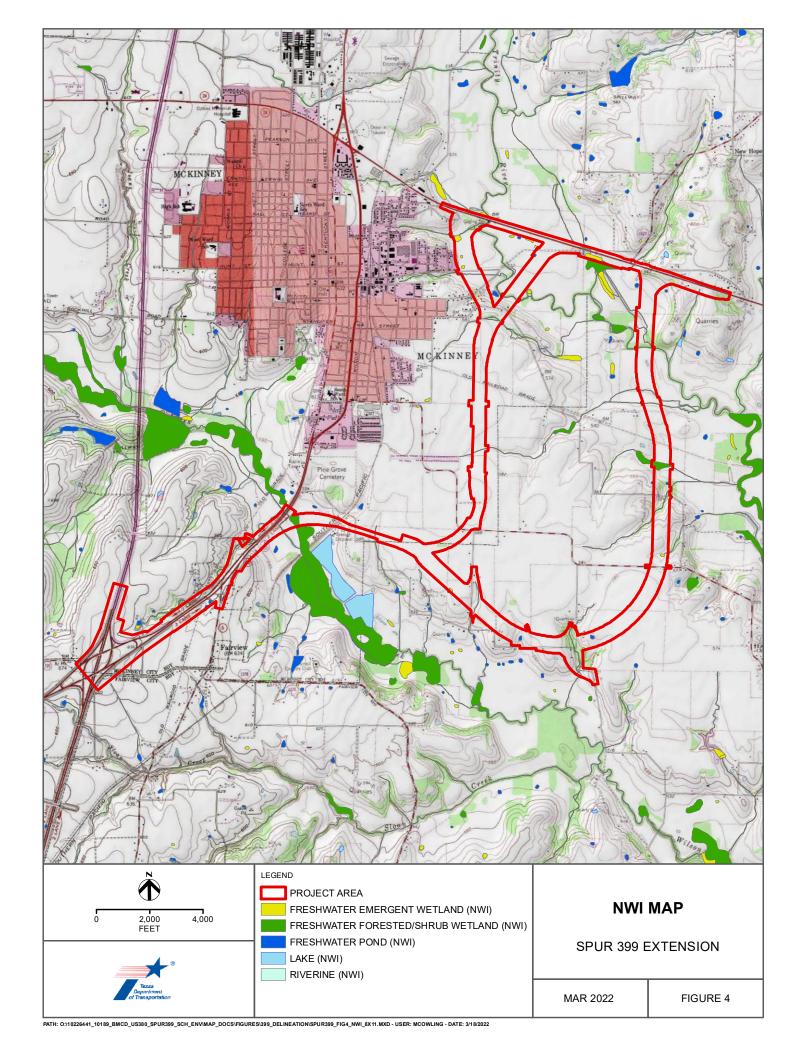
- 1. Figures
- 2. Wetland Determination Data Forms and Stream Data Forms
- 3. Antecedent Precipitation Tool for McKinney, Texas
- 4. Site Photographs
- 5. Historical Aerial Photographs

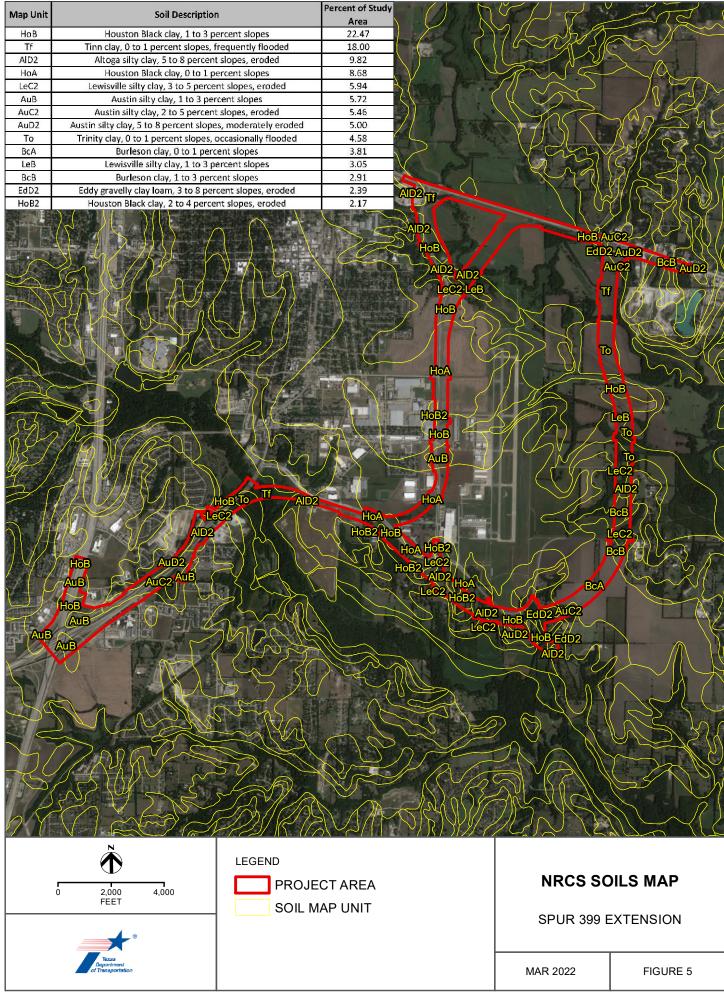
Attachment 1 - Figures

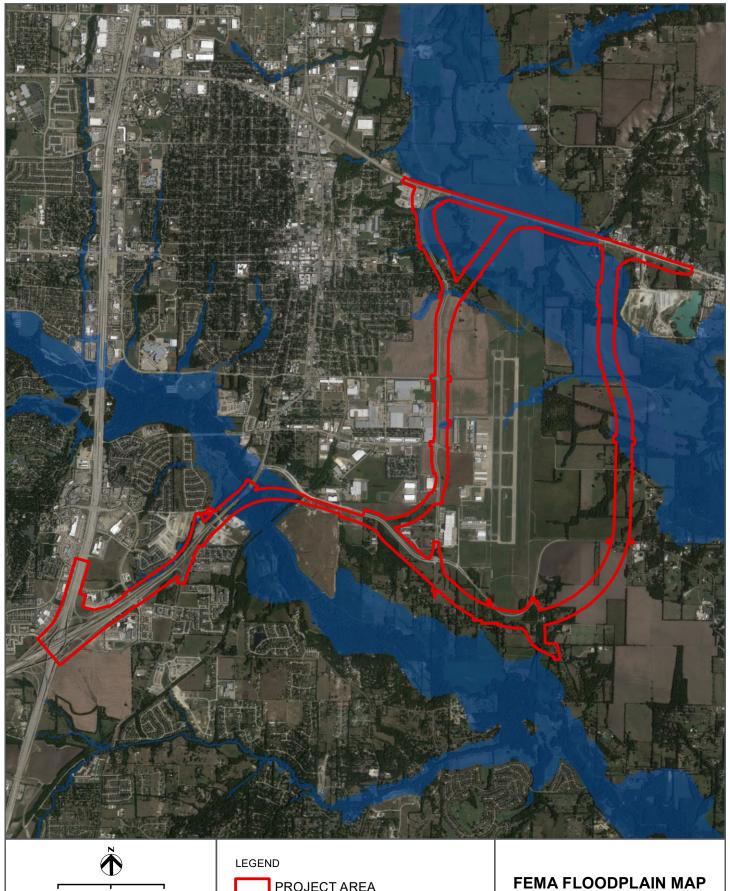


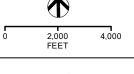










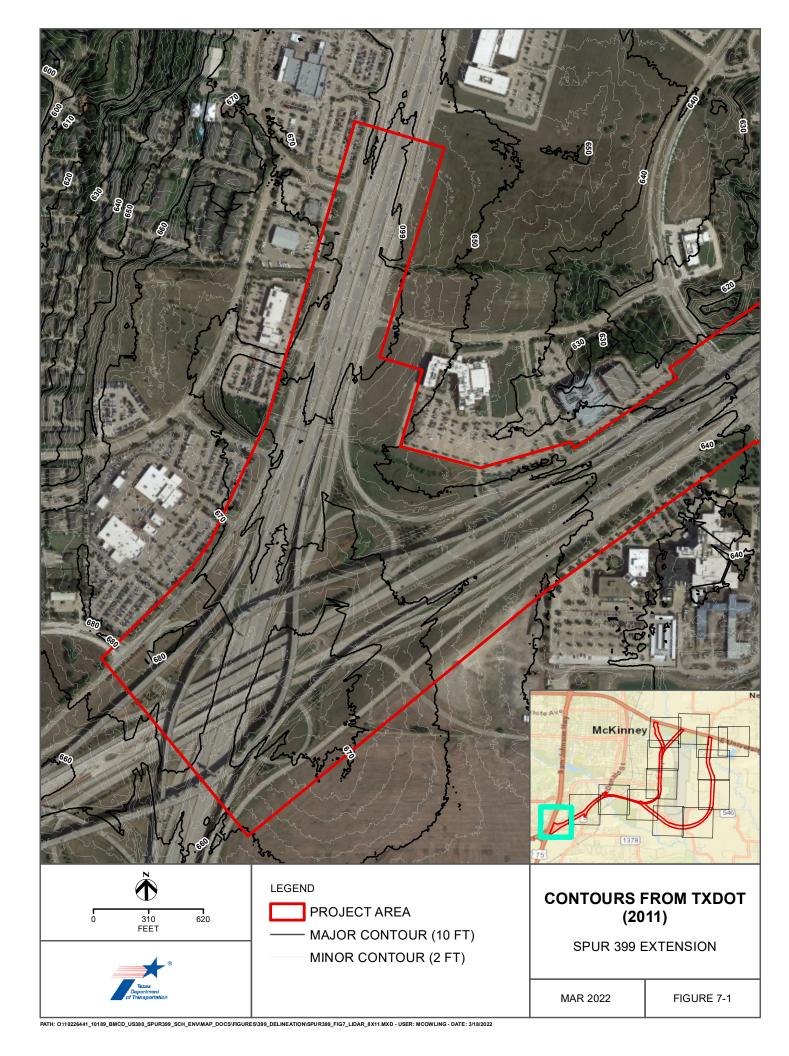


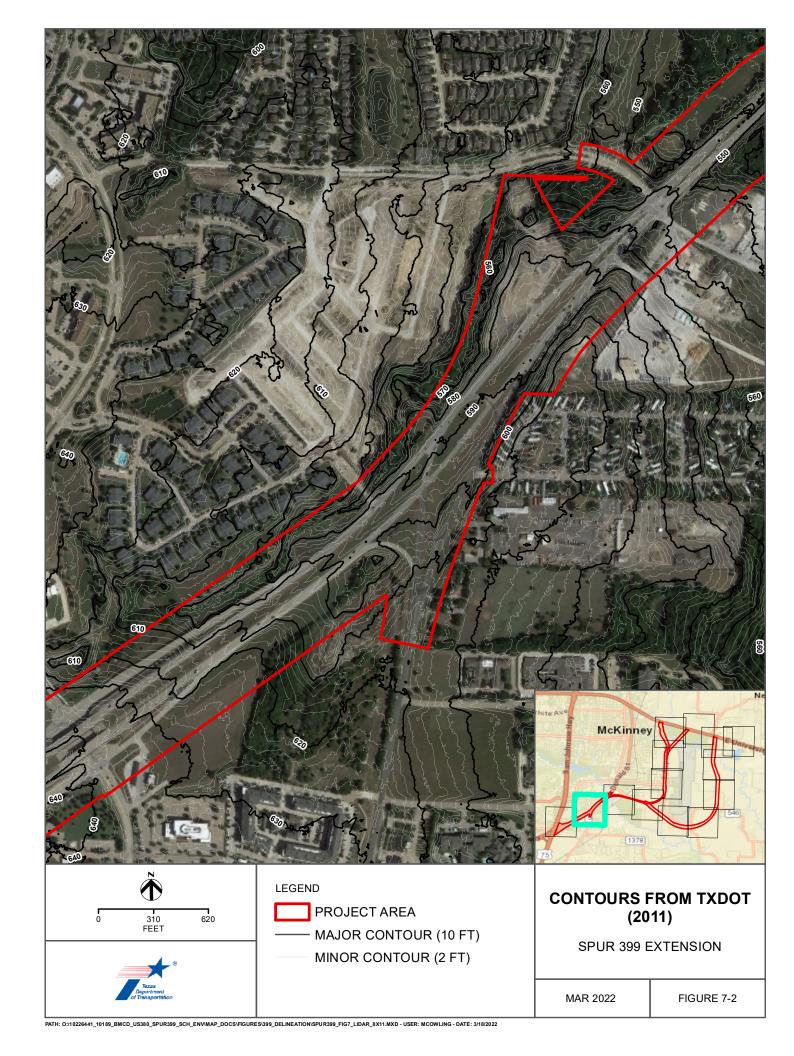
PROJECT AREA 100-YEAR FLOODPLAIN

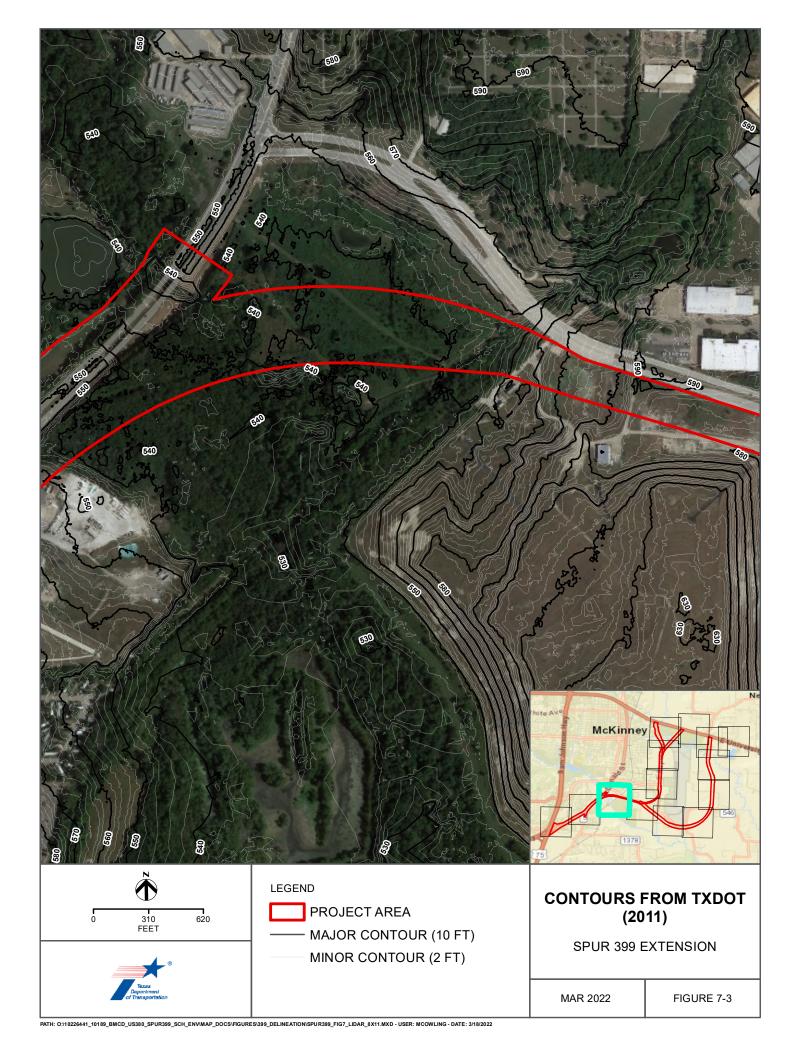
SPUR 399 EXTENSION

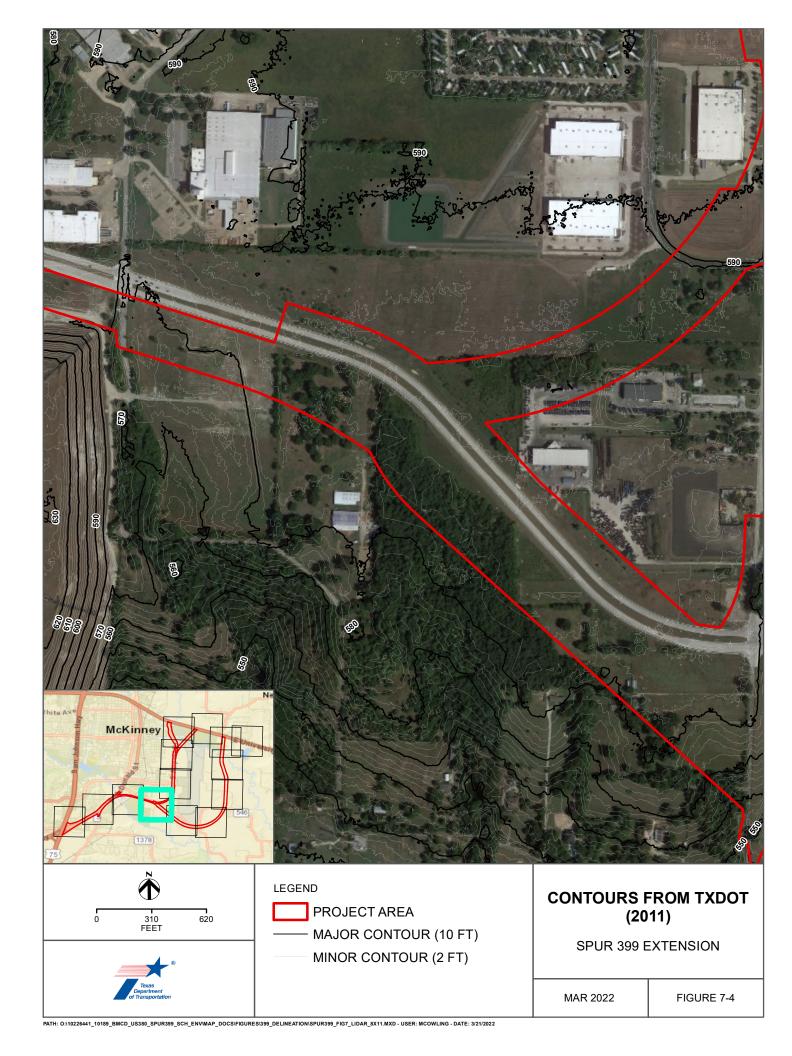
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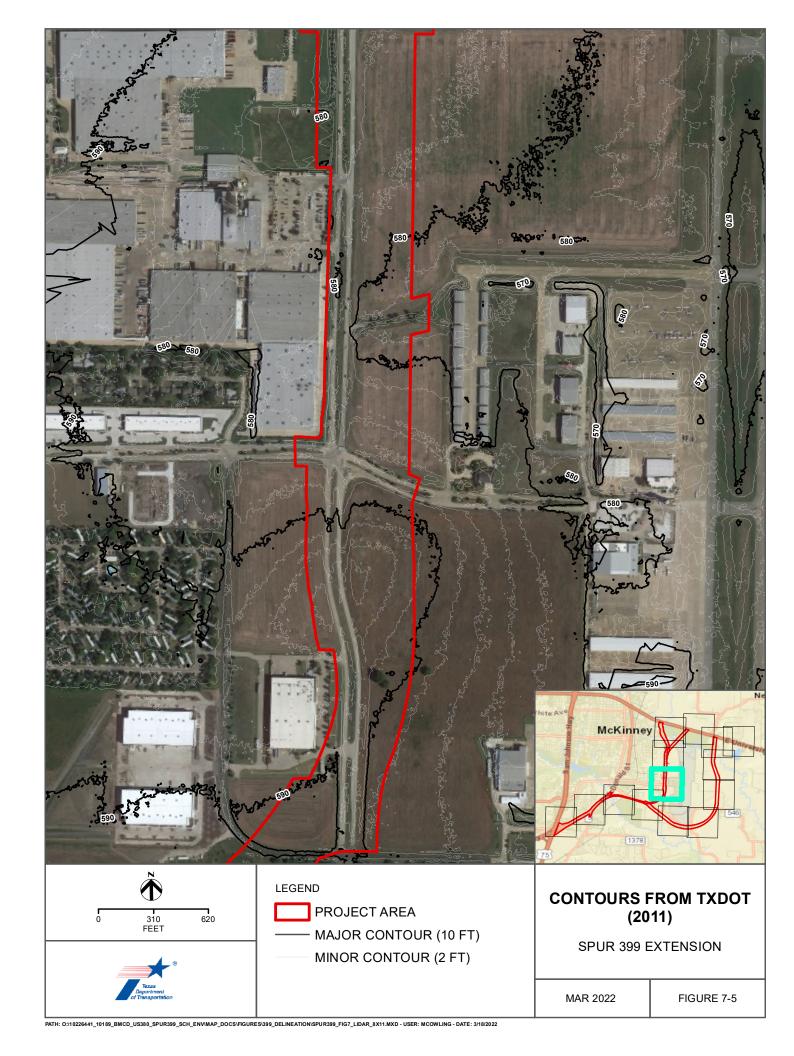
FIGURE 6

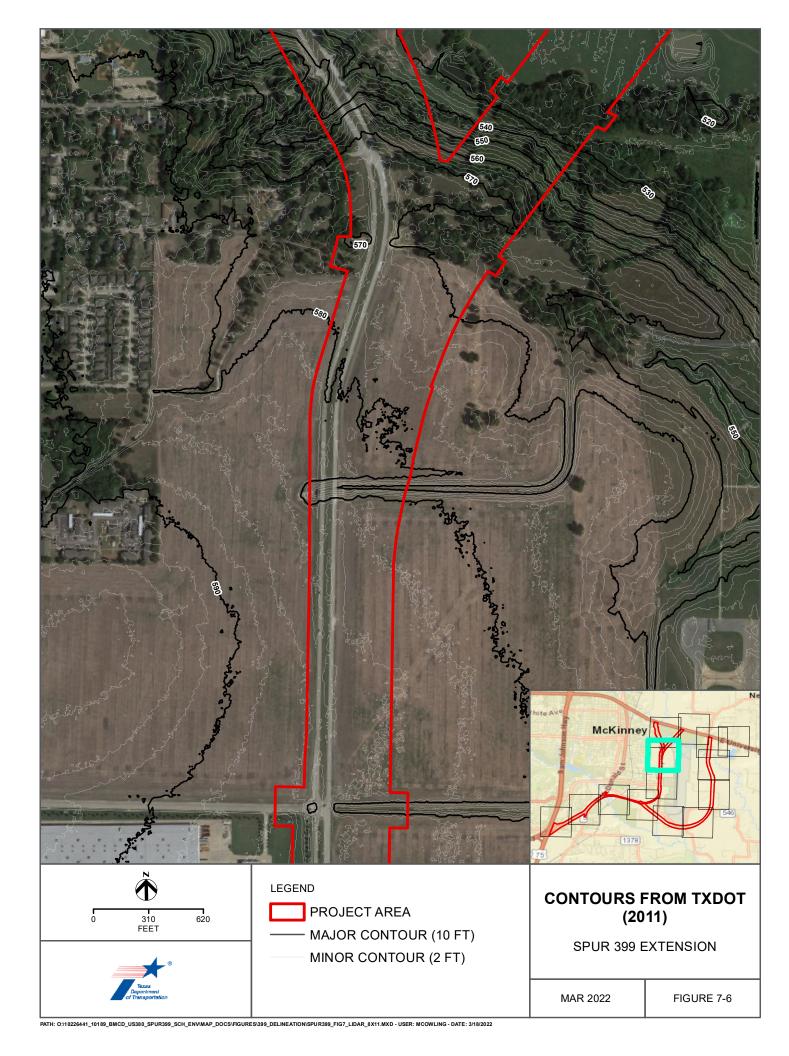


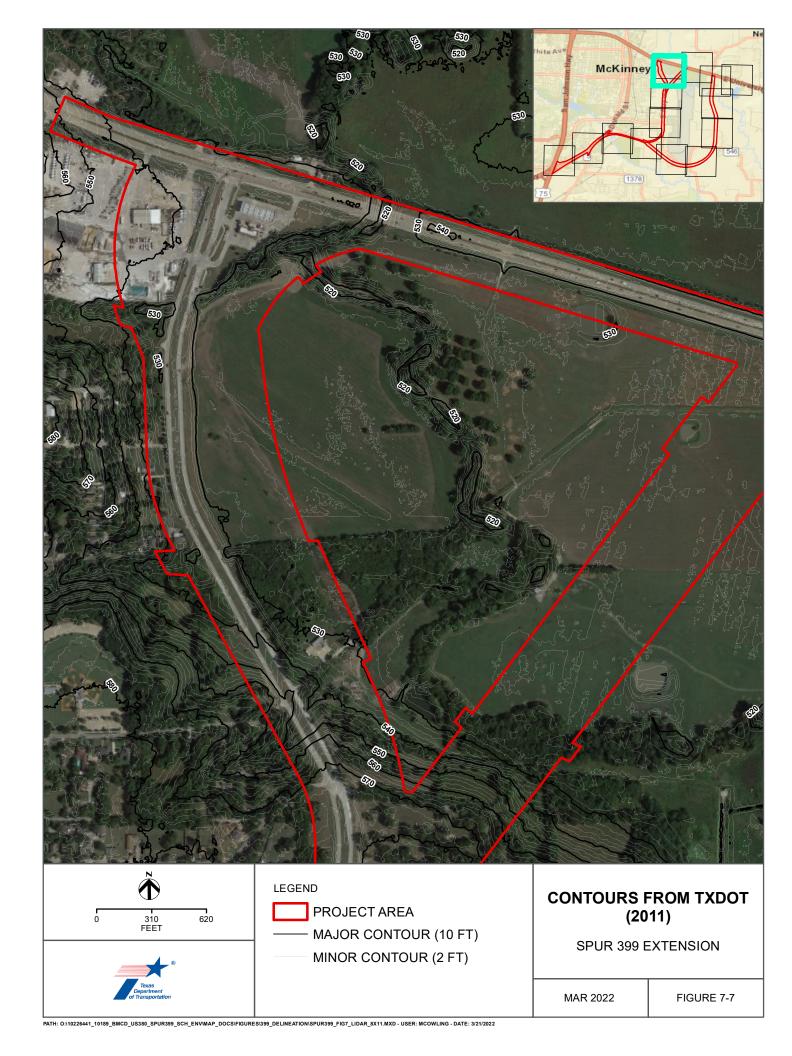


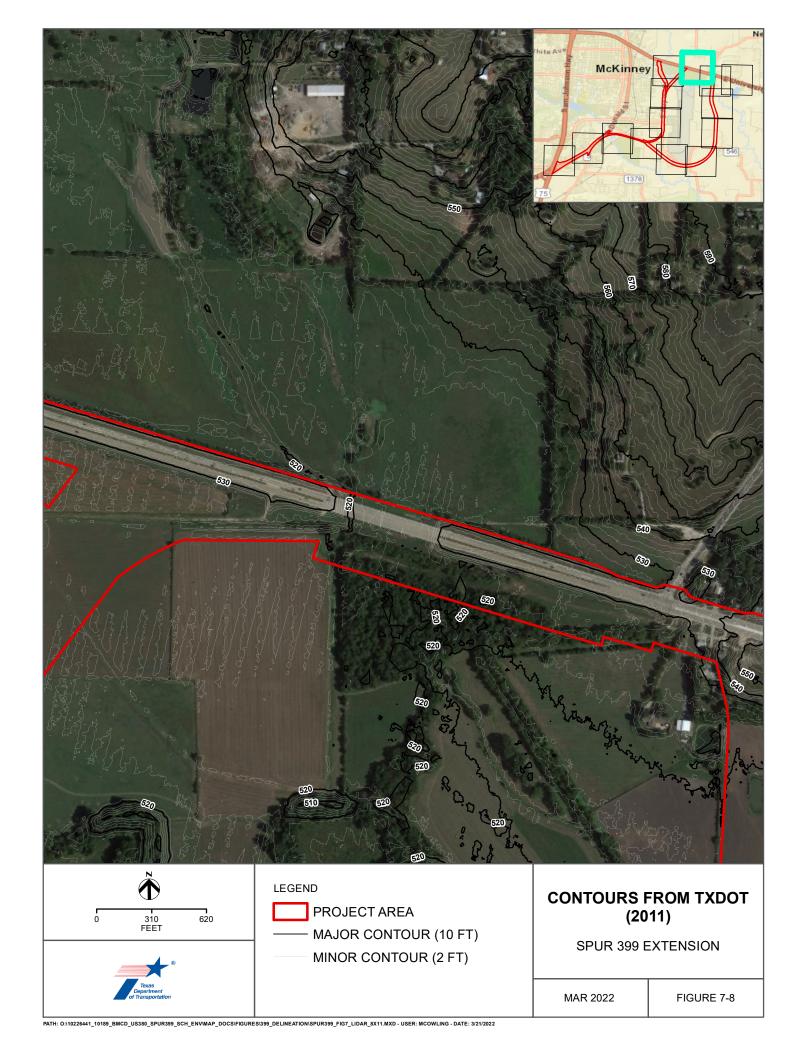


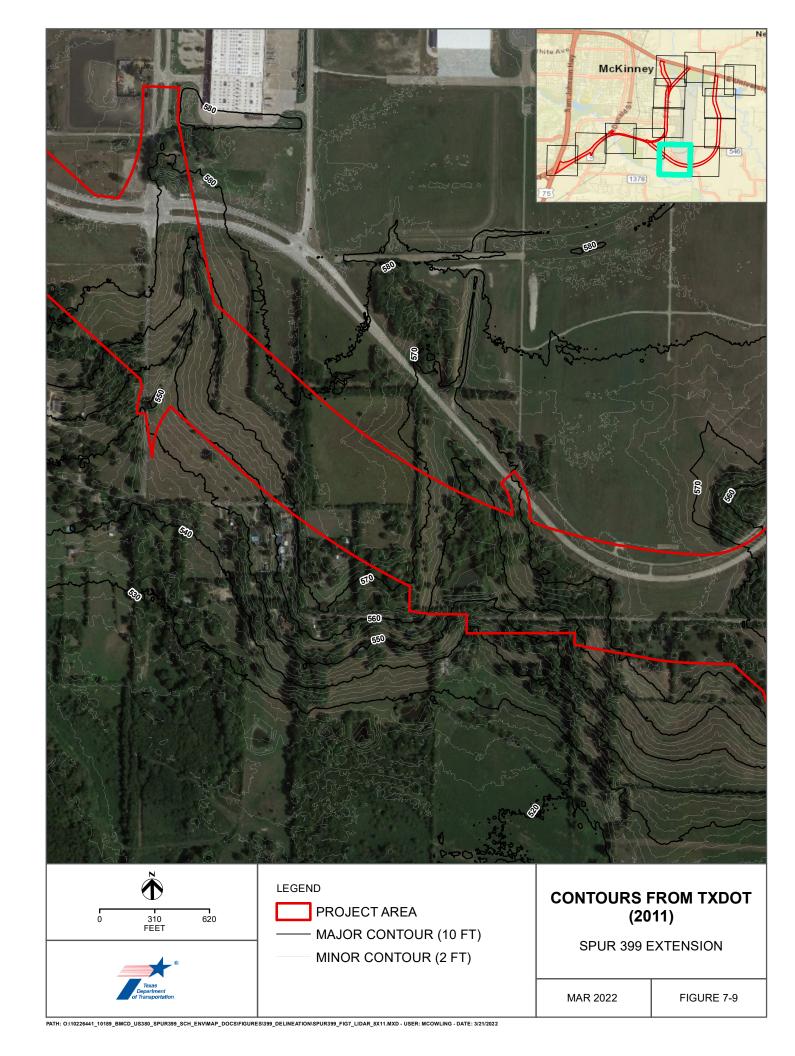


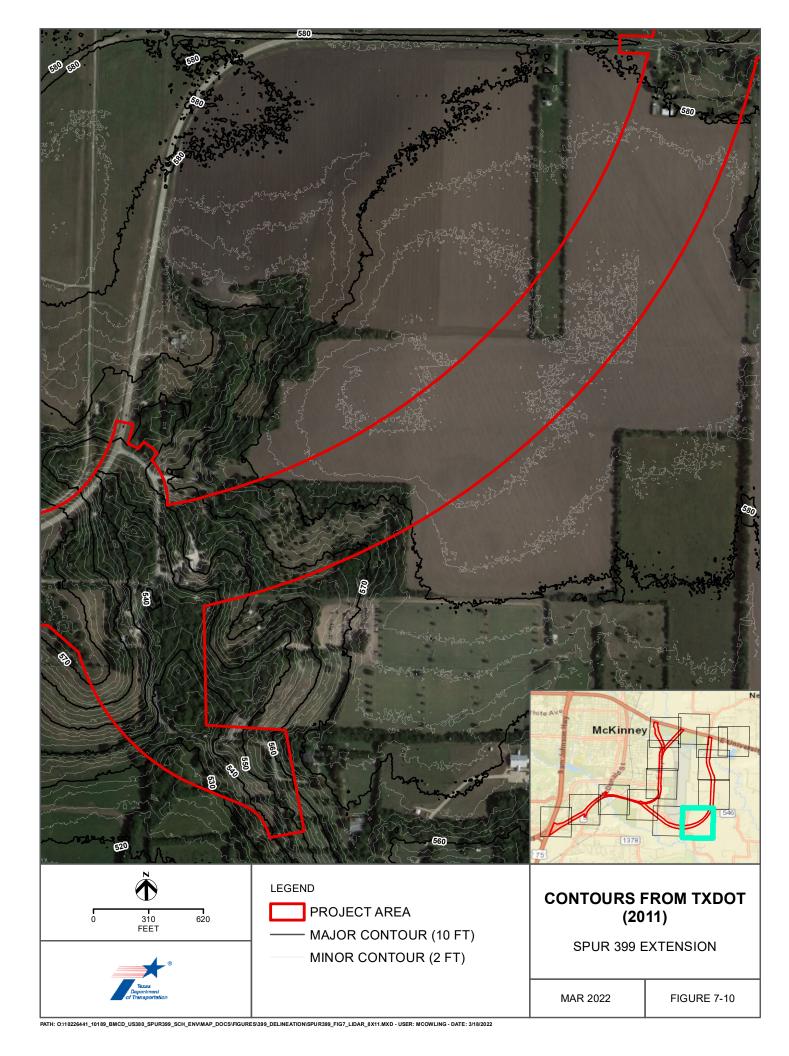


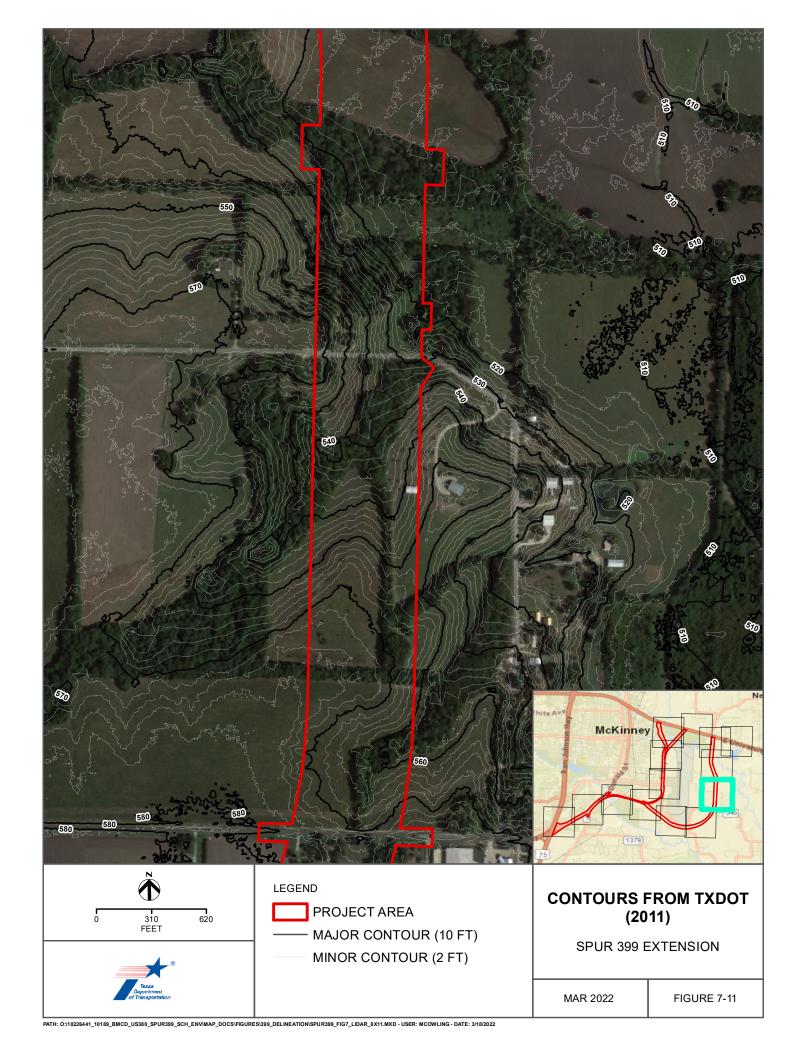


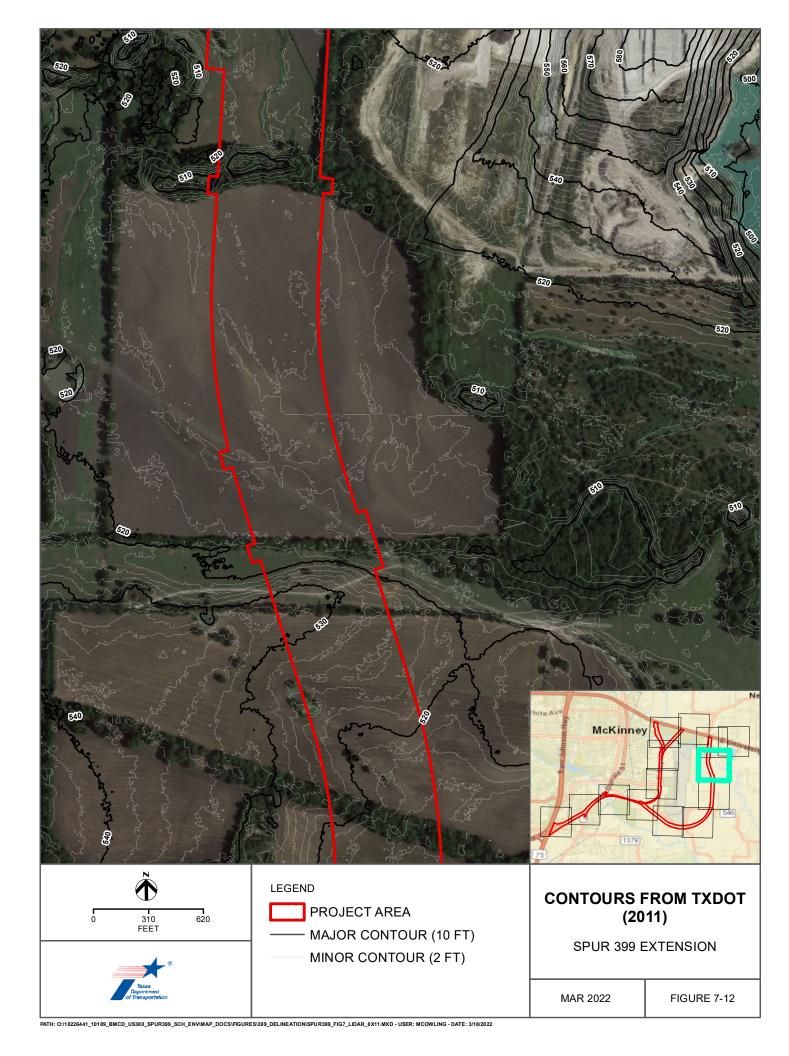


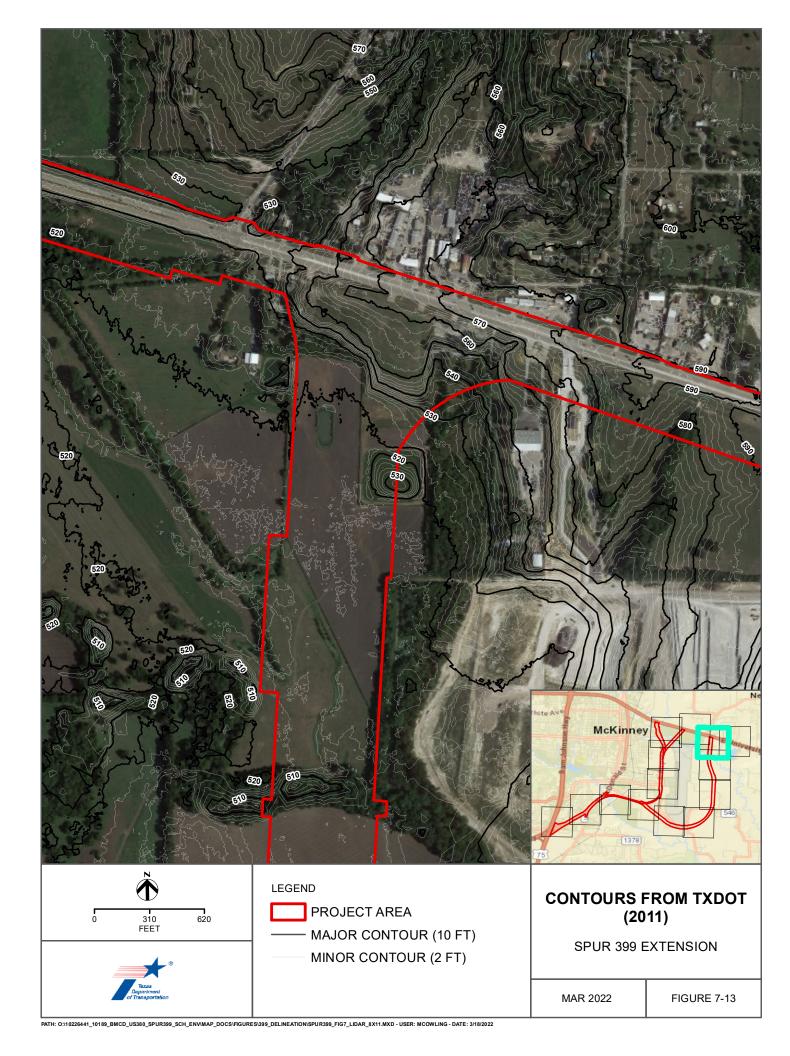


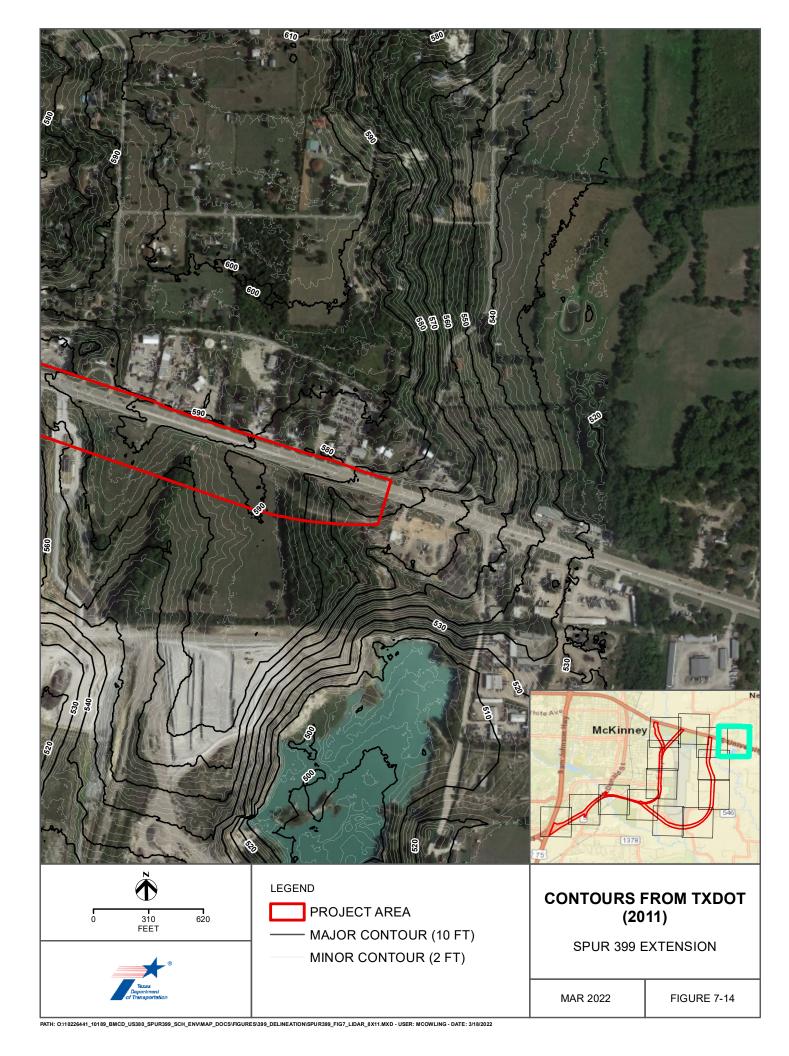


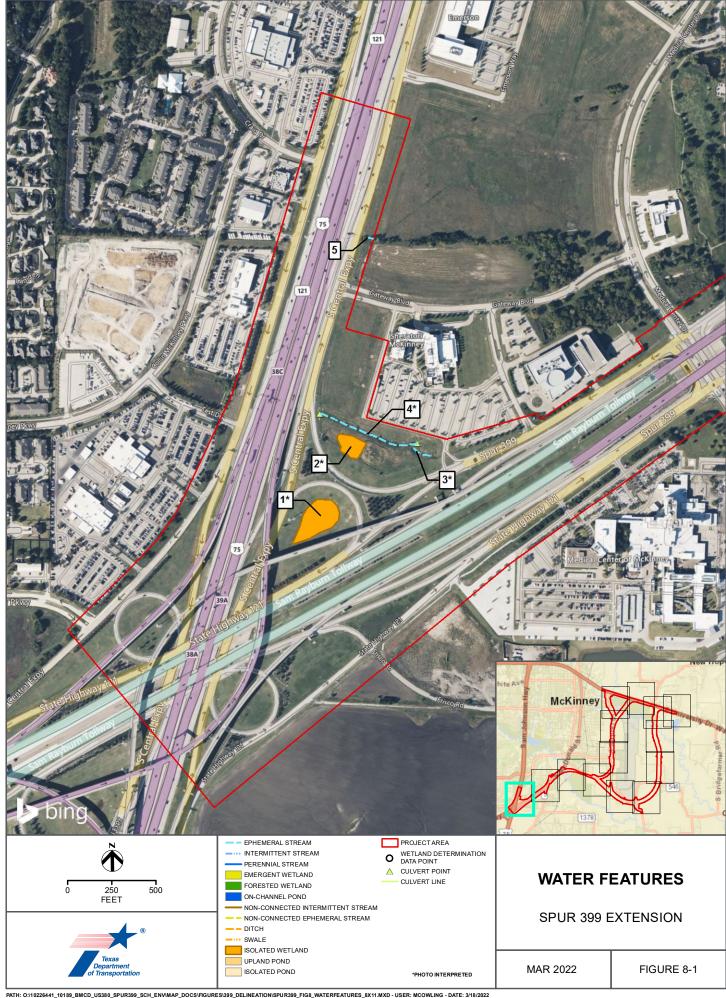


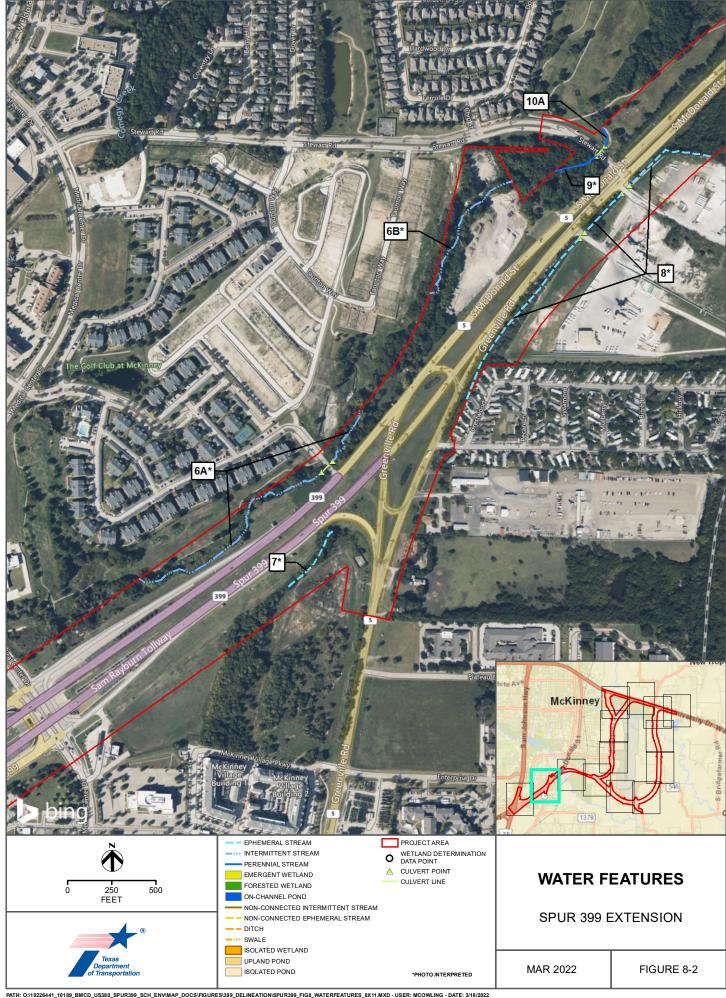


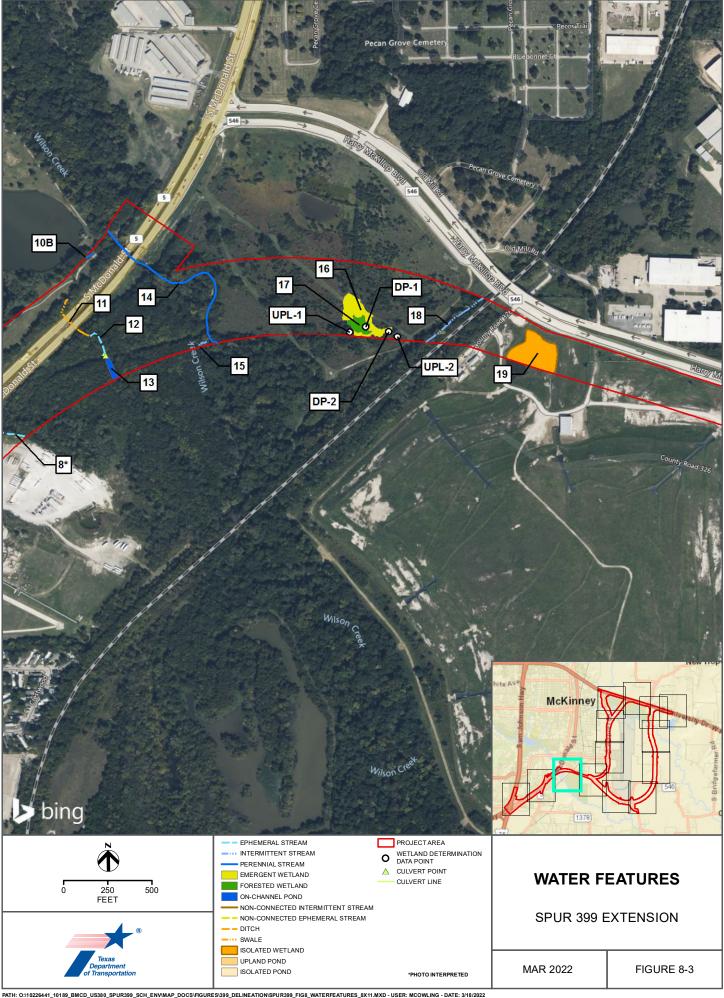


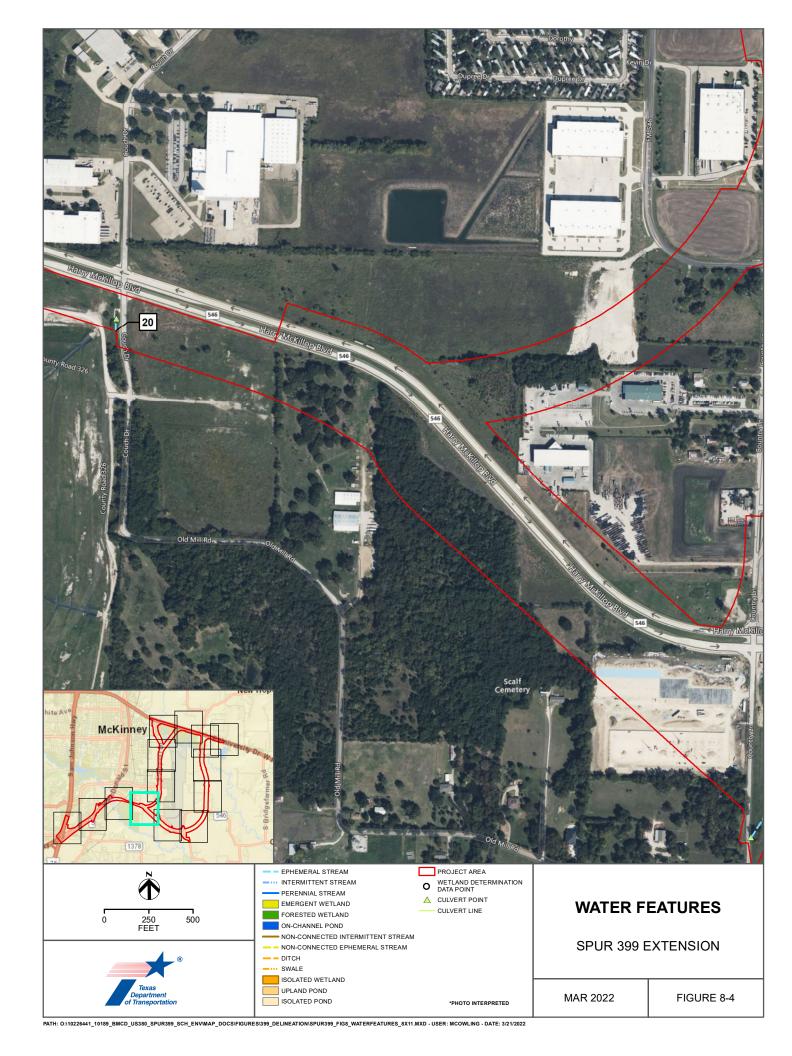


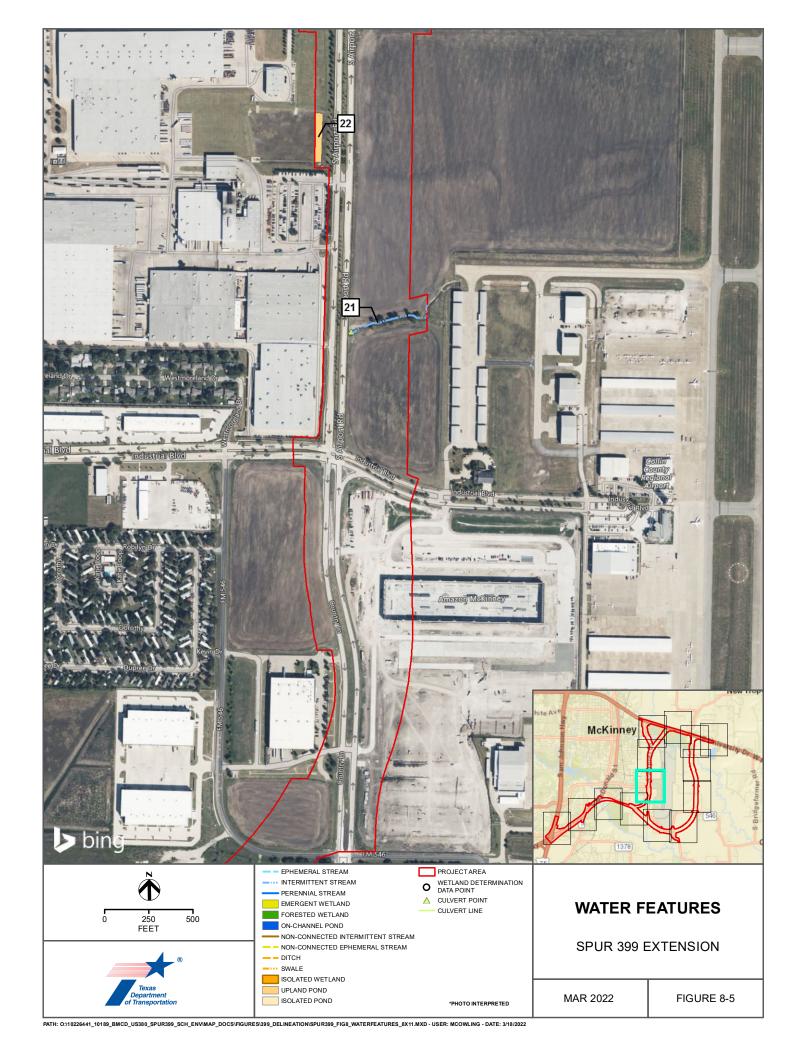


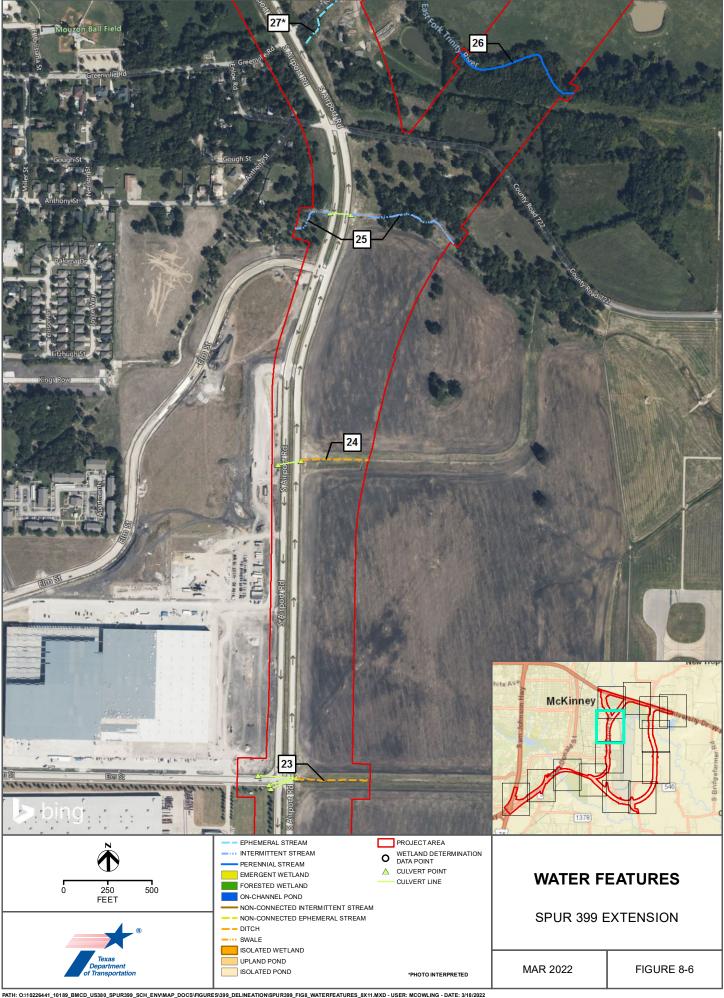


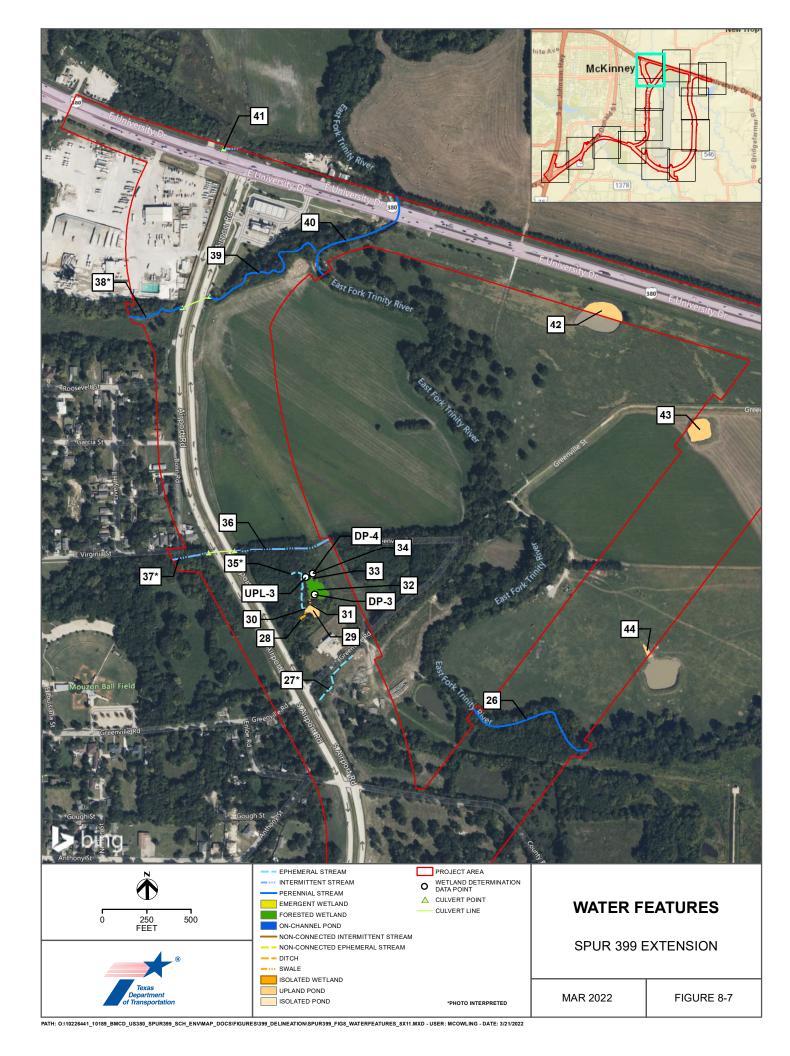


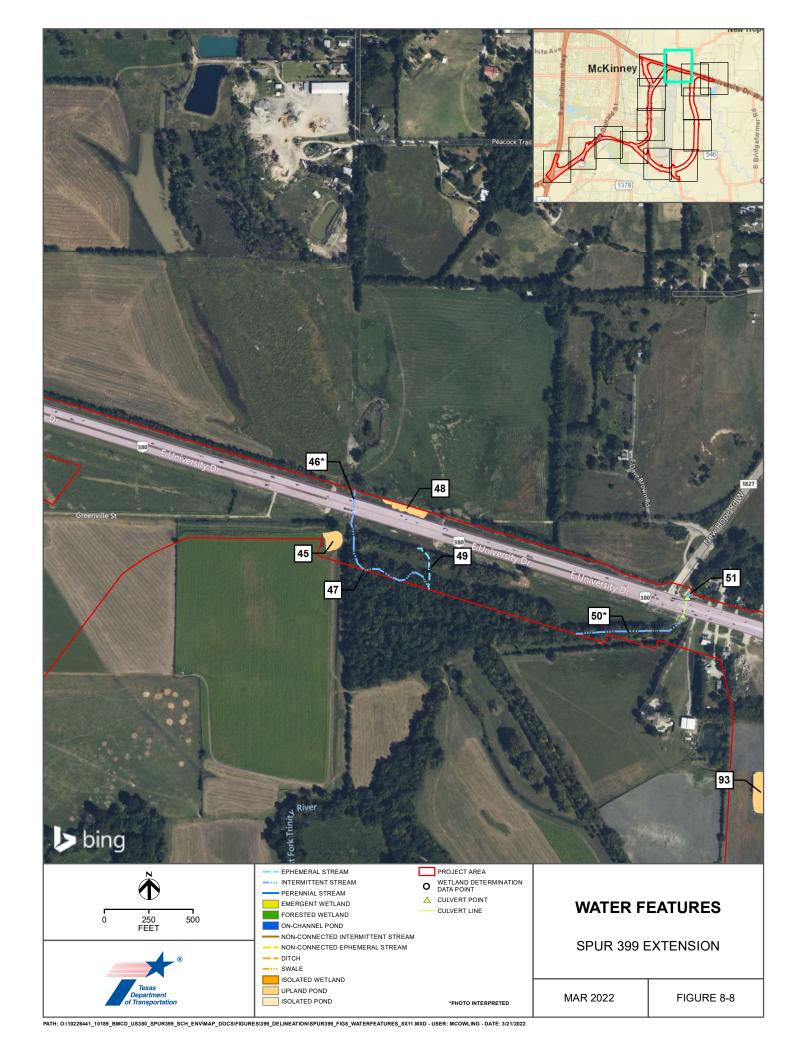


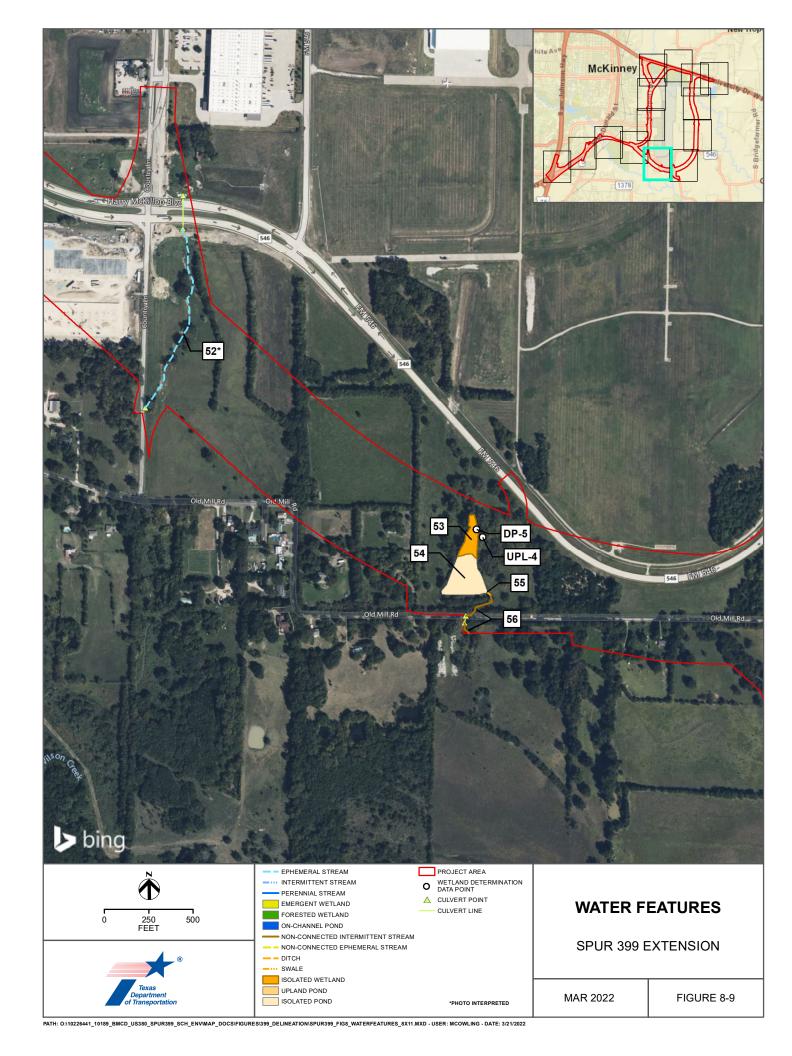


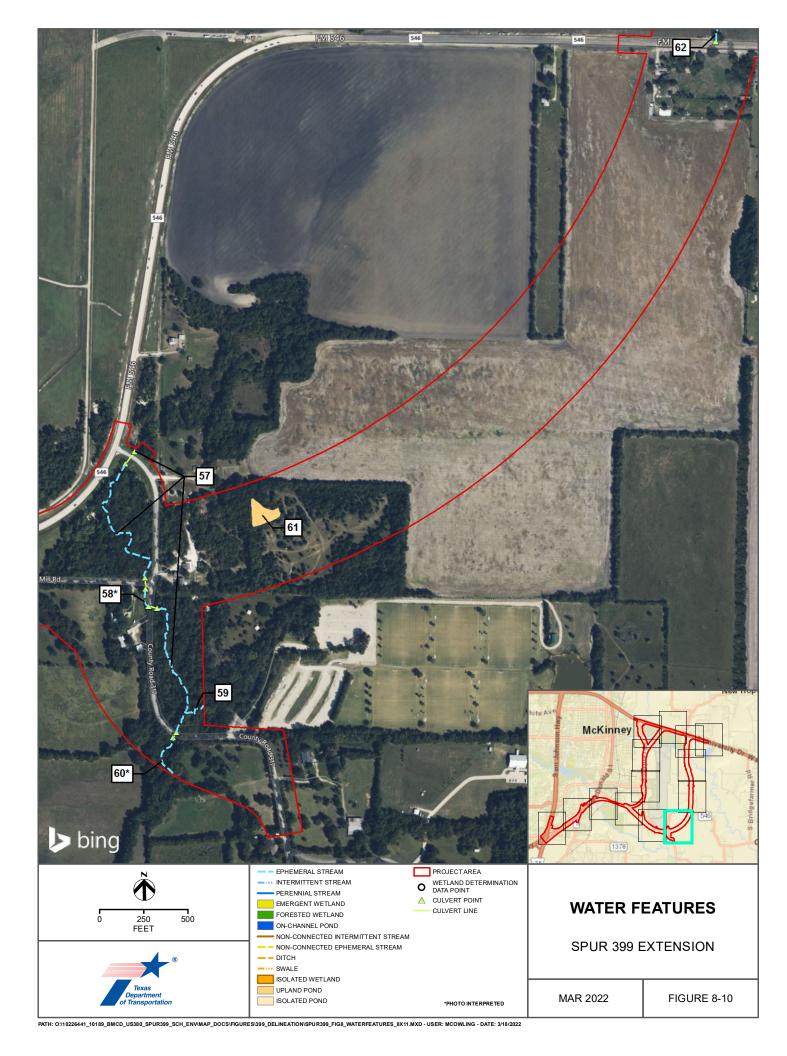


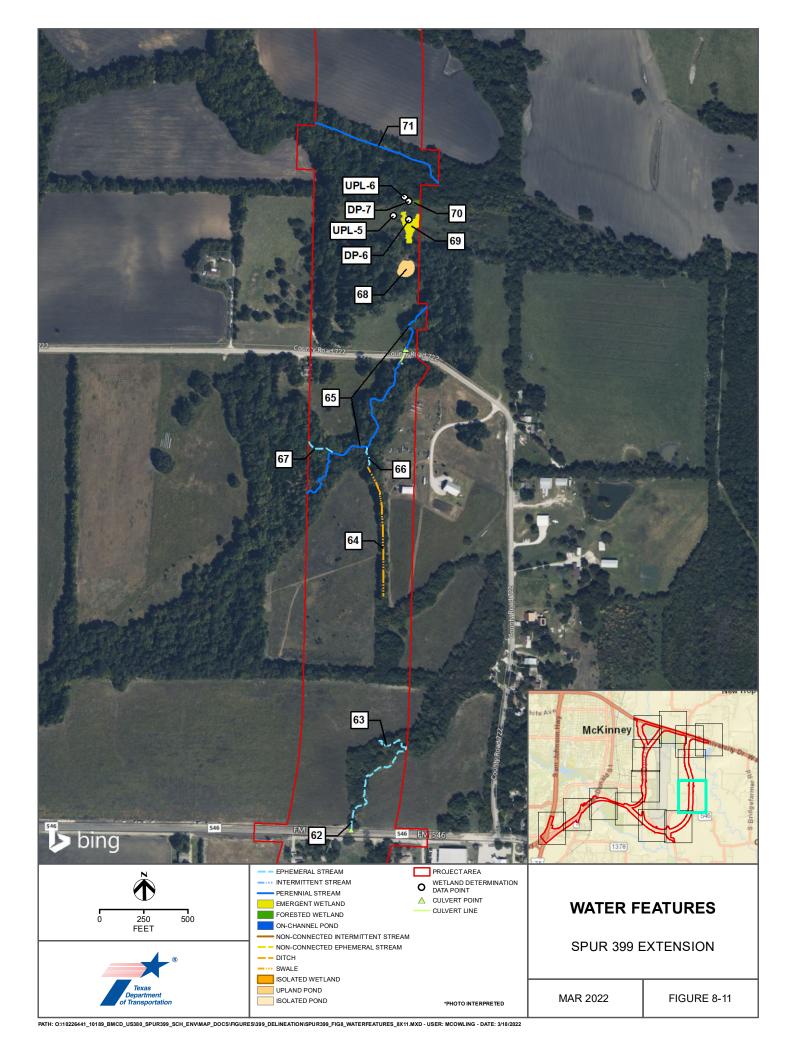


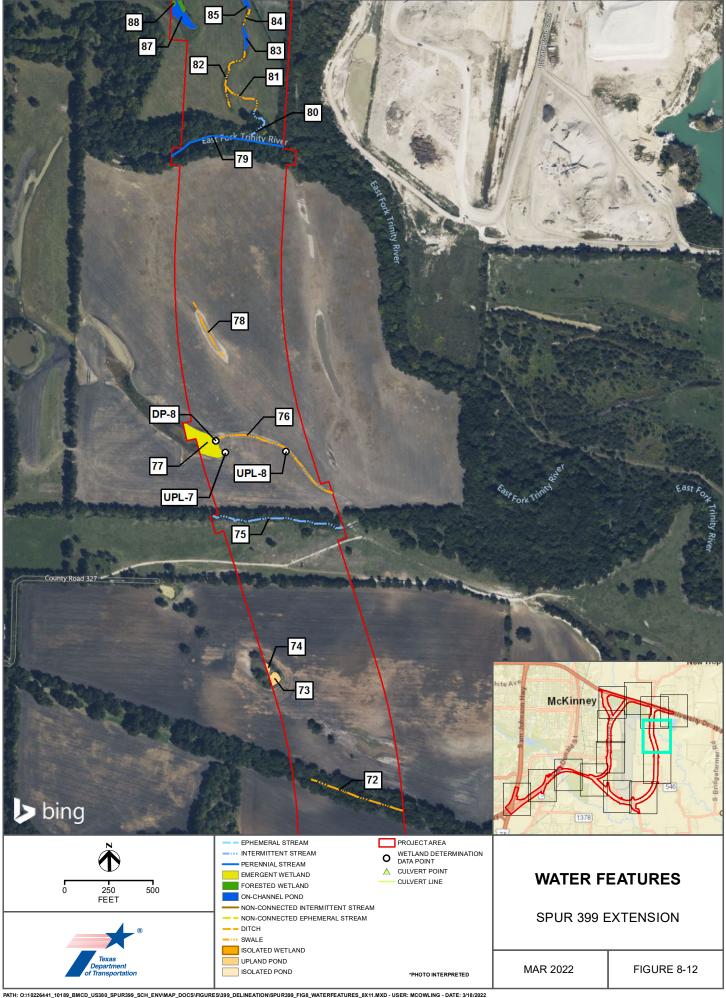


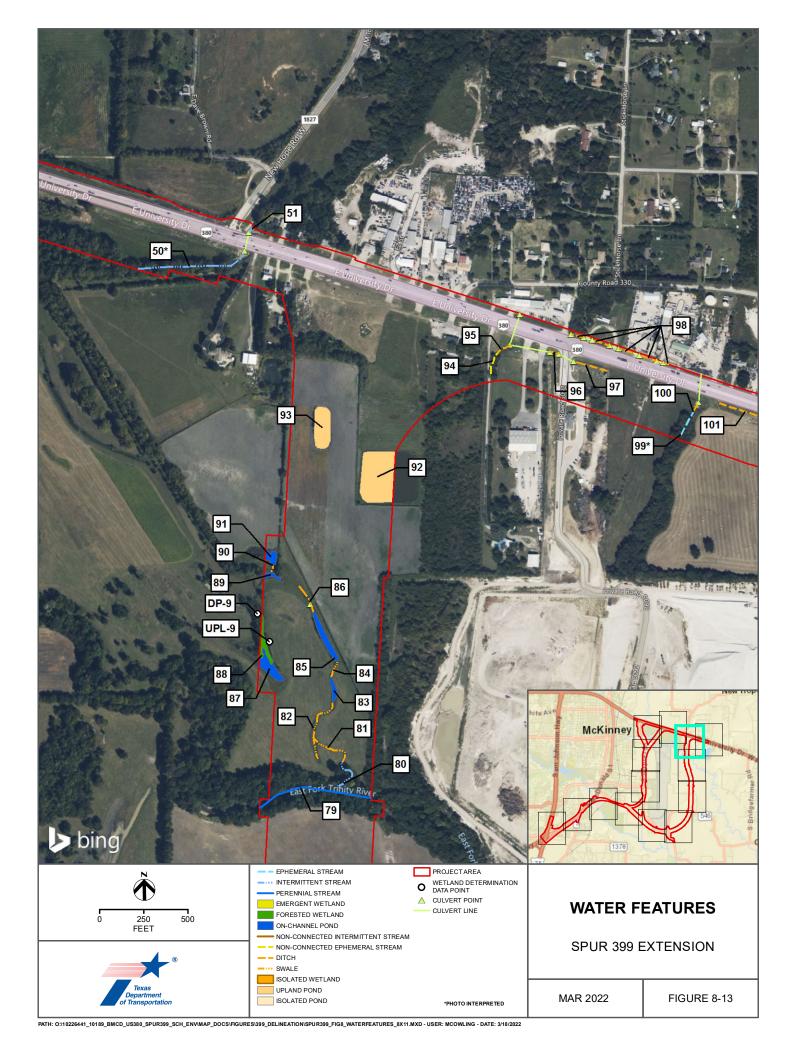


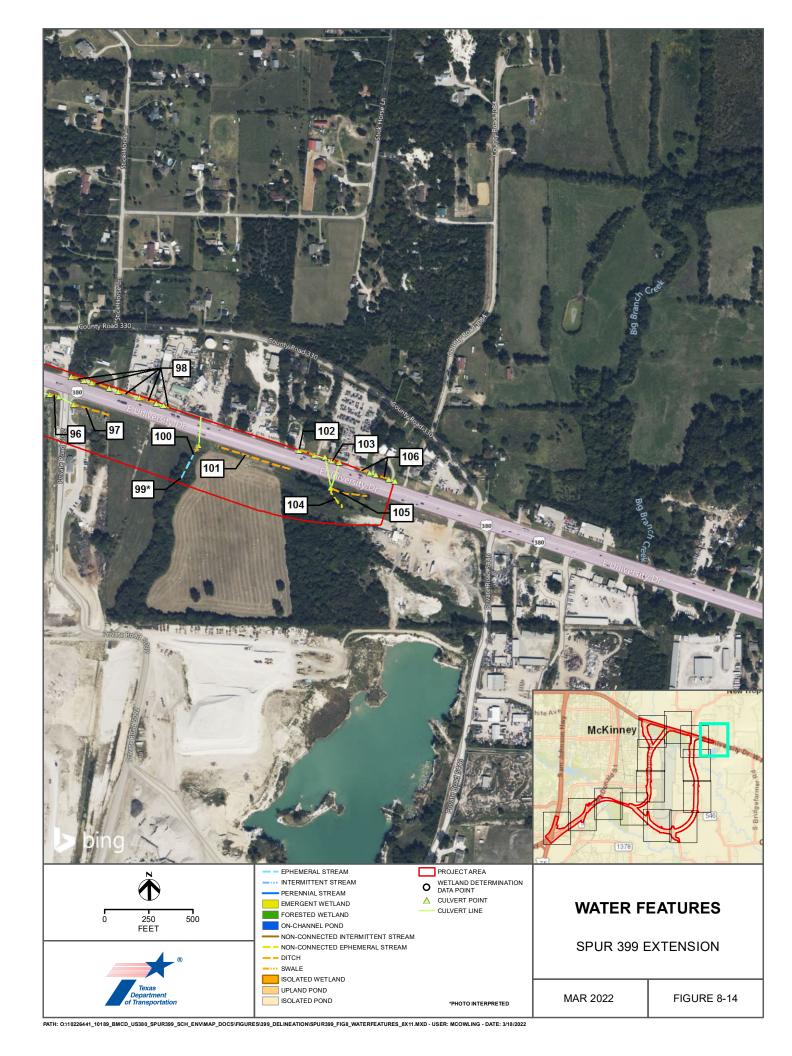












Attachment 2 - Wetland	Determination Data	a Forms and Stream	m Data Forms
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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spur 399 Extension		City/Count	y: Collin Cou	unty	Sampling Date: 08/28/2020	
Applicant/Owner: TxDOT				State: TX	Sampling Point: DP-1	
Investigator(s): Kelsea Hiebert, Michael Keenan, and Ethan						
Landform (hillslope, terrace, etc.): Depression		Local relie	ef (concave,	convex, none): concave	Slope (%): 1	
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region						
Soil Map Unit Name: Tf - Tinn clay, 0 to 1 percent slopes, fr	equently floo	oded		NWI classific	cation: PFO	
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology					present? Yes <u>√</u> No	
Are Vegetation, Soil, or Hydrology				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map				•	,	
,		<u> </u>		<u> </u>	<u>· · · · · · · · · · · · · · · · · · · </u>	
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes ✓ N	NO		he Sampled		<i>(</i>	
Wetland Hydrology Present? Yes ✓		wit	hin a Wetlar	ıd? Yes <u>√</u>	No	
Remarks:		l				
Located within central eastern portion of Forest	ted Wetlar	nd Wate	r Feature	17. Emergent Wetlar	nd Water Feature 16	
adjacent to Water Feature 17. Recently disturb						
VEOETATION II : 416						
VEGETATION – Use scientific names of plan				1		
Tree Stratum (Plot size: 30')	Absolute % Cover		nt Indicator ? Status	Dominance Test work		
1. Fraxinus pennsylvanica	35	yes	FAC	Number of Dominant S That Are OBL, FACW,		
2. Ulmus americana	25	yes		(excluding FAC-):	<u>5</u> (A)	
3. Salix nigra	10	no	FACW	Total Number of Domin		
4				Species Across All Stra	ata: <u>5</u> (B)	
451	70	= Total Co	over	Percent of Dominant S	pecies	
Sapling/Shrub Stratum (Plot size: 15')	20	V00	EAC	That Are OBL, FACW,	or FAC: 100 (A/B)	
1. Fraxinus pennsylvanica		yes	FAC	Prevalence Index wor	ksheet:	
2				Total % Cover of:	Multiply by:	
3				OBL species	x 1 = 0	
5				FACW species	x 2 = 0	
<u> </u>		= Total Co	over		x 3 = 0	
Herb Stratum (Plot size: 5'				FACU species		
1. Leersia oryzoides	90	yes	OBL		x 5 = 0	
2				Column Totals: 0	(A) <u>0</u> (B)	
3				Prevalence Index	c = B/A = 0	
4				Hydrophytic Vegetation	on Indicators:	
5				1 - Rapid Test for I	Hydrophytic Vegetation	
6				✓ 2 - Dominance Tes		
7 8				3 - Prevalence Inde	ex is ≤3.0 ¹	
9.				4 - Morphological A	Adaptations ¹ (Provide supporting as or on a separate sheet)	
10					phytic Vegetation ¹ (Explain)	
		= Total Co				
Woody Vine Stratum (Plot size: 30')				¹ Indicators of hydric soil be present, unless distr	il and wetland hydrology must urbed or problematic.	
2.				Hydrophytic		
40	0	= Total Co	over	Vegetation Present? Ye	es No	
% Bare Ground in Herb Stratum 10				riesent: 16	.a NU	
Remarks:						

SOIL Sampling Point: DP-1

	Matrix		n needed to docu Red	ox Feature				,				
	Color (moist)	%	Color (moist)	<u> %</u>	Type ¹	Loc ²	Texture	Remarks				
U-0 IU	YR 3/2	90	10YR 5/8	10	С	M/PL	Loamy clay					
8-12 10	YR 3/2	100					Loamy clay					
- 10	711(0/2											
				_								
				_	·							
			Reduced Matrix, C			d Sand G		on: PL=Pore Lining, M=Matrix.				
Hydric Soil Indic	cators: (Applic	cable to all L	RRs, unless other	erwise not	ed.)		Indicators for	r Problematic Hydric Soils ³ :				
Histosol (A1)	•			Gleyed Ma				k (A9) (LRR I, J)				
Histic Epiped			-	Redox (S5				airie Redox (A16) (LRR F, G, H)				
Black Histic				ed Matrix (S				ace (S7) (LRR G)				
Hydrogen St	. ,	- \		Mucky Mi	, ,		_	ns Depressions (F16)				
	yers (A5) (LRR	,	-	Gleyed M			`	H outside of MLRA 72 & 73)				
	A9) (LRR F, G, low Dark Surfac		✓ Redox	ed Matrix (,			Vertic (F18) nt Material (TF2)				
	Surface (A12)	·· (/ \			urface (F7)			llow Dark Surface (TF12)				
	y Mineral (S1)			Depressio				Other (Explain in Remarks)				
	xy Peat or Peat	(S2) (LRR G			essions (F	16)		hydrophytic vegetation and				
	Peat or Peat (S				73 of LRR			ydrology must be present,				
							unless dis	sturbed or problematic.				
Restrictive Laye	er (if present):											
Type:			<u></u>					1				
Depth (inches	s): <u>-</u>						Hydric Soil Pr	esent? Yes <u> </u>				
Remarks:							1					
Nater Feature	e 17 within a	ind adjace	nt to makeshif	ft roadwa	ay, soils	likely di	isturbed. Inund	dation and saturation on				
aerials show ^t	repeat suffic	ient hydro	logy within we	etland bo	oundarie	S.						
IVDDOL OOV												
IYDROLOGY												
Wetland Hydrol												
Primary Indicator	rs (minimum of o	one required:	check all that app	oly)			Secondary	Indicators (minimum of two required				
Surface Water	er (A1)		Salt Crus	t (B11)			Surface	e Soil Cracks (B6)				
High Water 1	Table (A2)		Aquatic Ir	nvertebrate	es (B13)		Sparse	ly Vegetated Concave Surface (B8)				
Saturation (A	A3)		Hydrogen	Sulfide O	dor (C1)		Draina	ge Patterns (B10)				
Water Marks	s (B1)		Dry-Seas	on Water ⁻	Table (C2)		Oxidize	ed Rhizospheres on Living Roots (C3				
Sediment De	eposits (B2)		Oxidized	Rhizosphe	eres on Livi	ng Roots	(C3) (whe	re tilled)				
Drift Deposit	s (B3)		(where	not tilled))			h Burrows (C8)				
	Crust (B4)		Presence	of Reduce	ed Iron (C4	·)	✓ Saturat	tion Visible on Aerial Imagery (C9)				
Algal Mat or	s (B5)			k Surface	(C7)			orphic Position (D2)				
Iron Deposits		✓ Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)						eutral Test (D5)				
Iron Deposits	isible on Aerial	illiagery (Dr					Frost-H	leave Hummocks (D7) (LRR F)				
✓ Iron Deposits ✓ Inundation V	isible on Aerial d Leaves (B9)	imagery (Br										
✓ Iron Deposits ✓ Inundation V	ed Leaves (B9)											
✓ Iron Deposits ✓ Inundation V Water-Staine	ed Leaves (B9) ons: resent?	res N	o V Depth (ir									
✓ Iron Deposits ✓ Inundation V — Water-Staine Field Observation	ed Leaves (B9) ons: resent?	res N	o <u>✓</u> Depth (ir			_		,				
Iron Deposits Inundation V Water-Staine Field Observatio Surface Water Pr Water Table Pres Saturation Prese (includes capillar	ed Leaves (B9) ons: resent? sent? ont? y fringe)	Yes N Yes N	o ✓ Depth (ir o ✓ Depth (ir	nches): nches):		Wetl		resent? Yes No				
Iron Deposits Inundation V Water-Staine Field Observatio Surface Water Pr Water Table Pres Saturation Prese (includes capillar) Describe Record	ed Leaves (B9) ons: resent? sent? ont? y fringe) ed Data (strean	Yes N Yes N Yes N	o V Depth (ir Depth (ir nitoring well, aerial	nches): nches):		Wetl		resent? Yes <u>√</u> No				
Iron Deposits Inundation V Water-Staine Field Observatio Surface Water Pr Water Table Pres Saturation Prese (includes capillar) Describe Record	ed Leaves (B9) ons: resent? sent? ont? y fringe) ed Data (strean	Yes N Yes N Yes N	o V Depth (ir Depth (ir nitoring well, aerial	nches): nches):		Wetl		resent? Yes <u>√</u> No				
Iron Deposits Inundation V Water-Staine Field Observatio Surface Water Pr Water Table Pres Saturation Prese (includes capillar	ed Leaves (B9) ons: resent? sent? ont? y fringe) ed Data (strean	Yes N Yes N Yes N	o V Depth (ir Depth (ir nitoring well, aerial	nches): nches):		Wetl		resent? Yes <u>√</u> No				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spur 399 Extension		City/County	: Collin Co	unty	_ Sampling Da	ate: 08/28/2020
Applicant/Owner: TxDOT				State: TX	_ Sampling Po	oint: DP-2
Investigator(s): Kelsea Hiebert, Michael Keenan, and Etha	n Eichler	Section, To	wnship, Ra	nge: n/a		
Landform (hillslope, terrace, etc.): Depression		Local relief	(concave,	convex, none): concave	1	Slope (%): 2
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Reg	ion Lat: 33.1	172525		Long: <u>-96.616956</u>		Datum: NAD 27
Soil Map Unit Name: _Tf - Tinn clay, 0 to 1 percent slopes, f		ded		NWI classifi	cation: PEM	
Are climatic / hydrologic conditions on the site typical for the						
Are Vegetation, Soil <u>√</u> , or Hydrology	-			"Normal Circumstances"		s ✓ No
Are Vegetation, Soil, or Hydrology	-			eeded, explain any answe		
			•			,
SUMMARY OF FINDINGS – Attach site map	snowing	sampiin	g point i	ocations, transects	s, importar	it reatures, etc
Hydrophytic Vegetation Present? Yes <u>✓</u>	No	ls th	e Sampled	l Δrea		
Hydric Soil Present? Yes <u>√</u>	No		in a Wetlaı		/ No	
	No					
Remarks:				W . E		- , ,
Located within eastern portion of Emergent \ Wetland Water Feature 17. Recently disturb					urrounds F	orested
Welland Water Feature 17. Recently disturb	eu area iro	JIII IIIake	Silitioad	away construction.		
VEGETATION – Use scientific names of pla	nts.					
001	Absolute			Dominance Test wor	ksheet:	
Tree Stratum (Plot size: 30')		Species?		Number of Dominant S		
1. Fraxinus pennsylvanica				That Are OBL, FACW, (excluding FAC-):	or FAC	(A)
2						(; 1)
3				Total Number of Domi	_	(B)
4		= Total Cov	/or			(-)
Sapling/Shrub Stratum (Plot size: 15')		- Total Cov	/CI	Percent of Dominant S That Are OBL, FACW,		00 (A/B)
1. Fraxinus pennsylvanica	10	yes	FAC			
2				Prevalence Index wo		ledicale de la la
3				Total % Cover of: OBL species		lultiply by:
4				FACW species		
5				FAC species		
Herb Stratum (Plot size: 5')	10	= Total Cov	/er	FACU species		
1. Persicaria hydropiperoides	90	yes	OBL	· ·	x 5 =	
2.				Column Totals: 0	(A)	<u>0</u> (B)
3					D/A 0	
4				Prevalence Index Hydrophytic Vegetati	· · · · · · · · · · · · · · · · · · ·	
5				1 - Rapid Test for		
6				✓ 2 - Dominance Te		egetation
7				3 - Prevalence Inc		
8				4 - Morphological		Provide supporting
9				data in Remark	s or on a sepa	arate sheet)
10				Problematic Hydro	ophytic Vegeta	ation ¹ (Explain)
Woody Vine Stratum (Plot size: 30')	90	= Total Cov	/er	¹ Indicators of hydric so	oil and wetland	l hydrology must
1				be present, unless dist		
2.				Hydrophytic		
	_	= Total Cov	/er	Vegetation	. ✓ .	le.
% Bare Ground in Herb Stratum 10				Present? Ye	es N	lo
Remarks:						

SOIL Sampling Point: DP-2

Profile Desc	cription: (Describe	to the dep	th needed to docu	ment the	indicator	or confir	m the absence	of indicators.)				
Depth	Matrix			x Featur		. 2						
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks				
0-4	10YR 3/2	70					Sandy clay	Heavy root layer				
	10YR 4/4	30					Sandy clay					
4-12	10YR 3/2	67	10YR 6/6	3	_ <u>D</u>	M	Sandy clay					
	10YR 4/4	30		_			Sandy clay					
	-	-										
	_	-				-						
¹ Type: C=C	oncentration, D=Dep	letion. RM:	=Reduced Matrix. CS	S=Covere	ed or Coate	d Sand C		cation: PL=Pore Lining, M=Matrix.				
	Indicators: (Applic							for Problematic Hydric Soils ³ :				
Histosol					latrix (S4)		1 cm N	Muck (A9) (LRR I, J)				
	pipedon (A2)			Redox (S				Prairie Redox (A16) (LRR F, G, H)				
Black Hi	istic (A3)		Stripped	d Matrix ((S6)		Dark S	Surface (S7) (LRR G)				
Hydroge	en Sulfide (A4)		Loamy	Mucky M	ineral (F1)		High F	Plains Depressions (F16)				
	d Layers (A5) (LRR I			-	Natrix (F2)		(LF	RR H outside of MLRA 72 & 73)				
	uck (A9) (LRR F, G,			d Matrix				ced Vertic (F18)				
-	d Below Dark Surfac	e (A11)			face (F6)			arent Material (TF2)				
	ark Surface (A12)				surface (F7)			Shallow Dark Surface (TF12)				
-	Mucky Mineral (S1)	CO) / DD /		Depressi		10)		(Explain in Remarks)				
	Mucky Peat or Peat (ucky Peat or Peat (S				ressions (F . 73 of LRR			³ Indicators of hydrophytic vegetation and wetland hydrology must be present,				
3 6111 1010	deky i eat of i eat (3	3) (LIXIX I)	(IVIL	.IXA 12 0	75 OI LIKIN	•••)		s disturbed or problematic.				
Restrictive	Layer (if present):							·				
Type: <u>-</u>								,				
Depth (inches):							Hydric Soil	Present? Yes V No No				
Remarks:							•					
							disturbed. In	undation and saturation on				
aerials sh	_{OW} repeat suffic	ent hydr	ology within we	tland b	oundarie	S.						
HYDROLO	GY											
Wetland Hy	drology Indicators:											
Primary India	cators (minimum of c	ne require	d; check all that appl	y)			Seconda	ary Indicators (minimum of two required)				
Surface	Water (A1)		Salt Crust	(B11)			Sur	face Soil Cracks (B6)				
	ater Table (A2)		Aquatic In	vertebrat	es (B13)			rsely Vegetated Concave Surface (B8)				
Saturati	on (A3)		Hydrogen					inage Patterns (B10)				
Water M	larks (B1)		Dry-Seaso	on Water	Table (C2)		Oxio	dized Rhizospheres on Living Roots (C3)				
Sedime	nt Deposits (B2)		Oxidized F	Rhizosph	eres on Liv	ing Roots	s (C3) (w	vhere tilled)				
	posits (B3)			not tilled				yfish Burrows (C8)				
Algal Ma	at or Crust (B4)		Presence	of Reduc	ed Iron (C4	!)	✓ Sati	uration Visible on Aerial Imagery (C9)				
	posits (B5)		Thin Muck	Surface	(C7)		Geo	omorphic Position (D2)				
✓ Inundati	on Visible on Aerial	magery (B					✓ FAC	C-Neutral Test (D5)				
Water-Stained Leaves (B9)								st-Heave Hummocks (D7) (LRR F)				
Field Obser	vations:											
Surface Wat	er Present? Y	es	No 🗸 Depth (in	ches):								
Water Table Present? Yes No _ ✓ Depth (inches):												
Saturation P		· · · · · · · · · · · · · · · · · · ·	No ✓ Depth (in				tland Hydrolog	y Present? Yes No				
(includes cap	pillary fringe) corded Data (stream) if available.					
	Earth Aerial F		_	ρποιοσ, μ	// CVIOUS IIIS	pections)	,, ii avaliabie.					
Remarks:												
	eature 16 satu	rated a	nd inundated	on 01	/2017 (12/201	17 12/2017	7, and 03/2018 aerials.				
7741011	Jacaro 10 Jaca	. atou a	na manaatou	J11 U 1	011,(, <u>, , , ,</u> U I	, 1212011	, 4.14 00/20 10 40/14/0.				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Spur 399 Extension		City/Coun	nty: Collin Cou	unty	Sampling	Date: 09/22/2	2021
Applicant/Owner: TxDOT	_	State: TX Sampling Point: DP-3					
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler			Гownship, Ra				
				convex, none): conc	ave [Slope (%)	: 1
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Reg	gion Lat: 33.1	197805	,	Long: -96.597506			
Soil Map Unit Name: Houston Black clay, 1 to 3 percent si	opes			NWI class	ification: PF		
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrology				'Normal Circumstances		Yes ✓ N	lo
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv			
SUMMARY OF FINDINGS – Attach site ma							es, etc.
,		<u> </u>	<u> </u>	,	· •		
Hydrophytic Vegetation Present? Yes ✓ Hydric Soil Present? Yes ✓	No	Is	the Sampled		,		
Wetland Hydrology Present?		wi	thin a Wetlar	nd? Yes	✓ No		
Remarks:							
Located within Forested Wetland Wat	er Featur	e 32. \	Water Fe	ature 32 is with	in the flo	odplain	
		· • • • • • • • • • • • • • • • • • • •				- up	
of the East Fork Trinity River.	4-						
VEGETATION – Use scientific names of pla							
Tree Stratum (Plot size: 30'	Absolute % Cover		nt Indicator Status	Dominance Test wo			
1. Salix nigra		yes		Number of Dominant That Are OBL, FACV			
2. Populus deltoides	5	no	FAC	(excluding FAC-):		6	(A)
3		-		Total Number of Don			
4				Species Across All S	trata:	6	(B)
5				Percent of Dominant		100.00/	+
Sapling/Shrub Stratum (Plot size: 15')	45	= Total C	Cover	That Are OBL, FACV	V, or FAC:	100.0%	(A/B)
1. Celtis laevigata	10	yes	FAC	Prevalence Index w	orksheet:		
2. Acer negundo	5	yes	FAC	Total % Cover o	f:	Multiply by:	_
3. Fraxinus pennsylvanica	5	yes	FAC		x ′		_
4				FACW species 80			_
	20	= Total C	over	FACULTURE 57			_
Herb Stratum (Plot size: 5' 1. Conoclinium coelestinum	40	yes	FACW		X 4	5 = <u>0</u>	_
2. Zanthium strumarium	20	ves	FAC	Column Totals: 140			
3. Iva annua	10	no	FAC				_ (J) +
4. Solidago altissima	3	no	FACU	Prevalence Ind			
5. Cardiospermum halicacabum	2	no	FAC	Hydrophytic Vegeta			
6				1 - Rapid Test fo		-	
7				✓ 2 - Dominance T✓ 3 - Prevalence Ir			
8				4 - Morphologica			norting
9		-				eparate sheet	
10				Problematic Hyd	rophytic Veg	etation¹ (Expla	ain)
Woody Vine Stratum (Plot size: 30')	75.0	= Total C	over	¹ Indicators of hydric s	soil and wetla	and hydrology	must
1				be present, unless di			
2.				Hydrophytic			
	0			Vegetation	√es	No	
% Bare Ground in Herb Stratum 25.0				Present?	res	No	
Remarks:							

SOIL Sampling Point: DP-3

Depth	Matrix			dox Feature			m the absence of	,
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	-	Loc ²	Texture	Remarks
0-3	10YR 3/2	100					Clay	
3-8	10YR 3/2	98	2.5Y 5/6	2	С	PL	Clay	
8-12	10YR 3/2	95	2.5Y 5/6			PL	Clay	
	-		-					
	Concentration, D=De					d Sand G		ion: PL=Pore Lining, M=Matrix. r Problematic Hydric Soils³:
Black I Hydrog Stratifie 1 cm M Deplete Thick E Sandy 2.5 cm M	Epipedon (A2) Histic (A3) Histic (A3) Histic (A4) Histic (A5) Histic (A5) (LRR Huck (A9) (LRR F, G, Histic (A9) (LRR F, G, Histic (A12)	H) ce (A11) (S2) (LRF	Sandy Stripp Loam Loam Deple ✓ Redo. Deple Redo. High	x Depression	5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	16)	Coast Pr. Dark Sur High Plai (LRR Reduced Red Pare Very Sha Other (Ex	ck (A9) (LRR I, J) airie Redox (A16) (LRR F, G, H) face (S7) (LRR G) ns Depressions (F16) H outside of MLRA 72 & 73) Vertic (F18) ent Material (TF2) Illow Dark Surface (TF12) cplain in Remarks) hydrophytic vegetation and hydrology must be present, sturbed or problematic.
Restrictive	Layer (if present):							
-								
Type:								./
Depth (ii	nches):						Hydric Soil Pi	resent? Yes No
Depth (ii Remarks:	nches):						Hydric Soil Pi	resent? Yes <u>√</u> No
Depth (in Remarks:	DGY						Hydric Soil Pi	resent? Yes No
Depth (ii Remarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Jorift De Algal M Iron De Inunda	DGY ydrology Indicators licators (minimum of ew Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Stained Leaves (B9)	: one requir	Salt Cru Aquatic Hydroge Dry-Sea Oxidized (where Presenc Thin Mu	st (B11) Invertebraten Sulfide Coson Water I Rhizosphe not tilled	Odor (C1) Table (C2) eres on Live (C4) ed Iron (C4)		Secondary Surface Sparse Draina Oxidiz (C3) Crayfis Geome	Indicators (minimum of two required e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) eth Burrows (C8) tion Visible on Aerial Imagery (C9) preprice Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Depth (ii Remarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat V Water I Sedime Iron De Inunda Water Field Obse Surface Wa Water Table Saturation I (includes ca	process: proces	: one requir Imagery (Yes Yes	Salt Cru Aquatic Hydroge Dry-Sea Oxidized (where Presence Thin Mu B7) Other (E	st (B11) Invertebrat in Sulfide C son Water I Rhizosph e not tilled e of Reduc ck Surface xplain in R inches): inches): inches): inches):	Odor (C1) Table (C2) eres on Liv) eed Iron (C4 (C7) emarks)		Secondary Surface Sparse Draina Oxidiz (C3) (whe Crayfis Geome FAC-N Frost-H	Indicators (minimum of two required e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) eh Burrows (C8) tion Visible on Aerial Imagery (C9) prephic Position (D2) leutral Test (D5)
Depth (ii Remarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat V Water I Sedime Iron De Inunda Water Field Obse Surface Wa Water Table Saturation I (includes ca	process: proces	: one requir Imagery (Yes Yes	Salt Cru Aquatic Hydroge Dry-Sea Oxidized (where Presence Thin Mu B7) Other (E	st (B11) Invertebrat in Sulfide C son Water I Rhizosph e not tilled e of Reduc ck Surface xplain in R inches): inches): inches): inches):	Odor (C1) Table (C2) eres on Liv) eed Iron (C4 (C7) emarks)		Secondary Surface Sparse Draina Oxidiz (C3) (whe Crayfis Geome FAC-N Frost-H	Indicators (minimum of two required e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Depth (ii Remarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat V Water I Sedime Iron De Inunda Water Field Obse Surface Wa Water Table Saturation I (includes ca	process: proces	: one requir Imagery (Yes Yes	Salt Cru Aquatic Hydroge Dry-Sea Oxidized (where Presence Thin Mu B7) Other (E	st (B11) Invertebrat in Sulfide C son Water I Rhizosph e not tilled e of Reduc ck Surface xplain in R inches): inches): inches): inches):	Odor (C1) Table (C2) eres on Liv) eed Iron (C4 (C7) emarks)		Secondary Surface Sparse Draina Oxidiz (C3) (whe Crayfis Geome FAC-N Frost-H	Indicators (minimum of two required e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)

Project/Site: Spur 399 Extension		City/Cou	nty: Collin Coւ	unty	Sampling	Date: 09/22/	2021
Applicant/Owner: TxDOT		-	-	State: TX			
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler			Township, Ra				
• , ,			•	convex, none):	ncave [Slope (%)	: 1
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Re							
Soil Map Unit Name: Houston Black clay, 1 to 3 percent sl	opes			NWI class	sification. PF		
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrology				"Normal Circumstance		Yes ✓ N	Jn
Are Vegetation, Soil, or Hydrology				eeded, explain any ans			
SUMMARY OF FINDINGS – Attach site ma				, ,		,	es. etc.
,			9 po		,		
Hydrophytic Vegetation Present? Yes	No	Is	the Sampled	l Area			
Hydric Soil Present? Yes Wetland Hydrology Present? Yes ✓		w	rithin a Wetlar	nd? Yes _	✓ No		
Remarks:	110						
Located within Forested Wetland Wat	er Featur	~ 3 <i>1</i>	Water Fe	ature 34 is with	in the flo	odnlain	
	ci i catui	C 0 1 .	vvalcric	ature 54 is with		ouplain	
of the East Fork Trinity River.							
VEGETATION – Use scientific names of pla	ints.						
Tree Stratum (Plot size: 30')	Absolute % Cover		ant Indicator s? Status	Dominance Test we			
1. Ulmus americana		yes	FAC	Number of Dominan That Are OBL, FAC			
2. Salix nigra	20	yes	FACW	(excluding FAC-):		4	(A)
3				Total Number of Dor	minant		
4				Species Across All S	Strata:	4	(B)
5				Percent of Dominant		100.00/	
Sapling/Shrub Stratum (Plot size: 15')	50	= Total (Cover	That Are OBL, FAC	V, or FAC:	100.0%	(A/B)
1. Acer negundo	5	yes	FAC	Prevalence Index w	orksheet:		
2.				Total % Cover of		Multiply by:	
3.					x 1		_
4				FACW species 20			_
	5	= Total (Cover	FAC species $\frac{35}{0}$			_
Herb Stratum (Plot size: 5' 1. Ludwigia linearis	5	yes	OBL		x 4	$s = \frac{0}{0}$	_
Ludwigia linearis 2.				Column Totals: 60			(B)
3.							
4.				Prevalence Inc	·-		
5				Hydrophytic Veget			
6				1 - Rapid Test for ✓ 2 - Dominance		c Vegetation	
7				✓ 2 - Dominance ✓ 3 - Prevalence I			
8				4 - Morphologic		s ¹ (Provide su	nnortina
9				data in Rema	arks or on a s	eparate sheet)
10				Problematic Hyd	drophytic Veg	etation ¹ (Expla	ain)
Woody Vine Stratum (Plot size: 30') 1.	-	= Total (¹ Indicators of hydric be present, unless d			must
2.				Hydrophytic			
	0			Vegetation	√	NI.	
% Bare Ground in Herb Stratum 95.0				Present?	Yes	No	
Remarks:							

SOIL Sampling Point: <u>DP-4</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redo	x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-12	10YR 3/2	85	2.5Y 5/6	15	<u>C</u>	M/PL	Clay	
	-			-				
				-	· ——			
					· ——			
			=Reduced Matrix, CS			d Sand G		tion: PL=Pore Lining, M=Matrix.
		icable to all	LRRs, unless othe					or Problematic Hydric Soils ³ :
Histosol			Sandy (-				ck (A9) (LRR I, J)
	pipedon (A2)			Redox (S5				rairie Redox (A16) (LRR F, G, H)
	istic (A3) en Sulfide (A4)			d Matrix (S	neral (F1)			face (S7) (LRR G) ins Depressions (F16)
	d Layers (A5) (LRF) F)		Gleyed M			_	H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G	,	-	ed Matrix (•	Vertic (F18)
	d Below Dark Surfa		✓ Redox I					ent Material (TF2)
	ark Surface (A12)	` '			urface (F7)	ı		allow Dark Surface (TF12)
Sandy N	Mucky Mineral (S1)		Redox	Depressio	ns (F8)		Other (E	xplain in Remarks)
	Mucky Peat or Pea	. , .						hydrophytic vegetation and
5 cm Mı	ucky Peat or Peat (S3) (LRR F)	(ML	RA 72 &	73 of LRR	H)		nydrology must be present,
							unless di	sturbed or problematic.
Restrictive	Layer (if present):							
Type:								./
Depth (in	ches):						Hydric Soil P	resent? Yes No
Remarks:								
	201/							
HYDROLO								
Wetland Hy	drology Indicator	s:						
	•	one require	d; check all that appl	y)			Secondary	Indicators (minimum of two required)
Surface			Salt Crust					ce Soil Cracks (B6)
High Wa	ater Table (A2)		Aquatic In	vertebrate	es (B13)		✓ Sparse	ely Vegetated Concave Surface (B8)
Saturati	on (A3)		Hydrogen	Sulfide O	dor (C1)		Draina	age Patterns (B10)
✓ Water M	larks (B1)		Dry-Seaso	on Water ⁻	Table (C2)		Oxidiz	ed Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized F	Rhizosphe	eres on Liv	ing Roots		ere tilled)
	posits (B3)		`	not tilled)				sh Burrows (C8)
Algal Ma	at or Crust (B4)		Presence			1)		ation Visible on Aerial Imagery (C9)
Iron De			Thin Muck		. ,			orphic Position (D2)
	on Visible on Aeria		37) Other (Exp	olain in Re	emarks)			Neutral Test (D5)
	Stained Leaves (B9)					Frost-l	Heave Hummocks (D7) (LRR F)
Field Obser	vations:							
Surface Wat	ter Present?		No ✓ Depth (in					
Water Table	Present?		No ✓ Depth (in					,
Saturation P		Yes	No ✓ Depth (in	ches):		Wetl	and Hydrology I	Present? Yes No
	pillary fringe)	m aauaa m	anitaring wall carial	nhotoo n	ovious ins	nactional	if available:	
Describe Re	corueu Data (Střea	ııı yauye, m	onitoring well, aerial	ριισισέ, βί	evious ins	pections),	ıı avallable:	
Remarks:								

Special Course TADOT State TADOT TAD	Project/Site: Spur 399 Extension		City/Cour	nty։ <u>Collin Co</u> ւ	unty	_ Sampling	Date: 09/11/	2020
Coal relief (concave, convex, none): Concave Slope (%): D-2	Applicant/Owner: TxDOT			-	State: TX	_ Sampling	Point: <u>DP-5</u>	
Coal relief (concave, convex, none): Concave Slope (%): D-2	Investigator(s): Kelsea Hiebert, Michael Keenan, and Etha	n Eichler						
Solid Map Unit Name: AID2 - Alloga silly clay, 5 to 8 percent slopes, eroded Lat: 33.10888 Long: 36.592966 Datum: NAD 27				•	-	÷	Slope (%)): 0-2
Note classified by the Name: AID2 - Alloga silly clay, 5 to 8 percent slopes, eroded Note classified since Note classified since Note classified since Note classified since Note classified Note classified since Note								
Absolute Speciment Speci	Soil Map Unit Name: AID2 - Altoga silty clay, 5 to 8 percen	t slopes, erod	led		NWI classif	ication. PF	0	
No No No No No No No No								
Summary Soil							Ves ✓ N	do.
SumMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes								
Hydrophytic Vegetation Present? Yes								
Hydric Soil Present? Yes	SUMMARY OF FINDINGS – Attach site map	showing	sampl	ing point l	ocations, transect	s, import	tant feature	es, etc.
Hydric Soil Present? Yes	Hydrophytic Vegetation Present? Yes <u>✓</u>	No	le	the Sampled	Aroa			
Remarks: Located within Isolated Wetland Water Feature 53. North of Upland Pond Water Feature 54.				-		/ No		
### Sapiling/Shrub Stratum (Plot size: 5' 10 Ves FAC FAC		No						
Absolute	Located within Isolated Wetland Water	r Feature	53. N	orth of U	pland Pond Wat	er Featı	ure 54.	
Absolute								
Absolute	VEGETATION – Use scientific names of pla	nts.						
Salix nigra 80 Yes FACW 7FAC (excluding FACP): 5 (A) (B) (excluding FACP): 5 (A) (excluding FACP): 5 (A) (excluding FACP): 5 (A) (B) (Excluding FACP): 5 (A) (Excluding FACP): 5 (A) (A) (B) (A)	·		Domina	ant Indicator	Dominance Test wor	ksheet:		
2. Populus deltoides 5			Species		Number of Dominant	Species		
Sapling/Shrub Stratum (Plot size: 15' 10 ves FAC 100 (A/B)							5	(\\)
Species Across All Strata: 5 (B)					(excluding FAC-).			_ (A)
85							5	(D)
Sapling/Shrub Stratum (Plot size: 15' 10 ves FAC 100 (A/B)	4	0.5			Species Across All Sti	ala.		_ (D)
1. Celtis laevigata 2. Triadica sebifera 5. Ves FAC 3.	Sapling/Shrub Stratum (Plot size: 15')	60	= Total C	Cover			100	(A/D)
Total % Cover of: Multiply by:		10	yes	FAC	That Are OBL, FACW	, OI FAC.	100	_ (A/D)
A		5	yes		Prevalence Index wo	rksheet:		
4	3.							_
15								
Herb Stratum (Plot size: 5'	5							
1. Leersia oryzoides 2. Persicaria hydropiperoides 5. Yes OBL 3. Prevalence Index = B/A = 0 Hydrophytic Vegetation Indicators:	Hart Otation (Blatains 5'	15	= Total C	Cover				_
2. Persicaria hydropiperoides 5. Yes OBL Column Totals: 0 (A) 0 (B) Prevalence Index = B/A = 0 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 10	. Logreia gryzoidos	10	VAS	OBI				
3.	Daniania kudania ansida							
4.		_ 			Column Totals:	(//)		(D)
5.								
6								
7							-	
8								
9								
Woody Vine Stratum (Plot size: 30') 1	9				data in Remar	ks or on a s	s (Provide su separate sheet	pporting ()
Woody Vine Stratum (Plot size: 30') 1.	10				Problematic Hydro	ophytic Veç	etation¹ (Expla	ain)
be present, unless disturbed or problematic. 1	Woody Vino Stratum (Plataina: 30'	15	= Total C	Cover	¹ Indicators of hydric so	oil and woth	and hydrology	muet
2								must
% Bare Ground in Herb Stratum 85					Hydrophytic			
% Bare Ground in Herb Stratum 85 No No					Vegetation	✓		
Remarks:	% Bare Ground in Herb Stratum 85				Present? Y	es	No	
	Remarks:							_

SOIL

Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix			ox Features	_ 1	. 2	_	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-16	2.5YR 3/1	70	7.5YR 5/8	30	С	M/PL	Clay	
	-	<u> </u>						
							-	
	-							
	-	 						
	-							
¹ Type: C=C	oncentration, D=De	pletion. RM=	Reduced Matrix. C	S=Covered	or Coate	d Sand Gi	rains. ² Loo	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Appli							for Problematic Hydric Soils ³ :
Histosol				Gleyed Mat				Muck (A9) (LRR I, J)
	pipedon (A2)			Redox (S5)	. ,			Prairie Redox (A16) (LRR F, G, H)
	istic (A3)			d Matrix (Se				Surface (S7) (LRR G)
	en Sulfide (A4)			Mucky Mine			_	Plains Depressions (F16)
· 	d Layers (A5) (LRR	•	-	Gleyed Mat			•	RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G ,			ed Matrix (F	•			ced Vertic (F18)
	d Below Dark Surfa	ce (A11)		Dark Surfac	. ,			arent Material (TF2)
	ark Surface (A12)			ed Dark Sur			-	Shallow Dark Surface (TF12)
Sandy N	Mucky Mineral (S1)			Depression				(Explain in Remarks)
	Mucky Peat or Peat		6, H) High Pl	ains Depres	ssions (F	16)	³ Indicators	of hydrophytic vegetation and
5 cm Mu	ucky Peat or Peat (S	33) (LRR F)	(ML	RA 72 & 7	3 of LRR	H)	wetlan	d hydrology must be present,
							unless	disturbed or problematic.
Restrictive	Layer (if present):							
Type:								,
Depth (in	ches): -						Hydric Soil	Present? Yes No
	onoo)						,	100 <u> </u>
Remarks:								
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
Primary India	cators (minimum of	one required	: check all that app	lv)			Seconda	ary Indicators (minimum of two required)
✓ Surface			Salt Crust					face Soil Cracks (B6)
	` '				(D40)			` '
,	ater Table (A2)			vertebrates				arsely Vegetated Concave Surface (B8)
✓ Saturation	on (A3)			Sulfide Od				inage Patterns (B10)
Water M	larks (B1)		Dry-Seaso	on Water Ta	able (C2)		Oxid	dized Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized	Rhizosphere	es on Liv	ing Roots	(C3) (w	vhere tilled)
Drift De	posits (B3)		(where	not tilled)			Cra	yfish Burrows (C8)
	at or Crust (B4)		Presence	of Reduced	l Iron (C4	1)	√ Sati	uration Visible on Aerial Imagery (C9)
	posits (B5)			k Surface (C		- /	Geo	omorphic Position (D2)
	on Visible on Aerial	Imagani (D7						C-Neutral Test (D5)
·) Other (Ex	plain in Rer	narks)			, ,
	tained Leaves (B9)						Fros	st-Heave Hummocks (D7) (LRR F)
Field Obser		,		1.0	ممامما			
Surface Wat	er Present?	Yes <u> </u>	No Depth (in	nches): 1-6	inches			
Water Table			No 🗹 Depth (in					
Saturation P			No Depth (in			Wetl	and Hydrolog	y Present? Yes No
(includes cap		169 <u>*</u> 1	NO Deptil (iii	iciies)		_ ****	and riyurolog	y Fresent: Tes No
Describe Re	corded Data (strear	n gauge, mo	nitoring well, aerial	photos, pre	vious ins	pections),	if available:	
_	Earth Aerial l		_			,		
Remarks:			1					
nemarks.								

Project/Site: Spur 399 Extension		City/Cou	nty։ Collin Coւ	unty	_ Sampling Date: 06/8/2021	
Applicant/Owner: TxDOT				State: TX	Sampling Point: DP-6	
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler			Township, Ra			
Landform (hillslope, terrace, etc.): Depression		Local re	lief (concave,	convex, none): concave	Slope (%): 1	
Subregion (LRR):						
Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes	To—Trinity clay	, 0 to 1 per	cent slopes, occasi	ionally flooded NWI classific	cation: PEM	
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology	•				present? Yes No	✓
Are Vegetation, Soil, or Hydrology				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map						etc.
Hydrophytic Vegetation Present? Yes✓ ↑	Nο					
Hydric Soil Present? Yes ✓	No		the Sampled rithin a Wetlar		/ No	
Wetland Hydrology Present? Yes <u>√</u> ١		w	illilli a wellar	id? fes <u>v</u>	NO	
Remarks:						
DP-6 located in the northern extent of	Emerger	nt Wet	tland Wat	er Feature 69. R	ecent heavy rainfall	l
event.						
VEGETATION – Use scientific names of plan	nts.					
		Domina	ant Indicator	Dominance Test work	ksheet:	
Tree Stratum (Plot size: 30')			s? Status	Number of Dominant S		
1. Ulmus americana				That Are OBL, FACW, (excluding FAC-):	1	A)
2						• • • •
3				Total Number of Domir Species Across All Stra	1	3)
4	5	= Total (Cover		-	,
Sapling/Shrub Stratum (Plot size: 15')		Total		Percent of Dominant S That Are OBL, FACW,		4/B)
1. Fraxinus pennsylvanica		yes	<u>FAC</u>	Prevalence Index wor	rkshoot:	
2				Total % Cover of:		
3					x 1 = 50	
4		-		FACW species 40	x 2 = 80	
J	20	= Total (Cover	FAC species 35	x 3 = 105	
Herb Stratum (Plot size: 5'				FACU species 0	$x = \frac{0}{0}$	
1. Eleocharis palustris	50	yes	OBL	UPL species 0	x 5 = <u>0</u>	
2. Juncus torreyi	40	yes	FACW	Column Totals: 125	(A) 235 ((B)
Rumex crispus Phyla nodiflora	<u>5</u> 	no	<u>FAC</u> FAC	Prevalence Index	x = B/A = 1.9	
5		no		Hydrophytic Vegetati	on Indicators:	
6				-	Hydrophytic Vegetation	
7.				✓ 2 - Dominance Tes		
8.				✓ 3 - Prevalence Ind		
9				4 - Morphological / data in Remark	Adaptations ¹ (Provide suppor s or on a separate sheet)	rting
10				Problematic Hydro	ophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: 30')	100.0	= Total (Cover	¹ Indicators of hydric so	oil and wetland hydrology mus	et
1				be present, unless dist	urbed or problematic.	5 t
2.				Hydrophytic		
	0		Cover	Vegetation	es No	
% Bare Ground in Herb Stratum 0.0				Present? Ye	es No	
Remarks:						

SOIL Sampling Point: <u>DP-6</u>

	scription: (Describe	to the dept				or comilli	in the absence of	muicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/1	95	10YR 4/6	5	C	PL	Clay	
10-14	10YR 4/1	100				-	Clay	
10-14	1011(4/1	100					Clay	_
							. <u> </u>	
i								
·							· <u></u>	
								_
-	_			_				
	_						. <u> </u>	
	Concentration, D=De					d Sand G		ion: PL=Pore Lining, M=Matrix.
-	I Indicators: (Applie	cable to all						r Problematic Hydric Soils ³ :
Histoso	• •			Gleyed M				ck (A9) (LRR I, J)
	Epipedon (A2)			Redox (S				airie Redox (A16) (LRR F, G, H)
	Histic (A3)			d Matrix (neral (F1)			face (S7) (LRR G) ns Depressions (F16)
	gen Sulfide (A4) ed Layers (A5) (LRR	E)		Gleyed M	. ,		_	H outside of MLRA 72 & 73)
	luck (A9) (LRR F, G ,		✓ Deplete	-	, ,		•	Vertic (F18)
	ed Below Dark Surface			Dark Surf	. ,			ent Material (TF2)
Thick E	Oark Surface (A12)	, ,	Deplete	ed Dark S	urface (F7)	ı	Very Sha	llow Dark Surface (TF12)
Sandy	Mucky Mineral (S1)		✓ Redox	Depression	ns (F8)			rplain in Remarks)
	Mucky Peat or Peat				essions (F			hydrophytic vegetation and
5 cm M	lucky Peat or Peat (S	33) (LRR F)	(ML	.RA 72 &	73 of LRR	H)		ydrology must be present,
							unless dis	sturbed or problematic.
	Layer (if present):							
Type: <u>-</u>								√
Depth (ii	nches): <u>-</u>						Hydric Soil Pr	resent? Yes No
Remarks:								
HYDROLO	OGY							
	ydrology Indicators							
_	licators (minimum of		· check all that ann	lv)			Secondary	Indicators (minimum of two required)
/		one required						
	e Water (A1)		Salt Crust Aquatic In		oo (D12)			e Soil Cracks (B6)
	/ater Table (A2) tion (A3)							ely Vegetated Concave Surface (B8)
·	` '		Hydrogen		Table (C2)			ge Patterns (B10)
	Marks (B1)				eres on Liv			ed Rhizospheres on Living Roots (C3)
	ent Deposits (B2) eposits (B3)			not tilled		ing Roots	, ,	ere tilled) sh Burrows (C8)
	Mat or Crust (B4)		Presence			1)	,	tion Visible on Aerial Imagery (C9)
_	eposits (B5)		Thin Muck			+)		orphic Position (D2)
	tion Visible on Aerial	Imagery (B7			. ,			eutral Test (D5)
	Stained Leaves (B9)	iiiageiy (b <i>i</i>) Other (EX	piaiii iii Ki	elliaiks)			Heave Hummocks (D7) (LRR F)
Field Obse							110001	icave riaminooko (Br) (ERRET)
		/os / N	No Depth (in	choc). 2	inches			
			No <u>√</u> Depth (in			-		
Water Table			,				land Dada Land	Present? Yes ✓ No
Saturation I	Present? apillary fringe)	res r	No <u>✓</u> Depth (in	iches):		_ wet	land Hydrology P	Present? Yes No
	ecorded Data (stream	n gauge, mo	nitoring well, aerial	photos, p	revious ins	pections)	, if available:	
	•			·		ŕ		
Remarks:								
	heavy rainfall	event						
	noavy rainiaii	OVOIIL.						

Project/Site: Spur 399 Extension		City/Coun	ty: Collin Co	unty	Sampling Date: 06	6/8/2021
Applicant/Owner: TxDOT				State: TX	Sampling Point: D	P-7
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section, 1	Гownship, Ra	inge: <u>n/a</u>		
Landform (hillslope, terrace, etc.): Depression		Local reli	ef (concave,	convex, none): concav	ve Slope	e (%): 2
Subregion (LRR):	Region Lat: 33.1	177302		_ Long: <u>-96.574542</u>	Datum	: NAD 27
Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 pe	ercent slopes			NWI classi	ification: PFO	
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology	significantly	disturbed'	? Are	"Normal Circumstances	" present? Yes	No ✓ _
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv		
SUMMARY OF FINDINGS - Attach site ma	ap showing	sampli	ng point l	ocations, transec	ts, important fea	tures, etc.
Hydric Soil Present? Yes Wetland Hydrology Present? Yes ✓ Remarks:	No	wi	the Sampled	nd? Yes	√ No	
DP-7 located within the western ex	tent of For	ested	Wetland	Water Feature	70. Recent hea	avy
rainfall event.						
VEGETATION – Use scientific names of p	lants.					
Tree Stratum (Plot size: 30')	Absolute % Cover		nt Indicator ? Status	Dominance Test wo		
1. Fraxinus pennsylvanica	30	yes	FAC	Number of Dominant That Are OBL, FACW		
2. Celtis laevigata	30	yes	FAC	(excluding FAC-):	4	(A)
3. Ulmus crassifolia	10	no	FAC	Total Number of Dom	ninant _	
4. Ulmus americana	10	no	FAC	Species Across All S	trata: 5	(B)
Ocalian/Obash Otatus (Distrains 15)	80	= Total C	over	Percent of Dominant		
Sapling/Shrub Stratum (Plot size: 15') 1 Ulmus americana	15	yes	FAC	That Are OBL, FACW	V, or FAC: 80.0%	(A/B)
2			170	Prevalence Index w	orksheet:	
3.					f: Multiply	by:
4.				OBL species 5	x 1 = 5	
5.				FACW species 0	x 2 = 0	
	4.5	= Total C	over	FAC species 95	x 3 = 285	
Herb Stratum (Plot size: 5'				FACU species 5	$x = \frac{20}{2}$	
1. Persicaria hydropiperoides	5	yes	OBL	UPL species 0	x 5 =	
2. Elymus canadensis		yes	<u>FACU</u>	Column Totals: 105	(A) <u>310</u>	(B)
3				Prevalence Inde	$ex = B/A = \frac{3.0}{}$	
4				Hydrophytic Vegeta	tion Indicators:	
5				1 - Rapid Test fo	r Hydrophytic Vegetat	tion
6				✓ 2 - Dominance T	est is >50%	
7 8				√ 3 - Prevalence Ir	ndex is ≤3.0 ¹	
9				4 - Morphologica	l Adaptations ¹ (Provid	e supporting
10.					rks or on a separate s rophytic Vegetation ¹ (,
		= Total C				
Woody Vine Stratum (Plot size: 30')					soil and wetland hydro sturbed or problemation	
2.				Hydrophytic		
0.5	_	= Total C		Vegetation Present?	Yes No	
Remarks:						

SOIL Sampling Point: <u>DP-7</u>

Profile Desc	ription: (Describe	to the dept	h needed to docu	ment the	indicator	or confir	m the absence	of indicators.)
Depth	Matrix			x Feature	es1	. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-14	10YR 4/1	85	7.5YR 4/6	15	C	M/PL	Silty Clay	Capillary Fringe
	_			-				
								
						-		
1Type: C=Cc	oncentration, D=Dep	oletion PM=	Paducad Matrix CS	S=Covere	d or Coate	nd Sand G	Praine 21 or	cation: PL=Pore Lining, M=Matrix.
	ndicators: (Applic					u Sanu C		for Problematic Hydric Soils ³ :
Histosol			Sandy (Muck (A9) (LRR I, J)
	ipedon (A2)			Redox (S				Prairie Redox (A16) (LRR F, G, H)
Black His			-	d Matrix (Surface (S7) (LRR G)
	n Sulfide (A4)		Loamy	Mucky Mi	neral (F1)			Plains Depressions (F16)
Stratified	Layers (A5) (LRR	F)	Loamy	Gleyed M	atrix (F2)		(LR	RR H outside of MLRA 72 & 73)
	ck (A9) (LRR F, G ,		✓ Deplete					ed Vertic (F18)
	Below Dark Surfac	e (A11)		Dark Surf				arent Material (TF2)
	irk Surface (A12)				urface (F7))		Shallow Dark Surface (TF12)
-	lucky Mineral (S1)	(CO) (LDD C	✓ Redox I		ns (F8) essions (F	16)		(Explain in Remarks)
	lucky Peat or Peat (cky Peat or Peat (S		· · —		essions (F 73 of LR F			of hydrophytic vegetation and dhydrology must be present,
3 CITI WIG	cky reacorreat (S	5) (LIXIX I)	(IVIL	.IXA 12 G	75 OI LIKI	. 11)		d flydrology flidst be present, sidisturbed or problematic.
Restrictive L	ayer (if present):							, distance of processing in
Type:	, , ,							
,. <u> </u>	ches):						Hydric Soil	Present? Yes No
Remarks:							, , , , , ,	
r corrianto.								
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
Primary Indic	ators (minimum of o	one required	; check all that appl	y)			Seconda	ary Indicators (minimum of two required)
✓ Surface		•	Salt Crust			_	Surf	face Soil Cracks (B6)
	ter Table (A2)		Aquatic In	, ,	es (B13)			ursely Vegetated Concave Surface (B8)
✓ Saturation			Hydrogen					inage Patterns (B10)
Water Ma	arks (B1)		Dry-Seaso					dized Rhizospheres on Living Roots (C3)
	t Deposits (B2)		Oxidized F				s (C3) (w	vhere tilled)
/	osits (B3)		(where	not tilled)		Cra	yfish Burrows (C8)
Algal Ma	t or Crust (B4)		Presence	of Reduc	ed Iron (C	1)	✓ Satu	uration Visible on Aerial Imagery (C9)
	osits (B5)		Thin Muck	Surface	(C7)		Geo	omorphic Position (D2)
✓ Inundation	on Visible on Aerial	Imagery (B7) Other (Exp	olain in R	emarks)		✓ FAC	C-Neutral Test (D5)
Water-St	tained Leaves (B9)						Fros	st-Heave Hummocks (D7) (LRR F)
Field Observ								
Surface Water	er Present? Y	′es <u>√</u> N	No Depth (in	ches): <u>6'</u>	1			
Water Table			No Depth (in					_
Saturation Pr			No Depth (in				tland Hydrolog	y Present? Yes No
(includes cap	illary fringe)							<u> </u>
Describe Red	corded Data (stream		-					
Analysis	ot aerial photo	os trom 1	11/2020, 12/2	υ19, 9	/2019, a	and 11	/2018 shov	w inundation and saturation.
Remarks:								
Location	is within a flo	od plain	. Recent hea	vy rain	fall eve	ent. He	eavy redox	in soils and moss trim lines
on trees	observed.	-						

Project/Site: Spur 399 Extension		City/Coun	ty: Collin Cou	unty	Sampling	Date: 10/12/	/2020
Applicant/Owner: TxDOT				State: TX	Sampling	Point: DP-8	8
Investigator(s): Kelsea Hiebert, Michael Keenan, and Ethan	Eichler	Section, T	Township, Ra	nge: <u>n/a</u>			
Landform (hillslope, terrace, etc.): Depression		Local reli	ef (concave,	convex, none): concave		Slope (%): <u>1</u>
Subregion (LRR): _J - Southwestern Prairies Cotton and Forage Region							
Soil Map Unit Name: To - Trinity clay, 0 to 1 percent slopes,							
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil _ ✓ _, or Hydrologys	-			"Normal Circumstances" p		res ✓ I	No
Are Vegetation, Soil, or Hydrology r	-			eeded, explain any answer			
SUMMARY OF FINDINGS – Attach site map							es, etc.
Hydrophytic Vegetation Present? Yes N				· · · · · · · · · · · · · · · · · · ·			
Hydrophytic Vegetation Present? Yes ✓ N Hydric Soil Present? Yes ✓ N			the Sampled				
Wetland Hydrology Present? Yes ✓ N		wit	thin a Wetlar	nd? Yes <u>√</u>	No_		
Remarks:							
DP-8 located within eastern portion of Emergent V						-	
Water Feature 77 receives overland flow from the	East Fork	Trinity F	River. Water	r Feature 77 also exhib	ited a hiç	gh water tal	ble at
6 inches below land surface.	4-						
VEGETATION – Use scientific names of plan		Damina	nt Indiantan	Daminanaa Taatuusuks	- h 4 ·		
<u>Tree Stratum</u> (Plot size: 30'	Absolute % Cover		nt Indicator ? Status	Dominance Test works Number of Dominant Sp			
1				That Are OBL, FACW, o	or FAC		
2				(excluding FAC-):	_	3	_ (A)
3				Total Number of Domina		2	
4				Species Across All Strat	a: _	3	_ (B)
Sapling/Shrub Stratum (Plot size: 15')	0	= Total C	over	Percent of Dominant Sp		100	(A/D)
1				That Are OBL, FACW, o	r FAC: _	100	_ (A/B)
2.				Prevalence Index work	sheet:		
3.				Total % Cover of:		Multiply by:	
4				OBL species			
5				FACW species FAC species			
Herb Stratum (Plot size: 5')	0	= Total C	over	FACU species			—
Herb Stratum (Plot size: 5' 1. Eleocharis palustris	40	yes	OBL		x 5		
2. Iva annua	20	yes	FAC	Column Totals: 0			(B)
3. Xanthium strumarium	20	yes	FAC				` '
4. Cardiospermum halicacabum	15	no	FAC	Prevalence Index			<u> </u>
5. Ammannia coccinea	5	no	OBL	Hydrophytic Vegetatio			
6				1 - Rapid Test for H✓ 2 - Dominance Test		vegetation	
7				3 - Prevalence Inde			
8				4 - Morphological A		s ¹ (Provide su	ıpportina
9		-		data in Remarks			
10	400			Problematic Hydrop	hytic Vege	etation¹ (Expl	ain)
Woody Vine Stratum (Plot size: 30') 1.		= Total C	over	¹ Indicators of hydric soil be present, unless distu			must
2.				Hydrophytic			
	_	= Total C	over	Vegetation	✓		
% Bare Ground in Herb Stratum 0				Present? Yes	·	No	
Remarks:							

SOIL Sampling Point: DP-8

Depth	scription: (Describe Matrix			ox Featur				•
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 4/1	93	7.5YR 5/8	5	С	PL	Silty clay	
			BLACK	2	С	M	Silty clay	
4-14	10YR 4/1	98	7.5YR 5/8	2		PL	Silty clay	
					- ——— - ———			
Hydric Soi Histosc Histo E Black I Hydrog Stratifie 1 cm N Deplete Thick E Sandy 2.5 cm 5 cm N Restrictive	Epipedon (A2) Histic (A3) Jen Sulfide (A4) Jed Layers (A5) (LRR f. G., Jed Below Dark Surface Dark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat Jucky Peat or Peat (S1) Layer (if present):	F) H) ce (A11)	I LRRs, unless other Sandy Sandy Strippe Loamy Loamy ✓ Deplete Redox Deplete Redox High P	Gleyed M Redox (S ed Matrix (Mucky M Gleyed M ed Matrix Dark Surf ed Dark S Depression	ted.) latrix (S4) 5) S6) ineral (F1) latrix (F2) (F3) face (F6) urface (F7)	16)	Indicators for 1 cm Mucl Coast Pra Dark Surfa High Plain	nt Material (TF2) ow Dark Surface (TF12) olain in Remarks) hydrophytic vegetation and rdrology must be present, turbed or problematic.
IYDROL(OGY ydrology Indicators							
	licators (minimum of		od: chock all that ann	dv)			Socondary	ndicators (minimum of two required
		one require						•
/	e Water (A1) /ater Table (A2)		Salt Crus Aquatic Ir	, ,	es (R13)			Soil Cracks (B6) y Vegetated Concave Surface (B8)
	tion (A3)		Aquatic II					je Patterns (B10)
	Marks (B1)				Table (C2)		=	d Rhizospheres on Living Roots (C
	ent Deposits (B2)				eres on Liv	ina Roots		re tilled)
	eposits (B3)			not tilled		ing reods		Burrows (C8)
	fat or Crust (B4)				ed Iron (C4	1)		on Visible on Aerial Imagery (C9)
	eposits (B5)		Thin Muc			• /		rphic Position (D2)
	tion Visible on Aerial	Imagery (I						eutral Test (D5)
	Stained Leaves (B9)		Outer (E)	(pidiii iii i	ornarko)			eave Hummocks (D7) (LRR F)
Field Obse	. ,						1103(-11	cave Hammocks (B7) (ERRT)
		Voo	No <u>✓</u> Depth (ir	achoo):				
			No Depth (in		in	-		
Water Table Saturation I			No Depth (in			— We	tland Hvdrology Pi	resent? Yes No
(includes ca	apillary fringe)							
_	ecorded Data (strear Earth Aerial I			pnotos, p	revious ins	pections)), if available:	
		Holog	ιαριιο					
Remarks: Water F	eature 77 sati	urated a	and inundated	on 12	/2015, (04/201	16, 03/2018, <i>1</i>	11/2018, 12/2019,

Project/Site: Spur 399 Extension		City/County	: Collin Co	unty	_ Sampling Da	ate: 09/10/2020
Applicant/Owner: TxDOT				State: TX	_ Sampling Po	oint: DP-9
Investigator(s): Kelsea Hiebert, Michael Keenan, and Etha	n Eichler	Section, To	wnship, Ra	nge: <u>n/a</u>		
Landform (hillslope, terrace, etc.): Slough		Local relief	(concave,	convex, none): concave	,	Slope (%): 0-2
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Re	gion Lat: 33.1	193183		Long: <u>-96.578266</u>	,	Datum: NAD 27
Soil Map Unit Name: _Tf - Tinn clay, 0 to 1 percent slopes,		oded		NWI classifi	cation: PFO	
Are climatic / hydrologic conditions on the site typical for t		ar? Yes	✓ No	(If no explain in I	Remarks)	
Are Vegetation, Soil, or Hydrology	-			"Normal Circumstances"		s ✓ No
Are Vegetation, Soil, or Hydrology	-			eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site ma						
,			g point i		-, importan	
Hydrophytic Vegetation Present? Yes		Is th	e Sampled	l Area		
	No	with	in a Wetlaı	nd? Yes <u>v</u>	/ No	
Wetland Hydrology Present? Yes Remarks:	No					
DP-9 located within north portion of Fe	oractad M	Votland	\Matar E	Footuro 88 outcir	do of the c	study area
· ·	orested v	vellanu	vvaler	realure oo oulsic	ie oi tile s	iluuy area.
Recent precipitation.						
VEGETATION – Use scientific names of pla	ants.					
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test wor		
1. Acer negundo	65	Species? yes	FAC	Number of Dominant S That Are OBL, FACW,	•	
2. Fraxinus pennsylvanica	20	yes	FAC	(excluding FAC-):	•	(A)
3.				Total Number of Domi	nant	
4.				Species Across All Str	_	(B)
451	85	= Total Cov	/er	Percent of Dominant S	Species	
Sapling/Shrub Stratum (Plot size: 15')	45		EAC	That Are OBL, FACW,		0 (A/B)
1. Acer negundo		yes	FAC	Prevalence Index wo	rksheet:	
2				Total % Cover of:	M	ultiply by:
3 4				OBL species	x 1 =	0
5				FACW species		
		= Total Cov	/er	FAC species		
Herb Stratum (Plot size: 5'	_		ODI	FACU species		
1. Leersia oryzoides	<u> 5</u>	yes	OBL	UPL species Column Totals: 0	x 5 =	
Persicaria hydropiperoides Xanthium strumarium	<u>5</u> 	yes	OBL FAC	Column Totals:	(A)	<u> </u>
		yes	IAC	Prevalence Inde	x = B/A = 0	
4. 5.				Hydrophytic Vegetat	ion Indicators	:
6.				1 - Rapid Test for		egetation
7.				✓ 2 - Dominance Te		
8.				3 - Prevalence Inc		
9				4 - Morphological data in Remark	Adaptations' (ks or on a seba	⊬rovide supporting arate sheet)
10				Problematic Hydro		•
Woody Vine Stratum (Plot size: 30')	15	= Total Cov	/er	¹ Indicators of hydric so		
				be present, unless dis		
1. 2.				Hydrophytic		
	_	= Total Cov	/er	Vegetation	✓	
% Bare Ground in Herb Stratum 85				Present? Yo	es N	0
Remarks:						

SOIL Sampling Point: <u>DP-9</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Features %	Type ¹	Loc ²	Texture	Remarks
0-8	COIOI (IIIOISI)	/0	COIOI (IIIOISI)		1 ypc		I GALUI G	TOO SATURATED TO COLOR
8-16	10YR 4/1	60	5YR 5/8	40	С	M	CLAY	
0-10	10111 4/1		311(3/0	_ +0		IVI	CLAT	
			-					
	-		-				-	
	oncentration, D=De					ed Sand G		cation: PL=Pore Lining, M=Matrix.
_	Indicators: (Appli	cable to all						s for Problematic Hydric Soils ³ :
Histosol				Gleyed Ma	. ,			Muck (A9) (LRR I, J)
	oipedon (A2)			Redox (S5) ed Matrix (S				Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G)
	stic (A3) en Sulfide (A4)			y Mucky Min				Plains Depressions (F16)
	d Layers (A5) (LRR	F)		y Gleyed Ma				RR H outside of MLRA 72 & 73)
	ick (A9) (LRR F, G ,			ted Matrix (F			•	ced Vertic (F18)
	d Below Dark Surfac			c Dark Surfa	,			Parent Material (TF2)
	ark Surface (A12)			ted Dark Su)	-	Shallow Dark Surface (TF12)
-	Mucky Mineral (S1)			Depression	. ,			(Explain in Remarks)
	Mucky Peat or Peat			Plains Depre				s of hydrophytic vegetation and
5 CM IVIL	ıcky Peat or Peat (S	53) (LRR F)	(IV	ILRA 72 & 7	3 01 LKF	(H)		nd hydrology must be present, s disturbed or problematic.
Restrictive	Layer (if present):						unicoc	distance of problematic.
Type:	, ,							
Depth (in	ches): -						Hydric Soil	I Present? Yes No
Remarks:							, , , , , ,	
rtomanto.								
HYDROLO	GY							
Wetland Hy	drology Indicators	:						
Primary India	cators (minimum of	one require	d; check all that ap	ply)			Seconda	ary Indicators (minimum of two required)
✓ Surface	Water (A1)		Salt Crus	st (B11)			Sur	face Soil Cracks (B6)
High Wa	ater Table (A2)		Aquatic I	nvertebrates	s (B13)		Spa	arsely Vegetated Concave Surface (B8)
✓ Saturation	on (A3)		Hydroge	n Sulfide Oc	lor (C1)		Dra	ninage Patterns (B10)
Water M	larks (B1)		Dry-Seas	son Water T	able (C2)		Oxi	dized Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized	Rhizospher	es on Liv	ing Roots	(C3) (v	where tilled)
	oosits (B3)		(where	not tilled)				yfish Burrows (C8)
	at or Crust (B4)			e of Reduce		4)		uration Visible on Aerial Imagery (C9)
	oosits (B5)			ck Surface (,		,	omorphic Position (D2)
	on Visible on Aerial	Imagery (B	7) Other (E	xplain in Re	marks)			C-Neutral Test (D5)
	tained Leaves (B9)					ı	Fro	st-Heave Hummocks (D7) (LRR F)
Field Obser		. /		2-/	linches			
Surface Wat			No Depth (rindics			
Water Table			No <u>✓</u> Depth (i		ohoc			./
Saturation P	resent? '	Yes <u></u> ✓	No Depth (inches): Ulr	iches	Wet	land Hydrolog	y Present? Yes No
(includes cap Describe Re	corded Data (strear	n gauge, mo	onitoring well, aeria	l photos, pre	evious ins	pections).	, if available:	
	Earth Aerial I		-	,		, ,		
Remarks:		- 3.						
Recent r	recinitation I	nundati	on and satur	ation on	03/20	15 12	/2015 01/	2017 03/2018 11/2018
	recipitation. I 019 aerial ph			ation on	03/20	15, 12	/2015, 01/	2017, 03/2018, 11/2018,

Project/Site: Spur 399 Extension		City/Cour	nty: Collin Co	ounty	Sampling	Date: <u>06/8</u>	/2021
Applicant/Owner: TxDOT				State: TX	Sampling	Point: UPL	-1
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section,	Township, Ra	ange: n/a			
Landform (hillslope, terrace, etc.): Depression by ruts		Local rel	ief (concave,	convex, none): convex		Slope (º	%): <u>1</u>
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Re				_ Long: <u>-96.616807</u>			
Soil Map Unit Name: Tf- Tinn clay, 0 to 1 percent slopes, t	frequently floo	ded		NWI classifi	cation: UP	L	
Are climatic / hydrologic conditions on the site typical for t	his time of ye		,				
Are Vegetation, Soil, or Hydrology	-			"Normal Circumstances"		Yes	No ✓
Are Vegetation, Soil, or Hydrology				eeded, explain any answe	•		
SUMMARY OF FINDINGS - Attach site ma				•		,	res, etc.
Hydrophytic Vegetation Present? Yes	No <u>√</u>	le	the Sample	d Aroa			
Hydric Soil Present? Yes	No 🗸		ithin a Wetla		No _	✓	
Wetland Hydrology Present? Yes	No <u>√</u>						
Remarks:				16.		_	
Adjacent to Emergent Wetland Water	Feature	16 and	d makesh	nift roadway cons	truction	ı. Recen	t
rainfall event.							
VEGETATION – Use scientific names of pla	ints.						
001	Absolute		nt Indicator	Dominance Test wor	ksheet:		
Tree Stratum (Plot size: 30'	<u>% Cover</u> 45		S? Status	Number of Dominant S			
Celtis laevigata Fraxinus pennsylvanica	25	yes	<u>FAC</u> FAC	That Are OBL, FACW, (excluding FAC-):	or FAC	3	(A)
3. Maclura pomifera			FACU	Total Number of Domi	nant		_ , ,
4				Species Across All Str		6	(B)
		= Total C	Cover	Percent of Dominant S	Species		+
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW,		50.0%	(A/B)
1				Prevalence Index wo	rksheet:		
2				Total % Cover of:		Multiply by:	<u> </u>
3			_		x 1		
5.	<u> </u>		<u> </u>	FACW species 0	x 2	<u>2</u> = 0	
	0	= Total C	Cover	FAC species 100	x 3	300	
Herb Stratum (Plot size: 5'				FACU species 65		1 = 260	
1. Hordeum pusillum		yes	_ FACU_	UPL species 0		$5 = \frac{0}{560}$	
2. Solidago gigantea		yes	<u>FAC</u>	Column Totals: 165	(A)		(B)
3				Prevalence Index	x = B/A =	3.4	
4. 5.				Hydrophytic Vegetati			
6.				1 - Rapid Test for		_	1
7.				2 - Dominance Te			
8				3 - Prevalence Inc			
9				4 - Morphological data in Remark			
10				Problematic Hydro	phytic Veg	jetation¹ (Ex	plain)
Woody Vine Stratum (Plot size: 30')	70.0	= Total C	Cover	¹ Indicators of hydric so	oil and wetla	and hydroloc	ıv must
1. Eastern Poison Ivy	5	yes	FACU	be present, unless dist	urbed or pr	roblematic.	,,
2.				Hydrophytic			
	5	= Total C	Cover	Vegetation	ne	No ✓	
% Bare Ground in Herb Stratum 30.0				Present? Ye	es	NO	-
Remarks:							

SOIL Sampling Point: UPL-1

(inches) 0-4	Matrix			x Feature				
U-4	Color (moist)		Color (moist)	<u>%</u>	Type ¹	Loc ²	<u>Texture</u>	Remarks
	10YR 5/2	90					Clay	
0-4	7.5YR 6/4	10					Clay	
4-14	5YR 2.5/1	100					Clay	
	_							
	_			-				
1Type: C=0	Concentration, D=De	nlotion DM=Da	oduced Matrix, CS	E=Covered		d Sand Cr	raina ² l contin	on: PL=Pore Lining, M=Matrix.
	il Indicators: (Appli					u Sanu Gi		Problematic Hydric Soils ³ :
Histoso				Sleyed Ma				k (A9) (LRR I, J)
	Epipedon (A2)			Redox (S5				irie Redox (A16) (LRR F, G, H)
	Histic (A3)			l Matrix (S				ace (S7) (LRR G)
	gen Sulfide (A4)		-	Mucky Mir				s Depressions (F16)
	ed Layers (A5) (LRR /luck (A9) (LRR F, G		-	Gleyed Ma d Matrix (l			•	Houtside of MLRA 72 & 73) Vertic (F18)
	ed Below Dark Surfa			Dark Surfa	,			nt Material (TF2)
	Dark Surface (A12)	,			rface (F7)			low Dark Surface (TF12)
	Mucky Mineral (S1)			Depressio				olain in Remarks)
	Mucky Peat or Peat				essions (F			nydrophytic vegetation and
5 cm N	Mucky Peat or Peat (S3) (LRR F)	(ML	RA 72 & 1	73 of LRR	H)	-	drology must be present, turbed or problematic.
Restrictive	Layer (if present):						uniess dis	turbed of problematic.
Type: _								
	nches):		_				Hydric Soil Pre	esent? Yes No
Remarks:								
INDBUI (ncv							
Wetland H	ydrology Indicators		heck all that anni	v)			Secondary	ndicators (minimum of two required
Wetland H	ydrology Indicators dicators (minimum of						-	ndicators (minimum of two required
Wetland H Primary Inc	ydrology Indicators dicators (minimum of e Water (A1)		Salt Crust	(B11)	s (B13)		Surface	Soil Cracks (B6)
Wetland H Primary Inc Surface High W	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2)		Salt Crust Aquatic Inv	(B11) vertebrate	, ,		Surface	Soil Cracks (B6) y Vegetated Concave Surface (B8)
Wetland H Primary Inc Surface High W Satura	ydrology Indicators dicators (minimum of e Water (A1)		Salt Crust Aquatic Inv Hydrogen	(B11) vertebrate Sulfide O	dor (C1)		Surface Sparsel Drainag	Soil Cracks (B6) y Vegetated Concave Surface (B8) pe Patterns (B10)
Wetland H Primary Inc Surface High W Satura Water	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3)		Salt Crust Aquatic Inv	(B11) vertebrate Sulfide Oo n Water T	dor (C1) able (C2)	ng Roots	Surface Sparsel Drainag Oxidize	Soil Cracks (B6) y Vegetated Concave Surface (B8)
Wetland H Primary Inc Surface High W Satura Water Sedime	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1)		Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Oo n Water T	dor (C1) able (C2)	ng Roots	Surface Sparsel Drainag Oxidize (C3) (when	Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3
Wetland H Primary Inc Surface High W Satura Water Sedime	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)		Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Oo n Water T Rhizosphe not tilled)	dor (C1) able (C2) res on Livi		Surface Sparsel Drainag Oxidize (C3) (when	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F	(B11) vertebrate Sulfide Or n Water 1 Rhizosphe not tilled) of Reduce	dor (C1) Table (C2) res on Livi		Surface Sparsel Drainag Oxidize (C3) (where the content of the con	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal M Iron De Inunda	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r	(B11) vertebrate Sulfide Oc n Water 1 Rhizosphe not tilled) of Reduce Surface (dor (C1) Table (C2) Tes on Livi Ted Iron (C4) Tes (C7)		Surface Sparsel Drainag Oxidize (C3) (where Crayfish Saturati Geomo	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water-	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial estained Leaves (B9)	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of	(B11) vertebrate Sulfide Oc n Water 1 Rhizosphe not tilled) of Reduce Surface (dor (C1) Table (C2) Tes on Livi Ted Iron (C4) Tes (C7)		Surface Sparsel Drainag Oxidize (C3) (where Crayfish Saturati Geomo	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ution Visible on Aerial Stained Leaves (B9)	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water 1 Rhizosphe not tilled) of Reduce Surface (olain in Re	dor (C1) Table (C2) res on Livi and Iron (C4 C7) marks)	•)	Surface Sparsel Drainag Oxidize (C3) (where Crayfish Saturati Geomo	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial estained Leaves (B9) ervations: ater Present?	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Oo n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re	dor (C1) Table (C2) res on Livi d Iron (C4 C7) marks)	_	Surface Sparsel Drainag Oxidize (C3) (where Crayfish Saturati Geomo	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse Surface Wa Water Tabl	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present? e Present?	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches):	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)		Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse Surface Wa Water Tabl Saturation	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial estained Leaves (B9) ervations: ater Present? Present?	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches):	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)		Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse Surface Wa Water Tabl Saturation (includes ca	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present? e Present?	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): ches):	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)	— Wetla	Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne Frost-H	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse Surface Wa Water Tabl Saturation (includes ca	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present? e Present? Present? apillary fringe)	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): ches):	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)	— Wetla	Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne Frost-H	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Water- Field Obse Surface Wa Water Tabl Saturation (includes ca	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present? e Present? Present? apillary fringe)	one required; c	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): ches):	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)	— Wetla	Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne Frost-H	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Algal M Iron De Inunda Water- Field Obse Surface Wa Water Tabl Saturation (includes ca Describe R	ydrology Indicators dicators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present? e Present? Present? apillary fringe)	one required; contained; containe	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck Other (Exp Depth (inc Depth (inc pring well, aerial p	(B11) vertebrate Sulfide Or n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): ohotos, pr	dor (C1) Table (C2) res on Livi ad Iron (C4 C7) marks)	— Wetla	Surface Sparsel Drainag Oxidize (C3) (when Crayfish Saturati Geomo FAC-Ne Frost-H	e Soil Cracks (B6) y Vegetated Concave Surface (B8) ye Patterns (B10) d Rhizospheres on Living Roots (C3 re tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5) eave Hummocks (D7) (LRR F)

Project/Site: Spur 399 Extension		City/Cou	unty: Collin Co	unty	_ Sampling	Date: 06/8/2	2021
Applicant/Owner: TxDOT				State: TX	_ Sampling	Point: UPL-	2
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section	, Township, Ra	ange: n/a			
Landform (hillslope, terrace, etc.): Floodplain		Local re	elief (concave,	convex, none): none		Slope (%	o): 0
Subregion (LRR): <u>J - Southwestern Prairies Cotton and Forage R</u>							
Soil Map Unit Name: Tf- Tinn clay, 0 to 1 percent slopes	, frequently floo	ded		NWI classit	ication: UP	L	
Are climatic / hydrologic conditions on the site typical for							
Are Vegetation, Soil, or Hydrology				"Normal Circumstances"		Yes	No. ✓
Are Vegetation, Soil, or Hydrology				eeded, explain any answ			
SUMMARY OF FINDINGS – Attach site ma						,	es. etc
			9	,	,		
Hydrophytic Vegetation Present? Yes ✓ Hydric Soil Present? Yes	No		s the Sample			/	
Wetland Hydrology Present? Yes ✓	No	٧	within a Wetla	nd? Yes	No	✓	
Remarks:							
Adjacent to Forested Wetland Water	Feature 1	7 Re	ecent heav	vy rainfall event			
rajassii is rarasta rranana rrata.	· catare ·			ry rannam evenu			
VEGETATION – Use scientific names of p	lants.						
<u>Tree Stratum</u> (Plot size: 30')	Absolute		nant Indicator es? Status	Dominance Test wo	rksheet:		
Tree Stratum (Plot size: 30) 1. Maclura pomifera		yes		Number of Dominant That Are OBL, FACW			
2. Fraxinus pennsylvanica			FAC	(excluding FAC-):	, OI FAC	4	(A)
3.				Total Number of Dom	inant		
4				Species Across All St		6	_ (B)
		= Total	Cover	Percent of Dominant	Snecies		+
Sapling/Shrub Stratum (Plot size: 15'				That Are OBL, FACW		66.7%	_ (A/B)
1. Acer negundo	10	yes		Prevalence Index wo	rkshoot:		
2. Carya illinoinensis	10	ves	<u>FAC</u>	Total % Cover of		Multiply by:	
3		-		·	x1		
4		-			x 2		
5	20	= Total	Cover	FAC species 70	x 3	3 = 210	
Herb Stratum (Plot size: 5'		= Total	Cover	FACU species 70	x 4	l = ²⁸⁰	
1. Lolium perenne	50	yes	FACU	UPL species 0	x 5	5 =	
2. Solidago gigantea	30	yes	<u>FAC</u>	Column Totals: 145	(A)	500	(B)
3. Ambrosia trifida	10	no	FAC	Prevalence Inde	w = D/A =	3.4	+
4. Carex cherokeensis	5	no	FACW_	Hydrophytic Vegeta			_
5				1 - Rapid Test for			
6				✓ 2 - Dominance Te		o vogotation	
7				3 - Prevalence In			
8				4 - Morphological			
9				data in Remar		•	,
10		= Total		Problematic Hydr	ophytic Veg	etation ¹ (Expl	lain)
Woody Vine Stratum (Plot size: 30'				¹ Indicators of hydric s be present, unless dis			/ must
1 2				Hydrophytic	<u> </u>		
		= Total		Vegetation	✓		
% Bare Ground in Herb Stratum 5.0		· Otal	55101	Present? Y	es	No	
Remarks:				•			

SOIL Sampling Point: UPL-2

		to the depth n				or confirm	n the absence of in	dicators.)
Depth (inches)	Matrix Color (moist)	<u></u> % (Redo	x Features %	s Type ¹	Loc ²	Texture	Remarks
0-4	10YR 4/1	90	ZOIOI (IIIOISI)	//	1 Abe		Clay	Nemans
0-4	10YR 5/3	_ 10					Clay	
4-14	10YR 4/1							
4-14	1011 4/1					-	Clay	
	oncentration, D=De					d Sand G		n: PL=Pore Lining, M=Matrix.
_	Indicators: (Appli	cable to all LRR						Problematic Hydric Soils ³ :
Histosol	` '		Sandy	-			1 cm Muck	
	pipedon (A2) istic (A3)		Sandy	d Matrix (S				ie Redox (A16) (LRR F, G, H) ce (S7) (LRR G)
	en Sulfide (A4)			Mucky Mir			· · · · · · · · · · · · · · · · · · ·	Depressions (F16)
	d Layers (A5) (LRR		-	Gleyed Ma			,	outside of MLRA 72 & 73)
	uck (A9) (LRR F, G,			ed Matrix (I	,		Reduced V	` ,
	d Below Dark Surfa ark Surface (A12)	ce (ATT)		Dark Surfa ed Dark Su	. ,			Material (TF2) w Dark Surface (TF12)
	Mucky Mineral (S1)			Depression	, ,			ain in Remarks)
	Mucky Peat or Peat		High Plains Depressions (F16) 3Indicators of hydrophytic vegetatio					
5 cm Mi	ucky Peat or Peat (S	S3) (LRR F)	(ML	.RA 72 & 7	73 of LRR	H)	-	Irology must be present,
Restrictive	Layer (if present):						uniess disti	urbed or problematic.
Type:								
	ches):		_				Hydric Soil Pres	sent? Yes No
Remarks:							<u> </u>	
HYDROLO	GY							
Wetland Hy	drology Indicators):						
Primary Indi	cators (minimum of	one required; ch	eck all that app	y)			Secondary In	dicators (minimum of two required)
✓ Surface	Water (A1)		Salt Crust	(B11)			Surface S	Soil Cracks (B6)
_	ater Table (A2)		Aquatic In					Vegetated Concave Surface (B8)
Saturati			Hydrogen					Patterns (B10)
Water N			Dry-Seaso		, ,			Rhizospheres on Living Roots (C3)
	nt Deposits (B2) posits (B3)			not tilled)		ing Roots	` '	e tilled) Burrows (C8)
	at or Crust (B4)		Presence	,		!)		n Visible on Aerial Imagery (C9)
_	posits (B5)		Thin Muck			,		phic Position (D2)
Inundati	ion Visible on Aerial	Imagery (B7)	Other (Ex	plain in Re	marks)		FAC-Neu	utral Test (D5)
Water-S	Stained Leaves (B9)						Frost-He	ave Hummocks (D7) (LRR F)
Field Obser			.	, , n ₋ -	1			
Surface Wat		Yes <u>√</u> No _				-		
Water Table		Yes No _					and Under Land	esent? Yes No
Saturation P (includes ca	pillary fringe)	Yes No _						sent resNO
Describe Re	corded Data (strear		-					
Inspection	of aerial photo	s from 12/20	17, 3/2018,	11/2018	, 9/2019), and 1	1/2020 showed	no inundation or saturation.
Remarks:		_	_			_		
Recent h	neavy rainfall	inundated	upland are	as nea	r wetla	nd.		
L								

Project/Site: Spur 399 Extension		City/County: Collin C	County	Sampling Date: _09/22/2021
Applicant/Owner: TxDOT				Sampling Point: UPL-3
Investigator(s): Kelsea Hiebert and Wyatt Wolfe	enkoehler	Section, Township, F	Range: N/A	
Landform (hillslope, terrace, etc.): Terrace		Local relief (concave	e, convex, none): convex	Slope (%): 1
Subregion (LRR): J - Southwestern Prairies Cotton a	nd Forage Region Lat: 33.	198125	Long: -96.597553	Datum: NAD 83
Soil Map Unit Name: Houston Black clay, 1 to	3 percent slopes		NWI classif	fication: UPL
Are climatic / hydrologic conditions on the site				
Are Vegetation, Soil, or Hydrol				' present? Yes ✓ No
Are Vegetation, Soil, or Hydrol			needed, explain any answ	
SUMMARY OF FINDINGS - Attach				
			Tiocations, transect	.s, important leatures, et
	s No	Is the Sampl	ed Area	
	s No	within a Wet	land? Yes	No <u>√</u>
Wetland Hydrology Present? Yes Remarks:	s No			
	Motland Mater F	Conturo 22 on	d Caractad Watlar	ad Matar Facture 24
Located adjacent to Forested	vvetiand vvater F	reature 32 and	a Forested vvettar	id vvaler realure 34.
<u>I</u>				
VEGETATION – Use scientific nam	es of plants.			
7 0 4 (5) 4 30'	Absolute			rksheet:
<u>Tree Stratum</u> (Plot size: 30') 1. Acer negundo	· · · · · · · · · · · · · · · · · · ·	Species? Status	- Number of Dominant	
	20		_ That Are OBL, FACW (excluding FAC-):	7, or FAC <u>5</u> (A)
2			-	
3 4			_ Total Number of Dom Species Across All St	•
5.			Percent of Dominant 9	Snecies +
	20	= Total Cover	That Are OBL, FACW	
Sapling/Shrub Stratum (Plot size: 15'			Prevalence Index wo	arkahaat:
1. Acer negundo	10	yes FAC	Total % Cover of:	
2. Celtis laevigata	10	yes FAC	'	x 1 = 0
3. Ulmus americana	10	yes FAC		x 2 = 0
4	30			x 3 = 165
Herb Stratum (Plot size: 5')	30	= Total Cover		x 4 = 20
1. Elymus virginicus	5	yes FAC	UPL species 0	x 5 = 0
2.			Column Totals: 60	(A) <u>185</u> (B)
3				D/A 3.1
4			Prevalence Inde	
5				Hydrophytic Vegetation
6			2 - Dominance Te	• • •
7			3 - Prevalence In	
8				Adaptations ¹ (Provide supportin
9			— data in Remar	rks or on a separate sheet)
10	5.0		 Problematic Hydr 	ophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 30')	= Total Cover	¹ Indicators of hydric s	oil and wetland hydrology must
1. Toxicodendron radicans		yes FACU	he present unless die	sturbed or problematic.
2.			Hydrophytic	
	5	= Total Cover	Vegetation	√ Na
% Bare Ground in Herb Stratum 95.0	_		Present? Y	'es No
Remarks:				
1				

SOIL Sampling Point: <u>UPL-3</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox F	eatures	2
(inches)	Color (moist)	<u>%</u> C	olor (moist)	<u>% Type¹ Loc</u>	oc ² Texture Remarks
0-12	10YR 3/1	100			Clay Loam
					
					
	•				
l					
l					
¹ Type: C=C	oncentration, D=De	pletion. RM=Red	uced Matrix, CS=C	overed or Coated Sar	nd Grains. ² Location: PL=Pore Lining, M=Matrix.
	Indicators: (Applie				Indicators for Problematic Hydric Soils ³ :
-					-
Histoso			Sandy Gley		1 cm Muck (A9) (LRR I , J)
	pipedon (A2)		Sandy Red		Coast Prairie Redox (A16) (LRR F, G, H)
Black H	istic (A3)		Stripped M	atrix (S6)	Dark Surface (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy Mud	cky Mineral (F1)	High Plains Depressions (F16)
Stratifie	d Layers (A5) (LRR	F)	Loamy Gle	yed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G ,		Depleted M		Reduced Vertic (F18)
	d Below Dark Surface			k Surface (F6)	Red Parent Material (TF2)
	ark Surface (A12)	(, , , ,)		ark Surface (F7)	Very Shallow Dark Surface (TF12)
	` ,		Redox Dep		
-	Mucky Mineral (S1)	(00) (1 0 11)		, ,	Other (Explain in Remarks)
	Mucky Peat or Peat		_	Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm M	ucky Peat or Peat (S	83) (LRR F)	(MLRA	72 & 73 of LRR H)	wetland hydrology must be present,
					unless disturbed or problematic.
Restrictive	Layer (if present):				
Type:					
	iches):				Hydric Soil Present? Yes No
					Hydric 30ii Fresent: Tes No
Remarks:					
HYDROLO	GY				
Wetland Hy	drology Indicators	:			
Primary Indi	cators (minimum of	one required; che	eck all that apply)		Secondary Indicators (minimum of two require
Surface	Water (A1)		Salt Crust (B1	1)	Surface Soil Cracks (B6)
	ater Table (A2)		Aquatic Invert	,	Sparsely Vegetated Concave Surface (B8
Saturati	, ,		Hydrogen Sul		Drainage Patterns (B10)
Water N	/larks (B1)		Dry-Season V	Vater Table (C2)	Oxidized Rhizospheres on Living Roots (
Sedime	nt Deposits (B2)		Oxidized Rhiz	cospheres on Living Ro	Roots (C3) (where tilled)
	posits (B3)		(where not	· ·	Crayfish Burrows (C8)
			•	,	
_	at or Crust (B4)			Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
	posits (B5)		Thin Muck Su		Geomorphic Position (D2)
Inundat	ion Visible on Aerial	Imagery (B7)	Other (Explain	n in Remarks)	FAC-Neutral Test (D5)
Water-S	Stained Leaves (B9)				Frost-Heave Hummocks (D7) (LRR F)
Field Obser	rvations:				
		Voo Na	Donth (in al-	0):	
			• • •	s):	
Water Table	Present?	Yes No _	✓ Depth (inche	s):	,
Saturation F	Present?	Yes No	✓ Depth (inche)	s):	Wetland Hydrology Present? Yes No
(includes ca	pillary fringe)				
		n gauge, monitor	ing well, aerial pho	tos, previous inspection	ons), if available:
	•	-		•	
Remarks:					

Project/Site: Spur 399 Extension	(City/County	: Collin Cou	unty	Sampling Date: 06/8/2021	
Applicant/Owner: TxDOT				State: TX	Sampling Point: UPL-4	
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section, To	wnship, Ra	nge: <u>n/a</u>		
Landform (hillslope, terrace, etc.): Hillslope		Local relie	f (concave,	convex, none): concave	Slope (%): 3	
Subregion (LRR):	on Lat: <u>33.1</u>	60764		Long: <u>-96.592853</u>	Datum: NAD 27	7
Soil Map Unit Name: AID2—Altoga silty clay, 5 to 8 percent	slopes, erod	ed		NWI classific	ation: UPL	
Are climatic / hydrologic conditions on the site typical for this	s time of year		,			
Are Vegetation, Soil, or Hydrologys	-				resent? Yes No _	✓
Are Vegetation, Soil, or Hydrology r				eeded, explain any answei		
SUMMARY OF FINDINGS – Attach site map						etc.
Hydrophytic Vegetation Present? Yes N	lo 🗸					
Hydric Soil Present? Yes N			ne Sampled		/	
Wetland Hydrology Present? Yes N		with	nin a Wetlar	nd? Yes	No <u></u>	
Remarks:		I				
Adjacent to Isolated Wetland Water Fe	ature 53	. Recei	nt heavy	rainfall event.		
			-			
VEGETATION – Use scientific names of plan	ıte					
VEGETATION – Ose scientific flames of plan	Absolute	Dominant	Indicator	Dominance Test work	shoot:	
Tree Stratum (Plot size: 30'	% Cover			Number of Dominant Sp		
1. Carya illinoinensis	40	yes	FAC	That Are OBL, FACW, o	or FAC	
2. Salix nigra	5	no	FACW	(excluding FAC-):	1 (/	(A)
3. Populus deltoides	5	no	FAC	Total Number of Domina	1	
4				Species Across All Stra	ta: <u>4</u> (E	3)
Sapling/Shrub Stratum (Plot size: 15')	50	= Total Co	ver	Percent of Dominant Sp		
1				That Are OBL, FACW, o	or FAC: 23.070 (A	A/B)
2.				Prevalence Index work	sheet:	
3.				Total % Cover of:		
4.					$x = \frac{0}{10}$	
5				FAC appaies 45	x 2 = 10	
	0	= Total Co	ver	FACULARISIS 100	x 3 = 135	
Herb Stratum (Plot size: 5')	0.5		FACIL	FACU species 100 0	x 4 = 400	
1. Schedonorus arundinaceus		yes	FACU	UPL species 0 Column Totals: 150	x = 5 = 0	(D)
2				Column Totals.	(A) <u>545</u>	(B) +
3				Prevalence Index	$= B/A = \frac{3.6}{}$	-
4. 5.				Hydrophytic Vegetation	n Indicators:	
6				1 - Rapid Test for H		
7				2 - Dominance Tes		
8.				3 - Prevalence Inde		
9					daptations ¹ (Provide suppor or on a separate sheet)	rting
10					phytic Vegetation ¹ (Explain)	
20'	85.0	= Total Co	ver	<u> </u>		
Woody Vine Stratum (Plot size: 30') 1. Toxicodendron pubescens	10	VAS	FACU	be present, unless distu	and wetland hydrology must rbed or problematic.	St
Parthenocissus quinquefolia	5	<u>yes</u> yes	FACU	Hydrophytic		
2		= Total Co		Vegetation	✓	
% Bare Ground in Herb Stratum 15.0		. 5.61 60		Present? Yes	S No	
Remarks:				•		

SOIL Sampling Point: UPL-4

Depth (inches) Matrix Redox Features (inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 0-14 7.5YR 2.5/1 90 Silty Clay	
Oily Olay	·
0-14 10YR 6/6 5 Silty Clay	
0-14 10YR 5/3 5 Silty Clay	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining,	M-Matrix
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric	
Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (LRR I, J)	
Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LF	RR F, G, H)
Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G)	
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16)	
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA	72 & 73)
1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2)	
Depleted Below Dark Surface (A11) Redox Dark Surface (10) Red Palent Material (112) Thick Dark Surface (A12) Depleted Dark Surface (F7) Very Shallow Dark Surface (TI	F12)
Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks)	,
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) ³ Indicators of hydrophytic vegetation	on and
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be pre	
unless disturbed or problemati	ic.
Restrictive Layer (if present):	
Type:	√
Depth (inches): - Hydric Soil Present? Yes	No
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum	of two required)
Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6)	
High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concav	e Surface (B8)
Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)	
	_iving Roots (C3)
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on L	
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on L Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on L Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8)	
Water Marks (B1)	Imagery (C9)
Water Marks (B1)	Imagery (C9)
Water Marks (B1)	
Water Marks (B1)	7) (LRR F)
Water Marks (B1)	7) (LRR F)
Water Marks (B1)	7) (LRR F)
Water Marks (B1)	7) (LRR F)
Water Marks (B1)	7) (LRR F)
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on L Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8)	7) (LRR F)

Project/Site: Spur 399 Extension	(City/County	Collin Cou	unty	Sampling Date: 06	6/8/2021
Applicant/Owner: TxDOT				State: TX S	Sampling Point: <u>U</u>	PL-5
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section, To	wnship, Ra	nge: _n/a		
Landform (hillslope, terrace, etc.): Floodplain		Local relief	(concave,	convex, none): none	Slope	e (%): 0
Subregion (LRR): _J - Southwestern Prairies Cotton and Forage Region	1 Lat: 33.1	77090		Long: <u>-96.574835</u>	Datum	NAD 27
Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percer	nt slopes			NWI classifica	tion: UPL	
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ır? Yes	,			
Are Vegetation, Soil, or Hydrologys	ignificantly of	disturbed?	Are "	'Normal Circumstances" pre	esent? Yes	No ✓
Are Vegetation, Soil, or Hydrologyn				eeded, explain any answers		
SUMMARY OF FINDINGS - Attach site map			g point le	ocations, transects,	important fea	tures, etc.
			<u> </u>			<u> </u>
Hydrophytic Vegetation Present? Yes No			e Sampled		,	
Wetland Hydrology Present? Yes ✓ No.		with	in a Wetlar	nd? Yes	No <u></u> ✓	
Remarks:						
UPL-5 located adjacent to Emergent W	etland V	Vater F	eature 6	69. Recent heavy	rainfall even	t.
, ,				,		
VECETATION Lies esignific names of plant	to.					
VEGETATION – Use scientific names of plant		Daminant	la di a a ta a	Daminana Taat walka	h a a ti	
Tree Stratum (Plot size: 30'	Absolute % Cover	Dominant Species?		Dominance Test works Number of Dominant Spe		
1				That Are OBL, FACW, or	r FAC	
2				(excluding FAC-):	0	(A)
3				Total Number of Domina	2	
4				Species Across All Strata	3: <u>3</u>	(B)
Sapling/Shrub Stratum (Plot size: 15')	0	= Total Cov	ver .	Percent of Dominant Spe		+
1				That Are OBL, FACW, or	FAC: 0.070	(A/B)
2.				Prevalence Index works	sheet:	
3.				Total % Cover of:		
4.					x 1 = 0	
5				FACW species 0		
	0	= Total Cov	ver .	FACILIPAGIA 30	$x 3 = \frac{30}{120}$	
Herb Stratum (Plot size: 5') 1 Bromus hordeaceus	30	V00	UPL	FACU species 30 30 30	x = 4 = 120 x = 5 = 150	
2. Lolium perenne	20	yes yes	FACU	OFL species	(A) 300	(B)
3. Ambrosia trifida	10	no	FAC		、 ,	(D) +
4			. ,	Prevalence Index :	$= B/A = \frac{4.3}{}$	
5				Hydrophytic Vegetation		
6.				1 - Rapid Test for Hy		ion
7.				2 - Dominance Test		
8				3 - Prevalence Index		
9				4 - Morphological Ac data in Remarks	or on a separate sl	
10				Problematic Hydroph	nytic Vegetation ¹ (F	Explain)
Woody Vine Stratum (Plot size: 30')	60.0	= Total Cov	ver .	¹ Indicators of hydric soil a	and wetland hydro	logy must
1. Rubus trivialis	10	ves	FACU	be present, unless distur	bed or problematic	c.
2.		700	17100	Hydrophytic		
	10	= Total Cov	/er	Vegetation	✓	•
% Bare Ground in Herb Stratum 40.0				Present? Yes	No	
Remarks:						

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features	
(inches)	Color (moist)	%C	olor (moist) % Type ¹	Loc ² Texture Remarks
0-12	7.5YR 3/1	100		Silty Clay
				
	-			
				
¹ Type: C=C	oncentration, D=Der	oletion, RM=Red	uced Matrix, CS=Covered or Coated	d Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
			s, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
_				-
Histosol			Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
	pipedon (A2)		Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black H	istic (A3)		Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified	d Layers (A5) (LRR	F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G ,		Depleted Matrix (F3)	Reduced Vertic (F18)
	d Below Dark Surfac		Redox Dark Surface (F6)	Red Parent Material (TF2)
	ark Surface (A12)	(/(1/)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
	, ,			
-	Mucky Mineral (S1)	(aa) (1 11)	Redox Depressions (F8)	Other (Explain in Remarks)
	Mucky Peat or Peat (High Plains Depressions (F16	
5 cm Mu	ucky Peat or Peat (S	3) (LRR F)	(MLRA 72 & 73 of LRR I	H) wetland hydrology must be present,
				unless disturbed or problematic.
Restrictive	Layer (if present):			
Type:				
• • • • • • • • • • • • • • • • • • • •	oboo):			Hvdric Soil Present? Yes No ✓
Depth (in	cries).			Hydric Soil Present? Yes No
Remarks:				
HYDROLO	GY			
Wetland Hy	drology Indicators:			
Primary India	cators (minimum of c	one required; che	eck all that apply)	Secondary Indicators (minimum of two required)
✓ Surface	Water (A1)		Salt Crust (B11)	Surface Soil Cracks (B6)
	` '			
	ater Table (A2)		Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturati	on (A3)		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water M	larks (B1)		Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized Rhizospheres on Livin	ng Roots (C3) (where tilled)
	posits (B3)		(where not tilled)	Crayfish Burrows (C8)
			,	
_	at or Crust (B4)		Presence of Reduced Iron (C4)	·
-	posits (B5)		Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundati	on Visible on Aerial	Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-S	Stained Leaves (B9)			Frost-Heave Hummocks (D7) (LRR F)
Field Obser				
	vations:			
Surface wat		/ / N-	Danth (inabas), 0.5	
	er Present? Y		Depth (inches): 0.5	_
Water Table	er Present? Y		Depth (inches): 0.5 Depth (inches):	
	er Present? Y	'es No _	✓ Depth (inches):	
Water Table Saturation P (includes cap	er Present? Y Present? Y resent? Y	'es No _		
Saturation P (includes cap	er Present? Y Present? Y resent? Y pillary fringe)	/es No /es No	✓ Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes cap	er Present? Y Present? Y resent? Y pillary fringe)	/es No /es No	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes ca Describe Re	er Present? Y Present? Y resent? Y pillary fringe)	/es No /es No	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes cap	er Present? Y Present? Y resent? Y pillary fringe)	/es No /es No	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes cap Describe Re	er Present? Y Present? Y resent? Y pillary fringe) corded Data (stream	/es No /es No n gauge, monitor	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes cap Describe Re	er Present? Y Present? Y resent? Y pillary fringe)	/es No /es No n gauge, monitor	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No
Saturation P (includes cap Describe Re	er Present? Y Present? Y resent? Y pillary fringe) corded Data (stream	/es No /es No n gauge, monitor	Depth (inches): Depth (inches):	Wetland Hydrology Present? Yes No

Project/Site: Spur 399 Extension		City/Cou	nty: Collin C	county	_ Samplin	ig Date: 06	/8/2021
Applicant/Owner: TxDOT				State: TX	_ Samplin	g Point: UI	PL-6
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section,	Township, F	Range: <u>n/a</u>			
Landform (hillslope, terrace, etc.): Hillslope/berm		Local re	lief (concave	e, convex, none): convex		Slope	e (%): <u>3-4</u>
Subregion (LRR):							
Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 per	cent slopes			NWI classi	fication: U	PL	
Are climatic / hydrologic conditions on the site typical for			,				
Are Vegetation, Soil, or Hydrology	-			e "Normal Circumstances"			No ✓
Are Vegetation, Soil, or Hydrology				needed, explain any answ			_
SUMMARY OF FINDINGS – Attach site ma							tures, etc.
Hydrophytic Vegetation Present? Yes	No ✓	la	the Comple	ad Avaa			
Hydric Soil Present? Yes			the Sample oithin a Wetl		No	/	
Wetland Hydrology Present? Yes	No		Turnin a vveu	unu: 163			
Remarks:							
UPL-6 located adjacent to Forested V VEGETATION – Use scientific names of pla		valer r	reature	70. Recent neavy	Tallilai	r eveni.	
201	Absolute		ant Indicator		rksheet:		
<u>Tree Stratum</u> (Plot size: 30' 1. Juniperus virginiana	<u>% Cover</u> 50		s? Status UPL	- Number of Dominant			
Maclura pomifera	20	yes	FACU	_ That Are OBL, FACW (excluding FAC-):	, or FAC	0	(A)
3. Fraxinus pennsylvanica		no		− _ Total Number of Dom	inant		
4. Celtis laevigata	15	no	FAC	Species Across All St		5	(B)
Sapling/Shrub Stratum (Plot size: 15')		= Total (Percent of Dominant That Are OBL, FACW		0.0%	(A/B)
1				Prevalence Index wo	orksheet:		
2				Total % Cover of	<u> </u>	Multiply b	oy:
4					x		
5.				FACW species 0	x	$2 = \frac{0}{0}$	
	0	= Total (Cover	FAC species 30 50	Х	3 = 90	
Herb Stratum (Plot size: 5')	00		E4011	FACU species		4 = 200	
Lonicera japonica Smilax bona-nox	E	yes	FACU	_ OFL species		5 = 250 540	(D)
		yes	<u>FACU</u>	_ Column Totals	(A	() <u> </u>	(B) +
3				Prevalence Inde	ex = B/A =	4.2	
4 5				Hydrophytic Vegeta	tion Indica	itors:	
6.				1 - Rapid Test for		_	on
7				2 - Dominance To			
8.				3 - Prevalence In			
9				- 4 - Morphologica - data in Remai	Adaptation	ns' (Provide separate sl	e supporting neet)
10				Problematic Hydr		•	,
201	25.0	= Total (Cover	<u> </u>		•	. ,
Woody Vine Stratum (Plot size: 30') 1. Toxicodendron radicans	5	yes	FACU	¹ Indicators of hydric s be present, unless dis	oil and wet sturbed or p	oroblematic	ogy must
2				_ Hydrophytic			
0/ Para Cround in Harb Strature 75.0	5	= Total (Cover	Vegetation Present?	'es	No	
% Bare Ground in Herb Stratum 75.0 Remarks:							

SOIL Sampling Point: UPL-6

	cription: (Describe	to the depth ne				or confirn	n the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	% C	Redo	ox Features %	Type ¹	Loc ²	Texture	Rem	arks
0-8	10YR 3/2	100	roioi (IIIOISI)		Type	LUC	Silty Clay	Large roots w/in	
	- 10111012					-	- July Slay		
-	-							-	
				_					
-	· ·								
	-							-	
	Concentration, D=Dep					d Sand G		cation: PL=Pore Lin	
_	Indicators: (Applic	able to all LRK						for Problematic Hy	
Histoso	Epipedon (A2)		Sandy Sandy	-				Muck (A9) (LRR I, J) Prairie Redox (A16)	
Black F			-	d Matrix (S				Surface (S7) (LRR G	
	en Sulfide (A4)			Mucky Min				Plains Depressions (F	
Stratifie	ed Layers (A5) (LRR			Gleyed Ma	. ,			RR H outside of ML	
	uck (A9) (LRR F, G,			ed Matrix (F	,			ced Vertic (F18)	
	ed Below Dark Surfac	ce (A11)		Dark Surfa	. ,			Parent Material (TF2)	
	Park Surface (A12)			ed Dark Su				Shallow Dark Surface	
-	Mucky Mineral (S1) Mucky Peat or Peat	(S2) (I PP G H)		Depression		16)		(Explain in Remarks of hydrophytic vege	
	ucky Peat or Peat (S	. , . , ,	_ ~	RA 72 & 7				d hydrology must be	
	uony : out o. : out (o	(=::::)	(/		s disturbed or probler	
Restrictive	Layer (if present):							-	
Type: <u>-</u>									,
Depth (ir	nches): <u>-</u>						Hydric Soi	I Present? Yes _	No
Remarks:							•		
HYDROLO	OGY								
Wetland Hy	/drology Indicators	<u> </u>							
•	icators (minimum of		eck all that app	ly)			Second	ary Indicators (minim	um of two required)
Surface	Water (A1)		Salt Crust	(B11)			Sur	face Soil Cracks (B6)
High W	ater Table (A2)		Aquatic In		s (B13)			arsely Vegetated Cor	
Saturat	ion (A3)		Hydrogen	Sulfide Oc	dor (C1)		Dra	inage Patterns (B10))
Water N	Marks (B1)		Dry-Seaso	on Water T	able (C2)		Oxi	dized Rhizospheres	on Living Roots (C3)
Sedime	ent Deposits (B2)		Oxidized	Rhizosphei	res on Livi	ing Roots	(C3) (v	vhere tilled)	
Drift De	eposits (B3)		(where	not tilled)			Cra	yfish Burrows (C8)	
Algal M	lat or Crust (B4)		Presence	of Reduce	d Iron (C4	!)	Sat	uration Visible on Ae	rial Imagery (C9)
	posits (B5)		Thin Mucl				Geo	omorphic Position (D	2)
· · · · · · · · · · · · · · · · · · ·	tion Visible on Aerial	Imagery (B7)	Other (Ex	plain in Re	marks)			C-Neutral Test (D5)	
	Stained Leaves (B9)						Fro	st-Heave Hummocks	s (D7) (LRR F)
Field Obse			,						
		/es No _	,						
Water Table		/es No _	,						./
Saturation F	Present? \ apillary fringe)	/es No _	✓ Depth (in	iches):		_ Wetl	land Hydrolog	y Present? Yes _	No <u></u>
	ecorded Data (stream	n gauge, monitor	ing well, aerial	photos, pre	evious ins	pections),	if available:		
Remarks:									
ı									
				_	-	_			

Project/Site: Spur 399 Extension	City/	County:	Collin Cou	inty	Sampling D	oate: 06/8/20)21
Applicant/Owner: TxDOT				State: TX	Sampling F	oint: UPL-7	
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler	Sect	ion, Tow	nship, Rar	nge: <u>n/a</u>			
Landform (hillslope, terrace, etc.): Agricultural field in floodpla	ain Loc	al relief (concave, c	convex, none): none		_ Slope (%):	0
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region	Lat: 33.1855	77		Long: <u>-96.577410</u>		Datum: NA	D 27
Soil Map Unit Name: _To—Trinity clay, 0 to 1 percent slopes, 0	occasionally flo	oded		NWI classifi	cation: UPL		
Are climatic / hydrologic conditions on the site typical for this			,				
Are Vegetation _ ✓ _, Soil _ ✓ _, or Hydrology signature.	-			Normal Circumstances"		es N	o √
Are Vegetation, Soil, or Hydrology na				eded, explain any answe			
SUMMARY OF FINDINGS – Attach site map s							s, etc.
Hydrophytic Vegetation Present? Yes No	✓	lo the	Sampled	A			
Hydric Soil Present? Yes No			a Wetlan		No	1	
Wetland Hydrology Present? Yes No		Within	i u vvotiuii				
Remarks:			_				
UPL-7 located adjacent to Emergent We				•	eld is an	actively	
cultivated wheat field and recently harve	ested. Red	ent he	eavy ra	infall event.			
VEGETATION - Use scientific names of plant	s.						
70		minant I		Dominance Test worl	sheet:		
	% Cover Sp		_	Number of Dominant S	•		
1 2				That Are OBL, FACW, (excluding FAC-):	OI FAC		(A)
3.				Total Number of Domir	nant		
4.				Species Across All Stra			(B)
	<u>0</u> = To			Percent of Dominant S	pecies		
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW,		.0%	(A/B)
1				Prevalence Index wo	rksheet:		
3.				Total % Cover of:		/lultiply by:	_
4				OBL species			_
5.				FACW species	x 2 =	: 0	_
	0 = To	otal Cove	r	FAC species	x 3 =	0	_
Herb Stratum (Plot size: 5')	GE			FACU species	x 4 =	0	_
1. Triticum aestivum			NA	UPL species Column Totals: 0	x 5 =	0	— (B)
2. Rumex crispus			AC	Column Totals:	(A)		_ (B)
3 4				Prevalence Index	$c = B/A = \frac{0}{100}$	0	_
5.				Hydrophytic Vegetati			
6.				1 - Rapid Test for		Vegetation	
7.				2 - Dominance Te			
8				3 - Prevalence Ind		(Danida au	
9				4 - Morphological . data in Remark			
10				Problematic Hydro	phytic Veget	ation¹ (Expla	in)
Woody Vine Stratum (Plot size: 30')	70.0 = To	otal Cove	r	¹ Indicators of hydric so	il and wetlan	d hydrology i	must
1				be present, unless dist	urbed or prof	olematic.	naot
2.				Hydrophytic			
	0 = To	otal Cove	r	Vegetation		√	
% Bare Ground in Herb Stratum 30.0				Present? Ye	es l	NO	
Remarks:							
Triticum aestivum is the dominant veget wetland indicator status. 30% bare soil is				-	and doe	es not ha	ve a

SOIL Sampling Point: <u>UPL-7</u>

	cription: (Describe	e to the de	•			or confir	m the absence of i	indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	es Type ¹	Loc ²	_ Texture	Remarks
0-7	10YR 3/1	95	5YR 4/6	5	C	PL	Clay	
7-14	10YR 3/1	97	5YR 4/6	3	C	PL	Clay	-
								
					-			
						-		
			· <u></u>		_			
¹Type: C=C	oncentration D=De	nletion RM		S=Covere	ed or Coate	ed Sand (Grains ² Locatio	on: PL=Pore Lining, M=Matrix.
			I LRRs, unless oth			ouria c		Problematic Hydric Soils ³ :
Histosol			Sandy				1 cm Mucl	(A9) (LRR I, J)
Histic E	pipedon (A2)		Sandy	-				irie Redox (A16) (LRR F, G, H)
	istic (A3)			ed Matrix (ace (S7) (LRR G)
	en Sulfide (A4)	-		Mucky M				s Depressions (F16)
	d Layers (A5) (LRR uck (A9) (LRR F, G			Gleyed Matrix			(LRR H	I outside of MLRA 72 & 73)
	d Below Dark Surfa			Dark Surf	` '			nt Material (TF2)
	ark Surface (A12)	,	✓ Deplet		, ,)		ow Dark Surface (TF12)
-	Mucky Mineral (S1)		✓ Redox	•	` '			olain in Remarks)
	Mucky Peat or Peat	. , .	—					nydrophytic vegetation and
5 cm Mi	ucky Peat or Peat (53) (LRR F) (M	LRA 72 &	/3 of LRF	(H)		drology must be present, turbed or problematic.
Restrictive	Layer (if present):						driicoo dioi	tarbea or problematio.
	,							_
Depth (in	ches):						Hydric Soil Pre	esent? Yes No
Remarks:								
HYDROLO	GY							
	drology Indicators							
-			ed; check all that app	olv)			Secondary I	ndicators (minimum of two required)
-	Water (A1)	one require	Salt Crus	•				Soil Cracks (B6)
· 	ater Table (A2)		Aquatic I		es (B13)			y Vegetated Concave Surface (B8)
Saturati			Hydrogei		, ,			e Patterns (B10)
	larks (B1)		Dry-Seas)		d Rhizospheres on Living Roots (C3)
Sedime	nt Deposits (B2)		Oxidized	Rhizosph	eres on Liv	ing Roots	s (C3) (wher	re tilled)
Drift De	posits (B3)		(where	not tilled)		Crayfish	n Burrows (C8)
Algal Ma	at or Crust (B4)		Presence			4)		on Visible on Aerial Imagery (C9)
Iron Dep			Thin Muc					rphic Position (D2)
	on Visible on Aerial		37) Other (E	xplain in R	emarks)		·	eutral Test (D5)
	tained Leaves (B9)						Frost-He	eave Hummocks (D7) (LRR F)
Field Obser		Vaa	No J Death of	naha=\:				
Surface Wat			No ✓ Depth (i					
Water Table			,				tland Hudualaan D	resent? Yes No
Saturation P (includes cap		res	No ✓ Depth (i	ncnes):		_ vve	иани пуигоюду Pr	resent? Yes No
		m gauge, m	nonitoring well, aeria	l photos, p	revious ins	spections), if available:	
Remarks:								
	to standing :	water fr	om recent hea	avv roin	nfall ove	ant .		
Aujacelli	. to stariuling	wat e i II		avy Iali	ııaıı ev	∪ 111.		

Project/Site: Spur 399 Extension	City/0	County: Co	llin Coun	ty	Sampling	Date: 06/8/20)21
Applicant/Owner: TxDOT				State: TX	Sampling i	Point: UPL-8	
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler	Sect	ion, Townsh	hip, Rang	је: <u>n/a</u>			
Landform (hillslope, terrace, etc.): Swale	Loca	al relief (con	ncave, co	nvex, none): concave		Slope (%)	: 1
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region				Long: <u>-96.576284</u>			
Soil Map Unit Name: To—Trinity clay, 0 to 1 percent slopes,	occasionally floo	oded		NWI classific	ation: UPL		
Are climatic / hydrologic conditions on the site typical for this		,					
Are Vegetation	-			ormal Circumstances" p		es N	lo ✓
Are Vegetation, Soil, or Hydrologyn				ded, explain any answe			
SUMMARY OF FINDINGS – Attach site map							s, etc.
Hydrophytic Vegetation Present? Yes No		Is the Sa	ampled A	Area			
Hydric Soil Present? Yes No		within a			No	✓	
Wetland Hydrology Present? Yes <u>✓</u> No	0						
Remarks:	70 LIDI	0 :					
UPL-8 is located in Swale Water Featur							
wheat field. Recent heavy rainfall event	. Short dur	ation ov	/erlan	d flow from the E	ast Fo	rk Trinity	River
VEGETATION - Use scientific names of plan	ts.						
201		minant Indi		Dominance Test work	sheet:		
	% Cover Spe			Number of Dominant Sp			
1				That Are OBL, FACW, (excluding FAC-):	or FAC		(A)
2				Total Number of Domin	ont -		, ,
4				Species Across All Stra			(B)
	0 = To			Percent of Dominant Sp	necies		
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW, of		0.0%	(A/B)
1				Prevalence Index worl	ksheet:		
2				Total % Cover of:		Multiply by:	
3				OBL species			
4			_	FACW species	x 2	= 0	_
5	0 = To	tal Cover		FAC species	x 3	= 0	_
Herb Stratum (Plot size: 5')		nai 0010i		FACU species	x 4	= 0	_
1. Triticum aestivum	65 y 6		١	UPL species	x 5	=	_
2. Rumex crispus			<u>.C</u>	Column Totals: 0	(A)	<u> </u>	(B)
3				Prevalence Index	= B/A = C).0	
4				Hydrophytic Vegetation			_
5				1 - Rapid Test for H	lydrophytic	Vegetation	
6				2 - Dominance Tes	t is >50%		
7 8				3 - Prevalence Inde	x is ≤3.0 ¹		
9.				4 - Morphological A			
10				data in Remarks Problematic Hydror			
	70.0 = To	tal Cover				, ,	,
Woody Vine Stratum (Plot size: 30') 1				¹ Indicators of hydric soil be present, unless distu	and wetlar irbed or pro	nd hydrology i blematic.	must
2.				Hydrophytic		_	_
20.0	<u>0</u> = To	tal Cover		Vegetation	S	No.	
% Bare Ground in Herb Stratum 30.0				riesein? Yes	<u>' — </u>	140	
Remarks:			. =		_		
Triticum aestivum is the dominant vege wetland indicator status. 30% bare soil				-	and do	es not ha	ve a

SOIL Sampling Point: UPL-8

Depth (inches)	* * * * *		·	E t			n the absence of i	•
	Matrix Color (moist)		Color (moist)	ox Features %	Type ¹	Loc ²	Texture	Remarks
0-14	10YR 3/1	100					Clay	
				_			·	
	-							
	-							
	oncentration, D=De					d Sand G		n: PL=Pore Lining, M=Matrix.
_	Indicators: (Appl	icable to all LRI						Problematic Hydric Soils ³ :
Histoso	` '		Sandy	-				(A9) (LRR I, J)
	pipedon (A2)		Sandy				·	rie Redox (A16) (LRR F, G, H)
Black H				d Matrix (S Mucky Mir				ice (S7) (LRR G) s Depressions (F16)
	en Sulfide (A4) d Layers (A5) (LRF	? F)		Gleyed Ma	. ,		- -	l outside of MLRA 72 & 73)
	uck (A9) (LRR F, G		-	ed Matrix (F			,	/ertic (F18)
·	d Below Dark Surfa			Dark Surfa				it Material (TF2)
	ark Surface (A12)			ed Dark Su				ow Dark Surface (TF12)
	Mucky Mineral (S1)		Redox					olain in Remarks)
	Mucky Peat or Peat				•			ydrophytic vegetation and
5 cm IVI	ucky Peat or Peat (S3) (LRR F)	(ML	.RA 72 & 7	3 of LRR	H)	-	drology must be present,
Restrictive	Layer (if present):						uniess dis	rurbed or problematic.
	Layer (ii present).							
	iches):		_				Hydric Soil Pre	sent? Yes No ✓
Remarks:			-				Trydric doi: 11e	3ent: 163 NO
Nemaiks.								
HYDROLO)GY							
	OGY drology Indicators	s:						
Wetland Hy			neck all that app	ly)			Secondary I	ndicators (minimum of two required)
Wetland Hy	drology Indicators		neck all that app	•				ndicators (minimum of two required) Soil Cracks (B6)
Wetland Hy Primary Indi Surface	drology Indicators			(B11)	s (B13)		Surface	•
Wetland Hy Primary Indi Surface	rdrology Indicators cators (minimum of Water (A1) ater Table (A2)		Salt Crust	: (B11) vertebrate	, ,		Surface Sparsel	Soil Cracks (B6)
Wetland Hy Primary Indi ✓ Surface — High Wa	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3)		Salt Crust	(B11) evertebrate Sulfide Od	lor (C1)		Surface Sparsel Drainag	Soil Cracks (B6) y Vegetated Concave Surface (B8)
Wetland Hy Primary Indi ✓ Surface — High Water Mater Mate	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3)		Salt Crusi Aquatic Ir Hydrogen	(B11) evertebrate Sulfide Oc on Water T	lor (C1) able (C2)		Surface Sparsel Drainag Oxidize	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10)
Wetland Hy Primary Indi ✓ Surface High Water N Sedime	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1)		Salt Crusi Aquatic Ir Hydrogen Dry-Sease Oxidized	(B11) evertebrate Sulfide Oc on Water T	lor (C1) able (C2)		Surface Sparsel Drainag Oxidize (C3) (wher	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3
Wetland Hy Primary Indi ✓ Surface High Water N Sedime Drift De	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)		Salt Crusi Aquatic Ir Hydrogen Dry-Sease Oxidized	(B11) Evertebrate Sulfide Ocon Water T Rhizosphel not tilled)	lor (C1) able (C2) es on Liv	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled)
Primary Indi ✓ Surface — High Water Now Sedime — Drift De — Algal Market	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3)		Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	(B11) Evertebrate Sulfide Ocon Water T Rhizosphel not tilled)	lor (C1) able (C2) res on Liv	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) B Burrows (C8)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater De	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)	one required; ch	Salt Crust Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	(B11) Invertebrate Sulfide Octon Water T Rhizospher Inot tilled) of Reduce C Surface (lor (C1) able (C2) res on Liv d Iron (C4	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomo	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater De Inundat	cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one required; ch	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl	(B11) Invertebrate Sulfide Octon Water T Rhizospher Inot tilled) of Reduce C Surface (lor (C1) able (C2) res on Liv d Iron (C4	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater De Inundat	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations:	one required; ch	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl	(B11) Evertebrate Sulfide Ocon Water T Rhizospher not tilled) of Reduce C Surface (plain in Re	lor (C1) able (C2) res on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) a Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland Hy Primary Indi ✓ Surface High Wa Saturati Water N Sedime Drift De Algal Mallon De Inundat Water-S	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations:	I Imagery (B7)	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex	ivertebrate Sulfide Ocon Water T Rhizosphei not tilled) of Reduce Surface (plain in Re	lor (C1) able (C2) es on Liv d Iron (C ² C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) a Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater Now Iron De Inundat Water-S Field Observers	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present?	I Imagery (B7) Yes No Yes No	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex	(B11) avertebrate Sulfide Oc on Water T Rhizosphei not tilled) of Reduce of Surface (plain in Re aches): 4 i aches):	lor (C1) able (C2) es on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) rutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater Sedime Iron De Inundat Water Sedime Water Sedime Surface Water Sedime	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present?	I Imagery (B7)	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex	(B11) avertebrate Sulfide Oc on Water T Rhizosphei not tilled) of Reduce of Surface (plain in Re aches): 4 i aches):	lor (C1) able (C2) es on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) a Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) eutral Test (D5)
Wetland Hy Primary Indi ✓ Surface — High Water Now Sedime — Drift De — Algal Mater Sedime — Iron De — Inundat — Water-Sedime — Water-Sedime — Surface Water Table Saturation Feincludes ca	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present?	I Imagery (B7) Yes ✓ No Yes _ No Yes _ No	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex	is (B11) avertebrate Sulfide Oc on Water T Rhizospher not tilled) of Reduce of Surface (plain in Re aches): aches): aches):	lor (C1) able (C2) es on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomon FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) rutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi ✓ Surface — High Water Mater Table Saturation F (includes call Describe Researce)	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present?	I Imagery (B7) Yes ✓ No Yes _ No Yes _ No	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex	is (B11) avertebrate Sulfide Oc on Water T Rhizospher not tilled) of Reduce of Surface (plain in Re aches): aches): aches):	lor (C1) able (C2) es on Liv d Iron (C4 C7) marks)	ing Roots	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomon FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) rutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater Sedime Iron De Inundat Water Sedime Vater Sedime Algal Mater Sedime Iron De Inundat Water Sedime Iron De Inundat Water Sedime Field Observation Fedincludes ca Describe Reservation Fedincludes ca	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? pillary fringe) ecorded Data (strea	I Imagery (B7) Yes No _ Yes No _ Yes No _ m gauge, monito	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex Depth (ir Depth (ir Depth (ir Depth (ir	in (B11) invertebrate Sulfide Octor Water T Rhizospher not tilled) of Reduce of Surface (plain in Re inches):	lor (C1) able (C2) res on Liv d Iron (C4 C7) marks) nches	Wetl	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol FAC-Ne Frost-He	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) rutral Test (D5) eave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi ✓ Surface High Water Now Sedime Drift De Algal Mater Sedime Iron De Inundat Water Sedime Vater Sedime Algal Mater Sedime Iron De Inundat Water Sedime Inundat Water Sedime Field Observation Fedincludes can Describe Reservation Fedincludes can Remarks:	rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present?	I Imagery (B7) Yes No _ Yes No _ Yes No _ m gauge, monito	Salt Crust Aquatic Ir Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl Other (Ex Depth (ir Depth (ir Depth (ir Depth (ir	in (B11) invertebrate Sulfide Octor Water T Rhizospher not tilled) of Reduce of Surface (plain in Re inches):	lor (C1) able (C2) res on Liv d Iron (C4 C7) marks) nches	Wetl	Surface Sparsel Drainag Oxidize (C3) (wher Crayfish Saturati Geomol FAC-Ne Frost-He	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 e tilled) n Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) rutral Test (D5) eave Hummocks (D7) (LRR F)

Project/Site: Spur 399 Extension		City/Cour	nty: Collin Cou	unty	_ Sampling	Date: 06/8/2	2021
Applicant/Owner: TxDOT				State: TX	_ Sampling	Point: UPL-	9
Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler		Section,	Township, Ra	nge: n/a			
Landform (hillslope, terrace, etc.): Fallow field in floodplain	n	Local reli	ief (concave,	convex, none): none		Slope (%	o): 0
Subregion (LRR): J - Southwestern Prairies Cotton and Forage Re							
Soil Map Unit Name: Tf—Tinn clay, 0 to 1 percent slopes,	frequently floo	oded		NWI classif	ication: UP		
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrology				'Normal Circumstances'		Yes	No. ✓
Are Vegetation, Soil, or Hydrology				eeded, explain any answ			
SUMMARY OF FINDINGS – Attach site ma				,		•	es etc
			9				
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No <u>▼</u>		the Sampled			,	
Wetland Hydrology Present? Yes	No ✓	wi	ithin a Wetlar	nd? Yes	No		
Remarks:							
UPL-9 located adjacent to Forested V	Vetland W	Vater F	eature 8	8 Recent heavy	rainfall	event	
				•			
VEGETATION – Use scientific names of pla	ınts.						
Tree Stratum (Plot size: 30')	Absolute		int Indicator	Dominance Test wor			
1. Fraxinus pennsylvanica			Status FAC	Number of Dominant That Are OBL, FACW			
2.				(excluding FAC-):	, or rac	1	(A)
3.				Total Number of Dom	inant		
4				Species Across All St		2	_ (B)
	4.5	= Total C	Cover	Percent of Dominant	Species		
Sapling/Shrub Stratum (Plot size: 15')				That Are OBL, FACW		50.0%	_ (A/B)
1				Prevalence Index wo	orksheet:		
2				Total % Cover of:		Multiply by:	
3 4		-		OBL species 0	x 1	= 0	
5					x 2	2 = 0	
0.		= Total C	Cover	FAC species 25	x 3	3 = 75	
Herb Stratum (Plot size: 5'				FACU species 90	x 4	t = 360	
1. Cynodon dactylon	90	yes	_ FACU	UPL species 0	x 5	5 = <u>0</u>	
2. Ambrosia trifida		no	FAC	Column Totals: 115	(A)	433	(B)
3. Paspalum dilatatum		no	FAC_	Prevalence Inde	ex = B/A =	3.8	+
4				Hydrophytic Vegetat			<u> </u>
5				1 - Rapid Test for	Hydrophyti	c Vegetation	
6				2 - Dominance Te	est is >50%		
7 8				3 - Prevalence In	dex is ≤3.0 ¹		
9.				4 - Morphological data in Remar	Adaptation	s ¹ (Provide su	upporting
10				Problematic Hydr			
	100.0						
Woody Vine Stratum (Plot size: 30') 1.				¹ Indicators of hydric s be present, unless dis			y must
2.				Hydrophytic			
	0			Vegetation	·	Na ✓	
% Bare Ground in Herb Stratum 0.0				Present? Y	es	No	
Remarks:							

SOIL Sampling Point: <u>UPL-9</u>

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Features	S			
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-14	2.5YR 3/1	100					Silty Clay	recent rainfall
								·
	-							·
	-							
1 0 0							. 21	
•	oncentration, D=Dep					ed Sand G		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
_	ndicators: (Applic	cable to all LR						•
Histosol			Sandy (-				Muck (A9) (LRR I, J)
Black His	oipedon (A2)		-	Redox (S5 d Matrix (S				Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G)
	n Sulfide (A4)			Mucky Mir				Plains Depressions (F16)
	Layers (A5) (LRR	F)	-	Gleyed Ma				RR H outside of MLRA 72 & 73)
	ck (A9) (LRR F, G ,		-	d Matrix (F			`	eed Vertic (F18)
	Below Dark Surface		Redox [Dark Surfa	ce (F6)		Red P	arent Material (TF2)
Thick Da	rk Surface (A12)		Deplete	d Dark Su	rface (F7))	Very S	Shallow Dark Surface (TF12)
	lucky Mineral (S1)			Depression				(Explain in Remarks)
	lucky Peat or Peat			ains Depre				of hydrophytic vegetation and
5 cm Mu	cky Peat or Peat (S	3) (LRR F)	(ML	RA 72 & 7	73 of LRR	(H)		d hydrology must be present,
Donatulativa I	(:6						unless	disturbed or problematic.
_	ayer (if present):							
Type:			<u> </u>					- · · · · · · · · · · · · · · · · · · ·
Depth (inc	ches):		_				Hydric Soil	Present? Yes No
Remarks:								
HYDROLO	GY							
_	drology Indicators						0 1	and the disease (asia issues of the same asia al)
-	ators (minimum of o	one required; o					·	ary Indicators (minimum of two required)
	Water (A1)		Salt Crust		.=			face Soil Cracks (B6)
<u> </u>	ter Table (A2)		Aquatic In		. ,			rsely Vegetated Concave Surface (B8)
Saturatio	` '		Hydrogen		, ,			inage Patterns (B10)
	arks (B1)		Dry-Seaso					dized Rhizospheres on Living Roots (C3)
	t Deposits (B2)		Oxidized F		res on Liv	ing Roots		vhere tilled)
-	oosits (B3)			not tilled)	(0	4.		yfish Burrows (C8)
_	t or Crust (B4)		Presence		,	1)		uration Visible on Aerial Imagery (C9)
Iron Dep		(07)	Thin Muck	,	,			omorphic Position (D2)
	on Visible on Aerial	imagery (B7)	Other (Exp	olain in Re	marks)			C-Neutral Test (D5)
Field Observ	tained Leaves (B9)					1	Fros	st-Heave Hummocks (D7) (LRR F)
		/ N-	A Double (in	-1) .				
Surface Water			Depth (in					
Water Table			Depth (in					1
Saturation Pr		res No	Depth (in	ches):		_ Wetl	land Hydrolog	y Present? Yes No
(includes cap Describe Red	corded Data (strean	n gauge, monif	toring well, aerial	ohotos, pro	evious ins	pections).	if available:	
	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	J J.,	J 2, Go. G.	, Pi		, , ,		
Remarks:								
nomans.								

	Stream Data Form #:	vvater Feature 5
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-05-058</u>	
Stream Data Form		
Surveyor(s): Kelsea Hiebert and Wyatt Wolfenkoehler	Date of Field Work: Jul	ne 8, 2021
USGS Stream Name:	County/State: Co	Illin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 5	3,
Associated Wetland(s):	Coordinates: 33.164530	-96.642216
	Receives flow from the adjacent pa	
Stream Type: Ephemeral Characteristics:	receives now from the adjacent pe	asture and roadway.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Vegetated and stabilized banks.	
	vegetated and stabilized banks.	
Stream Flow Direction: East		
OHWM Width (ft): 3	OHWM Height (in): 4	
Stream Bottom composition:	0.1	
	Other:	
☐ Sands ☑ Bedrock ☐ Muck		
☐ Gravel ✓ Vegetation		
A		
Aquatic Habitat: Indicate all types present within proposed ROW/ Sand bar Sand/Gravel beach/bar Grave		vacatation
	l riffles	vegetation
Overhanging Deep pool/ hole/ Other:		
trees/suruos channel		_
Student has the following characteristics.		
Stream has the following characteristics: Bed and banks		
OHWM (check all indicators that apply):		
clear, natural line impressed on the bank	the presence of litter and de	phris
<u> </u>	destruction of terrestrial ve	
✓ changes in the character of soil✓ shelving	the presence of wrack line	getation
	sediment sorting	
✓ vegetation matted down, bent, or absent☐ leaf litter disturbed or washed away	scour	
	_	stad flary arrants
sediment deposition water staining	multiple observed or prediction abrupt change in plant com	
other (list):	abrupt change in plant com	mumty
U other (list).		
Water Quality:		
	urbid 🔲 Oily film 🔲 Hi	ah araania aantant
✓ Other characteristics (pollutants, etc.) Recent rainfall cause		
Other characteristics (polititants, etc.) Necent rainfail cause	ed water now. Normal condition	is dry.
Aquatic Organisms: List all species observed. This would include	voterfour fish snokes turtles from	ogs invertabrates etc
*	waterrown, fish, shakes, turties, fic	ogs, invertebrates, etc.
Aquatic insects.		
Riparian Vegetation: List species observed.		
eastern red cedar (Juniperus virginiana), eastern cottonwood (Populus deltoides), black willow (Salix n		poison ivy (Toxicodendron radicans), common
spike-rush (Eleocharis palustris), johnson grass (Sorghum halepense), herbwilliam (Ptilimnium capillac	warrij, iaii golueriiou (Soliuago allissiffia)	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	
	i species the habitat is suitable for	<u>-</u>
None.		

Page 1 of 2

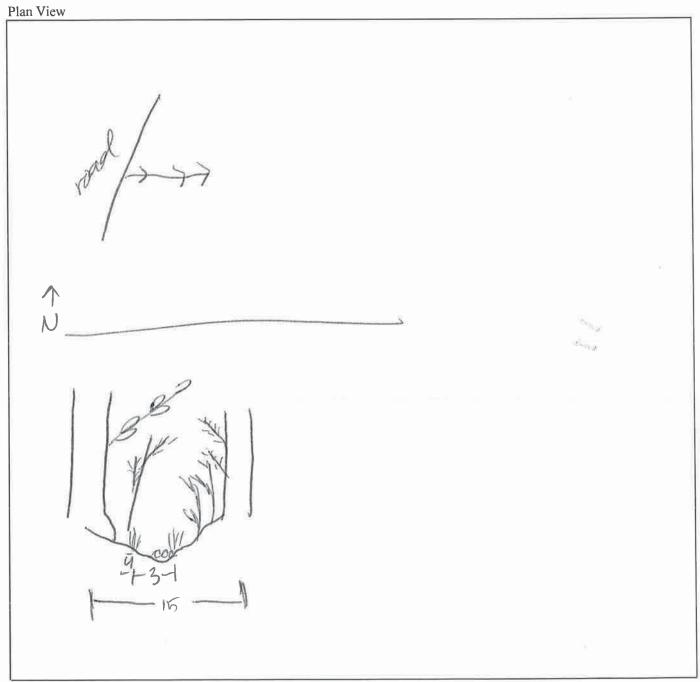
Stream Data Form #:	Water Feature 5
Project Name:	Spur 399 Extension
CSI:	1

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



Sectional View

	Stream Data Form #:	Water Feature 10A/10B
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-05-058</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: Se	eptember 11, 2020
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East		OA 10B
Associated Wetland(s): Water Feature 9*	Coordinates: 33.171328	-
.,		
Stream Type: Perennial Characteristics:	Tributary of Wilson Creek.	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stable	
Stream Flow Direction: northeast		
OHWM Width (ft): 10	OHWM Height (in): 42	
Stream Bottom composition:		
	Other:	
☑ Sands ☐ Bedrock ☐ Muck		
Gravel Vegetation		
_ •		
Aquatic Habitat: Indicate all types present within proposed ROW/		
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles	vegetation
Overhanging Deep pool/ hole/ trace/chambes		
trees/shrubs channel		
Stream has the following characteristics:		
Bed and banks		
OHWM (check all indicators that apply):	E 4 CI'w 1.1	
clear, natural line impressed on the bank	the presence of litter and d	
changes in the character of soil	destruction of terrestrial ve	egetation
shelving	the presence of wrack line	
vegetation matted down, bent, or absent leaf litter disturbed or washed away	sediment sorting scour	
	multiple observed or predi	cted flow events
sediment deposition water staining	abrupt change in plant con	
other (list):	a dorupt change in plant con	initianity
other (11st).		
Water Quality:		
✓ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 H	igh organic content
Other characteristics (pollutants, etc.)	,	-6
<u> </u>		
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, fr	ogs, invertebrates, etc.
Small fish.		
ornali non.		
Riparian Vegetation: List species observed.		
green ash, American elm, eastern red cedar, sugarberry, giant ragweed, yaupon		
,,,g-2001), gain agreed, jaapen		
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>r.</u>
None.		

Page 1 of 2

Stream Data Form # Project Name:

CSJ:

Water Feature 10A/10B
Spur 399 Extension

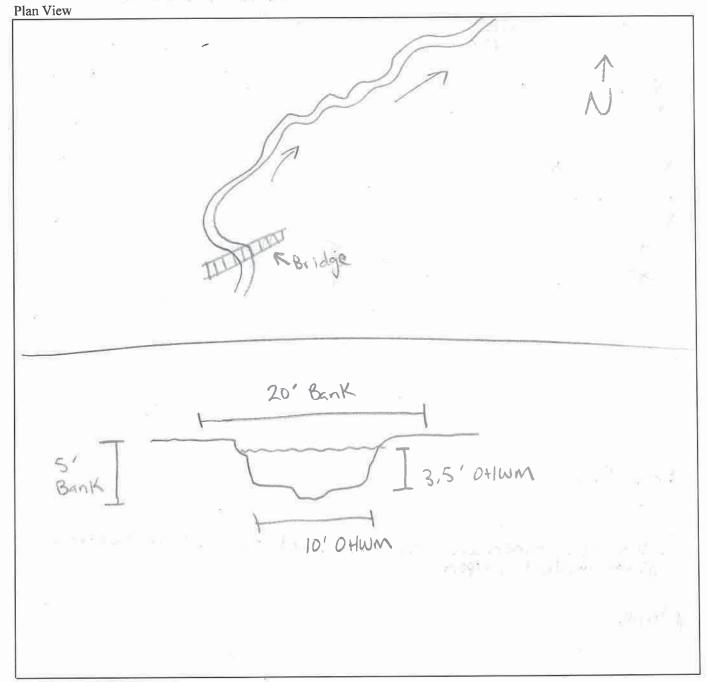
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

7.5



Sectional View

	Stream Data Form #: Water Feature 12
	Project Name: Spur 399 Extension
	CSJ: 0047-05-058
Stream Data Form	
Surveyor(s): Mike Keenan and Ethan Eichler	Date of Field Work: September 11, 2020
USGS Stream Name:	
	County/State: Collin County, Texas Stream Number: 12
USGS Topo Quad Name: McKinney East Associated Wetland(s):	
Associated wetland(s):	Coordinates: <u>33.172397</u> -96.622249
Stream Type: Ephemeral Characteristics:	Flows into a water control structure to the south.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stabilized banks.
Stream Flow Direction: Southeast	
OHWM Width (ft): 6	OHWM Height (in): 24
Stream Bottom composition:	
	Other:
✓ Sands ☐ Bedrock ☐ Muck	
☐ Gravel ☐ Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/p	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel	riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Other:	
trees/shrubs channel	_
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	–
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
W . O . P.	
Water Quality:	
	arbid Oily film High organic content
Other characteristics (pollutants, etc.) Water backed up from	m OCP-1
Aquatic Organisms: List all species observed. This would include w	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Aquatic insects.	
Riparian Vegetation: List species observed.	
green ash (Fraxinus pennsylvanica), sugarberry (Celtis laevigata), American elm (Ulmus americana), a	nd fringed green brier (Smilax bona-nox).
T0-E C /C	
T&E Species/Suitable Habitat: List T&E species observed or which	species the nabitat is suitable for.
None.	

CSJ:

Water Feature 12

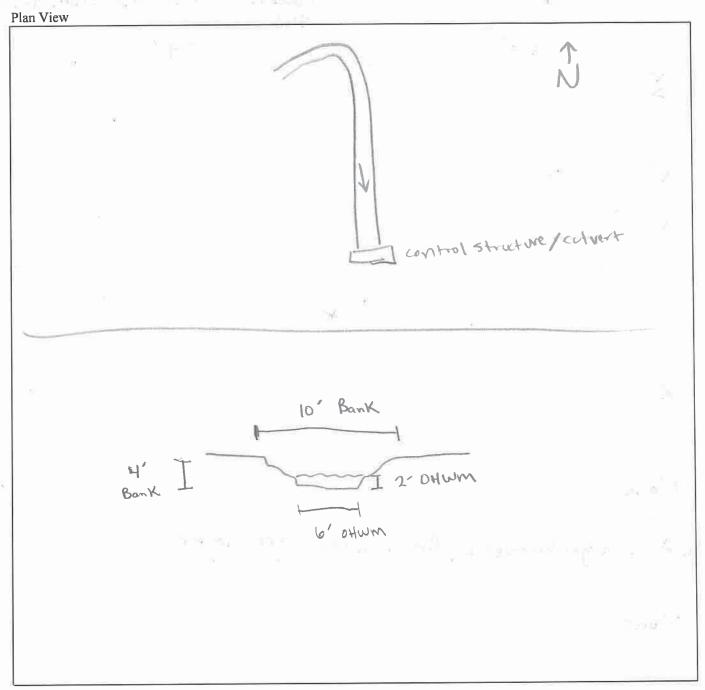
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 14
	Project Name: Spur 399 Extension
	CSJ: 0047-05-058
Stream Data Form	
Surveyor(s): Kelsea Hiebert, Ethan Eichler	Date of Field Work: August 28, 2020
USGS Stream Name: Wilson Creek	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 14
Associated Wetland(s): Water Feature 13 and 15	Coordinates: 33°10'19.377"N 96°37'6.685"W
Stream Type: Perennial Characteristics:	Wilson Creek with incised banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	
	Incised banks
Stream Flow Direction: southeast	OIWM II-i-14 (i.e.). 190
OHWM Width (ft): 30 Stream Bottom composition:	OHWM Height (in): 180
·	Other:
☐ Sands ☐ Bedrock ☐ Muck	
Gravel Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/p	
Sand bar Sand/Gravel beach/bar Gravel Overhanging Deep pool/ hole/ Others	riffles Aquatic vegetation
✓ Overhanging trees/shrubs ✓ Deep pool/ hole/ Channel Other:	
41441141	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil shelving	destruction of terrestrial vegetation the presence of wrack line
	sediment sorting
vegetation matted down, bent, or absent leaf litter disturbed or washed away	scour
sediment deposition water staining	multiple observed or predicted flow events
	abrupt change in plant community
other (list):	
Water Quality:	
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	and Gry min Griganic content
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Snakes, insects, and frogs	
Riparian Vegetation: List species observed.	
RIPATIAN VEGETATION: LIST SPECIES ODSETVECT. green ash (Fraxinus pennsylvanica), American elm (Ulmus americana), ash leaf maple (Acer negundo)	noison ivy (Toyloodendron radicans), sugarherry (Caltie lagginata), fringed groon brier (Smiles
bona-nox), Virginia wild rye (Elymus virginicus), Virginia creeper (Parthenocissus quinquefolia), falsemi	
osage-orange (Maclura pomifera)	

<u>T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.</u>

None.

Water Feature 14
Spur 399 Extension

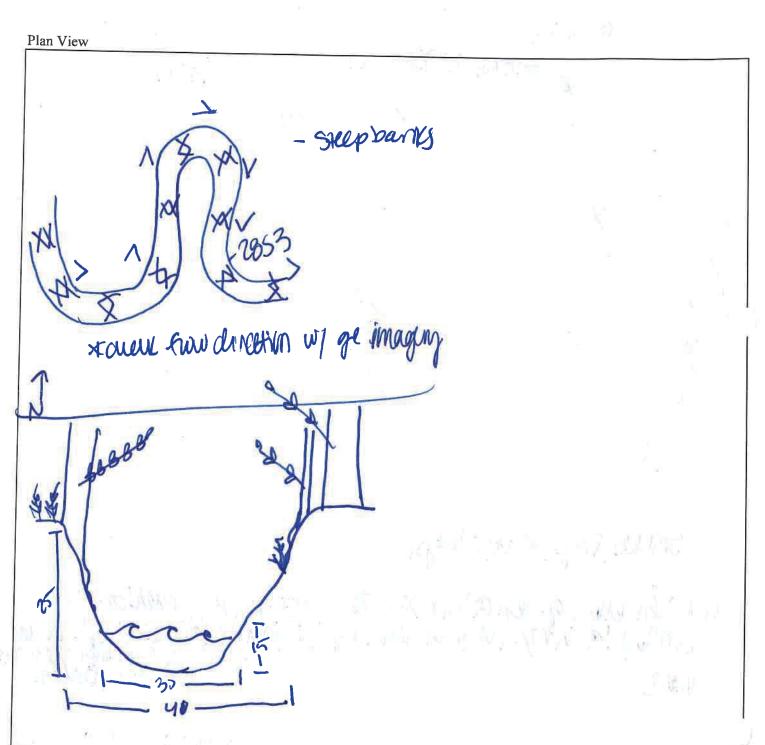
CSJ:

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 15
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: September 11, 2020
• * * /	County/State: Collin County, Texas
USGS Stream Name: <u>Tributary of Wilson Creek</u> USGS Topo Quad Name: McKinney East	Stream Number: 15
Associated Wetland(s): Water Feature 14	
Associated wetiand(s). Water realure 14	Coordinates: <u>33.172405</u> -96.620444
Stream Type: Intermittent Characteristics:	Overflow from Wilson Creek.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Highly incised
Stream Flow Direction: Southeast	
OHWM Width (ft): 20	OHWM Height (in): 72
Stream Bottom composition:	on with neight (iii).
	Other:
✓ Sands ☐ Bedrock ☐ Muck	Other.
Gravel Vegetation	
Glaver General Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/	project limits.
Sand bar Sand/Gravel beach/bar Grave	
— Overhanging — Deen nool/ hole/ —	
trees/shrubs Channel Other:	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	✓ scour
sediment deposition	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
Water Quality:	_
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid ☐ Oily film ☐ High organic content
Other characteristics (pollutants, etc.)	
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
None.	
Riparian Vegetation: List species observed.	
cedar elm, sugarberry, osage-orange, green ash	
T0.E C	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
None.	

Water Feature 15
Spur 399 Extension

CSJ:

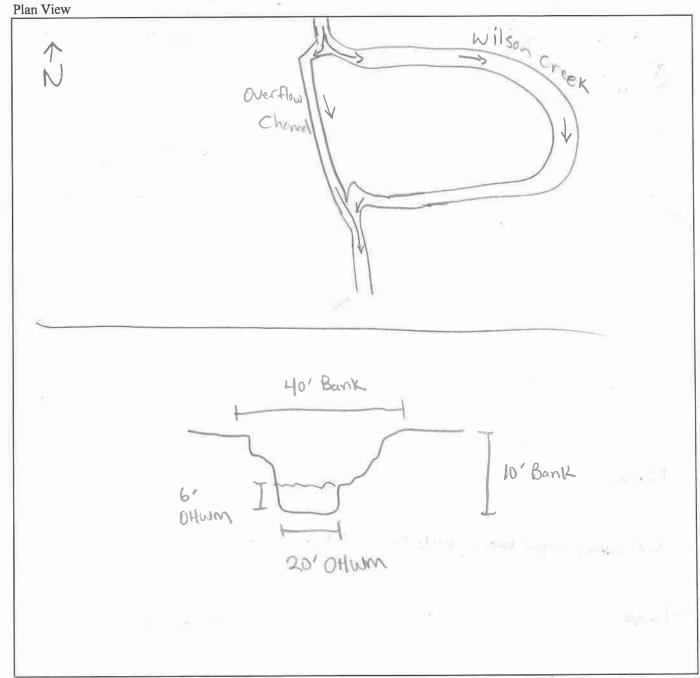
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel.

Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Featu	ıre 18
	Project Name: Spur 399 Ex	tension
	CSJ: 0047-10-002	
Stream Data Form		
Surveyor(s): Kelsea Hiebert, Ethan Eichler	Date of Field Work: August 28, 2020	
USGS Stream Name:	County/State: Collin County, Te	exas
USGS Topo Quad Name: McKinney East	Stream Number: 18	
Associated Wetland(s): Water Feature 16 and 17	Coordinates: 33°10'18.004"N 96°37'1.	725"W
	Steep banks.	
Stream Type: Intermittent Characteristics: Bank Stability (e.g. highly eroding, sloughing banks, etc.):		
Stream Flow Direction: southwest		
OHWM Width (ft): 7	OHWM Height (in): 12	
Stream Bottom composition:	04	
	Other:	
☐ Sands ☐ Bedrock ☐ Muck ☐ Gravel ☐ Vegetation		
Glavei Gregetation		
Aquatic Habitat: Indicate all types present within proposed ROW/	project limits.	
Sand bar Sand/Gravel beach/bar Grave		
Overhanging Deep pool/ hole/ Other:	– 1 0	
trees/shrubs		
Stream has the following characteristics:		
✓ Bed and banks		
OHWM (check all indicators that apply):	CI'' 111 '	
clear, natural line impressed on the bank	the presence of litter and debris	
changes in the character of soil shelving	destruction of terrestrial vegetation the presence of wrack line	
	sediment sorting	
✓ leaf litter disturbed or washed away	scour	
 ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	multiple observed or predicted flow events	
water staining	abrupt change in plant community	
other (list):		
Water Quality:		
☐ Clear ☑ Slightly Turbid ☑ Turbid ☐ Very T	urbid 🔲 Oily film 🔲 High organic conte	ent
Other characteristics (pollutants, etc.)		
Aquatic Organisms: List all species observed. This would include	waterfowl, fish, snakes, turtles, frogs, invertebrate	s, etc.
None.		
Riparian Vegetation: List species observed.		
green ash (Fraxinus pennsylvanica), poison ivy (Toxicodendron radicans), false daisy (Eclipta prostrat	a), American elm (Ulmus americana), sugarberry (Celtis laevigata), and ced	dar elm (Ulmus crassifolia).
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.	
None.		

Stream Data Form #:	
Project Name:	
CSJ:	

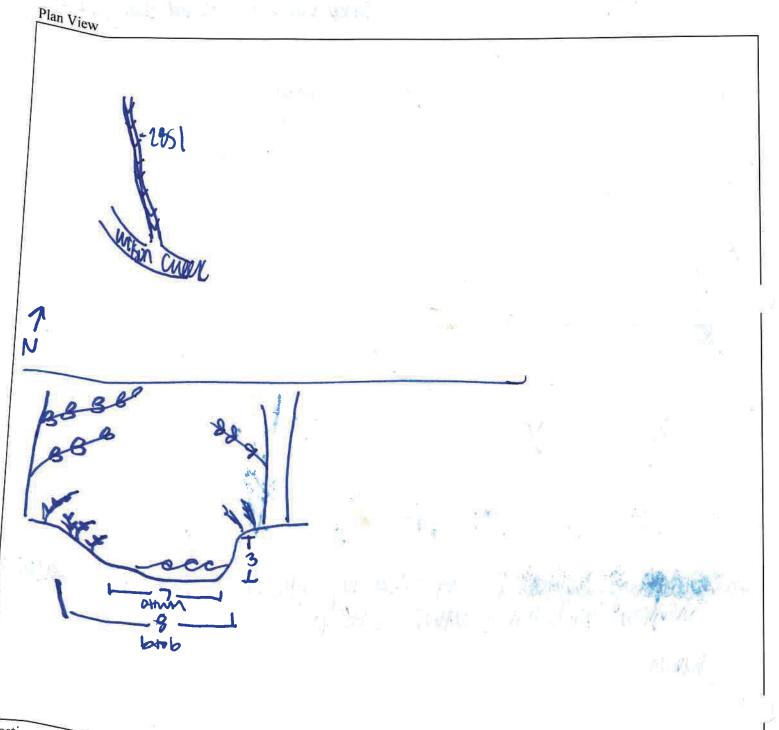
Water Feature 18	
Spur 399 Extension	

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 20
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Mike Keenan and Ethan Eichler	Date of Field Work: September 11, 2020
USGS Stream Name:	- · · · · · · · · · · · · · · · · · · ·
USGS Topo Quad Name: McKinney East	-
Associated Wetland(s):	Coordinates: <u>33.171028</u> -96.610540
Stream Type: Ephemeral Characteristics:	Roadside ditch.
· · · · · · · · · · · · · · · · · · ·	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Eroded with heavy sedimentation
Stream Flow Direction: South	
OHWM Width (ft): 3	OHWM Height (in): 6
Stream Bottom composition:	Rip rap within channel
✓ Silts ☐ Cobbles ☐ Concrete ✓	Other:
✓ Sands ☐ Bedrock ☐ Muck	
☑ Gravel □ Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	el riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Other:	
trees/shrubs channel	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
☐ leaf litter disturbed or washed away ☐ sediment deposition ☐ water staining	multiple observed or predicted flow events
_ ~	abrupt change in plant community
other (list):	
W. O. P.	
Water Quality:	
☐ Clear ☐ Slightly Turbid ☐ Very T	
Other characteristics (pollutants, etc.) Runoff from the adjacety	acent roadway
A 4' O ' I' 4 11 ' 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Aquatic Organisms: List all species observed. This would include	waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
None.	
Riparian Vegetation: List species observed.	
Japanese honeysuckle (Lonicera japonica), cedar elm (Ulmus crassifolia), sugarberry (Celtis laevigata	a), eastern red cedar (Juniperus virginiana), black willow (Salix nigra), and eastern cottonwood
(Populus deltoides)	
T&E Species/Suitable Habitat: List T&E species observed or which	a species the habitat is suitable for
1 & D Species/Sultable Habitat. List 1 & D species observed of which	i species the habitat is sultable for.

None.

CSJ:

Water Feature 20

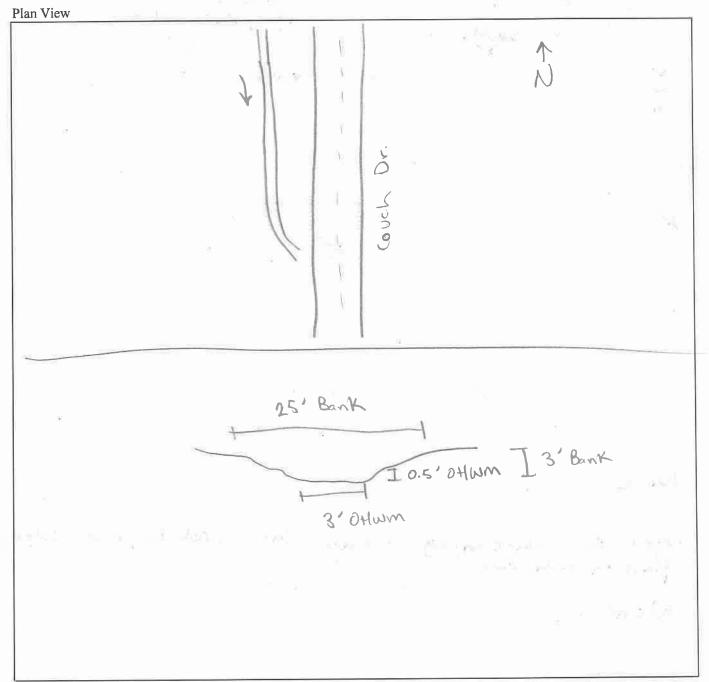
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	vvater Feature 21
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler, Kelsea Hiebert	Date of Field Work:	December 3, 2020
USGS Stream Name:	County/State:	Collin County, Texas
USGS Topo Quad Name: McKinney East	-	21
Associated Wetland(s):	Coordinates: 33.17999	0 -96.597464
Stream Type: Intermittent Characteristics:	Drainage from agricultural field.	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Scour and vegetation bound bar	nks.
Stream Flow Direction: East	-	
OHWM Width (ft): 5	OHWM Height (in): 1	2
Stream Bottom composition:		
	Other:	
Aquatic Habitat: Indicate all types present within proposed ROW/ Sand bar Sand/Gravel beach/bar Grave Overhanging Deep pool/ hole/ channel Other:		tic vegetation
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list): Water Quality: Clear Slightly Turbid Turbid Very To	the presence of litter and destruction of terrestrial the presence of wrack lir sediment sorting scour multiple observed or preabrupt change in plant courbid Oily film	vegetation ne dicted flow events
Other characteristics (pollutants, etc.)		
Aquatic Organisms: List all species observed. This would include v frogs.	waterfowl, fish, snakes, turtles,	frogs, invertebrates, etc.
Riparian Vegetation: List species observed.		
bermudagrass (Cynodon dactylon), American elm (Ulmus americana), cedar elm (Ulmus crassifolia), c cottonwood (Populus deltoides).	urley dock (Rumex crispus), black willow (Salix	nigra), sugarberry (Celtis laevigata), and eastern
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable t	for
None.	species the habitat is suitable i	
TAOLIC.		

Stream Data Form #:	Water Feature 21
Project Name: CSJ:	Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

Plan View		
rd point		
N	6	
1 Ccolumn 1 South		

	Stream Data Form #: Water Feature 25
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler, Kelsea Hiebert	Date of Field Work: December 3, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 25
Associated Wetland(s):	Coordinates: 33.193353 -96.595098
Stream Type: Intermittent Characteristics:	Large oak trees along the banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Heavy erosion along banks moving west.
	- Isary crosson diving barne moving wood.
Stream Flow Direction: East OHWM Width (ft): 10	OHWM Height (in): 12
Stream Bottom composition:	OHWM Height (in): 12
	Other:
✓ Gravel	
_ _	
Aquatic Habitat: Indicate all types present within proposed ROW/	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	el riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Other:	
trees/shrubs channel	
Stream has the following characteristics:	
Bed and banks	
OHWM (check all indicators that apply): ✓ clear, natural line impressed on the bank	the presence of litter and debris
clear, natural line impressed on the bank changes in the character of soil	the presence of litter and debris destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
_	
Water Quality:	
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very T	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	
Aquatic Organisms: List all species observed. This would include	waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
frogs and snakes.	
Riparian Vegetation: List species observed.	
bermudagrass (Cynodon dactylon), American elm (Ulmus americana), Shumard oak (Quercus shumar american mistletoe (Phoradendron leucarpum), eastern cottonwood (Populus deltoides), water hickory	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
None.	- -

Stream	Data	Form	#:
Project	Nam	e:	

CSJ:

Water Feature 25

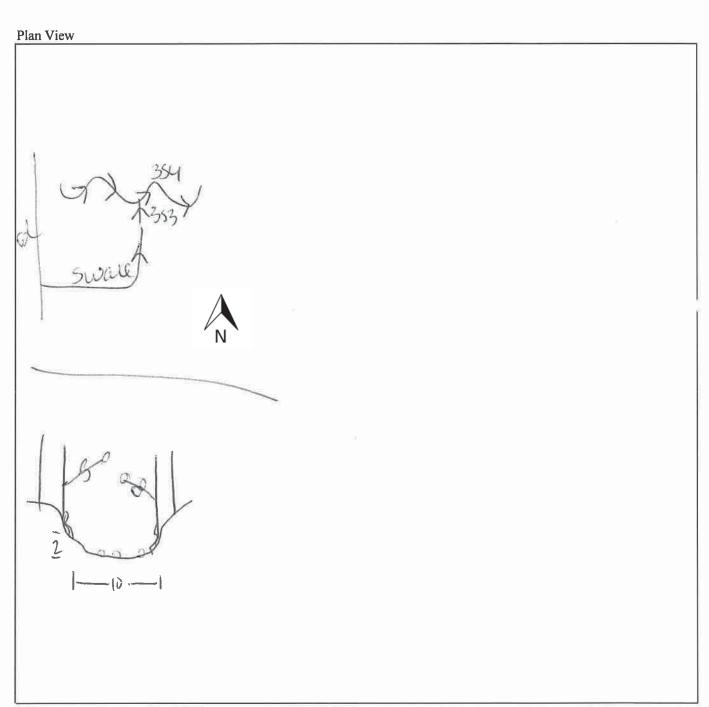
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 26
	Project Name:	Spur 399 Extension
	CSJ: 0047-10-002	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: Oc	tober 14, 2020
USGS Stream Name: East Fork Trinity River		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 26	
Associated Wetland(s):	-	-96.593306
Associated wettailu(s).	Coordinates: <u>33.195908</u>	-90.595500
Stream Type: Perennial Characteristics:	Steep cut banks.	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):		
Stream Flow Direction: east		
OHWM Width (ft): 30	OHWM Height (in): 42	
Stream Bottom composition:	0.1	
	Other:	
Sands Bedrock Muck		
✓ Gravel		
A		
Aquatic Habitat: Indicate all types present within proposed ROW/ Sand bar Sand/Gravel beach/bar Grave		vegetation
Overhanding Deep mod/ hole/	l riffles	vegetation
✓ Overhanging trees/shrubs ✓ Deep pool/ note/ □ Other:		
trees/sin dos channer		
Stream has the following characteristics:		
Bed and banks		
OHWM (check all indicators that apply):		
clear, natural line impressed on the bank	the presence of litter and do	ehris
changes in the character of soil	destruction of terrestrial ve	
	the presence of wrack line	Securion
vegetation matted down, bent, or absent	sediment sorting	
leaf litter disturbed or washed away	✓ scour	
 ✓ shelving ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	multiple observed or predic	eted flow events
water staining	abrupt change in plant com	
other (list):	E werept enunge in plant com	
canor (mos).		
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 Hi	gh organic content
Other characteristics (pollutants, etc.)		5
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, fro	ogs, invertebrates, etc.
Frogs, fish, turtles		
1 1090, 11011, tartico		
Riparian Vegetation: List species observed.		
rough cocklebur, Virginia wild rye, eastern cottonwood, American elm, poison ivy, ash leaf maple, giant	t ranweed	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>.</u>

None.

Water Feature 26

Spur 399 Extension

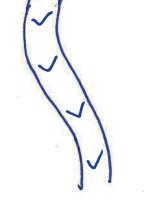
Stream Data Form (continued)

Sketch should include:

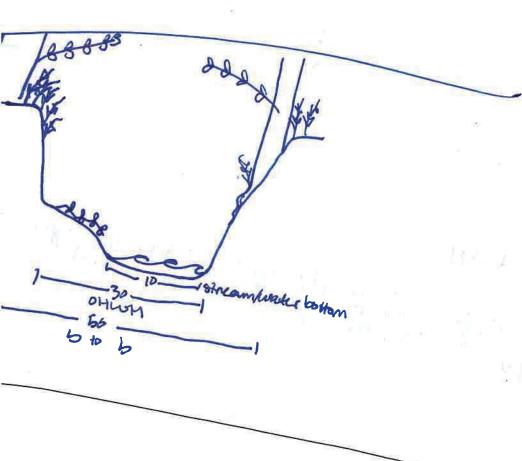
- Please provide a plan and section view sketch of the stream channel. Width of channel from top of bank to top of bank; Depth of channel,

 - Approximate side slope; and, Width of stream from water edge to water edge.

Plan View







	Stream Data Form #: Water Feature 30 Project Name: 380 Extension
	CSJ: 0047-10-002
Stream Data Form	Sontomber 22, 2021
Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler USGS Stream Name:	Date of Field Work: September 22, 2021 County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 30
Associated Wetland(s): Water Feature 29, 32, and 34	Coordinates: 33.197814 -96.597755
Stream Type: Ephemeral Characteristics:	Shallow defined channel
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Vegetation lined banks.
Stream Flow Direction: South	vegetation lined parks.
OHWM Width (ft): 4	OHWM Height (in): 36
Stream Bottom composition:	
	Other:
✓ Sands ☐ Bedrock ☐ Muck ☐ Gravel ☐ Vegetation	
_ ,	
Aquatic Habitat: Indicate all types present within proposed ROW/p Sand bar Sand/Gravel beach/bar Gravel Overhanging Deep pool/ hole/ Overhanging	
trees/shrubs Deep poor note/ Other:	
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list):	the presence of litter and debris destruction of terrestrial vegetation the presence of wrack line sediment sorting scour multiple observed or predicted flow events abrupt change in plant community
Water Quality: ☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Turbid ☐ Other characteristics (pollutants, etc.) no water	urbid Oily film High organic content
Aquatic Organisms: List all species observed. This would include w	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Riparian Vegetation: List species observed. Narrow-leaf primrose-willow (Ludwigia linearis), sugar berry (C Virginia wild rye (Elymus virginicus).	Celtis laevigata), American elm (Ulmus americana), and

<u>T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.</u>

None

CSJ: <u>0047-10-002</u>

Water Feature 30

380 Extension

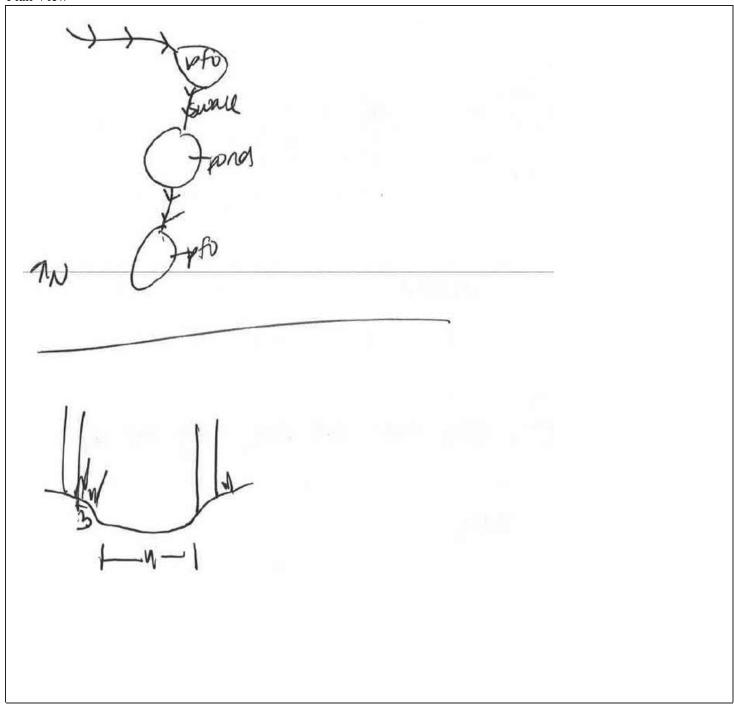
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

Plan View



	Stream Data Form #: Water Feature 33 Project Name: 380 Extension
	CSJ: 0047-10-002
Stream Data Form Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler	Date of Field Work: September 22, 2021
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 33
Associated Wetland(s): Water Feature 29, 32, and 34	Coordinates: 33.198135 -96.597761
Stream Type: Ephemeral Characteristics:	Shallow defined channel
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Vegetation lined banks.
Stream Flow Direction: East OHWM Width (ft): 4	OHWM Height (in): 36
Stream Bottom composition: Silts Cobbles Concrete Sands Bedrock Muck Gravel Vegetation	Other:
Aquatic Habitat: Indicate all types present within proposed ROW/p Sand bar Sand/Gravel beach/bar Overhanging trees/shrubs Deep pool/ hole/ channel Other:	
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list):	the presence of litter and debris destruction of terrestrial vegetation the presence of wrack line sediment sorting scour multiple observed or predicted flow events abrupt change in plant community
Water Quality: ☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Turbit ☐ Other characteristics (pollutants, etc.) no water	urbid
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Riparian Vegetation: List species observed.	
Narrow-leaf primrose-willow (Ludwigia linearis), sugar berry (C Virginia wild rye (Elymus virginicus).	Celtis laevigata), American elm (Ulmus americana), and

<u>T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.</u>

None

CSJ: <u>0047-10-002</u>

Water Feature 33

380 Extension

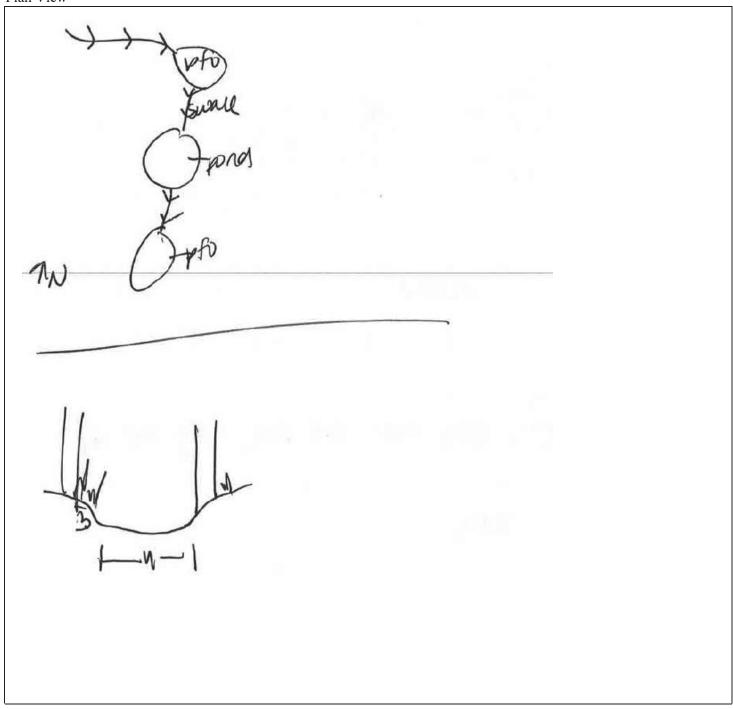
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

Plan View



	Vater Feature 36
	Project Name: Spur 399 Extension
	CSJ: <u>0047-10-002</u>
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: September 10, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 36
Associated Wetland(s): Water Feature 37*	Coordinates: 33°11'54.699"N 96°35'53.624"W
	Heavy flow due to rain in recent days. Moderate flow predicted from
Stream Type: Intermittent Characteristics:	average precipitation.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Little erosion along banks
Stream Flow Direction: East	
OHWM Width (ft): 6	OHWM Height (in): 14
Stream Bottom composition:	Significant broken glass within stream bed
	Other:
✓ Sands ☐ Bedrock ☐ Muck	
☐ Gravel ☐ Vegetation	
_ ogumen	
Aquatic Habitat: Indicate all types present within proposed ROW/	project limits.
✓ Sand bar ✓ Sand/Gravel beach/bar ✓ Grave	
Overhanging Deep pool/ hole/ Other:	
trees/shrubs	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting scour
leaf litter disturbed or washed away	
sediment deposition water staining	multiple observed or predicted flow events abrupt change in plant community
other (list):	abrupt change in plant community
U other (fist).	
Water Quality:	
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very To	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	urota
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
None.	
None.	
Riparian Vegetation: List species observed.	
Sugarberry (Celtis laevigata), giant ragweed (Ambrosia trifida), osage-orange (Maclura pomifera), ash	leaf manle (Acer negundo), fringed green brier (Smilay bong-noy), and poison by (Toyicodendron
radicans).	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
None.	

Water Feature 36
Spur 399 Extension

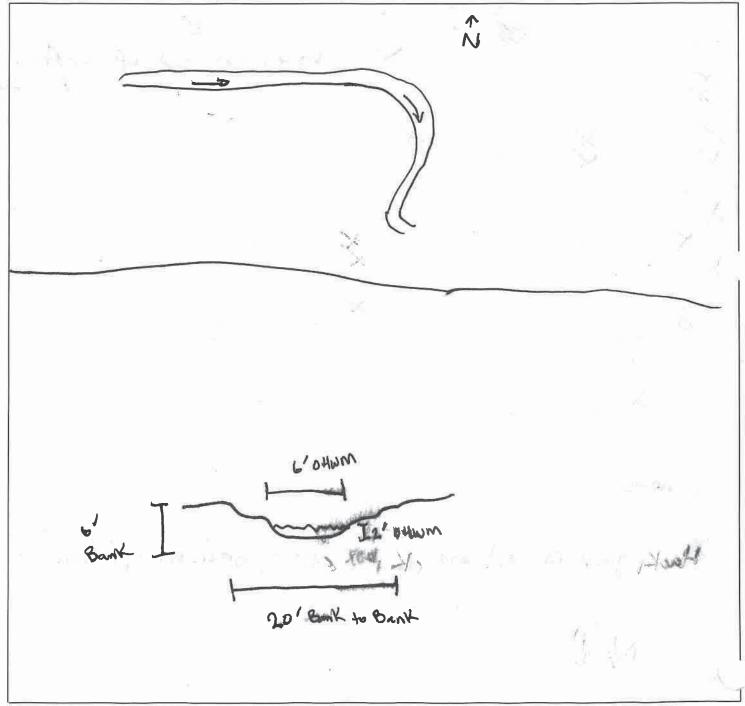
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.





	Stream Data Form #:	Water Feature 39
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work:	September 10, 2020
USGS Stream Name: Tributary of the East Fork Trinity River		Collin County, Texas
USGS Topo Quad Name: McKinney East		39
Associated Wetland(s): Water Feature 40 and 38*	Coordinates: 33°12'10.	071"N 96°35'54.692"W
· · · · · · · · · · · · · · · · · · ·	Flows east into the East Fork Ti	
Stream Type: Perennial Characteristics:		,
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stable	
Stream Flow Direction: East		
OHWM Width (ft): 22	OHWM Height (in): 7	2
Stream Bottom composition:	<i>5</i>	
	Other:	
✓ Sands ☐ Bedrock ☐ Muck		
✓ Gravel		
Aquatic Habitat: Indicate all types present within proposed ROW/p		
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel	riffles 📙 Aqua	tic vegetation
Overhanging Deep pool/ hole/ Other:		
trees/shrubs channel		
C4		
Stream has the following characteristics: Bed and banks		
✓ Bed and banks OHWM (check all indicators that apply):		
	the presence of litter and	debris
= -	destruction of terrestrial	
shelving destruction of terrestrial vegetation the presence of wrack line		
leaf litter disturbed or washed away	scour	
	multiple observed or pre	dicted flow events
water staining	abrupt change in plant co	
other (list):		•
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	rbid 🔲 Oily film 🔲 🛚	High organic content
Other characteristics (pollutants, etc.)		
Aquatic Organisms: List all species observed. This would include w	aterfowl, fish, snakes, turtles,	frogs, invertebrates, etc.
None.		
Riparian Vegetation: List species observed.		
osage-orange (Maclura pomifera), fringed green brier (Smilax bona-nox), black willow (Salix nigra), giant	ragweed (Ambrosia trifida), pecan (Carya illi	noinensis), green ash (Fraxinus pennsylvanica)
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable t	for
*	species the habital is suitable i	<u></u>
None.		

Water Feature 39
Spur 399 Extension

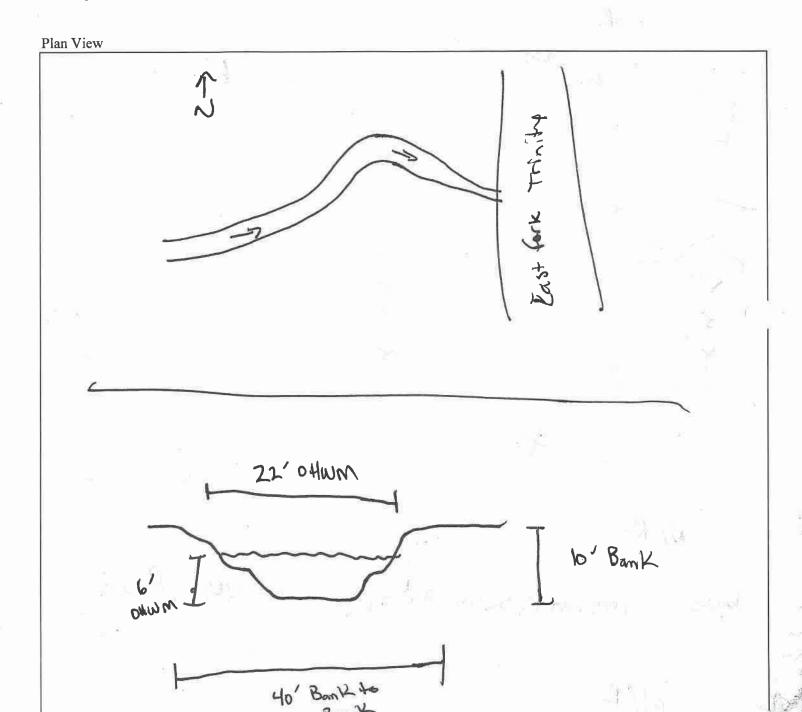
CSJ:

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 40
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Kelsea Hiebert Ethan Eichler and Mike Keen	Date of Field Work:	ctober 14, 2020
USGS Stream Name: East Fork Trinity River	County/State: Co	ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 40	
Associated Wetland(s): Water Feature 39	Coordinates: <u>33.203354</u>	-96.596544
Stream Type: Perennial Characteristics:	Incised with water.	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Roots from trees along banks prov	ing stabilization. Inundated outside of
Stream Flow Direction: South	tree line.	
OHWM Width (ft): 50	OHWM Height (in): 48	
Stream Bottom composition:	on with freight (iii).	
	Other:	
Sands Bedrock Muck		
✓ Gravel		
A STATE OF THE STA		
Aquatic Habitat: Indicate all types present within proposed ROW/pr		va catatian
	riffles	vegetation
✓ Overnanging trees/shrubs ✓ Deep pool/ noie/ channel Other:		
areas of the same		
Stream has the following characteristics:		
✓ Bed and banks		
OHWM (check all indicators that apply):		
	the presence of litter and de	
	destruction of terrestrial ve	getation
shelving	the presence of wrack line	
✓ vegetation matted down, bent, or absent✓ leaf litter disturbed or washed away	sediment sorting scour	
	✓ scour✓ multiple observed or prediction	cted flow events
water staining	abrupt change in plant com	
other (list):		
— ()-		
Water Quality:		
☐ Clear ✓ Slightly Turbid ☐ Turbid ☐ Very Tur	bid 🗌 Oily film 🔲 Hi	gh organic content
Other characteristics (pollutants, etc.)		
Aquatic Organisms: List all species observed. This would include wa	aterfowl, fish, snakes, turtles, fro	ogs, invertebrates, etc.
Snakes, frogs, bugs, otters		
D' ' 17 ()' 1' () 1 1		
Riparian Vegetation: List species observed.		
American elm, nodding wild rye, osage-orange, sugarberry, black locust, fringed green brier, johnsongrad	ss, cedar elm, giant ragweed.	
<u>T&E Species/Suitable Habitat: List T&E species observed or which s</u>	species the habitat is suitable for	<u>.</u>
None.		

Water Feature 40
Spur 399 Extension

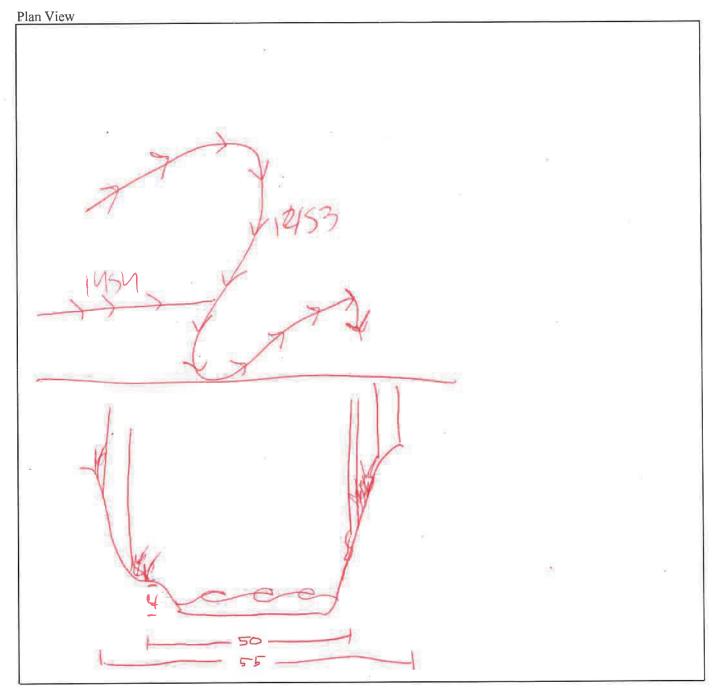
CSJ:

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 41
	Project Name:	Spur 399 Extension
	CSJ: 0047-10-002	
Stream Data Form		
Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert	Date of Field Work: Au	ugust 16, 2021
USGS Stream Name: Tributary of the East Fork Trinity River		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 41	
Associated Wetland(s):	Coordinates: 33.204744	
Associated wettand(s).	2001dillates. <u>30.204744</u>	-90.590900
Stream Type: Intermittent Characteristics:	Receives seasonal high flow into	the Fast Fork Trinity River
Bank Stability (e.g. highly eroding, sloughing banks, etc.):		and Edet i ent inning i tivel
	Artificially Stabilized Bank	
Stream Flow Direction: East	01000411 11 (1) 47	
OHWM Width (ft): 6'	OHWM Height (in): 17'	
Stream Bottom composition:	2.1	
	Other:	
Sands Bedrock Muck		
✓ Gravel		
Aquatic Habitat: Indicate all types present within proposed ROW/p	raiget limits	
		e vegetation
Overhancing Deep mod/hole/	innes V Aquanc	Vegetation
✓ dvernanging trees/shrubs ✓ deep poor/ note/ Channel Other:		
tices/sin dos chamier		
Stream has the following characteristics:		
Bed and banks		
OHWM (check all indicators that apply):		
	the presence of litter and d	ebris
changes in the character of soil	destruction of terrestrial ve	
shelving	the presence of wrack line	. 6
	sediment sorting	
 ✓ vegetation matted down, bent, or absent ☐ leaf litter disturbed or washed away ☐ sediment deposition ✓ water staining 	scour	
sediment deposition	multiple observed or predi	cted flow events
water staining	abrupt change in plant con	
other (list):	_ : : : :	•
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	rbid 🔲 Oily film 🔲 Hi	igh organic content
Other characteristics (pollutants, etc.)	_ • • –	
Aquatic Organisms: List all species observed. This would include w	aterfowl, fish, snakes, turtles, fr	ogs, invertebrates, etc.
Small fish, Largemouth bass fry.		
, 3		
Riparian Vegetation: List species observed.		
Sorghum halapense, Ambrosia trifida , Salix nigra, Acer negun	do Prunus angustifolia. Sac	uittaria lancifolia, and Ludwigia e
Jorgham Halapense, Ambrosia ullida , Salix Higia, Acel Heguri	do, Frunus angustilolla, Sag	gittaria iarionolia, anu Euuwigia 🛨
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>r.</u>
None		

Stream Data Form #: Project Name: CSJ: <u>0047-10-002</u>

Water Feature 41

Spur 399 Extension

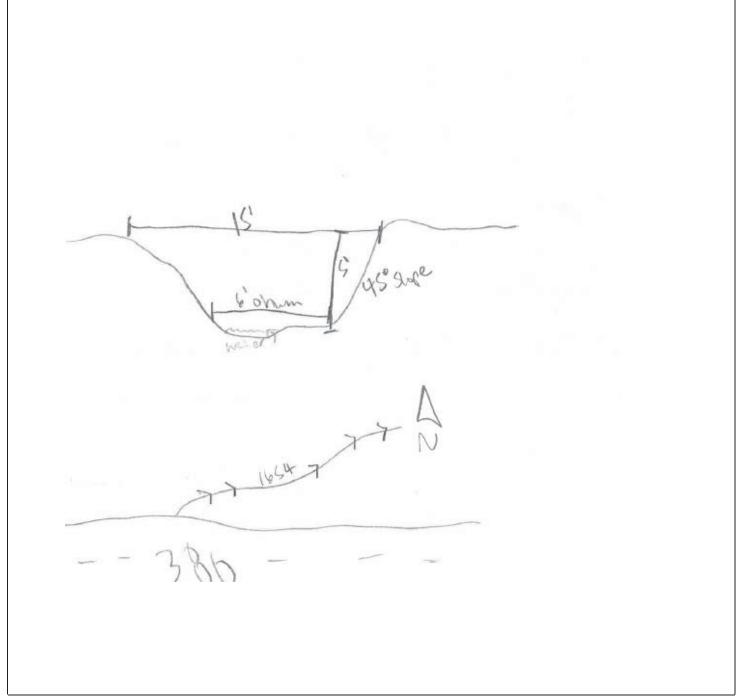
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.





	Stream Data Form #:	Water Feature 47
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: Se	eptember 10, 2020
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 47	
Associated Wetland(s): Water Feature 46*	Coordinates: 33.199619	-96.583969
.,		
Stream Type: Intermittent Characteristics:	Overhanding veg and roots along	banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stable.	
Stream Flow Direction: Southeast		
OHWM Width (ft): 15	OHWM Height (in): 36	
Stream Bottom composition:		_
	Other:	
✓ Sands ☐ Bedrock ☐ Muck		
☐ Gravel ☐ Vegetation		
Aquatic Habitat: Indicate all types present within proposed ROW/		
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles	e vegetation
Overhanging Deep pool/ hole/ Other:		
trees/shrubs channel		
Stream has the following characteristics:		
Bed and banks		
OHWM (check all indicators that apply):	G 41	1-1:-
clear, natural line impressed on the bank changes in the character of soil	✓ the presence of litter and d✓ destruction of terrestrial ve	
shelving	destruction of terrestrial verthe presence of wrack line	
	sediment sorting	
leaf litter disturbed or washed away	scour	
 ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	✓ multiple observed or predi	cted flow events
water staining	abrupt change in plant con	
other (list):		
- ().		
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 H	igh organic content
Other characteristics (pollutants, etc.)	_ , _	
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, fr	ogs, invertebrates, etc.
None		
110110		
Riparian Vegetation: List species observed.		
Bur oak, green ash, osage-orange, poison ivy, cedar elm		
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>r.</u>
None.		

CSJ:

Water Feature 47

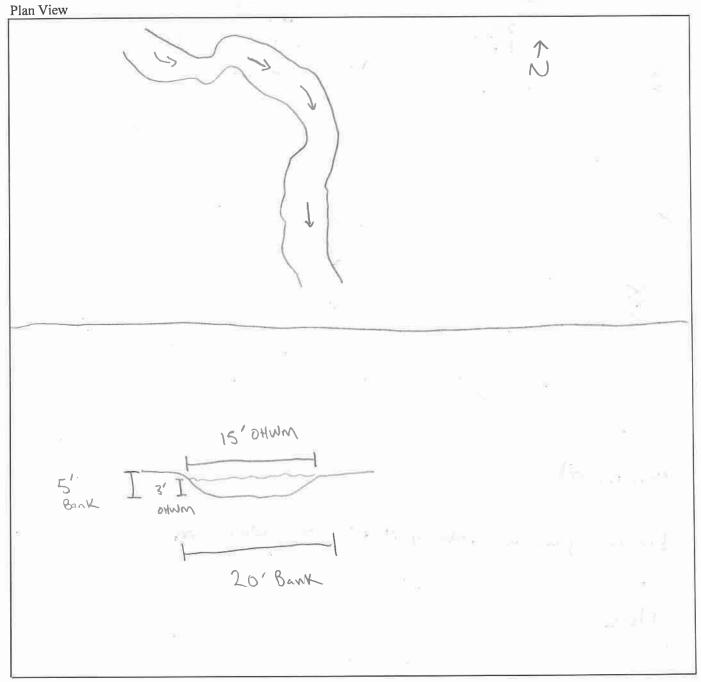
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 49
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: S	eptember 10, 2020
USGS Stream Name:		follin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 4	
Associated Wetland(s): Water Feature 47	Coordinates: 33.199652	
()		
Stream Type: Ephemeral Characteristics:	Receives runoff from right-of-way	. Recent precipitation.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Heavy sedimentation	_
Stream Flow Direction: South		_
OHWM Width (ft): 5	OHWM Height (in): 18	
Stream Bottom composition:	OHWM Height (in): 18	<u>'</u>
	Other:	
✓ Sands ☐ Bedrock ☐ Muck	other.	
Gravel Vegetation		
Glaver Generalian		
Aquatic Habitat: Indicate all types present within proposed ROW/	project limits.	
Sand bar Sand/Gravel beach/bar Grave		c vegetation
Overhanging Deep pool/ hole/		
trees/shrubs Deep poor hole Other:		
Stream has the following characteristics:		
✓ Bed and banks		
OHWM (check all indicators that apply):	_	
clear, natural line impressed on the bank	the presence of litter and of	
changes in the character of soil	destruction of terrestrial v	
shelving	the presence of wrack line	
vegetation matted down, bent, or absent	sediment sorting	
 ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	scour	:-4-1-1
✓ sediment deposition water staining	multiple observed or pred abrupt change in plant con	
other (list):	abrupt change in plant con	illiumity
other (list).		
Water Quality:		
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 H	ligh organic content
Other characteristics (pollutants, etc.) Flow from recent pre		
<u> </u>	э э.р. танган танган н энт н э	
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, f	rogs, invertebrates, etc.
None.		
None.		
Riparian Vegetation: List species observed.		
American elm (Ulmus americana), green ash (Fraxinus pennsylvanica), great ragweed (Ambrosia trifid	a) osage orange (Maclura nomifera)	
(Simus americana), green ash (manindo permoyramod), green ragreed (Ambiosia ame	-,,go stango (mastara ponincia).	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>or.</u>
None.		

Water Feature 49

Project Name CSJ:

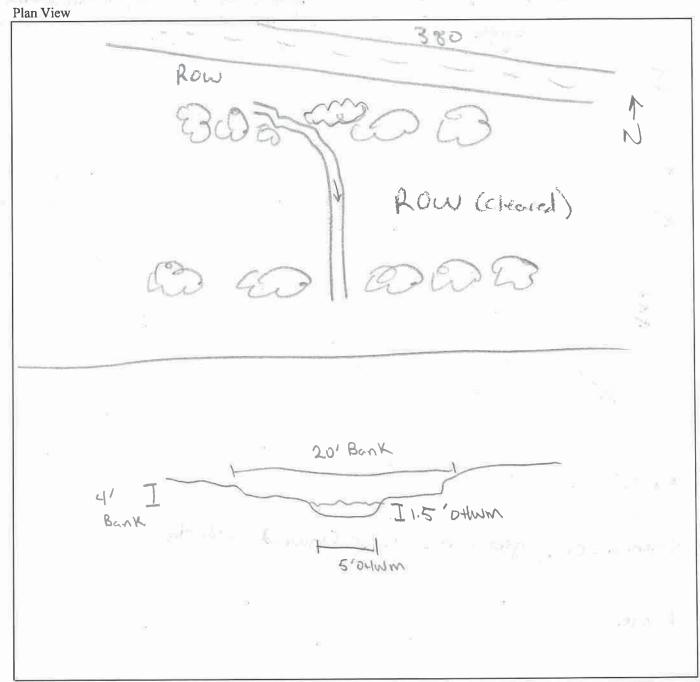
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 51
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Kelsea Hiebert, Ethan Eichler, Mike Keenan	Date of Field Work: October 14, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 51
Associated Wetland(s): Water Feature 50*	Coordinates: 33.199150 -96.578261
Associated Wettand(s). Water Feature 30	2001dillates. <u>35.139130 -90.370201</u>
Stream Type: Intermittent Characteristics:	Concrete culverts under roadway with concrete banks near culvert.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stable.
Stream Flow Direction: Southwest	
OHWM Width (ft): 8	OHWM Height (in): 12
Stream Bottom composition:	
	Other:
☐ Sands ☐ Bedrock ☐ Muck	
Gravel Vegetation	
– – <i>e</i>	
Aquatic Habitat: Indicate all types present within proposed ROW/p	project limits.
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Other:	
trees/shrubs Deep poor hole/ Other:	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition	multiple observed or predicted flow events
water staining water staining	abrupt change in plant community
other (list):	
W. O. P.	
Water Quality:	
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	
A ('O ' I') I I I I'I I I	
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Snakes, Frogs	
Riparian Vegetation: List species observed.	
Southern catalpa, American elm, green ash, Chinese Privet, fringed green brier, sugarberry	
The Charles Cuitable Hebitat, List The Granica absorbed	gracies the habitat is quitable for
T&E Species/Suitable Habitat: List T&E species observed or which	species the nabital is suitable for.
None.	

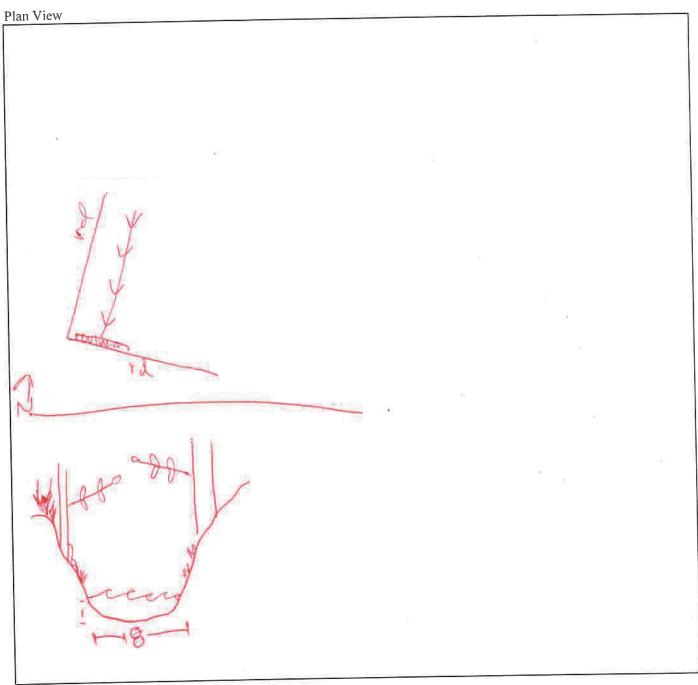
Stream Data Form #:	Water Feature 51
Project Name:	Spur 399 Extension
CSJ:	

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



Sectional View

	Stream Data Form #:	Water Feature 56
	Project Name:	Spur 399 Extension
	CSJ: 0047-10-002	
Stream Data Form		
	D . CE' 11 W 1 Se	eptember 11, 2020
• • • • • • • • • • • • • • • • • • • •		·
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 56	
Associated Wetland(s): Water Feature 53 and 54	Coordinates: <u>33.159683</u>	-96.592977
Stream Type: Intermittent Characteristics:	Flows into floodplain of Wilson Cre influenced by pond to the north.	eek to the south. Hydrology heavily
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Rip rap placed within channel to s	tabilize banks.
Stream Flow Direction: Southwest		
OHWM Width (ft): 5	OHWM Height (in): 36	
Stream Bottom composition:	rip rap	
·	Other:	
✓ Sands ☐ Bedrock ☐ Muck	other.	
Gravel Vegetation		
☐ Glaver ☐ Vegetation		
Aquatic Habitat: Indicate all types present within proposed ROW/ Sand bar Sand/Gravel beach/bar Grave Overhanging Deep pool/ hole/ Other: channel		vegetation
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list): Water Quality: Clear Slightly Turbid Turbid Very To	the presence of litter and destruction of terrestrial very the presence of wrack line sediment sorting scour multiple observed or predict abrupt change in plant community.	egetation cted flow events
Other characteristics (pollutants, etc.)		8
<u> </u>		
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles. fro	ogs, invertebrates, etc.
None.		
None.		
Dinarian Vacatation, List arrasing absorbed		
Riparian Vegetation: List species observed.		
sugarberry (Celtis laevigata), American elm (Ulmus americana), eastern red cedar (Juniperus virginian	a), black willow (Salix nigra)	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	<u>.</u>

None.

Water Feature 56

CSJ:

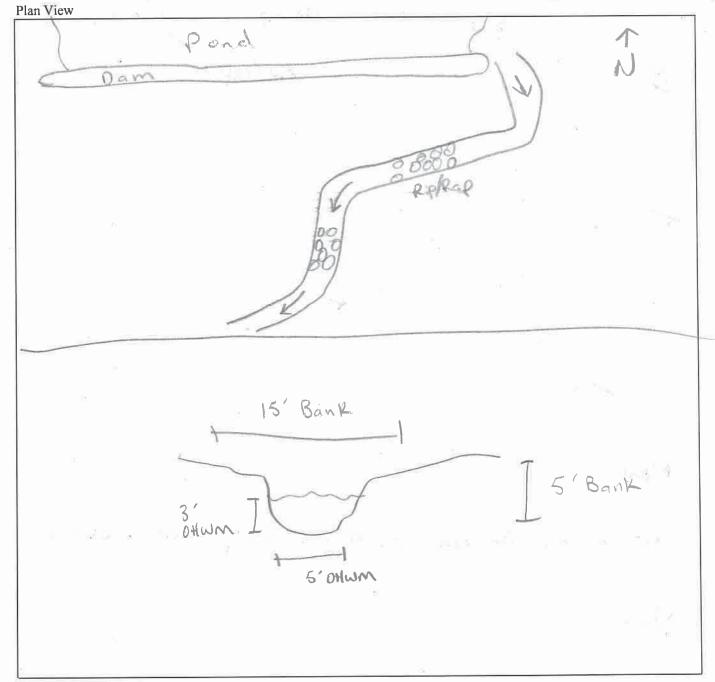
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 57
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: September 11, 2020
USGS Stream Name:	County/State: Collin County, Texas
	Stream Number: 57
USGS Topo Quad Name: McKinney East	
Associated Wetland(s): Water Feature 58*, 59, 60*	Coordinates: 33.158719 -96.586122
Stream Type: Ephemeral Characteristics:	Productive riparian corridor. Deep pools within stream. Receives flow from runoff from the north, and delivers flow to the south.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stabilized banks.
Stream Flow Direction: South	
OHWM Width (ft): 7	OHWM Height (in): 12
Stream Bottom composition:	
	Other:
Aquatic Habitat: Indicate all types present within proposed ROW/p	
Sand bar Sand/Gravel beach/bar Gravel	riffles
Overhanging Deep pool/ hole/ trace/(shrubs	
trees/shrubs channel Cther.	
Stream has the following characteristics:	
Bed and banks	
OHWM (check all indicators that apply):	T 4 C1'W 1.1.1.1
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
□ vegetation matted down, bent, or absent□ leaf litter disturbed or washed away	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
Water Quality	
Water Quality: ☑ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Turbid	whid Oily film
✓ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu ☐ Other characteristics (pollutants, etc.) Runoff from the adja	
Other characteristics (polititalits, etc.) Kurion from the adja	Cerit roadway
Aquatic Organisms: List all species observed. This would include v	voterform figh analysis trutter from inventobrates ato
	vateriowi, fish, shakes, turties, frogs, invertebrates, etc.
None.	
Riparian Vegetation: List species observed.	
American elm (Ulmus americana), eastern red cedar (Juniperus virginiana), eastern cottonwood (Popul	us deltoides), black willow (Salix nigra), Texas red oak (Quercus texana)
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for
	eposites the matter is surmate 101.
None.	

Stream Data Form #: Project Name: Water Feature 57
Spur 399 Extension

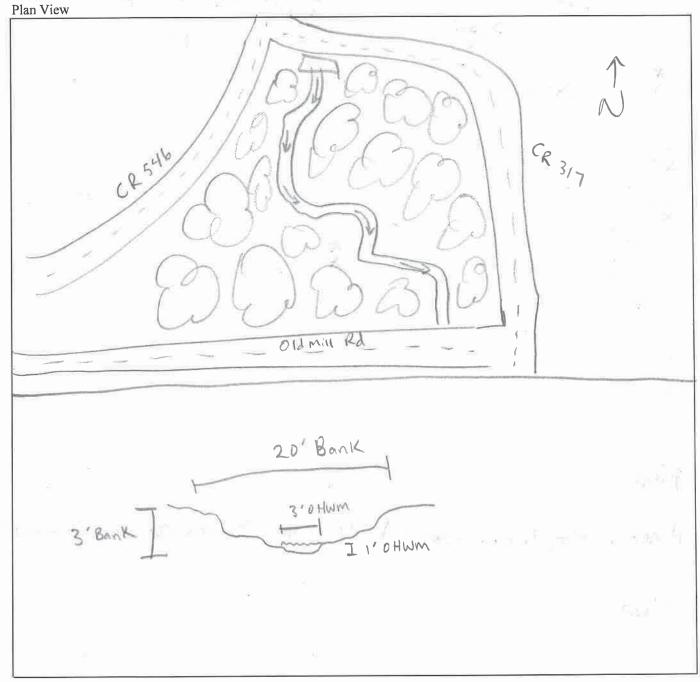
CSJ:

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 59
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Kelsea Hiebert, Ethan Eichler, Mike Keenan	Date of Field Work: October 12, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 59
Associated Wetland(s): Water Feature 57	Coordinates: 33.157383 -96.585566
	Stream influenced by roadway runoff.
Stream Type: Ephemeral Characteristics:	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Stabilized banks.
Stream Flow Direction: West	
OHWM Width (ft): 2	OHWM Height (in): 0.5
Stream Bottom composition:	
	Other:
☐ Sands ☐ Bedrock ☐ Muck	
☐ Gravel ☐ Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/p	project limits.
Sand bar Sand/Gravel beach/bar Gravel	
Overhanging Deep pool/ hole/ Other: Terra	
trees/shrubs	ace vegetation
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list):	the presence of litter and debris destruction of terrestrial vegetation the presence of wrack line sediment sorting scour multiple observed or predicted flow events abrupt change in plant community
Water Quality: ✓ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu ✓ Other characteristics (pollutants, etc.) Runoff from the adja	arbid Oily film High organic content cent roadway
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Aquatic insects and frogs.	
Riparian Vegetation: List species observed.	

Sweetscent (Pluchea odorata), Japanese honeysuckle (Lonicera japonica), Chinese privet (Ligustrum inense), yaupon (Ilex vomitoria), fringed green brier (Smilax bona-nox), osage orange (Maclura pomifera), American elm (Ulmus americana), black willow (Salix nigra), virginia creeper (Parthenocissus quinquefolia), eastern poison ivy (Toxicodendron radicans), swamp chestnut oak(Quercus michauxii), and great ragweed (Ambrosia trifida)

<u>T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.</u> None.

Stream Data Form #: Project Name:

Water Feature 59 Spur 399 Extension

CSJ:

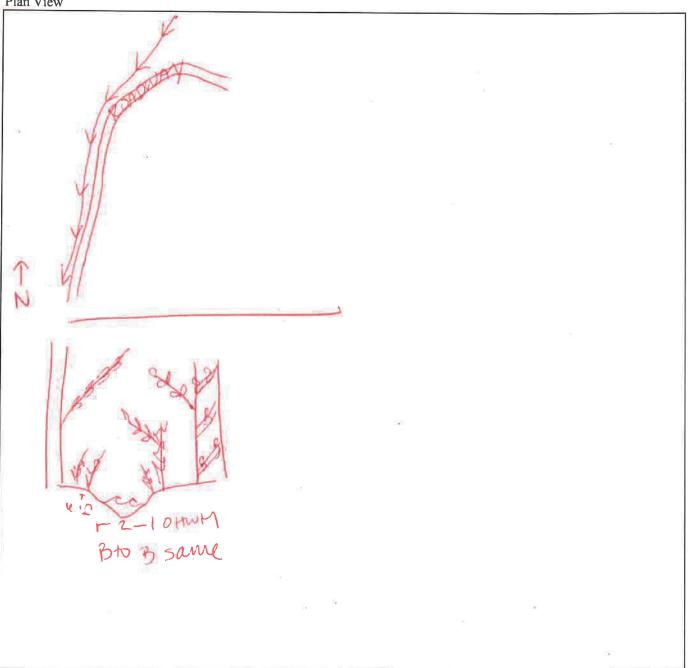
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.





	Stream Data Form #:	Water Feature 62
	Project Name:	Spur 399 Extension
	CSJ: 0047-10-002	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	D. CE: 11W 1 Se	eptember 11, 2020
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 62	
Associated Wetland(s): Water Feature 63	Coordinates: <u>33.168384</u>	-96.575548
Stream Type: Ephemeral Characteristics:	Incised channel.	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Moderately stable banks.	
Stream Flow Direction: Northeast		
OHWM Width (ft): 6	OHWM Height (in): 24	
Stream Bottom composition:	<i>5</i> () <u>—</u>	
	Other:	
✓ Sands ☐ Bedrock ☐ Muck		
Gravel Vegetation		
_ _		
Aquatic Habitat: Indicate all types present within proposed ROW/p	project limits.	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel	l riffles	vegetation
Overhanging Deep pool/ hole/ Other:		
trees/shrubs channel channel		
Stream has the following characteristics:		
✓ Bed and banks		
OHWM (check all indicators that apply):	_	
clear, natural line impressed on the bank	the presence of litter and de	
changes in the character of soil	destruction of terrestrial ve	egetation
shelving	the presence of wrack line	
vegetation matted down, bent, or absent	sediment sorting	
 □ vegetation matted down, bent, or absent ☑ leaf litter disturbed or washed away ☑ sediment deposition □ water staining 	scour	
sediment deposition	multiple observed or predic	
_	abrupt change in plant com	nmunity
other (list):		

Water Quality:		
		gh organic content
Other characteristics (pollutants, etc.) Runoff from the adja	cent roadway	
	- 4 6 - 1 6 1 1 4 4 6	* 4 1 - 4 - 4
Aquatic Organisms: List all species observed. This would include v	valeriowi, iish, shakes, turties, fro	ogs, invertebrates, etc.
None.		
Riparian Vegetation: List species observed.		
American elm (Ulmus americana), pecan (Carya illinoinensis), Virginia wild rye (Elymus virginicus), sug	arberry (Celtis laevigata)	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	
TWE Species surface Traction. List 1 cell species observed of willen	species the matrial is suitable for	<u>•</u>

None.

Stream Data Form #: Project Name:

CSJ:

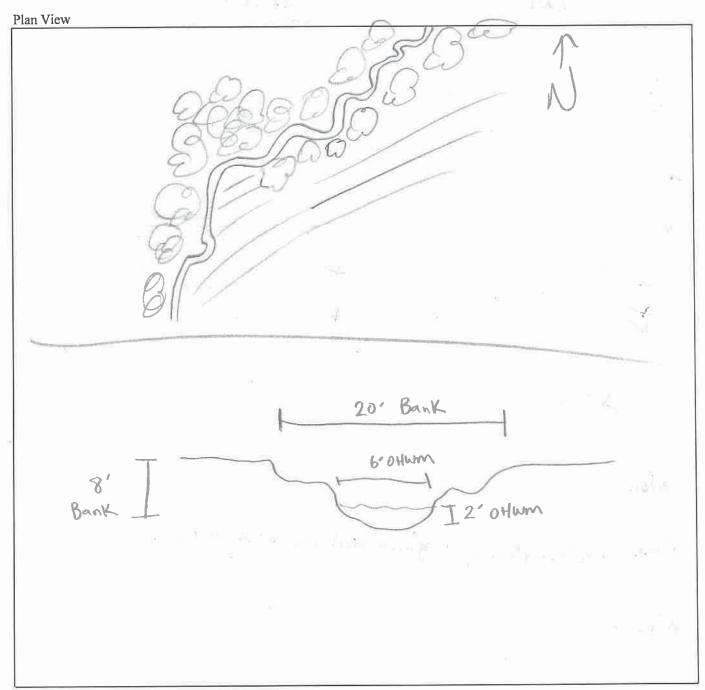
Water Feature 62
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 63
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: September 11, 2020
USGS Stream Name:	
	County/State: Collin County, Texas Stream Number: 63
USGS Topo Quad Name: McKinney East	
Associated Wetland(s): Water Feature 62	Coordinates: <u>33.168941</u> -96.574934
Stream Type: Ephemeral Characteristics:	
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Moderately stable banks.
Stream Flow Direction: East	
OHWM Width (ft): 3	OHWM Height (in): 12
Stream Bottom composition:	
	Other:
☑ Sands ☐ Bedrock ☐ Muck	
☐ Gravel ☐ Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/1	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles
Overhanging Deep pool/ hole/ Other:	
trees/shrubs channel	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	_
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition water staining	✓ multiple observed or predicted flow events
	abrupt change in plant community
other (list):	
Water Quality:	_
☑ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	
Other characteristics (pollutants, etc.) Runoff from the adja	cent roadway
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
None.	
Riparian Vegetation: List species observed.	
Virginia wild rye (Elymus virginicus), sugarberry (Celtis laevigata), riverbank grape (Vitis riparia)	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
None.	

Stream Data Form #: Project Name:

Water Feature 63

CSJ:

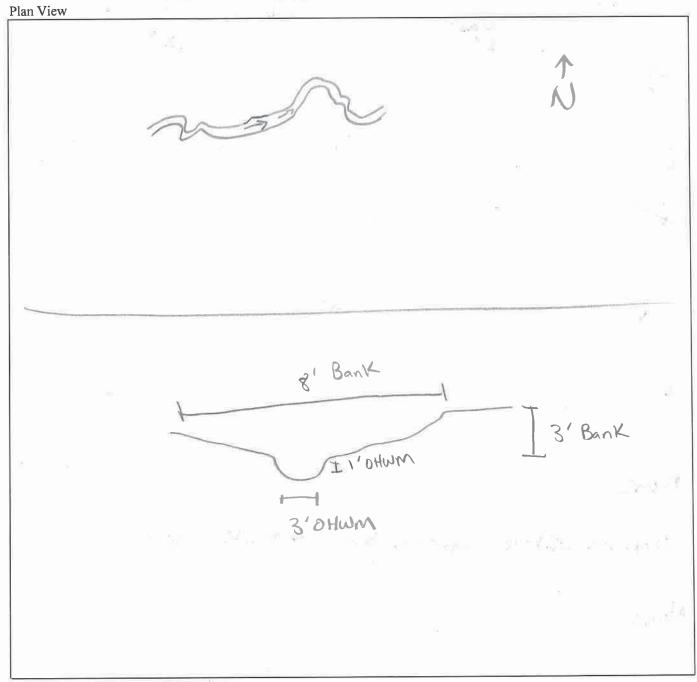
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 65
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler, Kelsea Hiebert, Mike Keenan	Date of Field Work: October 13, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 65
Associated Wetland(s): Water Feature 66, 67, 69, and 70	Coordinates: 33°10'25.368"N 96°34'30.759"W
Stream Type: Perennial Characteristics: Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Spring-fed stream. Bedrock exposed with high flows recently.
Stream Flow Direction: Northeast	OHWM H-i-14 (in). 26
OHWM Width (ft): 6 Streem Pottom composition:	OHWM Height (in): 36
Stream Bottom composition: Silts Cobbles Concrete Sands Bedrock Muck Gravel Vegetation	Other:
Aquatic Habitat: Indicate all types present within proposed ROW/p Sand bar Sand/Gravel beach/bar Gravel Overhanging trees/shrubs Deep pool/ hole/ channel Other:	
Stream has the following characteristics: Bed and banks OHWM (check all indicators that apply): clear, natural line impressed on the bank changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining other (list): Water Quality: Clear Slightly Turbid Turbid Very Tu	
Other characteristics (pollutants, etc.) I annin stains in dee	o pools
Aquatic Organisms: List all species observed. This would include was Bugs and frogs.	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Riparian Vegetation: List species observed. Fringed green brier (Smllax bona-nox), poison ivy (Toxicodendron radicans), American elm (Ulmus ame pennsylvanica), eastern red cedar (Juniperus virginiana), cedar elm (Ulmus crassifolia), osage-orange i	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.

Page 1 of 2

None.

Stream Data Form #:	Water Feature 65		
Project Name:	Spur 399 Extension		
CSJ:	1		

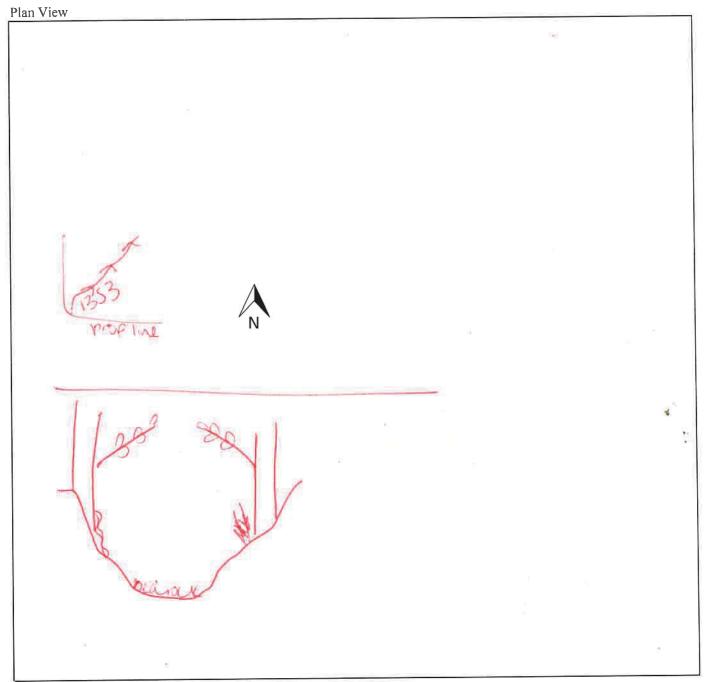
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel.

Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 66
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Kelsea Hiebert, Ethan Eichler, Mike Keenan	Date of Field Work: Od	ctober 13, 2020
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 66	
Associated Wetland(s): Water Feature 36	Coordinates: 33.173340	-96.575379
	·	
Stream Type: Ephemeral Characteristics:		
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Moderately stable banks.	
Stream Flow Direction: North	-	
OHWM Width (ft): 3	OHWM Height (in): 6	
Stream Bottom composition:		
	Other:	
☐ Sands ☐ Bedrock ☐ Muck		
Gravel Vegetation		
_ •		
Aquatic Habitat: Indicate all types present within proposed ROW/p		
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel	l riffles	vegetation
Overhanging Deep pool/ hole/ Other:		
trees/shrubs channel		_
Stream has the following characteristics:		
Bed and banks		
OHWM (check all indicators that apply):	the massenes of litter and d	ahuia
clear, natural line impressed on the bank changes in the character of soil	the presence of litter and d destruction of terrestrial ve	
shelving	the presence of wrack line	sgetation
vegetation matted down, bent, or absent	sediment sorting	
leaf litter disturbed or washed away	scour	
sediment deposition	multiple observed or prediction	cted flow events
water staining	abrupt change in plant com	
other (list):		•
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 Hi	gh organic content
Other characteristics (pollutants, etc.) None.		
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, fr	ogs, invertebrates, etc.
None.		
Riparian Vegetation: List species observed.		
Texas red oak (Quercus texana), American elm (Ulmus americana), fringed green brier (Smilax bona-n	nox), eastern poison ivy (Toxicodendron radicans)	pecan (Carya illinoinensis)
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	-
*	operios me mariar is suitable fol	<u>·</u>
None.		

Page 1 of 2

Stream Data Form #:

Water Feature 66

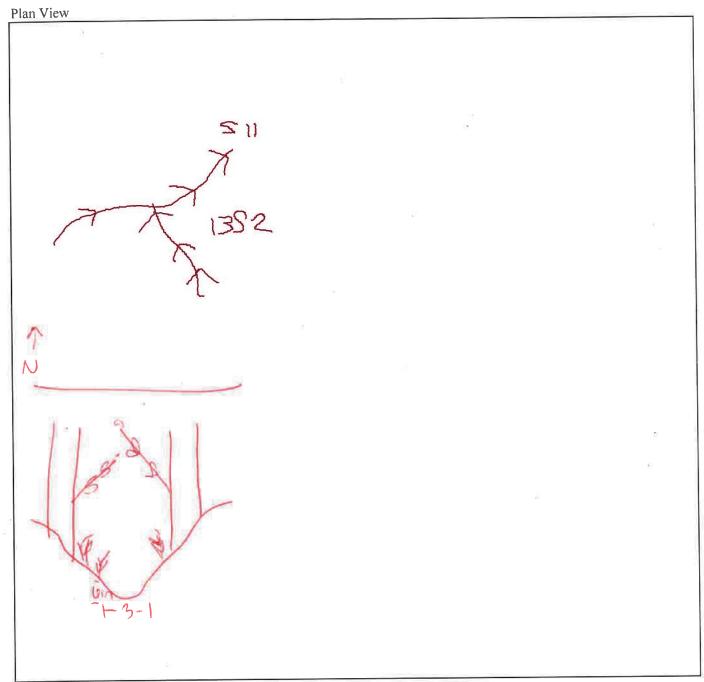
Project Name: CSJ: Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 67
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Kelsea Hiebert, Ethan Eichler, Mike Keenan	Date of Field Work: O	ctober 13, 2020
USGS Stream Name:		ollin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 67	
Associated Wetland(s): Water Feature 65	Coordinates: 33.173507	-96.576291
Stream Type: Ephemeral Characteristics:		
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Root bound banks	
Stream Flow Direction: Southeast	-	
OHWM Width (ft): 3	OHWM Height (in): 6	
Stream Bottom composition:		
	Other:	
☐ Sands ☐ Bedrock ☐ Muck		
Gravel Vegetation		
-		
Aquatic Habitat: Indicate all types present within proposed ROW/		
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles	e vegetation
Overhanging Deep pool/ hole/ trace (abrushs abrush Other:		
trees/shrubs channel		
Stream has the following characteristics:		
Bed and banks OHWM (check all indicators that apply):		
OHWM (check all indicators that apply): clear, natural line impressed on the bank	✓ the presence of litter and d	lahris
clear, natural line impressed on the bank changes in the character of soil	the presence of litter and destruction of terrestrial ve	
shelving	the presence of wrack line	
	sediment sorting	
leaf litter disturbed or washed away	Scour	
vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining	multiple observed or predi	cted flow events
water staining	abrupt change in plant con	
other (list):	_	•
_		
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🔲 Oily film 🔲 H	igh organic content
✓ Other characteristics (pollutants, etc.) None.		
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, fr	ogs, invertebrates, etc.
None.		
Riparian Vegetation: List species observed.		
Texas red oak (Quercus texana), American elm (Ulmus americana), fringed green brier (Smilax bona-red)	nox), eastern poison ivy (Toxicodendron radicans), pecan (Carya illinoinensis)
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable fo	r
*	appeared the mantat is suitable to	<u></u>
None.		

Str	ean	n	Data	Form	#:	
-			3. T			

Water Feature 67

Project Name: CSJ:

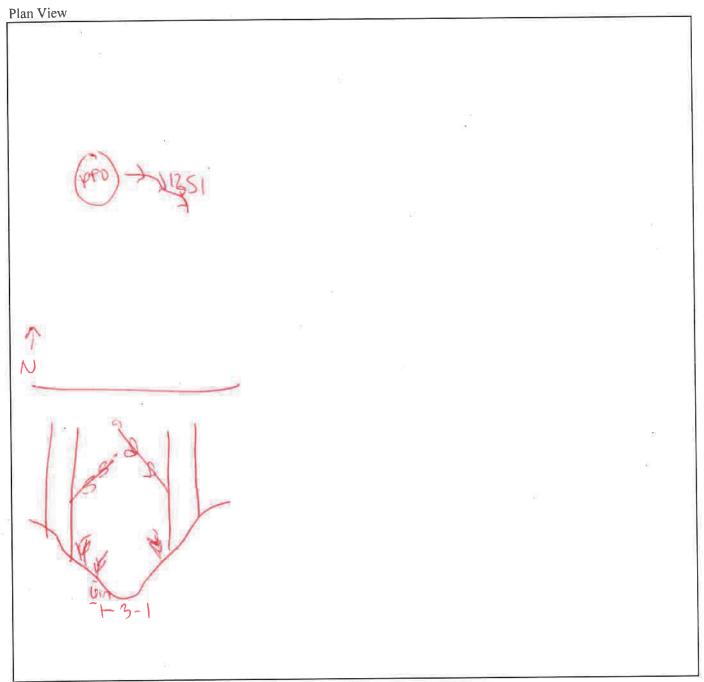
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #: Water Feature 71
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler, Kelsea Hiebert, Mike Keenan	Date of Field Work: October 12, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 71
Associated Wetland(s): Water Feature 65, 69, and 70	Coordinates: 33°10'41.787"N 96°34'30.946"W
Associated wettaild(s). Water realure 65, 69, and 70	Coordinates. 35 1041.767 N 90 54 50.940 W
Stream Type: Perennial Characteristics:	Deep channel with gravel riffles
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	
Stream Flow Direction: Southeast	0.7777.677.4.4.4.
OHWM Width (ft): 6	OHWM Height (in): 36
Stream Bottom composition:	Out
	Other:
Sands Bedrock Muck	
✓ Gravel	
Aquatic Habitat: Indicate all types present within proposed ROW/r	project limits
Sand bar Sand/Gravel beach/bar ✓ Gravel	
Overhanging — Deep pool/hole/ —	Aquatic vegetation
✓ Overnanging trees/shrubs ✓ Deep pool/ note/ □ Other:	
CHAINICI	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
	✓ scour
☐ leaf litter disturbed or washed away☐ sediment deposition☑ water staining	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
Water Quality:	
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	
Aquatic Organisms: List all species observed. This would include v	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Frogs and small fish species.	
Riparian Vegetation: List species observed.	
Fringed green brier (Smilax bona-nox), Virginia creeper (Parthenocissus quinquefolia), poison ivy (Toxi elm (Ulmus americana), cedar elm (Ulmus crassifolia), eastern black walnut (Juglans nigra)	codendron radicans), nodding wild rye (Elymus canadensis), sugarberry (Celtis laevigata), American
enn (omnus americana), cedar enn (omnus crassilolia), eastern black wainut (Jugians filgra)	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for
	species the habitat is suitable for.
None.	

Page 1 of 2

Stream Data Form #:	Water Feature 71		
Project Name:	Spur 399 Extension		
CSJ:			

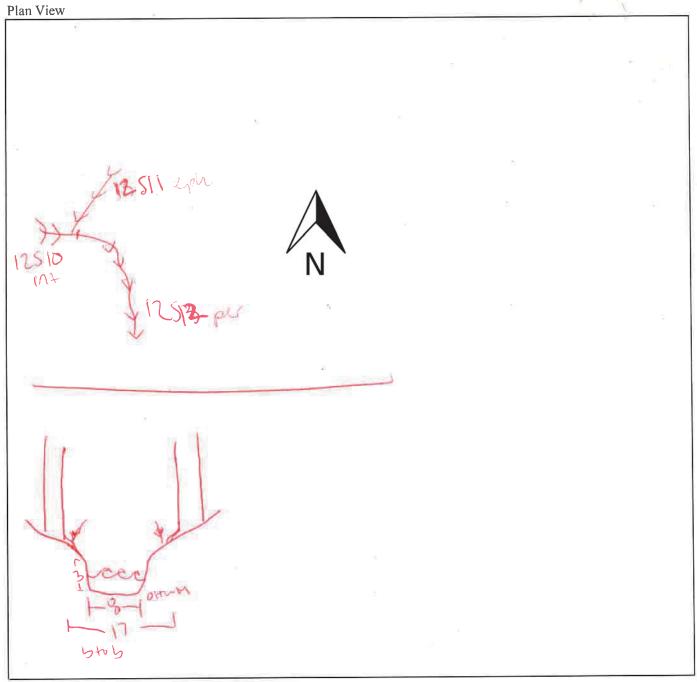
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel.

Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



Sectional View

	Stream Data Form #: Water Feature 75
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: October 12, 2020
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 75
Associated Wetland(s): Water Feature 77	Coordinates: 33°11'4.381"N 96°34'43.352"W
Associated Wettand(s). Water Feature 11	Coordinates. 35 114.361 N 90 3445.352 W
Stream Type: Intermittent Characteristics:	Flows into the East Fork Trinity River.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Water seeps from banks. Light erosion along banks.
Stream Flow Direction: East	
OHWM Width (ft): 6	OHWM Height (in): 20
Stream Bottom composition:	
	Other:
☐ Sands ☐ Bedrock ☑ Muck	
✓ Gravel	
Aquatic Habitat: Indicate all types present within proposed ROW/p	
☐ Sand bar ✓ Sand/Gravel beach/bar ✓ Gravel	riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Other:	
trees/shrubs channel Guier.	
Stream has the following characteristics:	
Bed and banks	
OHWM (check all indicators that apply):	4
clear, natural line impressed on the bank	the presence of litter and debris destruction of terrestrial vegetation
☐ changes in the character of soil ☐ shelving	the presence of wrack line
<u> </u>	sediment sorting
leaf litter disturbed or washed away	scour sorting
 □ vegetation matted down, bent, or absent ☑ leaf litter disturbed or washed away ☑ sediment deposition □ water staining 	✓ multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	abrupt change in plant community
other (not).	
Water Quality:	
☐ Clear ☑ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid Oily film High organic content
Other characteristics (pollutants, etc.)	
<u> </u>	
Aquatic Organisms: List all species observed. This would include w	vaterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Small fish species.	•
oman non oposios.	
Riparian Vegetation: List species observed.	
Green ash (Fraxinus pennsylvanica), osage-orange (Maclura pomifera), river bank grape (Vitis riparia),	fringed green brier (Smllax bona-nox), black willow (Salix nigra), and eastern red cedar (Juniperus
virginiana)	, , , , , , , , , , , , , , , , , , , ,
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
None.	

Page 1 of 2

Stream Data Form #5
Project Name:

CSJ:

Water Feature 75

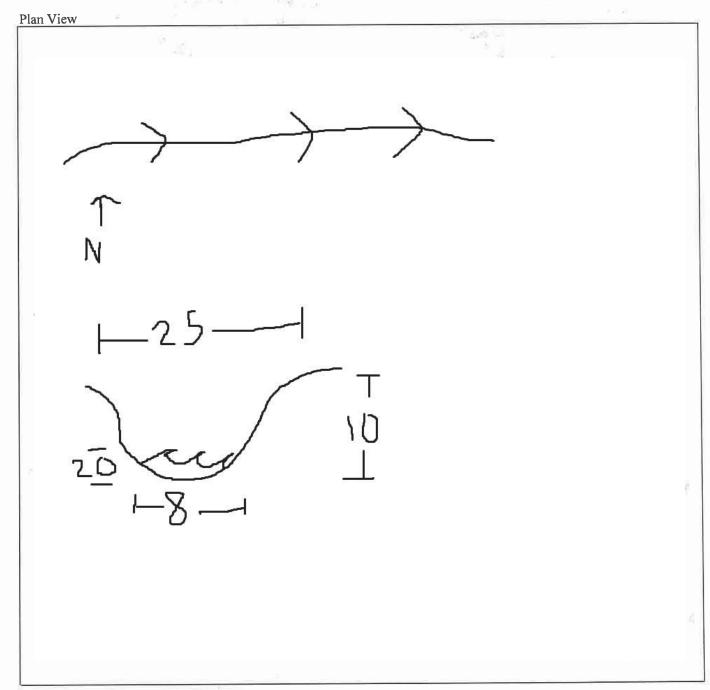
Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Stream Data Form #:	Water Feature 79
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work:	September 8, 2020
USGS Stream Name: <u>East Fork Trinity River</u>	County/State:	Collin County, Texas
USGS Topo Quad Name: Anna	Stream Number:	79
Associated Wetland(s).Water Feature 80, 83, 85, 87, 88, 89, an	d 91 Coordinates: 33°11'25	5.83"N 96°34'39.21"W
() () () () () () () () () ()	Incised stream banks.	
Stream Type: Perennial Characteristics:		
Bank Stability (e.g. highly eroding, sloughing banks, etc.):		
Stream Flow Direction: South	_	
OHWM Width (ft): 40	OHWM Height (in):	30
Stream Bottom composition:	<u> </u>	
✓ Silts Cobbles Concrete C	Other:	
☐ Sands ☐ Bedrock ☐ Muck		
☐ Gravel ☐ Vegetation		
Aquatic Habitat: Indicate all types present within proposed ROW/p		
Sand bar Sand/Gravel beach/bar Gravel	riffles	atic vegetation
Overhanging Deep pool/ hole/ Channel Other:		
trees/sin dos chamier		
Stream has the following characteristics:		
✓ Bed and banks		
OHWM (check all indicators that apply):		
clear, natural line impressed on the bank	the presence of litter and	d debris
changes in the character of soil	destruction of terrestrial	l vegetation
shelving	the presence of wrack li	ine
vegetation matted down, bent, or absent	sediment sorting	
 ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	scour	
sediment deposition	multiple observed or pr	
	abrupt change in plant of	community
other (list):		
Water Quality:		
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	rbid Oily film	High organic content
Other characteristics (pollutants, etc.)		Tilgii organie content
<u> </u>		
Aquatic Organisms: List all species observed. This would include w	aterfowl, fish, snakes, turtles	, frogs, invertebrates, etc.
None.		_
Riparian Vegetation: List species observed.		
Pecan (Carya illinoinensis), black walnut (Juglans nigra), green ash (Fraxinus pennsylvanica), poison iv		Ulmus americana), sugarberry (Celtis laevigata),
osage-orange (Maclura pomifera), fringed green brier (Smilax bona-nox), Virginia wild rye (Elymus virgin	icus), river bank grape (Vitis riparia)	
T&E Species/Suitable Habitat: List T&E species observed or which	enecies the habitat is suitable	for
*	species the habital is suitable	101.
None.		

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Stream Data Form #:

Water Feature 79

Project Name: CSJ: Spur 399 Extension

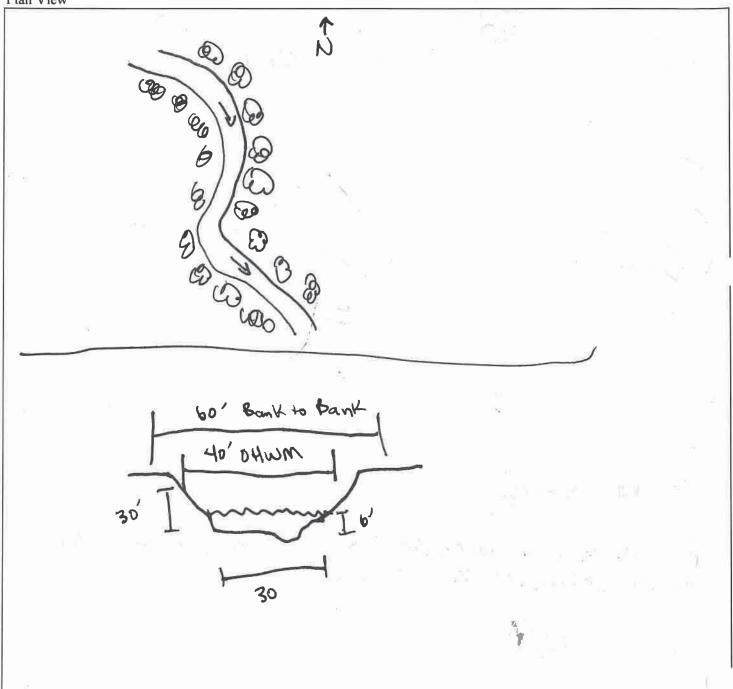
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.





	Stream Data Form #: Water Feature 80
	Project Name: Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	
Surveyor(s): Ethan Eichler and Mike Keenan	Date of Field Work: September 10, 2020
USGS Stream Name: Tributary of East Fork Trinity River	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 80
Associated Wetland(s): Water Feature 79, 81, and 82	Coordinates: 33°11'26.291"N 96°34'35.882"W
Water Feature 79, 01, and 02	
Stream Type: Intermittent Characteristics:	Upper portion of stream historically mowed for agricultural field.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Highly araded hanks
	Highly eroded banks.
Stream Flow Direction: South	OHWM H-:-l.4 (:). 12
OHWM Width (ft): 8	OHWM Height (in): 12
Stream Bottom composition: Silts	Other:
✓ Silts ☐ Cobbles ☐ Concrete ☐ ✓ Sands ☐ Bedrock ☐ Muck	Other:
✓ Gravel	
U Graver	
Aquatic Habitat: Indicate all types present within proposed ROW/1	project limits.
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	
— Overhanging — Deen nool/ hole/ —	
trees/shrubs Deep poor hole/ Other:	
Stream has the following characteristics:	
✓ Bed and banks	
OHWM (check all indicators that apply):	
clear, natural line impressed on the bank	the presence of litter and debris
changes in the character of soil	destruction of terrestrial vegetation
shelving	the presence of wrack line
vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining	sediment sorting
leaf litter disturbed or washed away	scour
sediment deposition	multiple observed or predicted flow events
	abrupt change in plant community
other (list):	
W. t. O. Pter	
Water Quality:	which Otto film Dilich ansonic content
✓ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu ☐ Other characteristics (pollutants, etc.)	urbid Oily film High organic content
Other characteristics (portutants, etc.)	
Aquatic Organisms: List all species observed. This would include v	vaterfowl fish snakes turtles from invertebrates etc
*	THE TOTAL STATE OF THE STATE OF
None.	
Riparian Vegetation: List species observed.	
pecan (Carya illinoinensis), osage-orange (Maclura pomifera), green ash (Fraxinus pennsylvanica), Am	nerican elm (Himus americana)
power (our ye minoriolisis), osego-orenyo (meone a pormicia), green asii (i raxiilus pelilisyivaliilus), All	ionodii oiii (oiindo dinonodiid)
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for

None.

Stream Data Form #: Project Name:

CSJ:

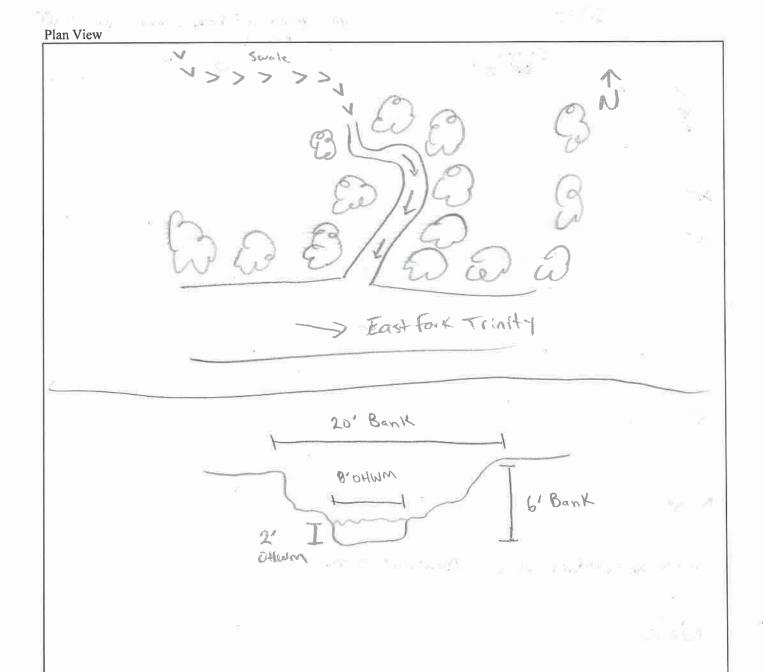
Water Feature 80 Spur 399 Extension

Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.



	Project Name: Water Feature 94 Spur 399 Extension
	CSJ: 0047-10-002
Stream Data Form	A
Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler	Date of Field Work: August 16, 2021
USGS Stream Name:	County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 94
Associated Wetland(s):	Coordinates: 33.197015 -96.573861
Stream Type: Ephemeral Characteristics:	Hydrology from US 380 drainage.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Trydrology north oc ood dramage.
Stream Flow Direction: South	-
OHWM Width (ft): 3	OHWM Height (in): 12
Stream Bottom composition:	Offwire fleight (iii).
	Other:
☐ Sands ☑ Bedrock ☐ Muck	
☐ Gravel ☐ Vegetation	
Aquatic Habitat: Indicate all types present within proposed ROW/	
☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Grave	l riffles Aquatic vegetation
Overhanging Deep pool/ hole/ Channel Other:	
trees/shi dos channer	
Stream has the following characteristics:	
☑ Bed and banks	
OHWM (check all indicators that apply):	E 4 61% 111.
clear, natural line impressed on the bank changes in the character of soil	the presence of litter and debris destruction of terrestrial vegetation
changes in the character of soil shelving	the presence of wrack line
vegetation matted down, bent, or absent	sediment sorting
leaf litter disturbed or washed away	scour
☐ leaf litter disturbed or washed away sediment deposition water staining	multiple observed or predicted flow events
water staining	abrupt change in plant community
other (list):	
Water Quality:	
☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid Oily film High organic content
Other characteristics (pollutants, etc.) none	
Aquatic Organisms: List all species observed. This would include v	waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
Frogs	
Tiogs	
Riparian Vegetation: List species observed.	
American Elm (Ulmus americana), sugarberry (Celtis laevigat	a), pecan (Carya illinoinensis), eastern poison ivv
(Toxicodendron radicans), fringed green brier (Smilax bona-n	
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for.
	<u> </u>

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None

Stream Data Form #: Project Name:

CSJ: <u>0047-10-002</u>

Water Feature 94

Spur 399 Extension

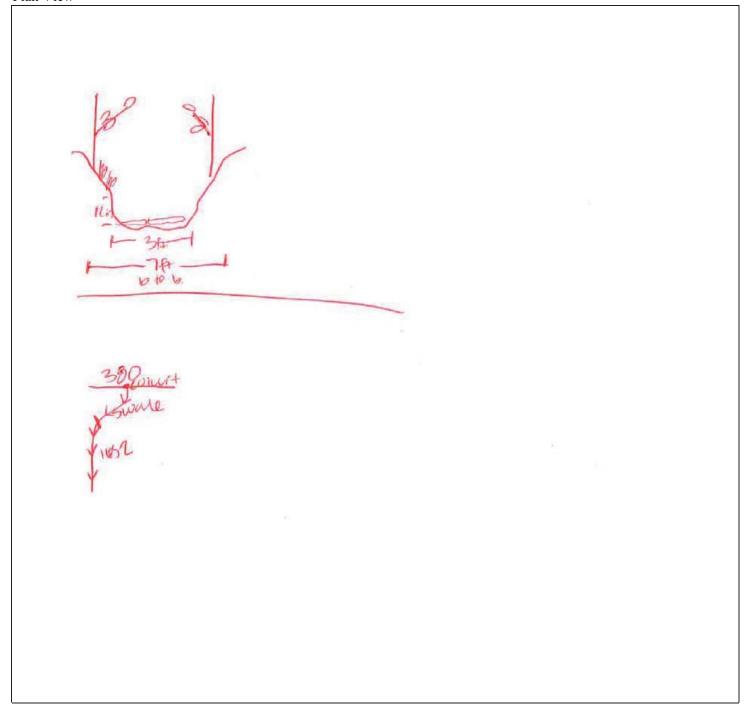
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

Plan View



	Stream Data Form #:	Water Feature 104
	Project Name:	Spur 399 Extension
	CSJ: <u>0047-10-002</u>	
Stream Data Form		
Surveyor(s): Wyatt Wolfenkoehler and Kelsea Hiebert	Date of Field Work: Au	gust 16, 2021
USGS Stream Name:	County/State: Co	llin County, Texas
USGS Topo Quad Name: McKinney East	Stream Number: 10	4
Associated Wetland(s):	Coordinates: <u>33.195442</u>	-96.567532
Stream Type: Ephemeral Characteristics: Bank Stability (e.g. highly eroding, sloughing banks, etc.):	Receives flow from adjacent roady Vegetated and stabilized banks.	vay and ditch drainage feature DF-28.
Stream Flow Direction: Southeast	- regetates and etablicate same	
OHWM Width (ft): 2'	OHWM Height (in): 10"	
Stream Bottom composition:	on with fieldin (iii).	
	Other:	
Aquatic Habitat: Indicate all types present within proposed ROW/p	project limits.	
Sand bar Sand/Gravel beach/bar Gravel		vegetation
Overhanging Deep pool/ hole/ Other: none		
trees/shrubs channel	·	
Stream has the following characteristics: Bed and banks		
OHWM (check all indicators that apply): clear, natural line impressed on the bank	the presence of litter and de	phris
changes in the character of soil	destruction of terrestrial ve	
shelving	the presence of wrack line	5
	sediment sorting	
 ✓ vegetation matted down, bent, or absent ✓ leaf litter disturbed or washed away ✓ sediment deposition ✓ water staining 	scour	
sediment deposition	multiple observed or predic	
_ ~	abrupt change in plant com	munity
other (list):		
W-4 O1'		
Water Quality: ☐ Clear ☐ Slightly Turbid ☐ Turbid ☐ Very Tu	urbid 🗌 Oily film 🔲 Hi	gh organic content
Other characteristics (pollutants, etc.) no water	noid 🔲 Onymin 📋 m	gn organic content
Other characteristics (polititains, etc.) 110 water		
Aquatic Organisms: List all species observed. This would include w	vaterfowl, fish, snakes, turtles, fro	ogs, invertebrates, etc.
none		
Riparian Vegetation: List species observed.		
Ulmus crassifolia, Sorghum halapense, and Festuca arundina	cea.	
, ,		
T&E Species/Suitable Habitat: List T&E species observed or which	species the habitat is suitable for	
none	101	-
Hono		

Stream Data Form #: Project Name: CSJ: 0047-10-002

Water Feature 104 Spur 399 Extension

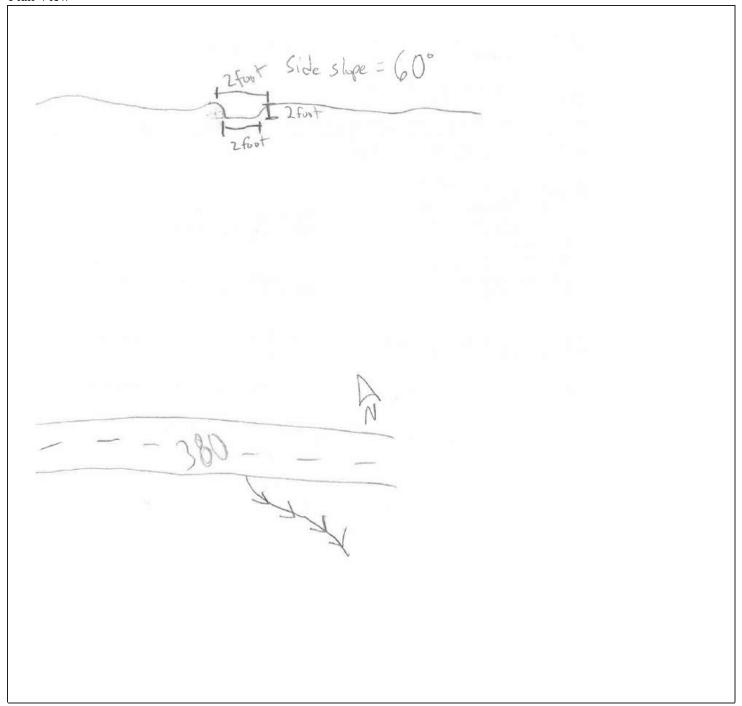
Stream Data Form (continued)

Please provide a plan and section view sketch of the stream channel. Sketch should include:

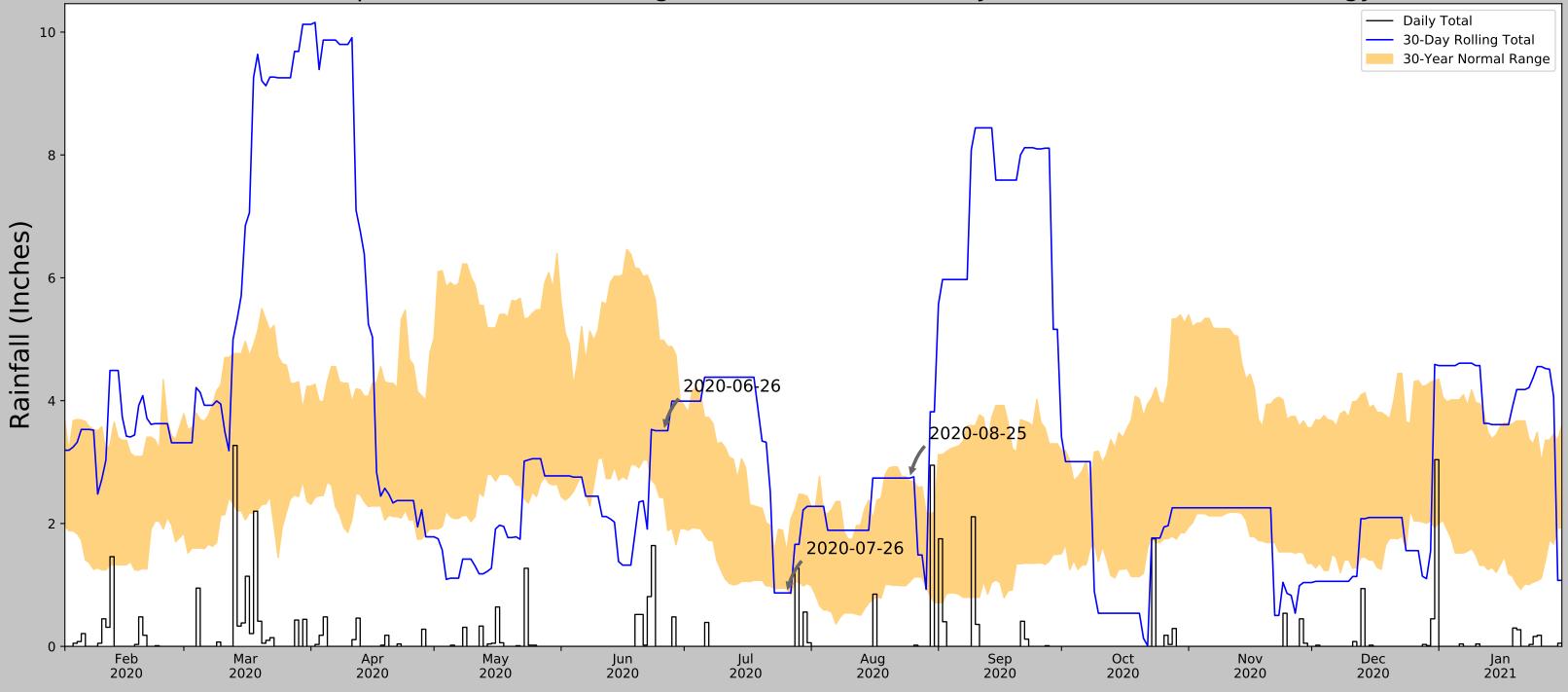
- Directional arrow;
- Width of channel from top of bank to top of bank;
- Depth of channel,

- Approximate side slope; and,
- Width of stream from water edge to water edge.

Plan View

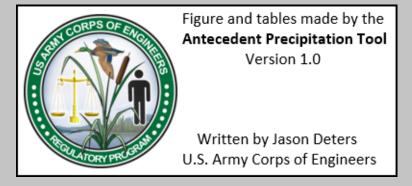


Attachment 3 – Antecedent Precipitation Tool for McKinney, Texas

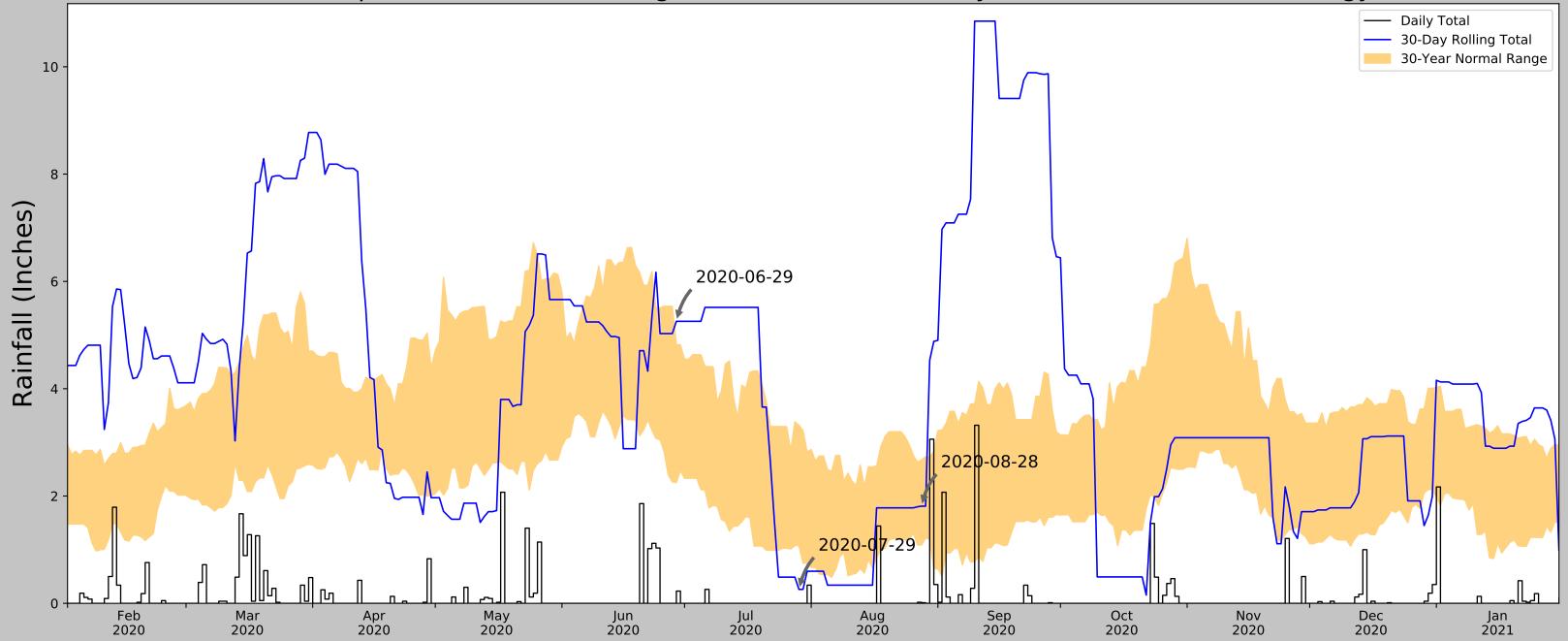


Coordinates	33.160923, -96.592804
Observation Date	2020-08-25
Elevation (ft)	560.97
Drought Index (PDSI)	Mild wetness
WebWIMP H ₂ O Balance	Dry Season

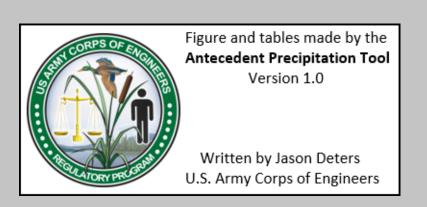
30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-08-25	1.048819	2.694882	2.740158	Wet	3	3	9
2020-07-26	0.944882	1.548819	0.870079	Dry	1	2	2
2020-06-26	2.425197	4.983465	3.511811	Normal	2	1	2
Result							Normal Conditions - 13



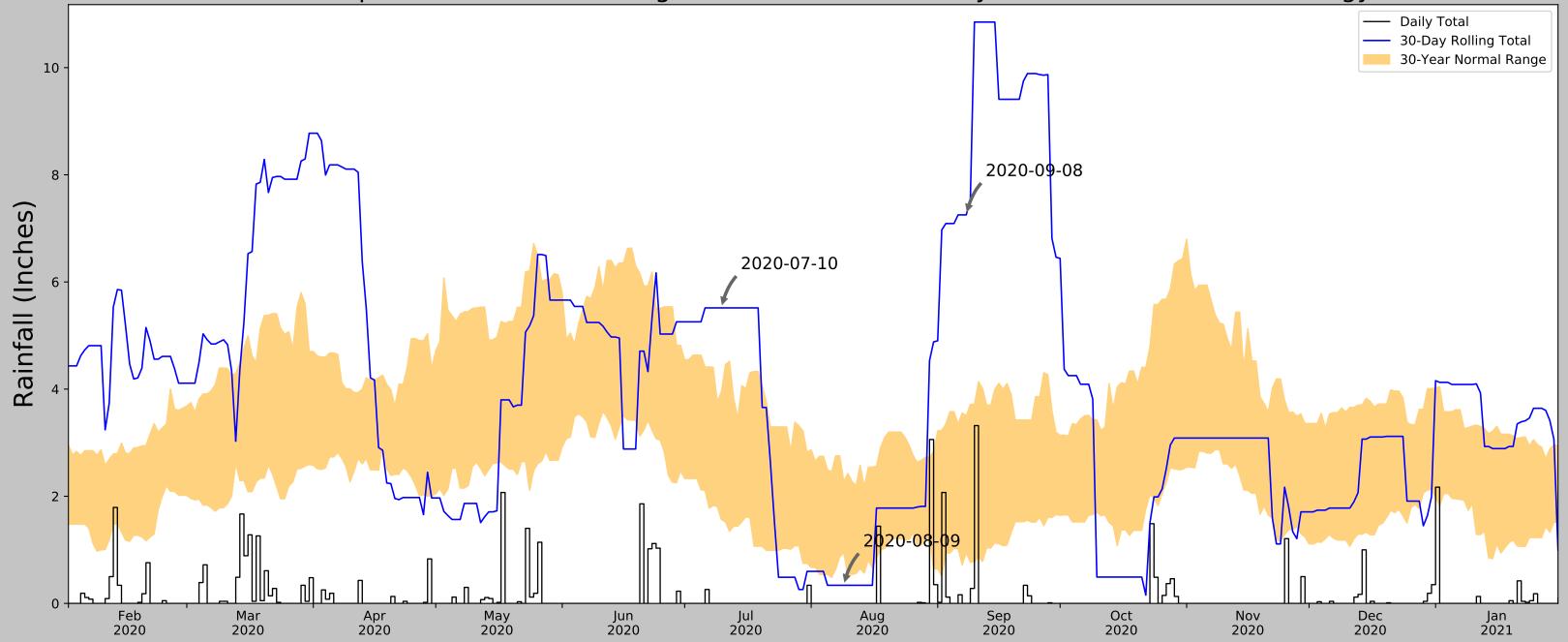
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	1.347	19.083	0.632	7820	89
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	0.694	5.905	0.316	3493	0
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	2.385	23.95	1.13	7	1
LOWRY CROSSING 0.3 SSE	33.1636, -96.5432	544.948	2.958	35.105	1.435	1	0
LAVON DAM	33.0353, -96.4861	509.843	11.694	70.21	6.083	31	0



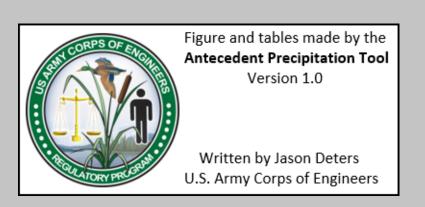
Coordinates	33.160923, -96.592804
Observation Date	2020-08-28
Elevation (ft)	560.97
Drought Index (PDSI)	Mild wetness
WebWIMP H ₂ O Balance	Dry Season



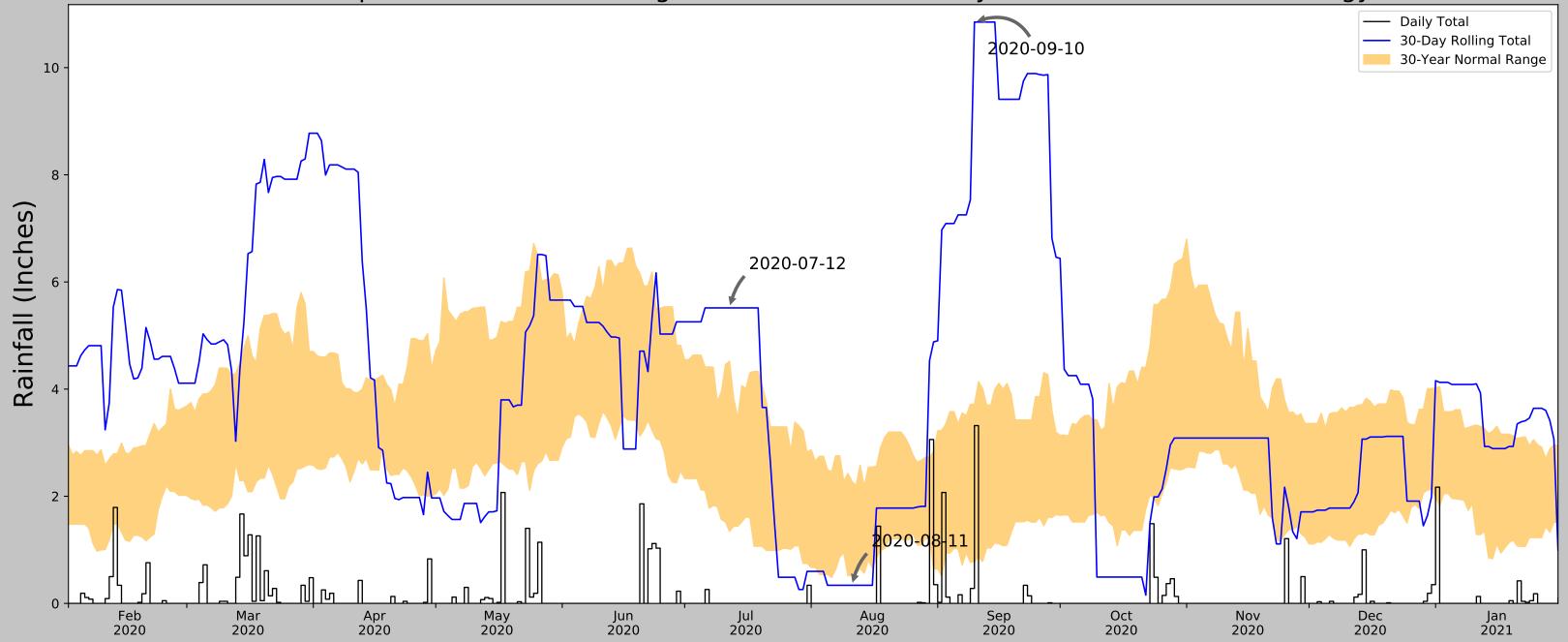
30 Days Ending 30 th %ile (in)	70 th %ile (in)	Obse	rved (in) Wet	ness Condition	Condition Va	alue Month W	/eiaht	Product
Weather Station Name	Coord	linates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -9	5.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -9	5.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -9	5.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -9	6.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -9	6.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -	96.783	742.126	14.337	181.156	9.049	1698	75
MCKINNEY 3.1 SW	33.1685, -	96.693	726.05	5.819	165.08	3.579	28	0
PLANO 2.5 WSW	33.0275, -9	5.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -9	5.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -9	5.5432	544.948	2.875	16.022	1.34	0	1
FAIRVIEW 1.5 ESE	33.1334, -9	5.6003	613.845	1.95	52.875	0.981	9	14
ANNA 3.7 SSW	33.3127, -9	5.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -9	5.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -9	5.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -9	5.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -9	5.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
CHARVICHOREC A 7 CE	22.1562.0	7.0245	E 40 00E	25.551	12.005	11 007	1	^



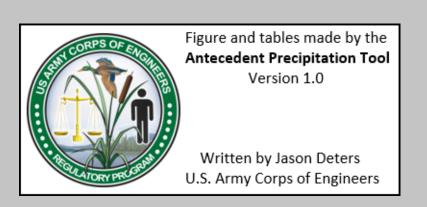
Coordinates	33.160923, -96.592804
Observation Date	2020-09-08
Elevation (ft)	560.97
Drought Index (PDSI)	Moderate wetness
WebWIMP H ₂ O Balance	Dry Season



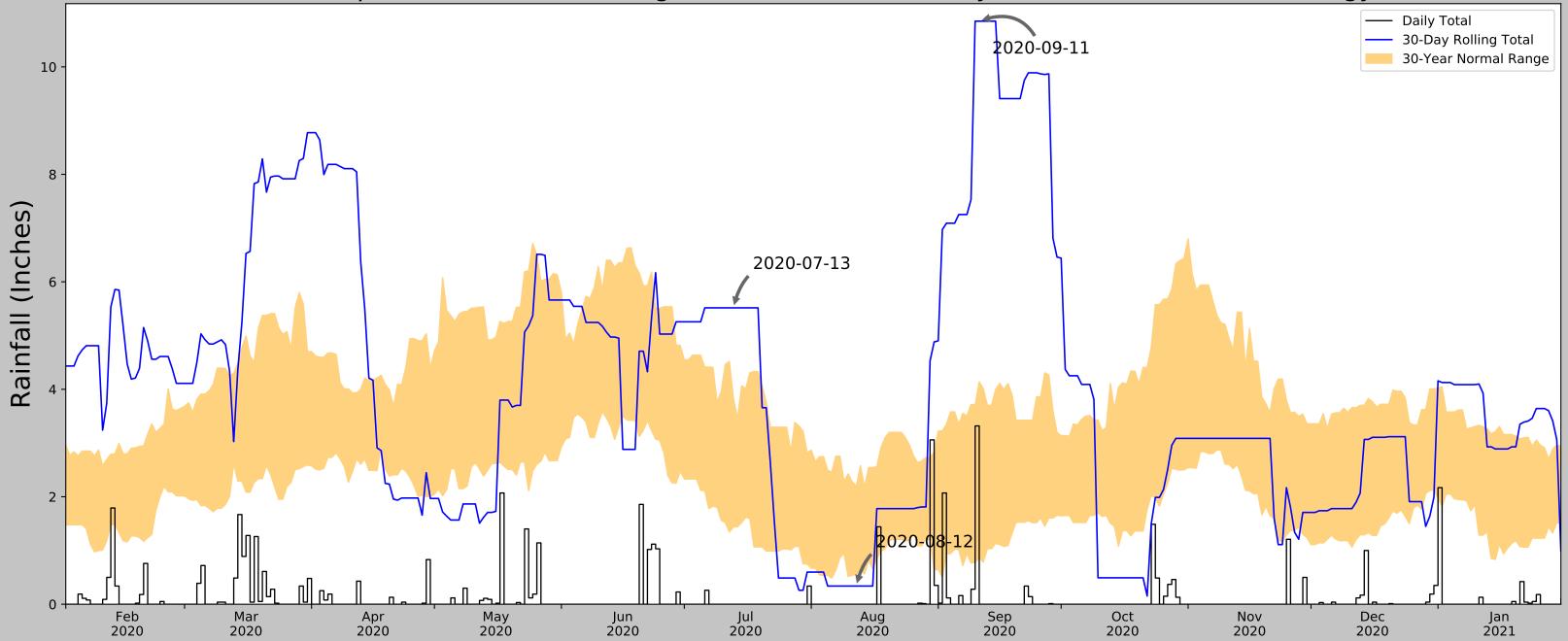
30 Days Ending 30 th %ile (in)	70 th %ile (in) Obs	served (in) Wet	ness Condition		alue Month V		Product
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -96.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -96.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -96.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -96.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -96.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -96.783	742.126	14.337	181.156	9.049	1698	75
MCKINNEY 3.1 SW	33.1685, -96.693	726.05	5.819	165.08	3.579	28	0
PLANO 2.5 WSW	33.0275, -96.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -96.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -96.5432	544.948	2.875	16.022	1.34	0	1
FAIRVIEW 1.5 ESE	33.1334, -96.6003	613.845	1.95	52.875	0.981	9	14
ANNA 3.7 SSW	33.3127, -96.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -96.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -96.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -96.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -96.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -97.0532	553.15	26.923	7.82	12.326	1	0
CHARV CHAREC A 7 CE	22 1562 07 0245	E 40 00E	25.551	12.005	11 007	1	



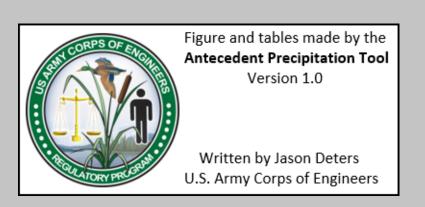
Coordinates	33.160923, -96.592804
Observation Date	2020-09-10
Elevation (ft)	560.97
Drought Index (PDSI)	Moderate wetness
WebWIMP H ₂ O Balance	Dry Season



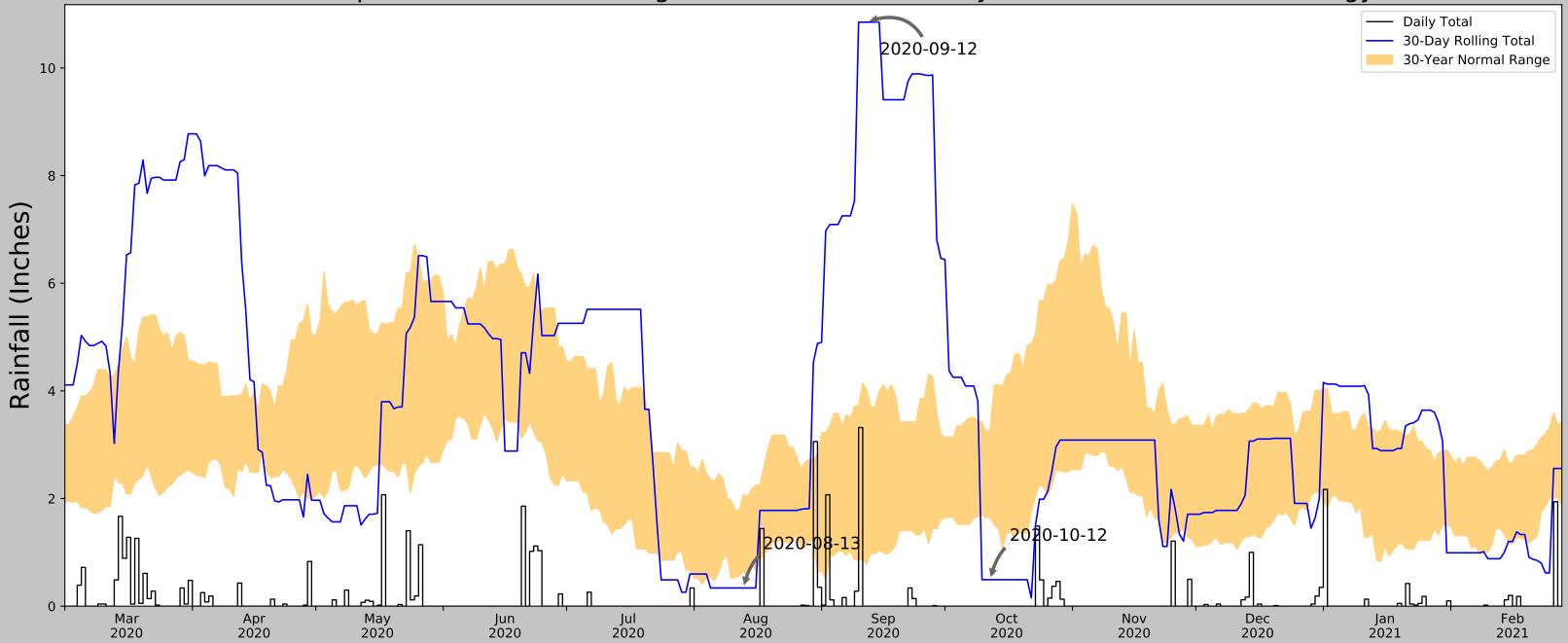
30 Davs Ending 30 th %ile (in)		rved (in) Wet	ness Condition		lue Month W		Product
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -96.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -96.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -96.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -96.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -96.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -96.783	742.126	14.337	181.156	9.049	1698	75
MCKINNEY 3.1 SW	33.1685, -96.693	726.05	5.819	165.08	3.579	28	0
PLANO 2.5 WSW	33.0275, -96.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -96.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -96.5432	544.948	2.875	16.022	1.34	0	1
FAIRVIEW 1.5 ESE	33.1334, -96.6003	613.845	1.95	52.875	0.981	9	14
ANNA 3.7 SSW	33.3127, -96.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -96.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -96.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -96.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -96.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -97.0532	553.15	26.923	7.82	12.326	1	0
CHARV CHAREC A 7 CE	22 1562 07 0245	F 40 00F	25 551	12.005	11 007	1	



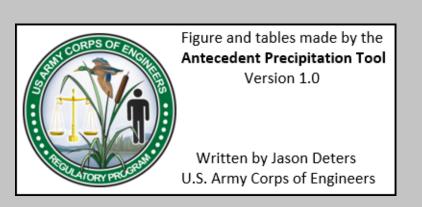
Coordinates	33.160923, -96.592804
Observation Date	2020-09-11
Elevation (ft)	560.97
Drought Index (PDSI)	Moderate wetness
WebWIMP H₂O Balance	Dry Season



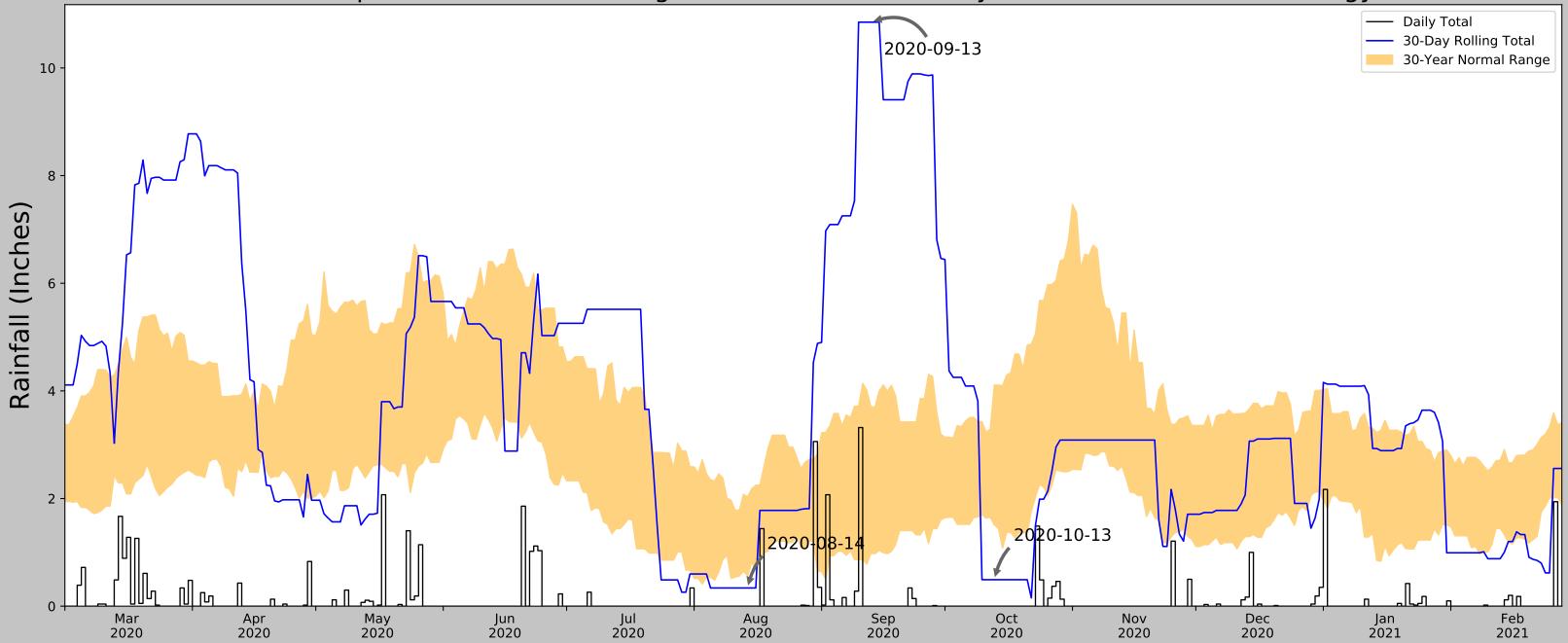
30 Days Ending 30 th %ile (in)	70 th %ile (in) Obs	erved (in) Wet	ness Condition		alue Month W		Product
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -96.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -96.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -96.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -96.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -96.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -96.783	742.126	14.337	181.156	9.049	1698	76
MCKINNEY 3.1 SW	33.1685, -96.693	726.05	5.819	165.08	3.579	28	0
PLANO 2.5 WSW	33.0275, -96.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -96.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -96.5432	544.948	2.875	16.022	1.34	0	1
FAIRVIEW 1.5 ESE	33.1334, -96.6003	613.845	1.95	52.875	0.981	9	13
ANNA 3.7 SSW	33.3127, -96.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -96.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -96.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -96.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -96.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -97.0532	553.15	26.923	7.82	12.326	1	0
CHARVICHOREC A 7 CE	22 1562 07 0245	E 40 00E	25.551	12.00	11 007	1	



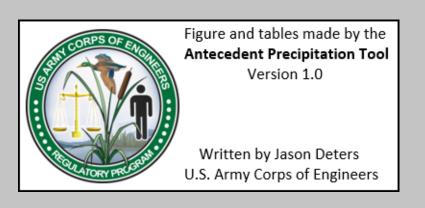
Coordinates	33.160923, -96.592804
Observation Date	2020-10-12
Elevation (ft)	560.97
Drought Index (PDSI)	Normal
WebWIMP H ₂ O Balance	Wet Season



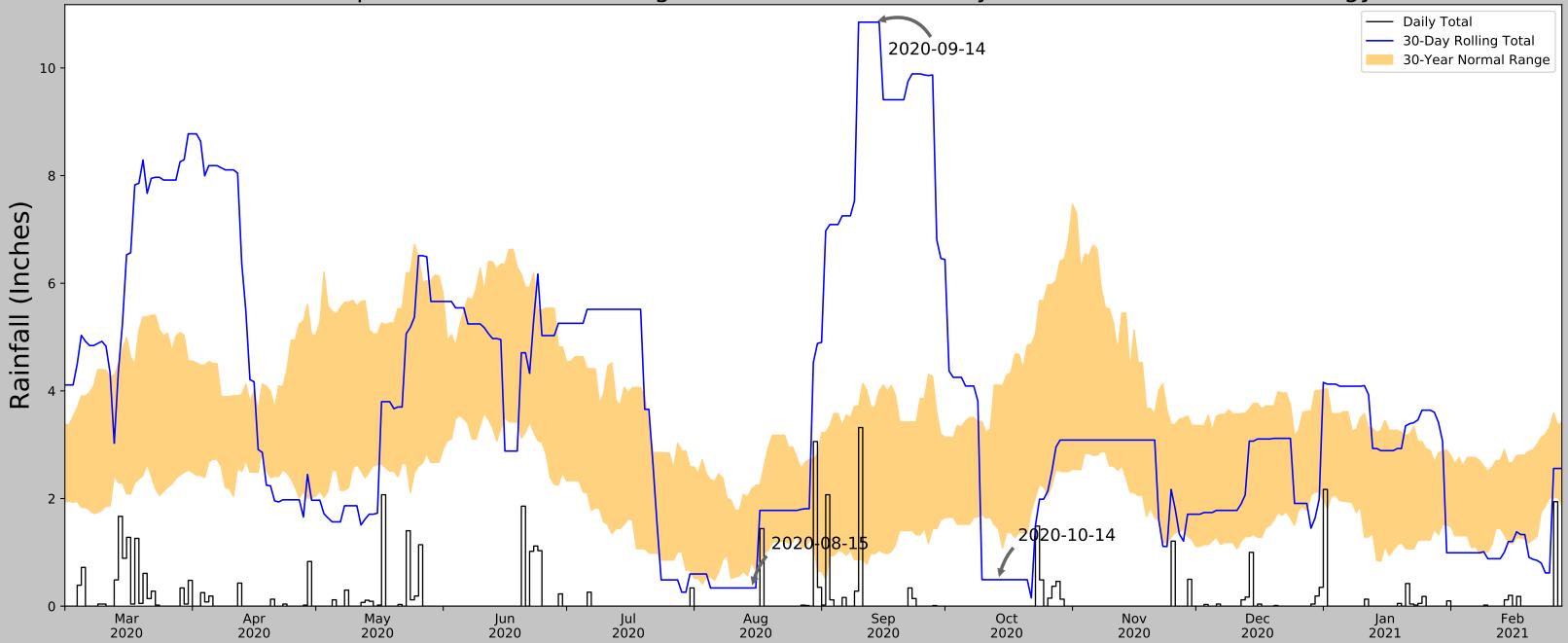
30 Davs Ending 30 th %ile (in)	70 th %ile (in)	Obse		ness Condition	Condition Va	alue Month W	/eiaht	Product
Weather Station Name	Coordi	nates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -96	.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -96	.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -96	.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -96	.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -96	.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -9	6.783	742.126	14.337	181.156	9.049	2038	86
MCKINNEY 3.1 SW	33.1685, -9	6.693	726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -96	.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -96	.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -96	.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -96	.6003	613.845	1.95	52.875	0.981	25	4
ANNA 3.7 SSW	33.3127, -96	.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -96	.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -96	.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -96	.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -96	.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -9	6.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -97	.0532	553.15	26.923	7.82	12.326	1	0
CHADY CHOREC A 7 CE	22.1562.07	024E	F 40, 00F	25 551	12.005	11 007	1	



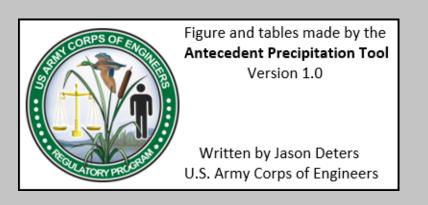
Coordinates	33.160923, -96.592804
Observation Date	2020-10-13
Elevation (ft)	560.97
Drought Index (PDSI)	Normal
WebWIMP H ₂ O Balance	Wet Season



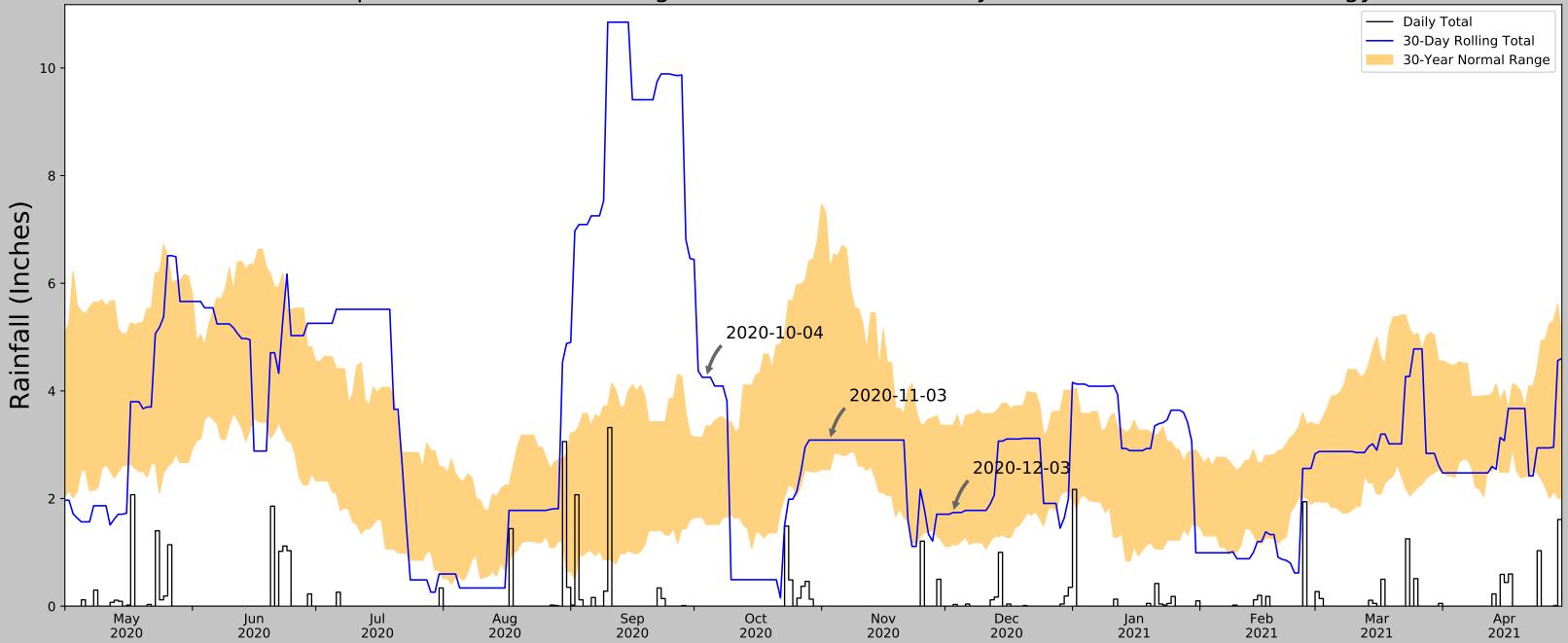
30 Davs Ending 30 th %ile (in)	70 th %ile (in)	Obse		ness Condition	Condition Va	alue Month W	/eiaht	Product
Weather Station Name	Coordi	nates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -96	.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -96	.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -96	.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -96	.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -96	.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -9	6.783	742.126	14.337	181.156	9.049	2038	86
MCKINNEY 3.1 SW	33.1685, -9	6.693	726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -96	.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -96	.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -96	.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -96	.6003	613.845	1.95	52.875	0.981	25	4
ANNA 3.7 SSW	33.3127, -96	.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -96	.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -96	.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -96	.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -96	.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -9	6.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -97	.0532	553.15	26.923	7.82	12.326	1	0
CHADY CHOREC A 7 CE	22.1562.07	024E	F 40, 00F	25 551	12.005	11 007	1	



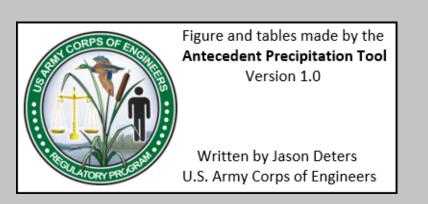
Coordinates	33.160923, -96.592804
Observation Date	2020-10-14
Elevation (ft)	560.97
Drought Index (PDSI)	Normal
WebWIMP H ₂ O Balance	Wet Season



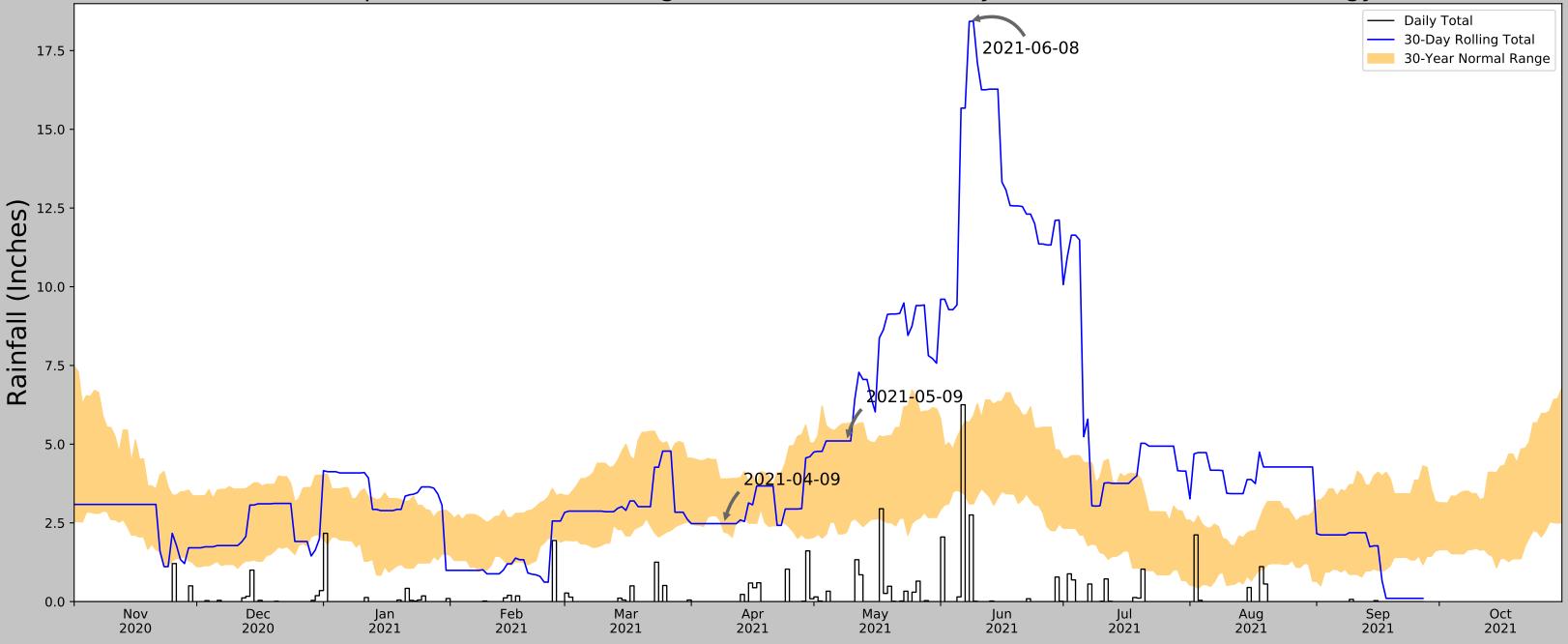
30 Davs Ending 30 th %ile (in)	70 th %ile (in)			ness Condition		alue Month W	/eiaht	Product
Weather Station Name	Coord	inates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -90	5.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -90	5.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -90	5.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -90	5.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -90	5.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -9	96.783	742.126	14.337	181.156	9.049	2038	86
MCKINNEY 3.1 SW	33.1685, -9	6.693	726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -90	5.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -90	5.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -90	5.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -90	5.6003	613.845	1.95	52.875	0.981	25	4
ANNA 3.7 SSW	33.3127, -90	5.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -90	5.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -90	5.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -90	5.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -90	5.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -9	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
CHARV CHOREC A 7 CE	22.1562.0	7.0245	F 40 00F	25 551	12.005	11 007	1	^



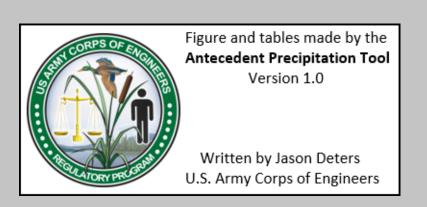
Coordinates	33.160923, -96.592804
Observation Date	2020-12-03
Elevation (ft)	560.97
Drought Index (PDSI)	Incipient drought
WebWIMP H ₂ O Balance	Wet Season



30 Days Ending 30 th %ile (in)	70 th %ile (in)			tness Condition		alue Month W		Product
Weather Station Name	Coord	dinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -9	6.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -9	6.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -9	6.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -9	6.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -9	6.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -	96.783	742.126	14.337	181.156	9.049	2038	87
MCKINNEY 3.1 SW	33.1685, -		726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -9	6.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -9	6.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -9	6.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -9	6.6003	613.845	1.95	52.875	0.981	25	3
ANNA 3.7 SSW	33.3127, -9	6.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -9	6.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -9	6.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -9	6.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -9	6.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
CHARY CHOREC 0.7 CE	22.1562.0	7.0245	E 40 00E	25.551	12.005	11 007	1	

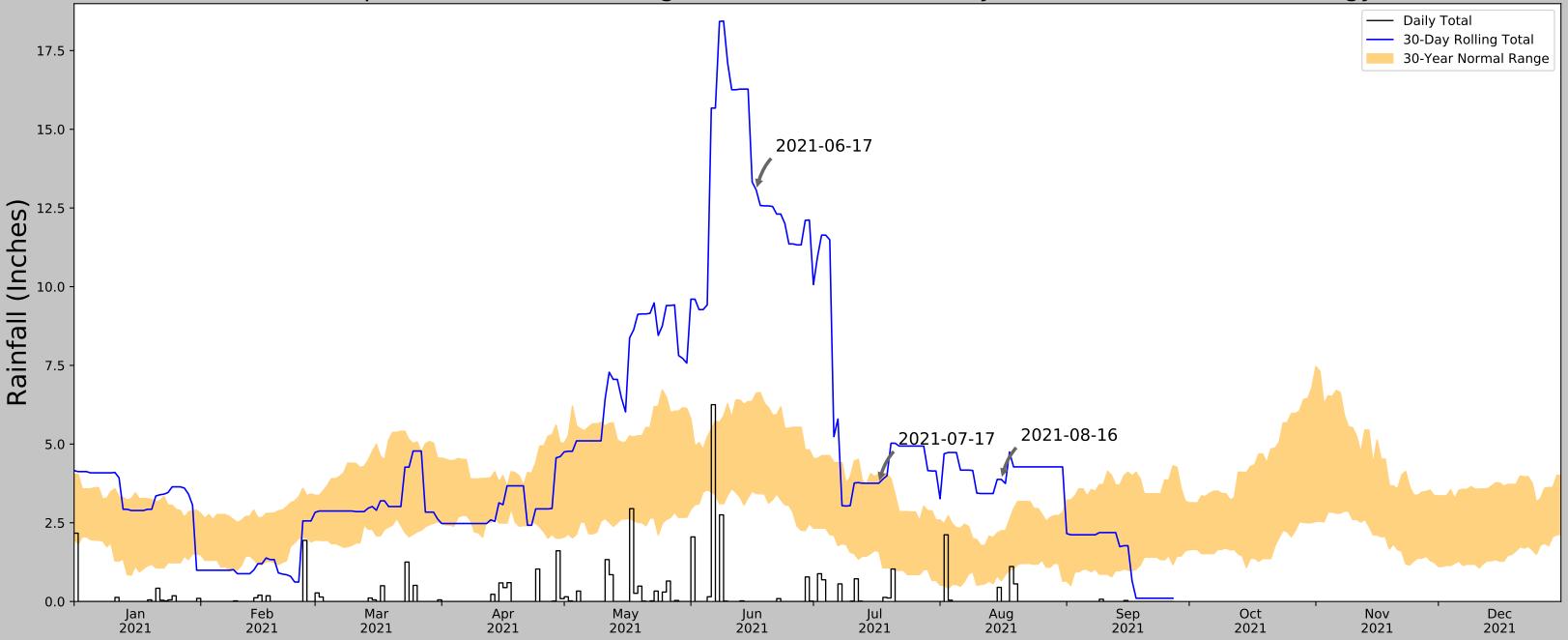


Coordinates	33.160923, -96.592804
Observation Date	2021-06-08
Elevation (ft)	560.97
Drought Index (PDSI)	Mild wetness
WebWIMP H ₂ O Balance	Dry Season

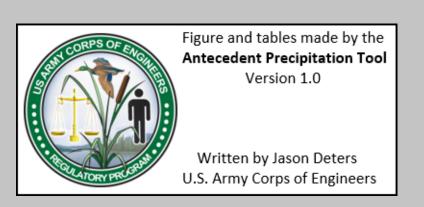


30 Days Ending 30 th %ile (in)	70 th %ile (in)	Obse	rved (in) Wet	ness Condition	Condition Va	alue Month W	/eiaht	Product
Weather Station Name	Coord	linates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -9	6.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -9	6.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -9	6.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -9	6.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -9	6.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -	96.783	742.126	14.337	181.156	9.049	2038	90
MCKINNEY 3.1 SW	33.1685, -	96.693	726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -9	6.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -9	6.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -9	6.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -9	6.6003	613.845	1.95	52.875	0.981	25	0
ANNA 3.7 SSW	33.3127, -9	6.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -9	6.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -9	6.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -9	6.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -9	6.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
	22.1562.0	7 0 2 4 5	F 40 00F	25 551	12.005	11 007	1	^

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

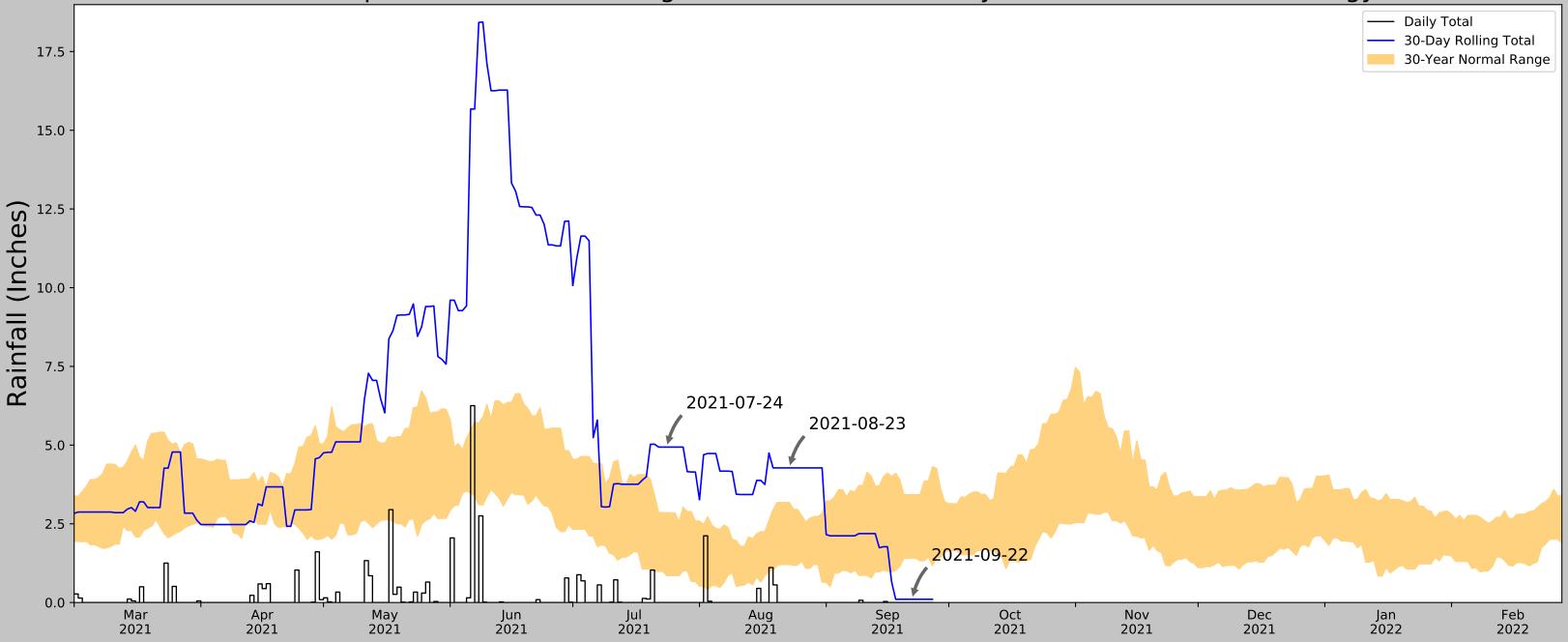


Coordinates	33.160923, -96.592804
Observation Date	2021-08-16
Elevation (ft)	560.97
Drought Index (PDSI)	Severe wetness
WebWIMP H ₂ O Balance	Dry Season

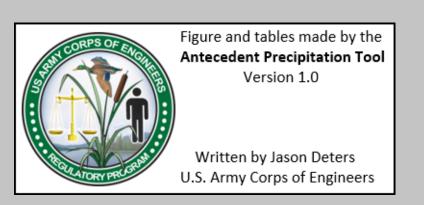


30 Days Ending 30 th %ile (in)	70 th %ile (in)			tness Condition		alue Month W		Product
Weather Station Name	Coord	dinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -9	6.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -9	6.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -9	6.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -9	6.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -9	6.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -	96.783	742.126	14.337	181.156	9.049	2038	89
MCKINNEY 3.1 SW	33.1685, -		726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -9	6.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -9	6.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -9	6.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -9	6.6003	613.845	1.95	52.875	0.981	25	1
ANNA 3.7 SSW	33.3127, -9	6.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -9	6.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -9	6.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -9	6.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -9	6.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
	22.1562.0	7 0 2 4 5	E 40, 00E	20.001	12.005	11 007	1	

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	33.160923, -96.592804
Observation Date	2021-09-22
Elevation (ft)	560.97
Drought Index (PDSI)	Severe wetness (2021-08)
WebWIMP H ₂ O Balance	Dry Season



30 Davs Ending 30 th %ile (in)	70 th %ile (in)	Obse	rved (in) Wet Elevation (ft)	ness Condition		alue Month W		Product
Weather Station Name	Coord	Coordinates		Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
MCKINNEY 2.8 SW	33.168, -9	5.6841	702.1	5.303	141.13	3.135	174	0
PLANO 1.8 SE	33.0306, -9	5.7211	643.045	11.672	82.075	6.21	575	0
WYLIE 2.6 SW	33.0171, -9	5.5463	550.853	10.295	10.117	4.737	458	0
CELINA 7.3 NE	33.3962, -9	5.6967	796.916	17.328	235.946	11.886	1648	0
PLANO 4.6 NW	33.0849, -9	6.7147	666.011	8.795	105.041	4.882	36	0
PLANO 2.4 WSW	33.028, -	96.783	742.126	14.337	181.156	9.049	2038	90
MCKINNEY 3.1 SW	33.1685, -	96.693	726.05	5.819	165.08	3.579	37	0
PLANO 2.5 WSW	33.0275, -9	5.7846	732.94	14.43	171.97	8.975	1	0
PLANO 5.3 W	33.0539, -9	5.8371	674.869	15.956	113.899	8.998	6	0
LOWRY CROSSING 0.3 SSE	33.1636, -9	5.5432	544.948	2.875	16.022	1.34	1	0
FAIRVIEW 1.5 ESE	33.1334, -9	5.6003	613.845	1.95	52.875	0.981	25	0
ANNA 3.7 SSW	33.3127, -9	5.5827	580.053	10.503	19.083	4.927	1	0
RICHARDSON 2.2 NW	32.9921, -9	5.7397	666.995	14.436	106.025	8.027	1	0
PROSPER 1.0 ENE	33.2476, -9	5.7713	764.108	11.931	203.138	7.793	1	0
DALLAS 3.7 E	32.7998, -9	5.7012	532.152	25.73	28.818	12.32	380	0
ROWLETT 2.3 NW	32.9321, -9	5.5769	541.011	15.837	19.959	7.443	1	0
UNIVERSITY PARK 3.1 WNW	32.863, -	96.845	521.982	25.243	38.988	12.344	333	0
SHADY SHORES 3.9 N	33.2191, -9	7.0532	553.15	26.923	7.82	12.326	1	0
CHARVICHOREC A 7 CE	22.1562.0	7.0245	F 40 00F	25 551	12.005	11 007	1	^

Attachment 4 – Site Photographs

Site Photographs Water Features Delineation TxDOT, Spur 399 Extension

Photographs Taken August 28; September 8, 10, 11, 24, 25; October 12, 13, 15; December 1 and 3, 2020; and June 8, August 16, and September 22, 2021.



Photo 1.
Photograph of ephemeral stream
Water Feature 5 in the southwestern portion of the study area. Note that the water in the channel is in direct response to heavy rains and not an indicator of seasonal flow.
Photo was taken June 8, 2021.



Photo 2.
Representative aerial photo (Pictometry 12/27/2019) of perennial stream Water Feature 10A and 10B. Note the armoring and manipulated nature of the stream and the maintained riparian area.



Photo 3.
Representative photo of swale
Water Feature 11
within the right-ofway in the western portion of the study area. Swale was not associated with a native stream channel. Photo from Google Earth, January 2021.



Representative photo of perennial stream Water Feature 14, Wilson Creek. Water Feature 15 is an intermittent overflow channel of this stream. Note steep, vegetated banks, clay and silt substrate, and waterflow covering channel bottom. Photo was taken to the northwest on

September 25,

2020.

Photo 4.



Photo 5. Representative photo of Water Feature 16 that abuts Forested Wetland Water Feature 17 in the southwestern portion of the study area. Water Feature 16 is a palustrine emergent wetland dominated by swamp smartweed (Persicaria hydropiperoides) and sparse green ash (Fraxinus pennsylvanica). Photo was taken to the north on June 8, 2021.



Photo 6. Representative photo of Water Feature 17 that abuts Emergent Wetland Water Feature 16 in the southwestern portion of the study area. Water Feature 17 is a palustrine forested wetland dominated by green ash, American elm (Ulmus americana), black willow (Salix nigra), and rice cut grass (Leersia oryzoides). Photo was taken to the south on August 28, 2020.



Photo 7.
Photograph of intermittent stream Water Feature 18 in the southwest portion of the study area. Photo was taken August 28, 2020.



Photo 8. Representative photo of ephemeral stream Water Feature 20 (Google Street View October 2018). This stream functions like a ditch (only flowing as water sheds off the roadway); however, this feature appears to be a realignment of a natural ephemeral stream channel.



Photo 9. Representative photo of intermittent stream Water Feature 21 in the western portion of the study area. Photo was taken to the west on December 3, 2020.



Photo 10. Representative photo of constructed ditch Water Feature 23 in the western portion of the study area. Note the anthropogenic symmetry of the excavated ditch between developed areas. Ditch was not associated with a native stream channel. Photo was taken to the east of the study area on December 3, 2020.



Photo 11.
Photo of constructed swale Water Feature 24 in the western portion of the study area. Photo was taken to the east of the study area on December 3, 2020.



Photo 12. Representative photo of intermittent stream Water Feature 25 in the northwest portion of the study area. Note that this photo was taken during the wet season; however, APT indicates incipient drought conditions at the time of the delineation. Normal conditions for this stream would include season flow and access to groundwater. Photo was taken to the west of the study area on December

1, 2020.



Photo 13. Representative photo of the East Fork Trinity River in the east portion of the study area. The East Fork makes up perennial streams Water Feature 26, Water Feature 40, and Water Feature 79. Note the turbulent water, large tree cover in riparian zone, and steep banks. Photo was taken on the Water Feature 79 portion in the northeast side of the study area on October 12, 2020.



Photo 14. Representative photo of the East Fork Trinity River in the northwest portion of the study area. The East Fork makes up perennial streams Water Feature 26, Water Feature 40, and Water Feature 79. Note the turbulent water, large tree cover in riparian zone, and steep banks. Photo was taken on the Water Feature 40 portion in the northwest side of the study area on September 24, 2020.



Photo 15. Photo of swale drainage features Water Feature 28 and representative of swale drainage feature Water Feature 31. Water Feature 28 and Water Feature 31 are hydrologically connected to Water Feature 29, Water Feature 32, and Water Feature 34. Photo was taken on September 22, 2021.



Photo 16.
Photograph of upland pond Water Feature 29. Photo was taken September 22, 2021.



Photo 17. Representative photograph of ephemeral steam Water Feature 30 in the northeast portion of the study area. Note the clear natural line impressed on the bank, the presence of litter/debris, and lack of surface water present within the defined channel. Riparian vegetation was dominated by sugar hackberry (Celtis laevigata), American elm, Virginia wild rye (Elymus virgincus), and narrow-leaf primrose-willow (Ludwigia linearis). Photo was taken on September 22,



Photo 18.
Representative photo of ephemeral stream Water
Feature 33 in the western portion of the study area.
Note the lack of surface water and leaf litter/vegetation present within the hydrological flow path. Photo was taken September 22, 2021.



Photo 19. Representative photo of Water Feature 32 in the eastern portion of the study area. Water Feature 32 is a palustrine forested wetland dominated by mature black willow, as well as green ash, boxelder (Acer negundo), and sugar hackberry saplings. Note the water marks on trees and drift deposits. Photo was taken on September 22, 2021.



Photo 20. Representative photo of Water Feature 34 in the eastern portion of the study area. Water Feature 34 is a palustrine forested wetland dominated by black willow and American elm. Note the water marks on trees and sparsely vegetated concave surface. Photo was taken on September 22, 2021.



Photo 21. Representative photo of intermittent stream Water Feature 36 in the northwest portion of the study area. Note the gradual stream banks, large tree cover, and flowing water covering a clay and silt stream bottom. Photo was taken looking into the study area from the west on September 10, 2020.



Photo 22.
Representative photo of perennial stream Water Feature 39 in the northwest portion of the study area.
Note turbulent water and steep banks. Photo was taken looking to the northeast on September 10, 2020.



Photo 23. Photo of Intermittent Stream Water Feature 41. Water Feature 41 was located in the northern portion of the study area north of US-380 and had artificially stabilized banks, overhanging vegetation, gravel bars, aquatic vegetation, and matted vegetation. Dominant vegetation included johnsongrass (Sorghum halepense), great ragweed (Ambrosia trifida), and black willow. Photo was taken on August 16, 2021.



Photo 24.
Representative photo of intermittent stream Water
Feature 47 in the northern portion of the study area.
Photo was taken to the south on September 10, 2020.



Photo 25. Photograph of ephemeral stream Water Feature 49 in the northern portion of the study area. Note that the water in the channel is in direct response to heavy rains and not an indicator of seasonal flow. This photo is also representative of Water Feature 12. Photo was taken September 10, 2020 after a very heavy local rainfall event.



Photo 26.
Representative photo of intermittent stream Water Feature 51 in the northeastern portion of the study area. Photo was taken to the east on October 14, 2020.



Photo 27.
Representative aerial photo (Pictometry 1/15/2019) of isolated forested wetland Water Feature 53, the lacustrine fringe associated with Water Feature 54.



Photo 28.
Photo of swale
Water Feature 55
in the southern
portion of the study
area. Water
Feature 55
connects Water
Feature 54 and
Water Feature 56.
Photo from Google
Earth Aerial
Imagery dated
March 20, 2018.



Photo 29. Representative photo of ephemeral stream Water Feature 57 in the southeastern portion of the study area. Note the lack of surface water, leaf litter covering the channel, and cobble/gravel substrate. Photo was taken to the north on October 12, 2020.



Photo 30. Representative photo of ephemeral stream Water Feature 59 in the southeastern portion of the study area with lack of surface water or indicators of seasonal flow. Photo was taken to the east of the study area on October 12, 2020.



Photo 31.
Photograph of upland pond Water Feature 61 and is representative of isolated pond Water Feature 54.
Photo was taken October 15, 2020.



Photo 32. Representative photo of ephemeral stream Water Feature 62 in the eastern portion of the study area. This photo is also representative of the condition of Water Feature 63, a small, ephemeral tributary to Water Feature 62. Both lack indicators of seasonal flow. Photo was taken on October 13, 2020.



Photo 33.
Photo of culvert construction activity south of Water Feature 62. Photo was taken to the east on September 25, 2020.



Photo 34.
Representative photo of swale
Water Feature 64 in the southeastern portion of the study area. Notice the lack of a defined channel and vegetation growing within the path of overland flow.
Photo was taken October 13, 2020.



Photo 35. Representative photo of perennial stream Water Feature 65 in the eastern portion of the study area. This stream has yearround access to ground water. Note the root stabilization along the banks. Photo was taken to the southwest on October 13, 2020.



Photo 36. Representative photo of ephemeral stream Water Feature 66 in the eastern portion of the study area. Note the defined, highly eroded channel, lack of surface water, and leaf litter/vegetation present within the hydrological flow path. Photo was taken October 13, 2020.



Photo 37.
Representative photo of ephemeral stream Water
Feature 67 in the east portion of the study area. Note the defined channel and the dry condition of the stream bed. Photo was taken October 13, 2020.



Photo 38.
Photograph is of upland pond Water Feature 68. Photo was taken October 13, 2020.



Photo 39. Representative photo of Water Feature 69 in the eastern portion of the study area. Water Feature 69 is a palustrine emergent wetland dominated by common spike-rush (Eleocharis palustris), Torrey's Rush (Juncus torreyi), and green ash saplings. Photo was taken on June 8, 2021.



Photo 40. Representative photo of Water Feature 70 in the eastern portion of the study area. Water Feature 70 is a palustrine forested wetland dominated by sugar hackberry, green ash, sapling American elm, rice cut grass, and nodding wild rye (Elymus canadensis). Photo was taken to the east of the study area on October 13, 2020.



Photo 41. Representative photo of perennial stream Water Feature 71 in the eastern portion of the study area. This stream has yearround access to groundwater; thus, it is perennial. Note the incised banks, cobble/gravel substrate, and root stabilization of the channel. Photo was taken to the east on October 12, 2020.



Photo 42.
Representative photo of swale Water Feature 72.
Note the lack of a defined channel and vegetation growing within the path of overland water flow. Photo was taken October 12, 2020.



Photo 43. Photograph is of upland pond Water Feature 73. Water Feature 73 typical of excavated ponds in the study area and this photo is representative of upland ponds Water Feature 22, Water Feature 42, Water Feature 43, Water Feature 44. Water Feature 45, Water Feature 48* Water Feature 74, Water Feature 92, and Water Feature 93. Photo was taken October 12,

2020.



Photo 44. Representative photo of intermittent stream Water Feature 75 in the eastern portion of the study area. This stream is characterized by perennial pools with seasonal surface connection; thus, it is intermittent. Cattle on the property have access to this stream. Photo was taken to the east on October 12, 2020.



Photo 45.
Representative photo of swale Water Feature 76 in the eastern portion of the study area. Drainage through cultivated field is subject to regular migration, with no defined channel. Photo was taken to the south on October 12, 2020.



Photo 46. Representative photo of Water Feature 77 in the eastern portion of the study area. Water Feature 77 is a palustrine emergent wetland dominated by common spike-rush and annual marshelder (Iva annua). Water Feature 76 is surrounded by a cultivated field currently planted with winter wheat. This feature is within the flood plain of Water Feature 78. Photo was taken to the north northwest on June 8, 2021.



Photo 47.
Representative photo of swale
Water Feature 78 in the eastern portion of the study area. Drainage through cultivated field is subject to regular migration, with no defined channel. Photo was taken to the north on October 12, 2020.



Photo 48. Representative aerial photo (Pictometry 4/27/17) of intermittent stream Water Feature 80 and swale Water Feature 81. Note the sharp shift from vegetated, pasture swale to channelized, waterfilled stream channel. This is the result of a ditch constructed upstream that modified hydrology. Only channel scars (Water Feature 81, Water Feature 82. Water Feature 83. Water Feature 84, Water Feature 85, and Water Feature **86**) remain.



Photo 49. Photograph of swale Water Feature 84 in the northeastern portion of the study area. Photograph is representative of swales Water Feature 81, Water Feature 82, Water Feature 86, and Water Feature 90. Note that the water in the swale is in direct response to heavy rains and not an indicator of seasonal flow. Photograph was taken on June 8, 2021 after an extremely heavy local rainfall event.



Photo 50.

Photograph of onchannel pond Water Feature 85 in the northeastern portion of the study area. Photo is also representative of on-channel pond Water Feature 83, which is part of the same former channel described on Photo 22. Also representative of Water Feature 13 which is conditionally and visually like Water Feature 85: however, it is an oxbow of a natural channel migration rather than manmade. Photo was taken on June 8, 2021 after an extremely heavy local rainfall event.



Photo 51. Representative photo of onchannel pond Water Feature 87. Water Feature 87 abuts forested wetland Water Feature 88 and is approximately 100 feet northeast of the East Fork Trinity River in the northeastern portion of the study area. Photo was taken to the east on September 10, 2020.



Photo 52. Representative photo of Water Feature 88 in the northeastern portion of the study area. Water Feature 88 is a palustrine forested wetland and is dominated by boxelder trees and saplings, green ash, rice cut grass, swamp smartweed, and rough cocklebur (Xanthium strumarium). Photo was taken to the north of the study area on September 10, 2020.



Photo 53.
Photograph is of on-channel pond Water Feature 91 in the northeastern portion of the study area. Photo is representative of on-channel pond Water Feature 89 and was taken September 9, 2020.



Photo 54.
Representative photo of intermittent stream Water
Feature 51 in the northeastern portion of the study area. Photo was taken to the east on October 14, 2020.



Photo 55. Photo of Ephemeral Stream Water Feature 94. Water Feature 94 was located in the northern portion of the study area and receives runoff from US-380. Bedrock was visible and litter and debris was within the steam channel. Dominant vegetation included sugar hackberry, pecan (Carya illinoinensis), and eastern poison ivy (Toxicodendron radicans). Photo was taken on August 16, 2021.



Photo 56.
Photo of ditch
drainage feature
Water Feature 95.
Dominant
vegetation was
bermudagrass
(Cynodon dactylon)
and Water Feature
95 drains
southwest into
Water Feature 94.
Photo was taken on
August 16, 2021.



Photo 57. Photo of ditch drainage feature Water Feature 102. Representative photo of ditch drainage features adjacent to US 380, Water Feature 96, Water Feature 97, Water Feature 98, **Water Feature** 101, Water Feature 103, **Water Feature** 105, and Water Feature 106. Dominant vegetation was bermudagrass. Photo was taken on August 16, 2021.

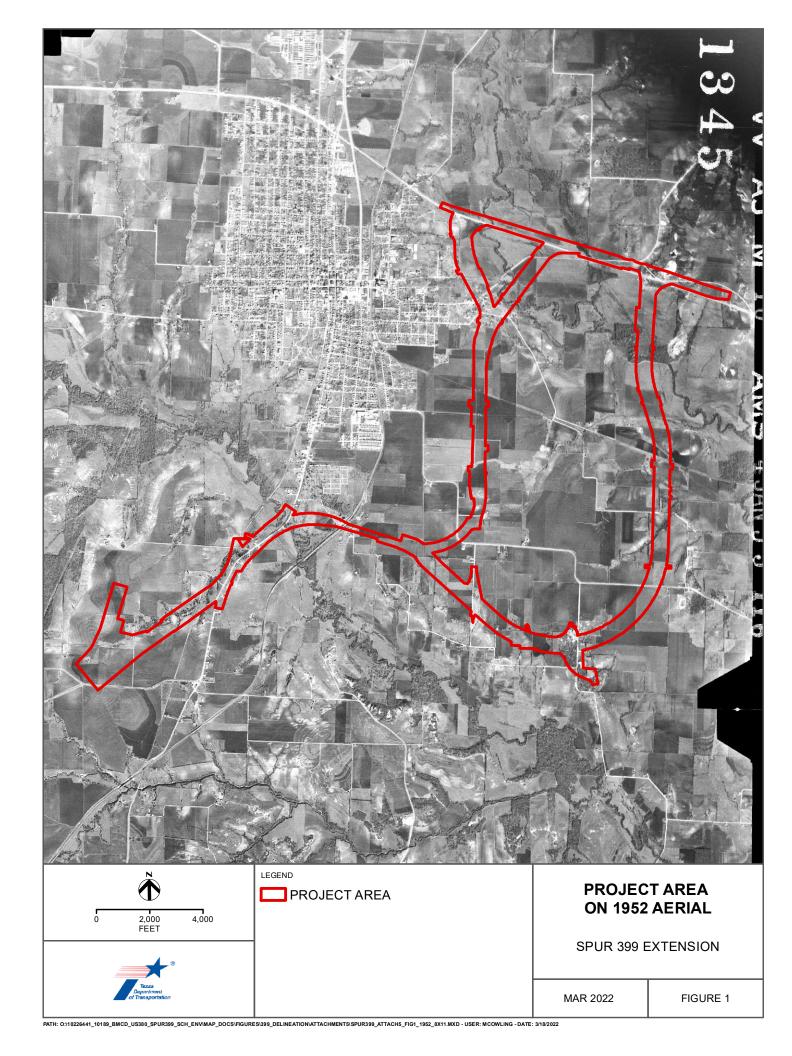


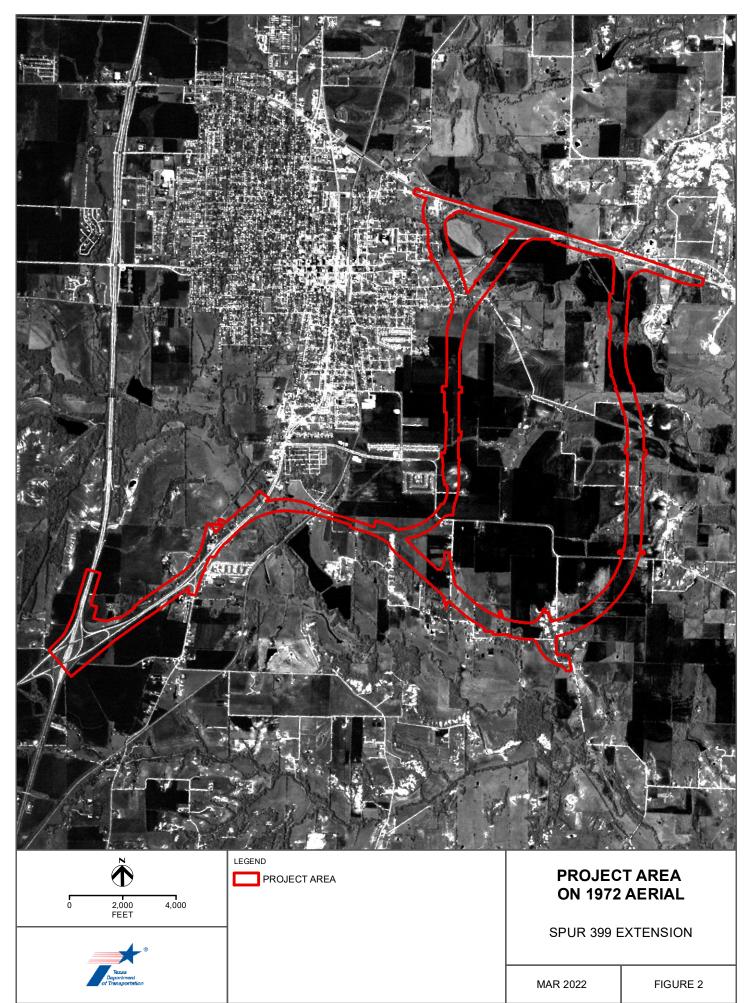
Photo 58.
Photo of ditch
drainage feature
Water Feature
100. Water
Feature 100 is
concrete reinforced
and drains south
into Water Feature
99*. Photo was
taken on August
16, 2021.

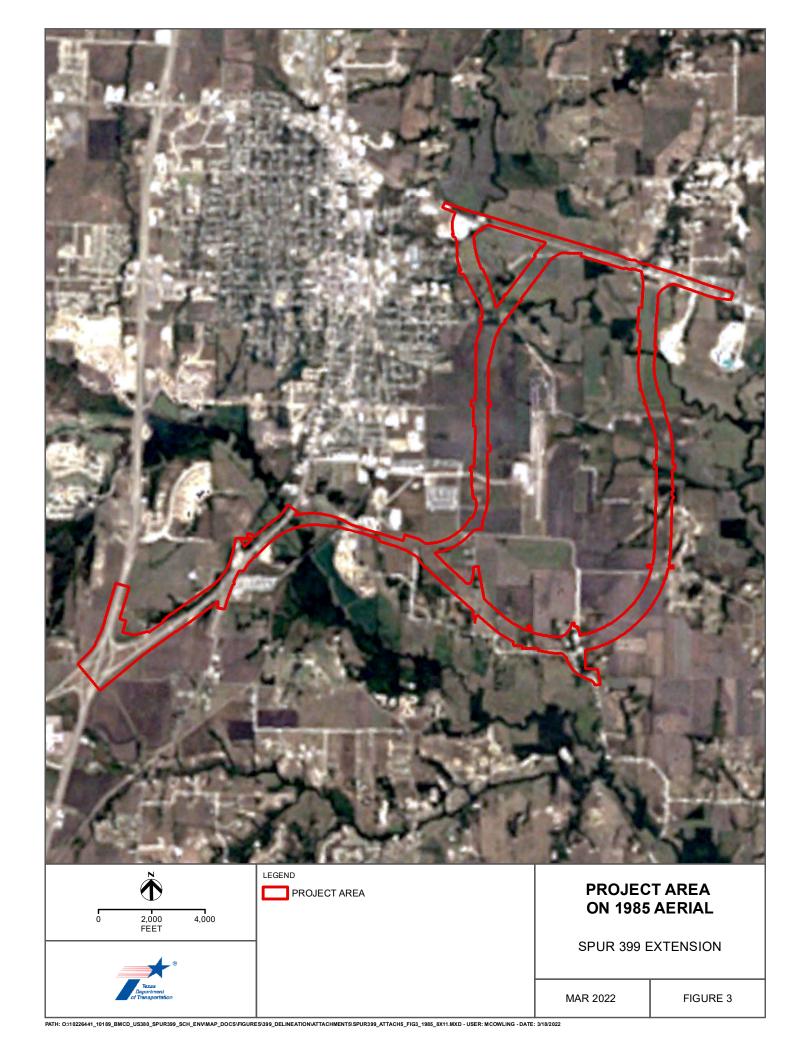


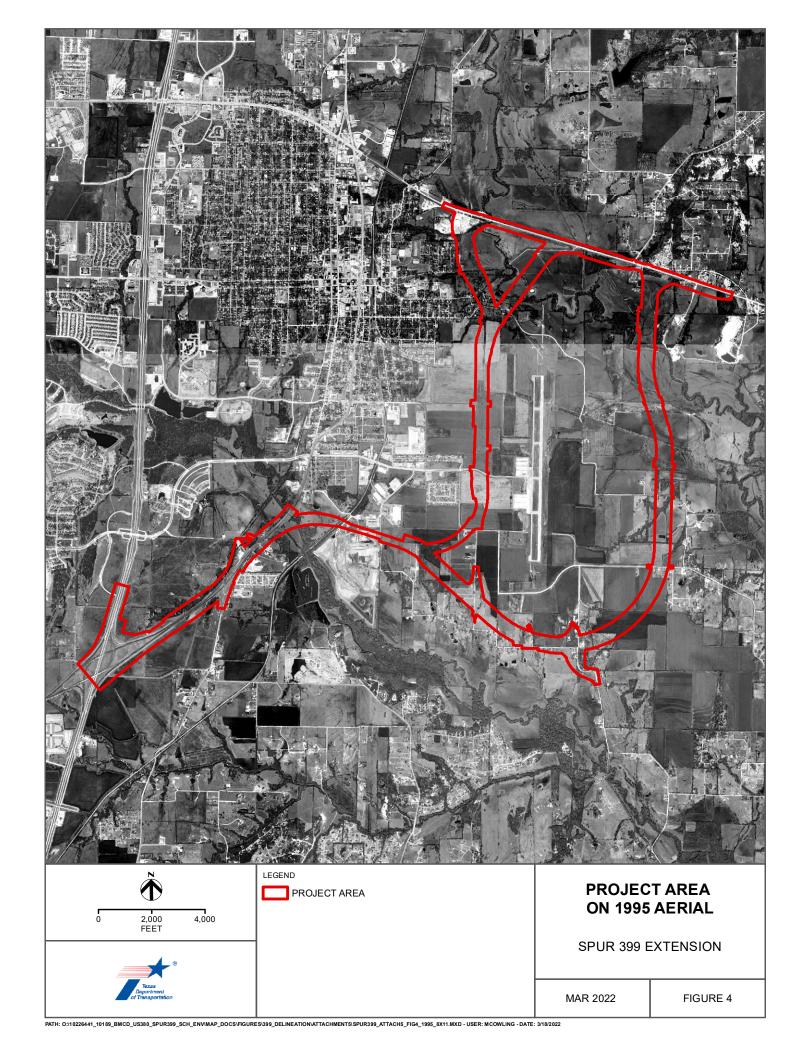
Photo 59. Photo of Ephemeral Stream Water Feature 104. Water Feature 104 was located in the northern portion of the study area and has destroyed vegetation and litter and debris within the stream channel. Hydrology is received from US-380 runoff. Dominant vegetation includes tall false rye grass (Schedonorus arundinaceus), johnson grass, and cedar elm (*Ulmus* crassifolia). Photo was taken on August 16, 2021.

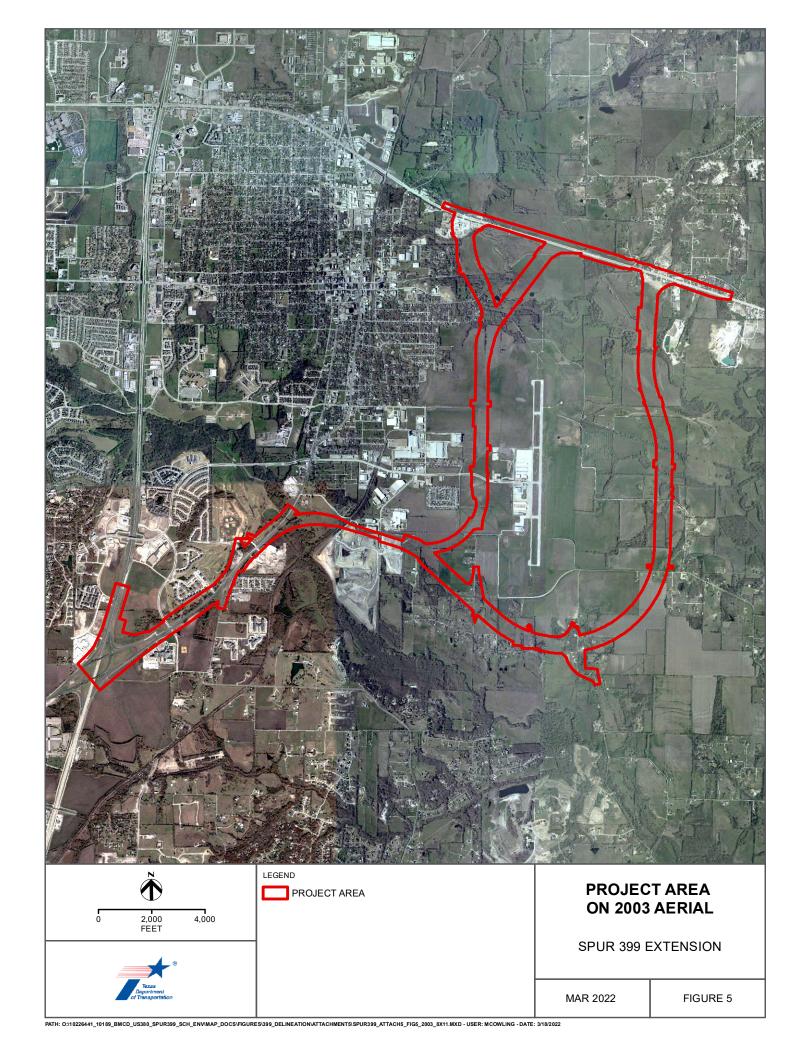
Attachment 5 – Historical Aerial Photographs

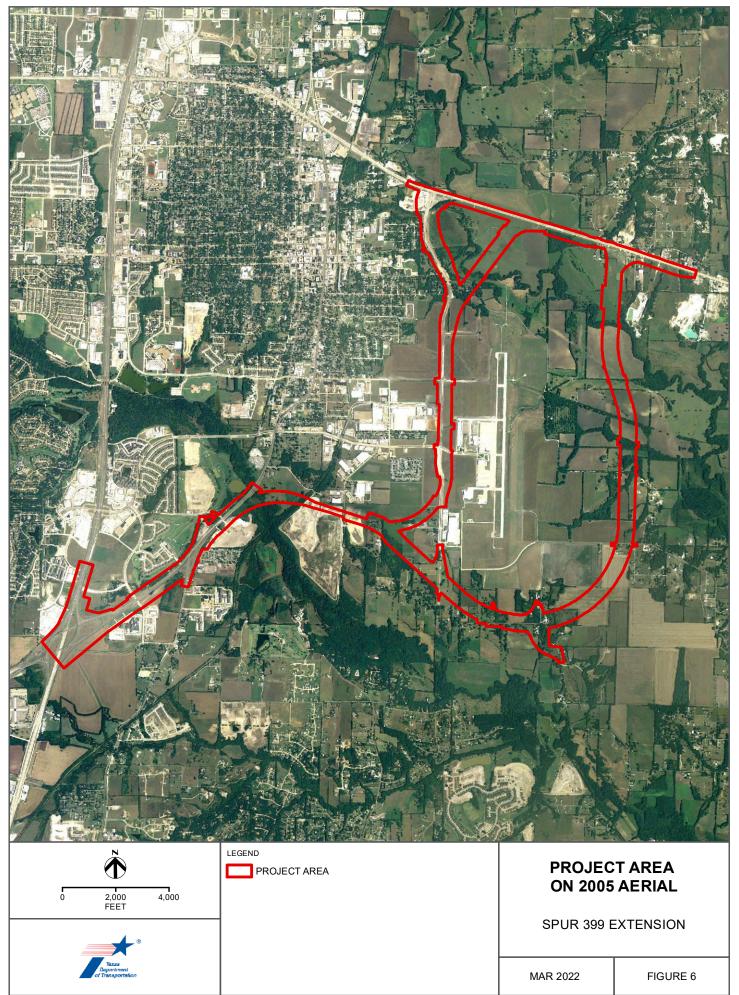


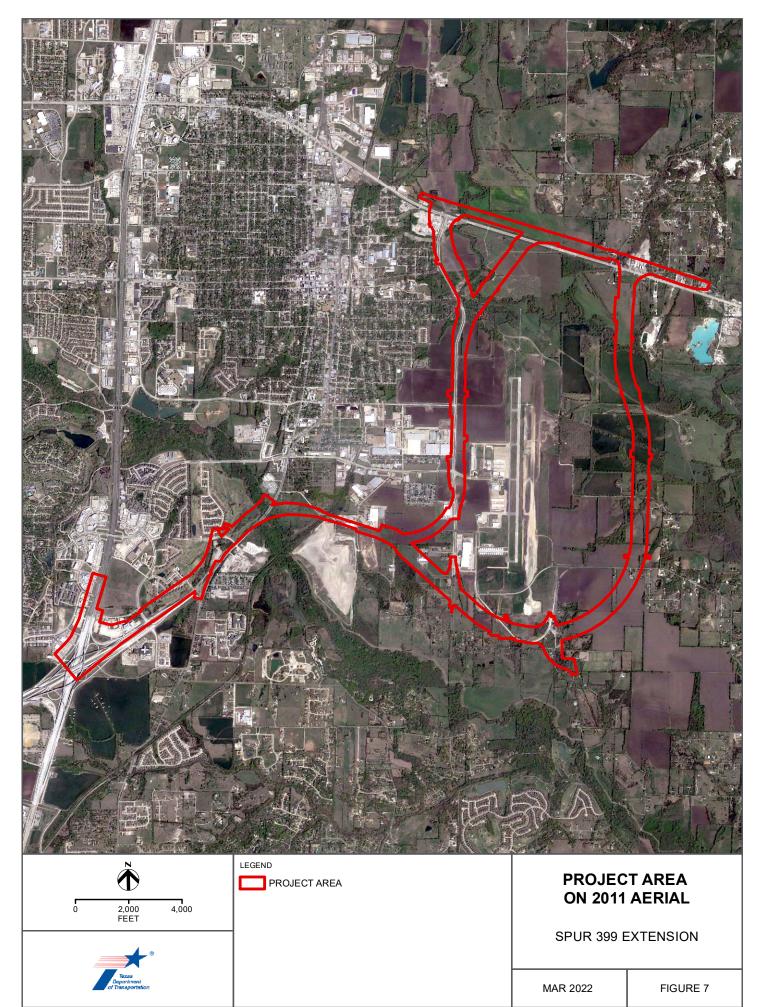


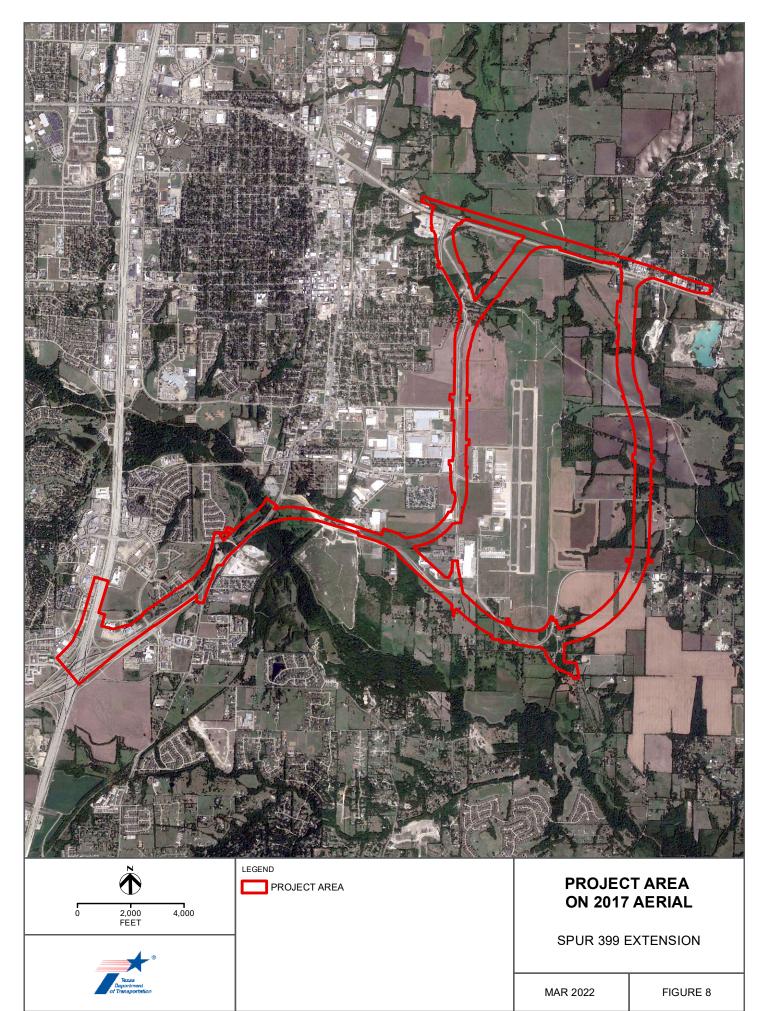


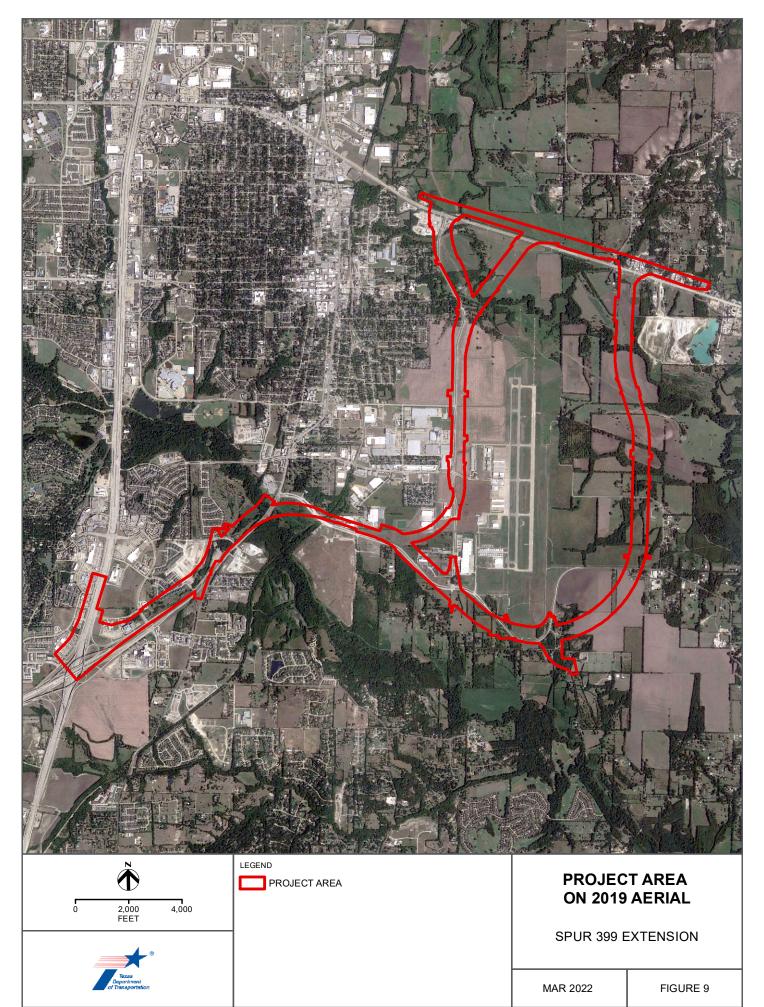












Project Name: Spur 399 Extension from US 75 to US 380

CSJ(s): 0364-04-051, 0047-05-058, and 0047-10-002

County(ies): Collin

Date Analysis Completed: 22-MARCH-2022

Prepared by: HDR Engineering, Inc.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

I. Section 402 of the Clean Water Act

No project-specific analysis is required as part of the environmental review process under Section 402 of the Clean Water Act for the reasons provided below:

Since TPDES Construction General Permit (CGP) authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a storm water pollution prevention plan (SWP3) be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent or site notice) be completed, posted, and submitted, when required by the CGP, to Texas Commission on Environmental Quality (TCEQ) and the municipal separate storm sewer system (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists" require the current version of Special Provision 506 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SWP3, and to complete the appropriate authorization documents.

For more information regarding Section 402 of the Clean Water Act, see **ENV's Water Resources Handbook**.

II. Section 404 of the Clean Water Act

Select the appropriate statement(s) below:
--

This project will <u>not</u> involve any regulated activity in any jurisdictional waters and
therefore does not require a United States Army Corps of Engineers (USACE) "dredge
and fill" permit under Section 404 of the Clean Water Act.

Some or all regulated activity in jurisdictional waters will be authorized under a <u>non-reporting nationwide permit (i.e., no pre-construction notification required)</u> . If this statement applies, indicate which non-reporting nationwide permit(s) will be used below.
(In the unusual situation in which NWP 16 will be used, select the third checkbox below instead of this one.)
Non-reporting NWP no(s): <enter no(s)="" non-reporting="" nwp=""></enter>
Some or all regulated activity in jurisdictional waters cannot or may not be able to be authorized under a non-reporting nationwide permit; therefore, a <u>nationwide permit with pre-construction notification</u> , individual standard permit, letter of permission, or regional general permit will or may be required.
(In the unusual situation in which NWP 16 will be used, select this third checkbox, even if the project qualifies for a non-reporting NWP 16.)

For more information regarding Section 404 of the Clean Water Act, see **ENV's Water Resources Handbook**.

III. Section 14 of the Rivers and Harbors Act (33 USC 408)

No project-specific analysis is required as part of the environmental review process under Section 14 of the Rivers and Harbors Act (33 USC 408) ("Section 408") for the reasons provided below:

Any project that involves alterations to, or will temporarily or permanently occupy or use, a USACE federally authorized civil works project (e.g., sea walls, bulkheads, reservoirs, levees, wharfs, or other federal civil works projects, or associated federal land (fee simple) or easements) will require USACE authorization under Section 408 prior to construction of the project. Obtaining any required authorization under Section 408 from the USACE is generally handled by hydraulic and/or design engineers. For any project that requires authorization under both Section 404 and Section 408, the Section 404 authorization cannot be issued until the Section 408 authorization is issued.

For more information regarding Section 408, see ENV's Water Resources Handbook.

IV. Section 303(d) of the Clean Water Act

For a CE project, no project-specific analysis is required as part of the environmental review process under Section 303(d) of the Clean Water Act for the reasons provided below:

To date, TCEQ has not identified (through either a total maximum daily load (TMDL) or the review of projects under the TCEQ MOU) a need to implement control measures beyond those required by the construction general permit (CGP) on road construction projects. Therefore, compliance with the project's CGP, along with coordination under the TCEQ MOU for certain transportation projects, collectively meets the need to address impaired waters during the environmental review process. As required by the CGP, the project and associated activities will be implemented, operated, and maintained using best management practices to control the discharge of pollutants from the project site.

For an EA or EIS project, further analysis regarding impaired waters is required under TxDOT's MOU with TCEQ for inclusion in the body of the environmental assessment or environmental impact statement. To do this further analysis, determine whether the project is located within five linear miles (not stream miles) of, is within the watershed of, and drains to, an impaired assessment unit under Section 303(d) of the federal Clean Water Act.

For an EA or EIS project only, provide the date of the Section 303(d) list consulted: 10 JUNE 2021

For an EA or EIS project only, check the appropriate box below:

This project is not located within five linear miles (not stream miles) of, is not within the watershed of, or does not drain to, an impaired assessment unit under Section 303(d) of the federal Clean Water Act.

This project is located within five linear miles (not stream miles) of, is within the watershed of, and drains to, an impaired assessment unit under Section 303(d) of the federal Clean Water Act.

<u>For an EA or EIS project only,</u> if the second box is checked, fill-in the table below for any impaired assessment units within five miles of the project and within the same watershed as the project:

Watershed	Segment name	Segment number	Assessment unit number
East Fork Trinity River-Lavon Lake	East Fork Trinity River Above Lavon Lake	0821D	0821D_01
East Fork Trinity River-Lavon Lake	Wilson Creek	0821C	0821C_01
<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>
<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>
<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>
<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>	<enter text=""></enter>

For more information regarding Section 303(d) of the Clean Water Act, see **ENV's Water Resources Handbook**.

V. General Bridge Act/Section 9 of the Rivers and Harbors Act

Select the appropriate statement below:

\boxtimes	This project will not require a permit, bridge lighting authorization, or exemption from the
	United States Coast Guard under Section 9 of the Rivers and Harbors Act, which outlines the requirements for approval to construct dams, dikes, bridges, or causeways in or over a navigable waterway.
	This project will require a permit, bridge lighting authorization, or exemption from the United States Coast Guard under Section 9 of the Rivers and Harbors Act, which outlines

the requirements for approval to construct dams, dikes, bridges, or causeways in or over a navigable waterway.

For more information regarding the General Bridge Act/Section 9 of the Rivers and Harbors Act, see **ENV's Water Resources Handbook.**

VI. Section 10 of the Rivers and Harbors Act

Select the appropriate statement(s) below:

00.001	шо аррг	opriate statement(o) below.
	\boxtimes	This project does <u>not</u> require authorization from the USACE under Section 10 of the
		Rivers and Harbors Act, which outlines the requirements for approval to construct smaller structures in a navigable waterway.
		This project does require authorization from the USACE under Section 10 of the Rivers
		and Harbors Act. Some or all regulated activity in a navigable waterway will be authorized under a <u>non-reporting nationwide permit (i.e., no pre-construction notification required)</u> . If this statement applies, indicate which non-reporting nationwide permit(s) will be used below.
		Non-reporting NWP no(s): <enter any="" non-reporting="" number="" numbers="" nwps="" of="" or="" used=""></enter>
		This project <u>does</u> require authorization from the USACE under Section 10 of the Rivers and Harbors Act. Some or all regulated activity in a navigable waterway cannot be authorized under a non-reporting nationwide permit; therefore, <u>a nationwide permit with pre-construction notification</u> , individual standard permit under Section 404/10, letter of <u>permission</u> , regional general permit, or individual Section 10 permit will be required.
For mo		nation regarding Section 10 of the Rivers and Harbors Act, see ENV's Water Resources
VII.	Section	n 401 of the Clean Water Act

VII.

Select the appropriate statement below:

- This project will <u>not</u> require authorization under Section 404 of the federal Clean Water Act. Therefore, this project is not required to comply with TCEQ's Water Quality Certification Program, established under Section 401 of the Clean Water Act.
- \boxtimes This project will require authorization under Section 404 of the federal Clean Water Act. Therefore, this project is required to comply with TCEQ's Water Quality Certification Program, established under Section 401 of the Clean Water Act.

If the project is required to comply with TCEQ's Water Quality Certification Program, established under Section 401 of the Clean Water Act, then select the appropriate statement below:

		This project will require a NWP under Section 404 that <u>is</u> covered by TCEQ's blanket 401 water quality certification (i.e., all NWPs other than NWP 16) and therefore will comply with Section 401 of the Clean Water Act by implementing TCEQ conditions for NWPs.
		This project will require authorization under a NWP under Section 404 that is <u>not</u> covered by TCEQ's blanket 401 water quality certification (i.e., NWP 16), or under an Individual Standard Permit, Letter of Permission, or Regional General Permit under Section 404; therefore, TxDOT will coordinate a Section 401 water quality certification with TCEQ.
For m		mation regarding Section 401 of the Clean Water Act, see ENV's Water Resources
VIII.	Execu	tive Order 11990, Protection of Wetlands
Select	t the app	ropriate statement below:
		This project is <u>not</u> federally funded and therefore is <u>not</u> subject to Executive Order 11990, Protection of Wetlands.
		This project <u>is</u> federally funded and therefore <u>is</u> subject to Executive Order 11990, Protection of Wetlands, and will <u>not</u> involve construction in any wetlands.
		This project <u>is</u> federally funded and therefore <u>is</u> subject to Executive Order 11990, Protection of Wetlands, and <u>will</u> involve construction in one or more wetlands. Explanation of how the project will comply with Executive Order 11990 is provided below.
		Explanation of why there is no practicable alternative to such construction:
		The build alternatives are constrained by residential neighborhoods, parklands, an airport, an expansive floodplain, and USACE-managed lands surrounding Lavon Lake.
		Explanation of how the project includes all practicable measures to minimize harm to wetlands:
		Both alternatives include bridges to span wetland areas to minimize impacts where feasible. As the schematic design evolves and the hydraulic analysis is completed, additional design improvements will be made to avoid and minimize impacts on wetlands where feasible. Based on the presence of wetlands in relation to the existing transportation system and adjacent constraints in this highly populated area, there are no practicable alternatives that would completely avoid impacts on wetlands.
		rmation regarding Executive Order 11990, Protection of Wetlands, see ENV's Water andbook.
IX.	Execu	tive Order 11988, Floodplain Management

Select the app	propriate statement below:
	This project is <u>not</u> federally funded and therefore is <u>not</u> subject to Executive Order 11988, Floodplain Management.
	This project <u>is</u> federally funded and therefore <u>is</u> subject to Executive Order 11988, Floodplain Management, and will <u>not</u> involve construction in the floodplain.
	This project <u>is</u> federally funded and therefore <u>is</u> subject to Executive Order 11988, Floodplain Management. However, the project will <u>not</u> involve a significant encroachment in the floodplain.
	"Significant encroachment" means "a highway encroachment and any direct support of likely base flood-plain development that would involve one or more of the following construction-or flood-related impacts:
	 (1) A significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route. (2) A significant risk, or (3) A significant adverse impact on natural and beneficial flood-plain values." 23 CFR 650.105(q)
	In the above definition, "risk" means "the consequences associated with the probability of flooding attributable to an encroachment. It shall include the potential for property loss and hazard to life during the service life of the highway." 23 CFR 650.105(o).
\boxtimes	This project <u>is</u> federally funded and therefore <u>is</u> subject to Executive Order 11988, Floodplain Management, and <u>will</u> involve a significant encroachment in the floodplain. Explanation of how the project will comply with Executive Order 11988 is provided below.
	Explanation of how the project has been designed or modified, or will be designed or modified, to minimize potential harm to or within the floodplain:1
	Both alternatives include extensive bridging in floodplain areas to minimize impacts where feasible. Based on the presence of floodplain in relation to the existing transportation system and adjacent constraints in this highly populated area, there are no practicable alternatives that would completely avoid construction in floodplain.

Reasons why the proposed action must be located in the floodplain:²

The build alternatives are constrained by residential neighborhoods, parklands, an airport, an expansive floodplain, and USACE-managed lands surrounding Lavon

¹ EO 11988, Section 2.(a)(2).

² 23 CFR 650.113(a)(1).

Lake. While floodplain was avoided to the greatest extent practicable, other constraints made it impossible to completely avoid crossing floodplain.

Alternatives considered and why they were not practicable (i.e., capable of being done within reasonable natural, social, or economic constraints):³

One alternative route with a larger footprint in floodplain was eliminated during the alternative analysis process. Alternative route options are constrained by social aspects such as impacts to residential neighborhoods, parklands, and an airport. Additionally, alternatives are constrained by the need to tie into the existing transportation system.

Statement indicating whether the action conforms to applicable State or local floodplain protection standards:⁴

The project will comply with the standards in the TxDOT Hydraulic Design Manual.

For more information regarding Executive Order 11988, Floodplain Management, see **ENV's Water Resources Handbook**.

X. Drinking Water Systems

No project-specific analysis is required as part of the environmental review process for drinking water systems for the reasons provided below:

In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (Item 103, Disposal of Wells), any drinking water wells would need to be properly removed and disposed of during construction of the project.

XI. Resources Consulted

Indicate which resources were co	onsulted/actions were taken to male	ke the surface water determinations												
recorded in this form (DO NOT A	TTACH TO THIS FORM OR UPL	OAD TO ECOS ANY RESOURCES												
CONSULTED – JUST CHECK THE APPROPRIATE BOX(ES)): Aerial Photography (list dates mm/yyyy): 12/1985, 3/1995, 2/2001, 12/2003, 3/2005, 10/2005, 7/2008,														
☐ Aerial Photography (list dates n	nm/yyyy): <u>12/1985, 3/1995, 2/2001,</u>	12/2003, 3/2005, 10/2005, 7/2008,												
12/2009, 3/2011, 4/2012, 8/2012,	10/2013, 11/2014, 3/2015, 7/2015,	12/2015, 4/2016, 1/2017, 2/2017,												
9/2017, 12/2017, 3/2018, 11/2018		· · · · · · · · · · · · · · · · · · ·												
⊠ Topographic Maps	⊠ Floodplain Maps													
⊠ Site Visit	□ USFWS NWI Maps													
⊠ NHD	□ TCEQ Streams/Waterbodies	☐ LIDAR												
☐ USACE Approved JDs		☑ USACE 408 data												
oxtimes TCEQ 303(d) Impaired Waters														
$\hfill\Box$ Contacted resource agency (lis	t agency and reason):													
☐ Other (list):														

⁴ 23 CFR 650.113(a)(3).

Section 404/10 Impacts Table

Version 4, November 2021

Spur 399 Ext - Purple Alternative

CSJ 0364-04-051, 0047-05-058, 0047-10-002

SWF-2020-00340

4/8/2022

	4/8/2022																								
		Wate	r Feature Characteristics				Potentially Jurisdiction	onal?		Tota	al Section 404 impa	cts for WATER FEA	TURE Permanent			Temporary	Total section 404 i	mpacts for CROSSII	NG Permanent		Authorization				
Crossing number	Water feature number	Name	Туре	Latitude, Longitude	Acres within project area (all water features, including streams)	Linear feet within project area (streams only)	Section 404 (waters of the U.S.)	Section 10 (navigable waters)	Acres of temporary impact (all water features, including streams)	Linear feet of temporary impact (streams only)	Cubic yards (CY) of fill material to be temporarily discharged (all water features, including streams)	Acres of permanent impac (all water features including streams	Linear feet of permanent impact	Cubic yards (CY) o fill material to be permanently discharged (all water features, including streams	(all water features,	Linear feet of temporary impact (streams only)	Cubic yards (CY) of fill material to be temporarily discharged (all water features, including streams)	Acres of permanent impact (all water features, including streams)	Linear feet of permanent impact (streams only)	Cubic yards (CY) of fill material to be permanently discharged (all water features, including streams)	Authorization Type	Number (NWP and RGP only)	Reason (PCN only)	Mitigation Required?	
	1*	Isolated Unnamed Wetland	Palustrine emergent	33.160187, -96.643283	0.87	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1A	2* 3*	Isolated Unnamed Wetland Unnamed Tributary to Wilson Creek	Palustrine emergent Ephemeral stream	33.161304, -96.642664 33.161168, -96.641351	0.34	N/A 138	No Yes	No No	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A N/A	N/A N/A	N/A N/A	N/A No	
1B	4*	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.166914, -96.630355	0.08	587	Yes	No	0	0	0	0	0	0	Ů			Ü	Ü	Ů	14/1	14/11	.,,,,		
2 3A	5 6A*	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Intermittent stream	33.164526, -96.642213 33.166753, -96.630500	0.00	34 1.717	Yes Yes	No No	0	0	0	0	0	0	0	0	0	0	0	0	N/A N/A	N/A N/A	N/A N/A	No No	
3B	7*	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.170044, -96.628353	0.03	417	Yes	No	0	0	0	0	0	0	Ü	-	Ů	Ü	Ü	Ü	NA	N/A	N/A	140	
4A 4B	6B*	Unnamed Tributary to Wilson Creek	Intermittent stream	33.164761, -96.631175	0.08	880 1,977	Yes Yes	No No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No	
4C	9*	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Perennial stream	33.169584, -96.626335 33.170896, -96.626128	0.14	250	Yes	No	0	0	0	0	0	0											
4D	10A	Unnamed Tributary to Wilson Creek	Perennial stream	33.171331, -96.625606	0.03	117	Yes	No	0	0	0	0	0	0											
	11	Swale	Other non-stream, non-wetland waterbody	33.173781, -96.622437	N/A	296	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
5A	12	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.172715, -96.622777	0.02	167	Yes	No	0.02	163	Unknown	0.00	4	Unknown	0.05	163	Unknown	0.00	4	Unknown	NWP - Non-reporting	14	N/A	No	
5B 6A	13 10B	Unnamed Pond Unnamed Tributary to Wilson Creek	Pond/Impoundment Perennial stream	33.172422, -96.622261 33.172031, -96.622076	0.09	N/A 45	Yes Yes	No No	0.03	0	Unknown	0	0	0	0.19	273	Unknown	0	0	0	NWP - Non-reporting	14	N/A	No	
6B	14	Wilson Creek	Perennial stream	33.173425, -96.621130	0.78	1,139	Yes	No	0.19	273	Unknown	0	0	0				-	-				,		
6C	15	Unnamed Tributary to Wilson Creek	Intermittent stream	33.172391, -96.620405	0.03	63	Yes	No	0	0	0	0	0	0									Discharge into a special		
7A	16	Unnamed Wetland	Palustrine emergent	33.172524, 33.172524	0.57	N/A	Yes	No	0.37	0	Unknown	0.00	0	0	0.44	255	Unknown	0.00	0	0	NWP - PCN	14	aquatic site	No	
7B 7C	17 18	Unnamed Wetland	Palustrine forested Intermittent stream	33.172524, -96.617385 33.172691, -96.615773	0.20	N/A 411	Yes Yes	No	0.03 0.04	0	Unknown	0	0	0											
//	19*	Unnamed Tributary to Wilson Creek Isolated Unnamed Wetland	Palustrine emergent	33.172141, -96.614265	0.95	N/A	No	No No	0.04 N/A	255 N/A	Unknown N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
8	20	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.170985, -96.610544	0.01	69	Yes	No	0.00	49	Unknown	0	0	0	0.00	49	Unknown	0	0	0	NWP - Non-reporting	14	N/A	No	
9	21	Unnamed Tributary to East Fork Trinity River Isolated Unnamed Pond	Intermittent stream Pond/Impoundment	33.179995, -96.597478 33.18284896.598656	0.06	501 N/A	Yes No	No No	0 N/A	0 N/A	0 N/A	0.03 N/A	276 N/A	Unknown N/A	0 N/A	0 N/A	0 N/A	0.03 N/A	276 N/A	Unknown N/A	NWP - Non-reporting N/A	14 N/A	N/A N/A	No N/A	
	23	Ditch	Drainage ditch	33.184729, -96.597270	0.19	417	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	24	Ditch	Drainage ditch	33.189701, -96.597077	0.13	380	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10	25 26	Unnamed Tributary to East Fork Trinity River Fast Fork Trinity River	Intermittent stream Perennial stream	33.193435, -96.596189 33.195836, -96.593573	0.21	916 820	Yes Yes	No No	0	0	0	0.06	262	Unknown 0	0	0	0	0.06	262	Unknown	NWP - Non-reporting N/A	14	N/A N/A	Yes No	
11	27*	Unnamed Tributary to East Fork Trinity River	Ephemeral stream	33.196549, -96.597218	0.04	333	Yes	No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A N/A	N/A	No	
	28	Swale	Other non-stream, non-wetland	33.197474, -96.597721	N/A	52	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	29	Isolated Unnamed Pond	waterbody Pond/Impoundment	33.197545, -96.597430	0.09	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
13A	30	Unnamed Tributary to East Fork Trinity River	Ephemeral stream	33.197814, -96.597755	0.02	217	Yes	No	0.02	217	Unknown	0.00	2	Unknown	0.26	361	Unknown	0.00	2	Unknown	NWP - PCN	14	Discharge into a special aquatic site	Yes	
	31	Swale	Other non-stream, non-wetland waterbody	33.197709, -96.597613	N/A	44	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
13B	32 33	Unnamed Wetland	Palustrine forested Ephemeral stream	33.197805, -96.597506 33.198135, -96.597761	0.22	N/A 99	Yes Yes	No No	0.22	99	Unknown	0.00	0	0											
13C 13D	34	Unnamed Tributary to East Fork Trinity River Unnamed Wetland	Palustrine forested	33.19812596.597553	0.01	N/A	Yes	No	0.01 0.01	99	Unknown	0	0	0											
13E	35*	Unnamed Tributary to East Fork Trinity River	Ephemeral stream	33.198151, -96.597863	0.00	45	Yes	No	0.00	45	Unknown	0	0	0											
14A	36	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.198516, -96.598396	0.08	556	Yes	No	0.06	426	Unknown	0	0	0	0.06	426	Unknown	0	0	0	NWP - Non-reporting	14	N/A	No	
14B	37*	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.198439, -96.599698	0.03	208	Yes	No	0	0	0	0	0	0									Loss of waters of the U.S.		
15A	38*	Unnamed Tributary to East Fork Trinity River	Perennial stream	33.202213, -96.600338	0.17	334	Yes	No	0	0	0	0.01	16	Unknown	0	0	0	0.11	223	Unknown	NWP - PCN	14	exceeds 1/10 acre	Yes	
15B 15C	39 40	Unnamed Tributary to East Fork Trinity River East Fork Trinity River	Perennial stream Perennial stream	33.202817, -96.598338 33.203347, -96.596554	0.42	839 754	Yes Yes	No No	0	0	0	0.10	207	Unknown											
16	41	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.204744, -96.598906	0.01	79	Yes	No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No	
	42	Isolated Unnamed Pond	Pond/Impoundment	33.202124, -96.592053	0.33	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	43	Isolated Unnamed Pond	Pond/Impoundment	33.200242, -96.590364	0.32	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	44 45	Isolated Unnamed Pond	Pond/Impoundment Pond/Impoundment	33.196839, -96.591423 33.200091, -96.584822	0.03	N/A N/A	No No	No No	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
17A	46*	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.200781, -96.584406	0.02	53	Yes	No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No	
17B	47	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.199761, -96.584386	0.30	875	Yes	No	0	0	0	0	0	0											
	48*	Isolated Unnamed Pond	Pond/Impoundment	33.197562, -96.597549	0.22	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
17C	49	Unnamed Stream to East Fork Trinity River	Ephemeral stream	33.199615, -96.583051	0.03	261	Yes	No	0	0	0	0	0	0											
18A	50*	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.198593, -96.579630	0.12	645	Yes	No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No	
18B	51	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.199136, -96.578274	0.01	35	Yes	No	0	0	0	0	0	0											
	*Photo interpreter	d																							

Section 404/10 Impacts Table

Version 4, November 2021

Spur 399 Ext - Orange Alternative

CSJ 0364-04-051, 0047-05-058, 0047-10-002

SWF-2020-00340

		4/8/2022 Water Feature Characteristics Betantially uniquication 404 impacts for WATER FEATURE Total Section 404 impacts for CROSSING																							
		Water	Feature Characteristics				Potentially Jurisdiction	onal?		Tot Temporary	al Section 404 imp	pacts for WATER FEAT	URE Permanent			Temporary	Total section 404 in	npacts for CROSSIN	IG Permanent		Authorization				
Crossing number	Water feature number	Name	Туре	Latitude, Longitude	Acres within project area (all water features, including streams)	Linear feet withir project area (streams only)	Section 404 (waters of the U.S.)	Section 10 t (navigable waters) f	Acres of temporary impact (all water features, including streams)	Linear feet of temporary impact	Cubic yards (CY) of fill material to be temporarily discharged (all water features, including streams)	Acres of permanent impact	Linear feet of	Cubic yards (CY) of fill material to be permanently discharged (all water features, including streams)	Acres of temporary impact (all water features, including streams)	Linear feet of temporary impact (streams only)	Cubic yards (CY) of fill material to be temporarily discharged (all water features, including streams)	Acres of permanent impact (all water features, including streams)	Linear feet of permanent impact (streams only)	Cubic yards (CY) of fill material to be permanently discharged (all water features, including streams)	Authorization Type	Number (NWP and RGP only)	Reason (PCN only)	Mitigation Required?	
	1*	Isolated Unnamed Wetland	Palustrine emergent	33.160187, -96.643283	0.87	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1A	2* 3*	Isolated Unnamed Wetland Unnamed Tributary to Wilson Creek	Palustrine emergent Ephemeral stream	33.161304, -96.642664 33.161168, -96.641351	0.34	N/A 138	No Yes	No No	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A N/A	N/A N/A	N/A N/A	N/A No	
1B	4*	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.166914, -96.630355	0.08	587	Yes	No	0	0	0	0	0	0							21/2	21/2	21/2		
3A	6A*	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Intermittent stream	33.164526, -96.642213 33.166753, -96.630500	0.00 0.16	34 1,717	Yes Yes	No No	0	0	0	0	0	0	0	0	0	0	0	0	N/A N/A	N/A N/A	N/A N/A	No No	
3B 4A	7* 6B*	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Intermittent stream	33.170044, -96.628353 33.164761, -96.631175	0.03	417 880	Yes Yes	No No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No	
4B	8*	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.169584, -96.626335	0.14	1,977	Yes	No	0	0	0	0	0	0	0	Ü	Ů	Ü	0	0	NA	N/A	NA	140	
4C 4D	9* 10A	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Perennial stream Perennial stream	33.170896, -96.626128 33.171331, -96.625606	0.05	250 117	Yes Yes	No No	0	0	0	0	0	0										+	
45	11	Swale	Other non-stream, non-wetland	33.173781, -96.622437	N/A	296	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
5A	12	Unnamed Tributary to Wilson Creek	waterbody Ephemeral stream	33.172715, -96.622777	0.02	167	Yes	No	0.02	163	Unknown	0.00	4	Unknown	0.05	163	Unknown	0.00	4	Unknown	NWP - Non-reporting	14	N/A	No	
5B	13	Unnamed Pond	Pond/Impoundment	33.172422, -96.622261	0.09	N/A	Yes	No	0.03	0	Unknown	0	0	0	0.40	272	not as a				ANALO M		21/2		
6A 6B	10B 14	Unnamed Tributary to Wilson Creek Wilson Creek	Perennial stream Perennial stream	33.172031, -96.622076 33.173425, -96.621130	0.01	45 1,139	Yes Yes	No No	0.19	0 273	Unknown	0	0	0	0.19	273	Unknown	0	0	0	NWP - Non-reporting	14	N/A	No	
6C	15	Unnamed Tributary to Wilson Creek	Intermittent stream	33.172391, -96.620405	0.03	63	Yes	No	0	0	0	0	0	0									Discharge into a special		
7A	16	Unnamed Wetland	Palustrine emergent	33.172524, 33.172524	0.57	N/A	Yes	No	0.37	0	Unknown	0.00	0	0	0.44	255	Unknown	0.00	0	0	NWP - PCN	14	aquatic site	No	
7B 7C	17 18	Unnamed Wetland Unnamed Tributary to Wilson Creek	Palustrine forested Intermittent stream	33.172524, -96.617385 33.172691, -96.615773	0.20	N/A 411	Yes Yes	No No	0.03	0 255	Unknown	0	0	0											
	19*	Isolated Unnamed Wetland	Palustrine emergent	33.172141, -96.614265	0.95	N/A	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
8	20 52*	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Ephemeral stream	33.170985, -96.610544 33.164171, -96.598187	0.01	69 1,108	Yes Yes	No No	0.00	49 0	Unknown 0	0.08	683	0 Unknown	0.00	49 0	Unknown 0	0.08	0 683	0 Unknown	NWP - Non-reporting NWP - Non-reporting	14 14	N/A N/A	No Yes	
	53 54	Unnamed Wetland Unnamed Pond	Palustrine forested	33.160887, -96.592964	0.34 0.89	N/A N/A	No No	No No	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	
	55	Swale	Pond/Impoundment Other non-stream, non-wetland	33.160121, -96.593174 33.159884, -96.592759	0.89 N/A	28	No No	No	N/A	N/A	N/A N/A	N/A	N/A	N/A N/A	N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	56	Unnamed Stream Not Connected to Wilson Creek	waterbody Intermittent stream	33.159687, -96.592967	0.03	291	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10A	57	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.158742, -96.586122	0.29	1,791	Yes	No	0.08	498	Unknown	0.00	18	0	0.09	556	Unknown	0.00	18	0	NWP - Non-reporting	14	N/A	No	
10B 10C	58* 59	Unnamed Tributary to Wilson Creek Unnamed Tributary to Wilson Creek	Ephemeral stream Ephemeral stream	33.159099, -96.586518 33.157379, -96.585613	0.02	107 143	Yes Yes	No No	0.01	58	Unknown 0	0	0	0										+	
10D	60*	Unnamed Tributary to Wilson Creek	Ephemeral stream	33.156620, -96.586265	0.04	274	Yes	No	0	0	0	0	0	0		21/2	21/2	51/5	21/2	11/0	21/2	21/2	21/2		
11A	61 62	Isolated Unnamed Pond Unnamed Tributary to East Fork Trinity River	Pond/Impoundment Ephemeral stream	33.160371, -96.584348 33.168470, -96.575379	0.35	N/A 677	No Yes	No No	N/A 0.00	N/A 23	N/A Unknown	N/A 0.09	N/A 654	N/A Unknown	N/A 0.00	N/A 23	N/A Unknown	N/A 0.11	N/A 877	N/A Unknown	N/A NWP - PCN	N/A 14	N/A Loss of waters of the U.S.	N/A Yes	
11B	63	Unnamed Tributary to East Fork Trinity River	Ephemeral stream	33.168889, -96.575029	0.02	226	Yes	No	0	0	0	0.02	223	Unknown	0.00			0.11	<i>577</i>	- CHARGAIN			exceeds 1/10 acre	1.03	
	64	Swale	Other non-stream, non-wetland waterbody	33.172187, -96.575119	N/A	750	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
12A	65	Unnamed Tributary to East Fork Trinity River	Perennial stream	33.173965, -96.575261	0.21	1,521	Yes	No	0	0	0	0.17	1,246	Unknown	0	0	0	0.19	1,415	Unknown	NWP - PCN	14	Loss of waters of the U.S. exceeds 1/10 acre	Yes	
12B	66 67	Unnamed Tributary to East Fork Trinity River	Ephemeral stream Ephemeral stream	33.173355, -96.575367	0.01	118	Yes	No No	0	0	0	0.01	118	Unknown											
120	68	Unnamed Tributary to East Fork Trinity River Isolated Unnamed Pond	Pond/Impoundment	33.173500, -96.576277 33.176258, -96.574621	0.01	176 N/A	No.	No	N/A	N/A	0 N/A	N/A	51 N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
424	69		-							·	Unknown	0	IN/A	Unknown		•	Unknown			Unknown	NWP - PCN		Discharge into a special	No No	
13A 13B	70	Unnamed Wetland Unnamed Wetland	Palustrine emergent Palustrine forested	33.177019, -96.574545 33.177301, -96.574543	0.25	N/A N/A	Yes Yes	No No	0.01	0	0	0	0	0	0.08	478	Olikilowii	0	0	Olikilowii	NVVF - FCIN	14	aquatic site	- NO	
13C	71	Unnamed Tributary to East Fork Trinity River	Perennial stream	33.178192, -96.575152	0.11	803	Yes	No	0.07	478	Unknown	0	0	Unknown											
	72	Swale	Other non-stream, non-wetland waterbody	33.180202, -96.575108	N/A	550	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	73	Isolated Unnamed Pond Isolated Unnamed Pond	Pond/Impoundment	33.182042, -96.576591 33.182216, -96.576698	0.08	N/A	No No	No No	N/A N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
14	74 75	Unnamed Tributary to East Fork Trinity River	Pond/Impoundment Intermittent stream	33.184532, -96.576455	0.03	N/A 761	Yes	No	0.06	N/A 431	N/A Unknown	N/A 0	N/A 0	Unknown	0.06	N/A 431	Unknown	N/A 0	N/A 0	N/A Unknown	N/A NWP - Non-reporting	N/A 14	N/A N/A	N/A No	
	76	Swale	Other non-stream, non-wetland waterbody		N/A	773	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
15	77	Unnamed Wetland	Palustrine emergent	33.185750, -96.577583	0.47	N/A	Yes	No	0.05	0	Unknown	0	0	Unknown	0.05	0	Unknown	0	0	Unknown	NWP - PCN	14	Discharge into a special aquatic site	No	
	78	Swale	Other non-stream, non-wetland waterbody	33.187465, -96.577711	N/A	362	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
16A	79	East Fork Trinity River	Perennial stream	33.190432, -96.577086	0.61	664	Yes	No	0.46	406	Unknown	0	0	Unknown	0.77	626	Unknown	0.00	0	Unknown	NWP - Non-reporting	14	N/A	No	
16B	80	Unnamed Tributary to East Fork Trinity River	Intermittent stream	33.190741, -96.576669	0.04	220	Yes	No	0.04	220	Unknown	0	0	Unknown											
	81	Swale	Other non-stream, non-wetland waterbody Other non-stream, non-wetland	33.191062, -96.576944	N/A	262	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
400	82	Swale	waterbody	33.191515, -96.577212	N/A	379	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
16C	83 84	Unnamed Pond Swale	Pond/Impoundment Other non-stream, non-wetland	33.191981, -96.576895 33.192316, -96.576886	0.07 N/A	N/A 101	Yes No	No No	0.07 N/A	0 N/A	Unknown N/A	0.00 N/A	0 N/A	Unknown N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
16D	85	Unnamed Pond	waterbody Pond/Impoundment	33.192739, -96.577013		N/A	Yes	No	0.20	0	Unknown	0.00	0	Unknown	.40	/^	/^	/.0	/^	1970	.77	/0	.70	70	
	86	Swale	Other non-stream, non-wetland waterbody	33.193388, -96.577320	N/A	170	No	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
16E 16F	87 88	Unnamed Pond Unnamed Wetland	Pond/Impoundment Palustrine forested	33.192350, -96.578094 33.193188, -96.578276	0.21 0.15	N/A N/A	Yes Yes	No No	0	0	0	0	0	0											
16G	89	Unnamed Pond	Pond/Impoundment	33.193789, -96.578028	0.05	N/A	Yes	No	0	0	0	0	0	0									-		

	90	Swale	Other non-stream, non-wetland waterbody	33.193874, -96.577993	N/A	41	No	No	N/A															
16H	91	Unnamed Pond	Pond/Impoundment	33.194060, -96.578004	0.10	N/A	Yes	No	0	0	0	0	0	0										
	92	Isolated Unnamed Pond	Pond/Impoundment	33.195270, -96.576019	1.22	N/A	No	No	N/A															
	93	Isolated Unnamed Pond	Pond/Impoundment	33.196064, -96.577033	0.47	N/A	No	No	N/A															
	94	Unnamed Stream Not Connected to East Fork Trinity River	Ephemeral stream	33.197015, -96.573861	0.01	133	No	No	N/A															
	95	Ditch	Drainage ditch	33.197244, -96.573647	0.01	85	No	No	N/A															
	96	Ditch	Drainage ditch	33.197244, -96.573647	0.01	52	No	No	N/A															
	97	Ditch	Drainage ditch	33.196927, -96.572034	0.02	207	No	No	N/A															
	98	Ditch	Drainage ditch	33.197413, -96.572278	0.04	386	No	No	N/A															
17	99*	Unnamed Tributary to East Fork Trinity River	Ephemeral stream	33.196049, -96.570272	0.01	148	Yes	No	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	No
	100	Ditch	Drainage ditch	33.196269, -96.570130	0.01	59	No	No	N/A															
	101	Ditch	Drainage ditch	33.196138, -96.569053	0.05	440	No	No	N/A															
	102	Ditch	Drainage ditch	33.196209, -96.568093	0.01	90	No	No	N/A															
	103	Ditch	Drainage ditch	33.196209, -96.568093	0.00	43	No	No	N/A															
	104	Unnamed Stream Not Connected to East Fork Trinity River	Ephemeral stream	33.195442, -96.567532	0.01	140	No	No	N/A															
	105	Ditch	Drainage ditch	33.195561, -96.567351	0.02	209	No	No	N/A															
	106	Ditch	Drainage ditch	33.195904, -96.567046	0.02	136	No	No	N/A															
					7.03	14424.00																		
	Photo interpreted				7.025	14424.00																		