APPENDIX N: Water Resources

ADDENDUM

JULY 2023

APPENDIX N – WATER RESOURCES – FEIS Preferred Alternative/Blue Alternative

US 380 MCKINNEY – Coit Road to FM 1827, Collin County
CSJs 0135-02-065, 0135-03-053, and 0135-15-002; Dallas District

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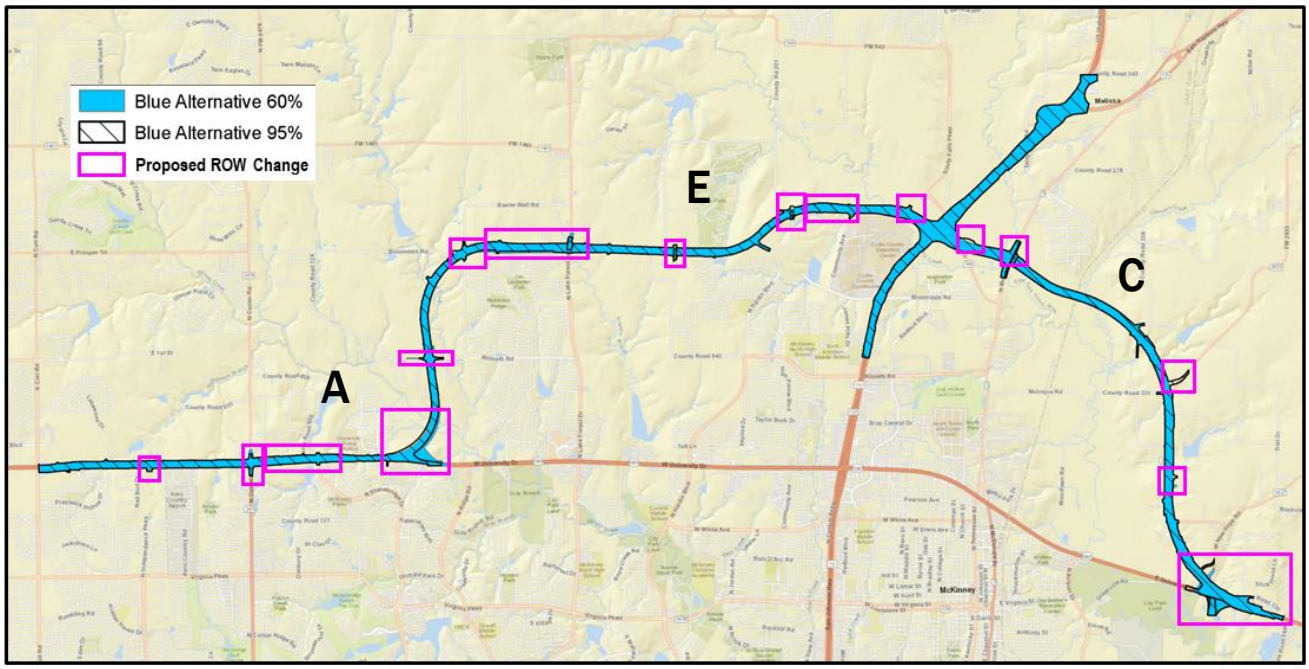
PURPOSE OF ADDENDUM:

Following the two public hearings conducted for the DEIS including recommendation of the Blue Alternative (A+E+C) as the Preferred Alternative in February 2023, modifications to the Preferred Alternative/Blue Alternative were made to address ongoing coordination with the City of McKinney, the Town of Prosper, NTMWD, and in consideration of public input. While the development of the 95% Geometric Design Schematic for the Blue Alternative resulted in minor modifications in some areas to accommodate drainage improvements and address utility conflicts, **Figure 1** illustrates areas where more substantial changes in the proposed ROW were made (requiring more or less ROW) as compared to the 60% Geometric Design Schematic for the Blue Alternative evaluated in the DEIS. The specific design changes made to the Blue Alternative are listed in Section 5.0 of the ROD, in the Summary of the Final Environmental Impact Statement, and in Section 2.4 of the FEIS. The resulting changes in impacts are captured in the FEIS.

Figure 1 – Proposed ROW Changes Along the Blue Alternative



EFFECTS OF THE MODIFICATIONS MADE TO THE BLUE ALTERNATIVE FOLLOWING THE PUBLIC HEARINGS

Design refinements made in the May 2023 95% Geometric Design Schematic following the public hearing included reductions in bridge spans (length) and pier or column relocations that changed some of the permanent and temporary water impact calculations along with shifts in the proposed ROW limits in other areas. Areas where these design refinements changed the impacts disclosed in the DEIS occurred (from west to east):

- Segment A - Two wetland/stream crossings along existing US 380 (east of Lakewood Drive) where Rutherford Branch is dammed to form SCS Site 1B were further minimized with bridge additions/modifications, and a westward shift in the north-south section of Segment A increased wetland impacts but decreased stream crossing impacts.
- Segment E – Horizontal and vertical alignment shifts changed wetland (primarily temporary) impacts at the US 75 interchange.
- Segment C – Proposed ROW and alignment changes within the US 380 McKinney/Spur 399 Extension interchange changed wetland and stream impacts.

The 404/10 Impact Table for the Blue Alternative was revised in May 2023 to account for the schematic design changes presented at the public hearing. The updated 404/10 Impact Table is included in this appendix. The changes in impacts for the Blue Alternative are summarized in **Figure 2**. For clarity, impacts by water feature type (e.g., stream and wetlands) were summarized in the FEIS in addition to the overall water feature impacts summarized in the FEIS.

To address a comment received from the USACE, a summary of the applicable general conditions for mitigation requirements that would apply to the water features impacted by the Preferred Alternative/Blue Alternative was added to the FEIS (**Figure 3**).

Figure 2: Blue Alternative Water Feature Impacts - Changes in Proposed ROW Following the Public Hearings

Water Feature Type	Type of Impact	DEIS		FEIS	
		W/O Spur	W/Spur	W/O Spur	W/Spur
Ephemeral Stream	Permanent	0.51 ac (4,850 LF) Corrected to 4,770 LF	0.51 ac (4,850 LF)	0.51 ac (4,850 LF)	0.56 ac (5,359 LF)
	Temporary	0.15 ac (1,968 LF)	0.15 ac (1,968 LF)	0.15 ac (1,968 LF)	0.68 ac (1,363 LF)
Intermittent Stream	Permanent	0.76 ac (3,064 LF)	0.74 ac (3,343 LF)	0.74 ac (3,064 LF)	0.58 ac (3,093 LF)
	Temporary	1.08 ac (3,757 LF)	1.01 ac (3,757 LF)	1.08 ac (3,757 LF)	1.04 ac (3,872 LF)
Perennial Stream	Permanent	0.71 ac (2,519 LF)	0.71 ac (2,519 LF)	0.71 ac (2,519 LF)	0.26 ac (1,238 LF)
	Temporary	2.20 ac (3,571 LF)	2.20 ac (3,571 LF)	2.20 ac (3,571 LF)	2.64 ac (4,767 LF)
Stream Impact Subtotals[1]	Permanent	10,353 LF	10,712 LF)	1.96 ac (10,433 LF)	1.40 ac (9,690 LF)
	Temporary	(9,296 LF)	(9,296 LF)	3.43 ac (9,296 LF)	4.36 ac (10,002 LF)
Palustrine Forested Wetland	Permanent	0.48 ac	0.48 ac	0.48 ac	0.02 ac
	Temporary	5.32 ac	5.32 ac	5.32 ac	6.44 ac
Palustrine Scrub-Shrub Wetland	Permanent	0.00 ac	0.00 ac	0.00 ac	0.01 ac
	Temporary	0.91 ac	0.91 ac	0.91 ac	0.49 ac
Palustrine Emergent Wetland	Permanent	0.24 ac	0.24 ac	0.24 ac	0.03 ac
	Temporary	1.50 ac	1.50 ac	1.50 ac	2.43 ac
Wetland Impact Subtotals[2]	Permanent	1.10 ac (0.72 ac wetlands only)	1.10 ac	0.72 ac	0.06 ac
	Temporary	8.02 ac (7.73 ac wetlands only)	8.02 ac	7.73 ac	9.36 ac
Pond/ Impoundment	Permanent	0.38 ac	0.38 ac	0.38 ac	0.39 ac
	Temporary	0.29 ac	0.29 ac	0.29 ac	0.29 ac
TOTAL WATER FEATURE IMPACTS	Permanent	3.06 ac (10,353 LF)	3.06 ac (10,712 LF)	3.06 ac (10,433 LF)	1.85 ac (9,690 LF)
	Temporary	11.45 ac (9,296 LF)	11.38 ac (9,296 LF)	11.45 ac (9,296 LF)	14.01 ac (10,002 LF)

1 Subtotals by water feature type (e.g., streams and wetlands) were not provided in the DEIS.
2 Total Wetland Impacts included Pond Impoundment impacts in the DEIS.

Figure 3: Applicable General Conditions for Mitigation Measures Required for Impacts to Water Features Under the Preferred Alternative/Blue Alternative (A+E+C)

Preferred Alternative/ Blue Alternative Segment	Water Feature ID Number	Applicable General Conditions
Segment A	5	within crossing that triggers GC 23(d)
	6	GC 23(d)
	15*	within crossing that triggers GC 23(d)
	16	GC 23(d)
	18*	GC 23(i) and within crossing that triggers GC 23(d)
	19*	within crossing that triggers GC 23(c) and (d)
	30*	within crossing that triggers GC 23(c) and (d)
	31	within crossing that triggers GC 23(c)
	32	GC 23(i) and within crossing that triggers GC 23(c)
	33	within crossing that triggers GC 23(c)
	37	within crossing that triggers GC 23(c)
	45	within crossing that triggers GC 23(d)
	46*	within crossing that triggers GC 23(d)
	50*	within crossing that triggers GC 23(d)
	51	within crossing that triggers GC 23(d)
	52*	within crossing that triggers GC 23(d)
	61	within crossing that triggers GC 23(d)
	62	GC 23(d)
	63	within crossing that triggers GC 23(d)
	65	within crossing that triggers GC 23(d)
	70	GC 23(d)
	84	within crossing that triggers GC 23(d)
	85	within crossing that triggers GC 23(d)
	88	within crossing that triggers GC 23(d)
	89	within crossing that triggers GC 23(d)
	94	GC 23(d)
	103*	within crossing that triggers GC 23(d)
	105	within crossing that triggers GC 23(d)
	107	within crossing that triggers GC 23(d)
	109	within crossing that triggers GC 23(d)
	113	within crossing that triggers GC 23(d)
	115	GC 23(d)
	118	GC 23(c)
	119	within crossing that triggers GC 23(c)
	120	within crossing that triggers GC 23(c)

Preferred Alternative/ Blue Alternative Segment	Water Feature ID Number	Applicable General Conditions
Segment E	148	within crossing that triggers GC 23(d)
	149*	within crossing that triggers GC 23(d)
	150*	GC 23(d)
	157*	GC 23(d) and within crossing that triggers GC 23(c)
	158	GC 23(d) and within crossing that triggers GC 23(c)
	160*	within crossing that triggers GC 23(c) and (d)
	161*	within crossing that triggers GC 23(c) and (d)
	162*	within crossing that triggers GC 23(c) and (d)
	163*	GC 23(d) and within crossing that triggers GC 23(c)
	168	GC 23(c) and (d)
	176	GC 23(d)
	179	GC 23(f)(6)(i)
	222	GC 23(f)(6)(i)
Segment C	289	GC 23(f)(6)(i)
	297	GC 23(f)(6)(i)
	298*	GC 23(f)(6)(i)
	304	within crossing that triggers GC 23(d)
	305*	within crossing that triggers GC 23(d)
	320*	GC 23(d)
	322	GC 23(c) and (d)
	323*	within crossing that triggers GC 23(c) and (d)
	336*	within crossing that triggers GC 23(c) and (d)
	337	GC 23(d)
	340*	within crossing that triggers GC 23(c) and (d)

*Photo-interpreted
SOURCE: Appendix N – Section 404/10 Impact Table for Preferred Alternative- Segments A, E, and C (May 2023)

Drinking Water Wells

According to publicly available data from the Texas Water Development Board (TWDB) and site visits conducted as part of the Hazardous Materials Initial Site Assessment (HazMat ISA) (Appendix Q), no public drinking water wells are known within the proposed ROW of Segments A, B, E, C or D. The approved HazMat ISA identified one private water well observed within the proposed ROW of Segment A. The well is just north of CR 124, approximately 0.30 mile west of CR 161. The well is listed as Site 3 in the HazMat ISA:

"Per the site visit performed on 8/4/2021, a water well was observed on the parcel approx. 120 ft north of CR 124. The well is not listed in the Texas Water Development Board's water well database. It is unknown if the well is currently in use. Based on borehole depths of water wells adjacent to the site, groundwater depth is likely ~1,000 ft. Based on probable use of the well for drinking water or irrigation, this feature is considered a low environmental risk. The well would require proper plug and abandonment according to regulations prior to construction."

The observed private well appeared to be used to water stock or possibly support irrigation. No discussions were had with the property owner to confirm.

ADDENDUM

6-DECEMBER-2022

APPENDIX N – WATER RESOURCES – Proposed ROW Change

US 380 McKinney EIS - Coit Road to FM 1827, Collin County
CSJs 0135-02-065, 0135-03-053, and 0135-15-002; Dallas District

PURPOSE OF ADDENDUM:

Changes were made to the proposed right-of-way (ROW) limits for the US 380 McKinney project in the 60% Geometric Schematic Design submittal made on 1-JUL-2022. A copy of that submittal is included in Appendix B of this DEIS. This addendum describes where the changes occurred and summarizes how those changes affected the impacts and findings disclosed in the previously approved technical reports that make up the project appendices. The revised impacts to water features based on the proposed ROW changes are disclosed in the DEIS.

DESCRIPTION OF THE PROPOSED ROW CHANGE

To streamline and accelerate the NEPA process for this project, technical studies were initiated at an early stage in schematic development. Initial technical report submittals were based on the proposed ROW established in JUN-JUL-2021, with progressive modifications made through NOV-2021. The JUL-2022 Geometric Schematic Design submittal reflects the continued refinement of the alternatives and consideration of input received during the MAR-2022 public meeting and ongoing coordination with the City of McKinney, Collin County, and the North Texas Municipal Water District.

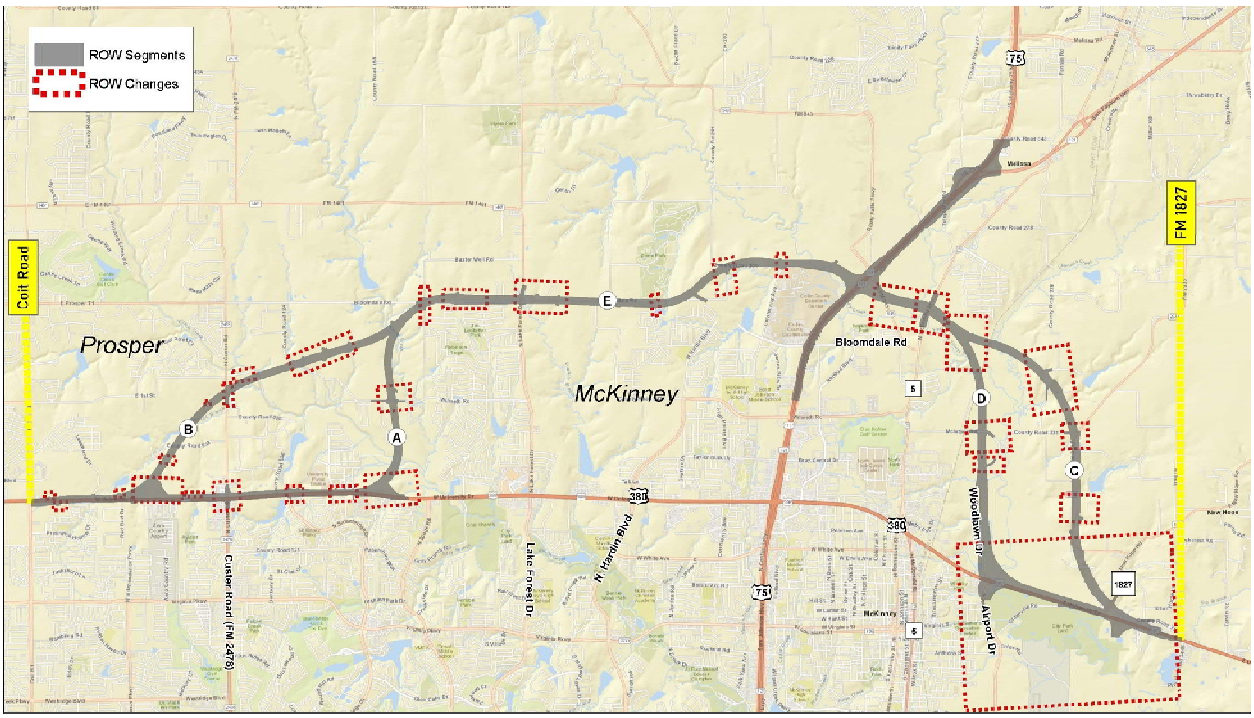
The JUL-2022 submittal made adjustments to the proposed ROW limits throughout the length of the proposed alignments to account for drainage, access, and geometric improvements. Areas connecting to existing and planned roadway projects, under the direction of the City of McKinney, have also been included on the schematics and will still be under refinement into the FEIS. A design decision at the crossing of SH 5 in proximity of the East Fork Trinity River also added improvements within the existing ROW extending farther along SH 5 than was previously reviewed.

In lieu of an actual Addendum, an updated version of the previously approved Water Features Delineation Report (October 2022) is included in this appendix along with an updated 404-10 Impact Table.

Figure 1: *Proposed ROW Change – November 2021 to July 2022*

Build Alternative	November 2021 Proposed ROW (Acres)	July 2022 Proposed ROW (Acres)	Change in Proposed ROW (Acres)
PURPLE ALTERNATIVE W/O SPUR	1,047.7	1,113.9	66.2
PURPLE ALTERNATIVE W/ SPUR	1,069.1	1,133.1	64.0
BLUE ALTERNATIVE W/O SPUR	1,042.0	1,083.5	41.5
BLUE ALTERNATIVE W/ SPUR	1,081.3	1,098.9	17.6
BROWN ALTERNATIVE W/O SPUR	1,010.3	1,056.4	46.1
BROWN ALTERNATIVE W/ SPUR	1,049.5	1,071.8	22.3
GOLD ALTERNATIVE W/O SPUR	1,015.9	1,086.8	70.9
GOLD ALTERNATIVE W/ SPUR	1,037.4	1,106.0	68.6

Illustration of the July 2022 Proposed ROW Changes



Form
Surface Water Analysis

Project Name: **US 380 from Coit Road to FM 1827**

CSJ(s): **CSJ 0135-02-065, 0135-03-053, and 0135-15-002**

County(ies): **Collin**

Date Analysis Completed: **23 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 not 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 non-reporting nationwide permit (i.e., no pre-construction notification required). 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 non-reporting NWP no(s)>**

☒ 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 nationwide permit with pre-construction notification, 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: **05 OCT 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.

For an EA or EIS project only, 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 text>**	**<enter text>**	**<enter text>**
<enter text>	**<enter text>**	**<enter text>**	**<enter text>**
<enter text>	**<enter text>**	**<enter text>**	**<enter text>**
<enter text>	**<enter text>**	**<enter text>**	**<enter text>**

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:

☒ 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:

☒ This project does not 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 non-reporting nationwide permit (i.e., no pre-construction notification required). If this statement applies, indicate which non-reporting nationwide permit(s) will be used below.

Non-reporting NWP no(s): **<enter number or numbers of any non-reporting NWPs used>**

☐ 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 cannot be authorized under a non-reporting nationwide permit; therefore, a nationwide permit with pre-construction notification, individual standard permit under Section 404/10, letter of permission, regional general permit, or individual Section 10 permit will be required.

For more information regarding Section 10 of the Rivers and Harbors Act, see **ENV's Water Resources Handbook**.

VII. Section 401 of the Clean Water Act

Select the appropriate statement below:

☐ This project will not 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.

☒ 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 is 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 not 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 more information regarding Section 401 of the Clean Water Act, see **ENV's Water Resources Handbook**.

VIII. Executive Order 11990, Protection of Wetlands

Select the appropriate statement below:

☐ This project is not federally funded and therefore is not subject to Executive Order 11990, Protection of Wetlands.

☐ This project is federally funded and therefore is subject to Executive Order 11990, Protection of Wetlands, and will not involve construction in any wetlands.

☒ This project is federally funded and therefore is subject to Executive Order 11990, Protection of Wetlands, and will 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 existing and proposed residential and commercial development, existing and planned utility corridors, parklands, and an expansive floodplain.

Explanation of how the project includes all practicable measures to minimize harm to wetlands:

All 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.

For more information regarding Executive Order 11990, Protection of Wetlands, see **ENV's Water Resources Handbook**.

IX. Executive Order 11988, Floodplain Management

Select the appropriate statement below:

☐ This project is not federally funded and therefore is not subject to Executive Order 11988, Floodplain Management.

☐ This project is federally funded and therefore is subject to Executive Order 11988, Floodplain Management, and will not involve construction in the floodplain.

☐ This project is federally funded and therefore is subject to Executive Order 11988, Floodplain Management. However, the project will not 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).

☒ This project is federally funded and therefore is subject to Executive Order 11988, Floodplain Management, and will 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]

The alternatives considered included bridge crossings of the major streams, and where feasible, the floodway would be spanned and pier placements within the floodplain planned to minimize hydraulic impacts. The use of the other bridged or elevated sections versus the use of earthen fill embankment will continue to be evaluated in consideration of project costs versus impacts to wetlands and waters of the U.S., natural habitats, and the effects on the hydraulic function of the stream system.

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

[1] EO 11988, Section 2.(a)(2).
[2] 23 CFR 650.113(a)(1).

Based on the physical constraints in the study area, the orientation of the streams and associated floodplains, and the relationship of the proposed project to the existing transportation system, there are no practicable alternatives that would completely avoid impacts to floodplains.

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

The orientation of the Rutherford Branch and Wilson Creek in the northwestern portion of McKinney, Honey Creek and East Fork of the Trinity River around the northern and eastern portions of McKinney, and the location of US 75 through the confluence of these streams restricted the development of alignments that could avoid one or the other while also providing a freeway facility that meets the stated transportation needs. Therefore the consideration of an alternative that avoids floodplain impacts in not practicable. The comparison of the build alternatives including the segments that differ in the amount of floodplain encroachment along the East Fork of the Trinity River as well as other natural resource and socioeconomic effects is ongoing.

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 consulted/actions were taken to make the surface water determinations recorded in this form (DO NOT ATTACH TO THIS FORM OR UPLOAD 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, 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, 9/2019, 12/2019, 11/2020

☒ Topographic Maps	☒ Floodplain Maps	
☒ Site Visit	☒ USFWS NWI Maps	☒ NRCS Soil Survey
☒ NHD	☒ TCEQ Streams/Waterbodies	☐ LIDAR

[3] 23 CFR 650.105(k), 650.113(a)(2).
[4] 23 CFR 650.113(a)(3).

☐ USACE Approved JDs ☒ USACE Section 10 waters ☒ USACE 408 data
☒ TCEQ 303(d) Impaired Waters
☐ Contacted resource agency (list agency and reason):_____
☐ Other (list):_____

Water Features Delineation Report

US 380 McKinney

(CSJs 0135-02-065, 0135-03-053, and 0135-15-002)

Texas Department of Transportation, Dallas District

October 2022

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.

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1.0 Introduction

The Texas Department of Transportation (TxDOT) conducted a delineation of water features for the proposed route of U.S. Route (US) 380 from Coit Road to Farm-to-Market (FM) 1827 in McKinney and Prosper, Collin County, Texas (the Project) (CSJ 0135-02-065, 0135-15-002, and CSJ-0135-03-053). The delineation was completed on August 24, 28; September 8, 10, 11, 14, 16, 17, 24, 25; October 12, 13, 15, 20; November 3, 9, 11, 29; December 1, 3, 22; 2020; January 17, 19; June 8; August 12, 16, 17, 18, 25; and September 22; 2021. The delineation was performed to evaluate water features and identify their boundaries within the established Environmental Footprint.

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 Environmental Footprint
- 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 US 380 in the vicinity of McKinney, Texas to interstate standards. The US 380 route 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 340 to 500 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 US 75 and existing US 380. The Environmental Footprint is an area initially established to identify water features. It is larger than the proposed ROW (Project Area), encompasses approximately 2,427 acres (ac), extends approximately 27.87 miles, and intersects 480 parcels. The Project Area is the proposed ROW which is the area needed to construct the alternative and where direct impacts would occur. This Project Area includes permanent and temporary easements (included in Project design plans). The Study Area is defined as the large geographic area encompassing the alternatives under consideration and the associated built and natural environment. This report will primary discus water features within the Environmental Footprint and the environmental context within the overall Study Area.

The Project begins near the intersection of Coit Rd and US 380 (approx. lat/long: 33°13'07.4"N, 96°46'02.9"W) and continues east toward N Custer Road, then splits into two separate alignments (approx. lat/long: 33°13'07.0"N, 96°45'00.6"W). The southern alignment, also referred to as Segment A, follows the current route of US 380 and heads east before turning north (approx. lat/long: 33°13'09.1"N, 96°42'29.5"W). The northern alignment, also referred to as Segment B, continues northeast before rejoining the southern alignment at the intersection of County Road (CR) 161 and CR 123 (approx. lat/long: 33°14'49.8"N, 96°41'50.8"W). The middle portion of the Environmental Footprint, also referred to as Segment E, then heads east, crossing US 75 (approx. lat/long: 33°14'56.2"N, 96°37'13.1"W), and continues southeast before splitting at its crossing with N McDonald Street (State Highway 5) (approx. lat/long: 33°14'41.4"N, 96°36'31.2"W). The west alignment, also referred to as Segment D, heads south until reaching the current route of US 380 at the intersection of US 380 and Airport Drive (approx. lat/long: 33°12'16.1"N, 96°35'55.5"W). The east alignment, also referred to as Segment C, heads southeast and follows the current route of FM 2933 south (approx. lat/long: 33°13'29.8"N, 96°35'00.0"W). Once reaching the current route of US 380, both alignments rejoin and head east to the culmination at CR 330 (approx. lat/long: 33°11'42.5"N, 96°33'54.1"W), east of FM 1827. Additionally, the west alignment, Segment D, extends south of US 380 along Airport Drive and terminates south of Enloe Road (approx. lat/long: 33° 11' 35.7144"N, -96° 35' 49.0122"W), and extends south of US 380 near New Hope Road West and terminates south of the East Fork Trinity River (approx. lat/long: 33° 11' 15.2412"N, 96° 34' 39.9684"W). This additional portion of the Environmental Footprint is associated with the Spur 399 project and is discussed in further detail below. Refer to Figure 1 in Attachment 1 that illustrates the study segments.

A separate, independent project is under development for the extension of Spur 399 south of the eastern US 380 project terminus. Because an alignment has not been determined for the Spur 399 project to determine how, or if, the two projects would connect to one another, options are evaluated for both scenarios “with Spur 399” and “without Spur 399”. Because the timing of the US 380 action is presumed to follow after any decision on the Spur 399 Extension, the Environmental Footprint for the US 380 project was updated to include options for Segments C and D (east of McKinney and US 75) that would account for the effects of US 380 implemented as a standalone project (“without Spur 399” or W/O Spur) and options that would account for the effects of connecting the US 380 project to either of the alternatives under consideration for the Spur 399 Extension (“With Spur 399” or W/Spur). The Environmental Footprint shown on the figures is that of the W/Spur, but the effects of both W/Spur and W/O Spur are tabulated in this report.

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

3.0 Ecological Site Description

The Study 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°Farenheight (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 include silveanus 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 are often dominated by eastern gamagrass (*Tripsacum dactyloides*) and switchgrass (*Panicum virgatum*). Riparian areas included bur oak (*Quercus macrocarpa*), Shumard oak (*Quercus shumardii*), sugarberry (*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 Study Area is within the East Fork Trinity River-Lavon Lake Watershed, including the Clemons Creek-East Fork Trinity River Sub Watershed in the eastern portion of the Study Area, the Lower Wilson Creek Sub Watershed in the central southern portion of the Study Area, the Honey Creek Sub Watershed in the central northern portion of the Study Area, and the Upper Wilson Sub Watershed in the western portion of the Study Area, of the Trinity River Basin (Hydrologic Unit Code 8: 12030106). The Study Area consists of existing ROW, residential areas, pastures, rangelands, as well as 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 Environmental Footprint.

4.1.1 USGS Topographic Maps

USGS topographic maps illustrate elevation contours, drainage patterns, and hydrography. The Frisco, McKinney West, and McKinney East, Texas, USGS Quadrangle maps were reviewed to determine the likelihood of the Environmental Footprint containing water features (USGS, 7.5 Minute Topographic Map Series, Frisco, McKinney East, McKinney West, Texas, 2019).

4.1.2 USFWS NWI Data

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

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 in the Environmental Footprint 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 Study 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 Environmental Footprint 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 Environmental Footprint.

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 Environmental Footprint; however, TxDOT contours collected in 2011 were reviewed for microtopographic changes in elevation within the Environmental Footprint.

4.2 Water Features Delineation Methodology

With respect to any non-tidal water features located within the Environmental Footprint, biologists followed the methodology outlined in USACE RGL 05-05.

Data collected for any water features includes average water depth, average width per waterbody, length of linear segments within the Environmental Footprint, 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 the Environmental Footprint. 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 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 wetlands 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.

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 Environmental Footprint reported elevations of 600 to 650 ft above sea level (asl) near roadways, 550 ft asl near Wilson Creek, 500 ft asl near the East Fork Trinity River, 550 to 600 ft near Throckmorton Creek, 650 ft asl near Rutherford Branch, 650 to 700 ft asl near Franklin Branch, 600 to 650 ft asl near Stover Creek, 550 ft asl near Honey Creek, 500 to 550 ft asl near Jean's Creek, and 550 to 600 ft asl near Clemons Creek. Surface water flow in the Environmental Footprint 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 Environmental Footprint. Refer to Figure 4 in Attachment 1 for an illustration of the NWI features in and surrounding the Environmental Footprint.

Table 1: NWI Features

Classification Code	Code Description	Wetland Type
PFO1/EM1C	Palustrine Forested/Emergent Broad-Leaved Deciduous/Persistent Seasonally Flooded	Freshwater Forested/Shrub and Emergent Wetland

Classification Code	Code Description	Wetland Type
PEM1C	Palustrine Emergent Persistent Seasonally Flooded	Freshwater Emergent Wetland
PEM1Ch	Palustrine Emergent Persistent Seasonally Flooded and Dike/Impounded	Freshwater Emergent Wetland
PFO1A	Palustrine Forested Broad-Leaved Deciduous Temporarily Flooded	Freshwater Forested/Shrub Wetland
PFO1C	Palustrine Forested Broad-Leaved Deciduous Seasonally Flooded	Freshwater Forested/Shrub Wetland
R4SBC	Riverine Intermittent Streambed Seasonally Flooded	Riverine
PSS1A	Palustrine Scrub-Shrub Broad-Leaved Deciduous Temporarily Flooded	Freshwater Forested/Shrub Wetland
PUBHh	Palustrine Unconsolidated Bottom Permanently Flooded and Dike/Impounded	Freshwater Pond
PUBHx	Palustrine Unconsolidated Bottom Permanently Flooded Excavated	Freshwater Pond
R5UBH	Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded	Riverine

5.1.3 NRCS Soil Survey Data

The table below summarizes the soil units represented within the Environmental Footprint 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 Environmental Footprint.

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric Soil
AlD2	Altoga silty clay, 5 to 8 percent slopes, eroded	Very deep, well drained, Calcareous clayey alluvium found on stream terraces.	No
AlE3	Altoga silty clay, 8 to 12 percent slopes, severely eroded	Deep, well drained clayey alluvium found on stream terraces.	No

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric Soil
AuB	Austin silty clay, 1 to 3 percent slopes	Moderately deep, well drained residuum weathered from chalk. This clay loam is found on ridges and is classified as a farmland of state importance.	No
AuC2	Austin silty clay, 2 to 5 percent slopes, eroded	Moderately deep, well drained residuum weathered from chalk. This clay loam soil is found on ridges.	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
BcB	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
Fo	Frio clay loam, occasionally flooded	Very deep, well drained loamy alluvium. This Loamy Bottomland soil is found in flood plains.	No
GP	Gravel pits and quarries	Gravel pits and quarries	No
HcC2	Heiden clay, 3 to 5 percent slopes, eroded	Deep, well drained clayey residuum weathered from mudstone. This eroded Blackland soil is found primarily on ridges.	No
HoA	Houston Black clay, 0 to 1 percent slopes	Nearly level to sloping uplands found in center of a micro-pasture.	No
HoB	Houston Black clay, 1 to 3 percent slopes	Nearly level to sloping uplands found in center of a micro-pasture.	No

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric Soil
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
SeC2	Stephen-Eddy complex, 2 to 5 percent slopes	Shallow, well drained calcareous clayey residuum weathered from chalk. This soil is found on ridges.	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
To	Trinity clay, 0 to 1 percent slopes, occasionally flooded	Very deep, moderately well drained, clayey bottomland found in Flood plains.	Yes
W	Water	Water	No

5.1.4 Aerial Photography

Historic aerial imagery for the Study Area 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 Study Area for each year reviewed. Attachment 5 contains copies of the historic aerial photographs reviewed for the Study Area.

Table 3: Historic Aerial Photography Observations

Year	Observations
1952	Study Area is largely undeveloped farms and minimal housing. US 380 is pre-expansion, as it is still a two-lane highway. Most residential, County, and Farm roads have not been developed, including CR 123 and CR 164. Streams are clearly defined with vegetated buffers. US 75 N Central Expressway has not yet been constructed.
1972	Study Area is largely undeveloped farms and minimal housing. US 380 is pre-expansion, as it is still a two-lane highway. 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. US 75 N Central Expressway is now established but not completed thus altering the hydrological flow regimes of streams,

Year	Observations
	as well as the hydroperiods of wetlands within the Study Area. Additional County Roads have also been developed. There are more defined disturbances as a result of increased farming and road developments.
1985	Study Area is largely undeveloped farms and homesteads. US 380 is pre-expansion, as it is still a two-lane highway.
1995	Study Area is largely undeveloped farms and homesteads. US 380 is pre-expansion, as it is still a two-lane highway.
2001	Study Area is largely undeveloped farms and homesteads. Housing developments were under construction in the vicinity of the Study Area. US 380 has been expanded to a 4-lane divided highway.
2005	No new development has taken place within the Study Area. However, large subdivision projects have begun immediately to the southwest, thus altering the hydrology of streams and wetlands located within the southwest side of the Study Area boundaries.
2008	Large subdivision projects have continued to expand directly south of the Study Area heading north. There is an increase in farmland disturbance that altered the hydrological flow regimes of streams, as well as the hydroperiods of wetlands within the Study Area.
2011	Large subdivision projects have increased frequency in the entire area to the west of US 75 and south of the Study Area. These land use changes continue to alter the hydrological flow regimes of streams, as well as the hydroperiods of wetlands within the west side of the Study Area. The N. McDonald Street Bridge over the East Fork Trinity River is re-constructed, possibly causing an alteration of that stream. Construction on US 380 to the west of McKinney has been started, ultimately transforming that roadway into a 6-lane divided highway. This could have impacted water features within the Study Area.
2014	Urbanization has continued near the Study Area on the west side of US 75. These land use changes continue to alter the hydrological flow regimes of streams, as well as the hydroperiods of wetlands within the west side of the Study Area.
2017	Subdivision development begins on the east side of US 75, altering the hydrological flow regimes of streams, as well as the hydroperiods of wetlands within the east side of the Study Area.
2019	No notable change.
2020	Urbanization has continued to expand near and within the Study Area west of US 75. These land use changes continue to alter the hydrological flow regimes of streams, as well as the hydroperiods of wetlands within the Study Area.

5.1.5 FEMA FIRM

A review of FEMA FIRMs indicated the Study Area is intersected by 100-year floodplain, 500-Year floodplain, and regulatory floodway hazard areas. The floodplains are associated with Wilson Creek and the East Fork Trinity River as well as stream branches including Throckmorton Creek, Rutherford Branch, Franklin Branch, Stover Creek, Honey Creek, Jean's Creek, and Clemons Creek. Base Flood Elevation (BFE) for Wilson Creek is between 524 and 547 ft.; BFE for the East Fork Trinity River is between 561 and 578 ft; BFE for Throckmorton Creek is

between 577 and 584 ft.; BFE for Rutherford Branch is between 674 and 676 ft.; BFE for Franklin Branch is between 581 to 591 ft.; BFE for Stover Creek is between 635 to 638 ft.; BFE for Honey Creek is between 562 and 565 ft; BFE for Jean's Creek is between 603 and 617 ft.; BFE for Clemons Creek is between 557 and 560 ft (FEMA, 2021). Refer to Figure 6 in Attachment 1 for an illustration of the FEMA FIRM data within and surrounding the Study Area.

5.1.6 LiDAR

LiDAR was not available for the Environmental Footprint, however, TxDOT contours were reviewed for microtopographic changes in elevation within the Environmental Footprint. Two-foot TxDOT Contours (2011) were reviewed. Reduced elevation occurs within the floodplains of and near Wilson Creek, the East Fork Trinity River, Throckmorton Creek, Rutherford Branch, Franklin Branch, Stover Creek, Honey Creek, Jean's Creek, and Clemons Creek. Refer to Figure 7 in Attachment 1 for an illustration of TxDOT Contours within the Environmental Footprint.

5.2 Water Features Delineation Results

Table 4 summarizes the water features identified within the Environmental Footprint. Refer to Figure 8 in Attachment 1 for a depiction of the boundaries of each water feature, as well as the location within the Environmental Footprint 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 waterbody/wetland feature observed within the Environmental Footprint.

Certain contiguous features are assigned more than one label for serval reasons. Features that were partially field delineated and partially photo-interpreted are given multiple labels to differentiate which portions are delineated and which are photo-interpreted. Features that are split by either the Environmental Footprint boundary or a culvert are given a new label for each segment to provide better clarity on the impacts assessment. Additionally, streams with characteristically different reaches were split and each of those reaches was assigned a unique label. For example, Rutherford Branch has 10 different labels as follows. Water Feature 14* is a 15-foot photo-interpreted perennial stream. The stream widens and is assigned label 15* where the stream is 20 feet wide. The stream is then assigned several different labels as it transitions in and out of delineated versus photo-interpreted areas (Water Features 16, 17*, and 19*). Rutherford Branch then exits the Environmental Footprint and re-enters the Environmental Footprint in two other locations which are assigned both photo-interpreted and field delineated labels (Water Features 130*, 131*, 136, 138, and 142).

Water feature types used in Table 4 are palustrine forested wetland, palustrine scrub-shrub wetland, palustrine emergent wetland, isolated wetland, perennial stream, intermittent stream, ephemeral stream, swale drainage feature, ditch drainage feature, upland pond, and on-channel pond. Palustrine wetlands are inland, freshwater habitats often categorized by vegetation types. Emergent wetlands are dominated by erect, rooted, and non-woody herbaceous vegetation. Scrub-shrub wetlands are dominated by woody vegetation less than 20 ft in height. Forested wetlands are dominated by woody vegetation taller than 20 ft in height. Isolated wetlands are not contiguous, bordering, or neighboring a relatively permanent water (RPW), traditionally navigable water (TNW), or a wetland associated with a RPW or TNW. Streams are characterized by having a defined OHWM and a level of water flow. Perennial streams have flowing water year-round in a typical year and a water table above the stream bed for most of the year. Intermittent streams have water flowing during certain times of the year when groundwater provides water for stream flow, and intermittent dry periods. Ephemeral streams only exhibit water flow 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. Ditches are constructed or excavated channels used to convey water and may have a defined OHWM. Upland ponds are characterized as having been constructed or excavated in uplands. On-channel ponds are naturally formed by hollowing or embankment of water flow or stream flow.

Table 4: Summary of Water Features

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
1	Ditch	Ditch Drainage Feature	33.217923/ -96.765890	0.01	195	A, B	8-1	1
2	Ditch	Ditch Drainage Feature	33.218490/ -96.764102	0.01	238	A, B	8-1	2
3*	Swale	Swale Drainage Feature	33.219044/ -96.763878	-	132	A, B	8-1	-
4	Swale	Swale Drainage Feature	33.218733/ -96.763637	-	157	A, B	8-1	3
5	Emergent Wetland Associated with Rutherford Branch	Palustrine Emergent Wetland	33.218465/ -96.763637	0.01	-	A, B	8-1	4, 5
6	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.218306/ -96.763060	0.05	421	A, B	8-1	4, 5, 6
7	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.218074/ -96.762245	0.001	16	A, B	8-1	6
8	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.218238/ -96.759790	0.02	399	A, B	8-1	7
9	Ditch	Ditch Drainage Feature	33.218845/ -96.759538	0.01	293	A, B	8-1	13
10	Ditch	Ditch Drainage Feature	33.218443/ -96.759338	0.01	252	A, B	8-1	8
11	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.218289/ -96.758225	0.08	731	A, B	8-1	7, 8, 9
12*	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.218343/ -96.757167	0.003	28	A, B	8-1	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
13*	Ditch	Ditch Drainage Feature	33.219366/ -96.756797	0.12	536	A, B	8-1	-
14*	Rutherford Branch	Perennial Stream	33.218139/ -96.757183	0.06	169	A, B	8-1	-
15*	Rutherford Branch	Perennial Stream	33.218250/ -96.756545	0.17	378	A, B	8-1	-
16	Rutherford Branch	Perennial Stream	33.218613/ -96.756079	0.08	167	A, B	8-1	10
17*	Rutherford Branch	Perennial Stream	33.218959/ -96.756047	0.05	99	A, B	8-1	-
18*	Forested Wetland Associated with Rutherford Branch	Palustrine Forested Wetland	33.219598/ -96.755041	2.41	-	A, B	8-1	-
19*	Rutherford Branch	Perennial Stream	33.219622/ -96.755236	0.28	618	A, B	8-1	-
20*	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.220075/ -96.755335	0.02	186	A, B	8-1	-
21*	Emergent Wetland Associated with Rutherford Branch	Palustrine Emergent Wetland	33.219966/ -96.754664	0.08	-	A, B	8-1	-
22	Ditch	Ditch Drainage Feature	33.218422/ -96.755725	0.02	228	A, B	8-1	11
23	Ditch	Ditch Drainage Feature	33.218428/ -96.754735	0.02	349	A, B	8-1	11
24*	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.219272/ -96.751874	0.02	340	A	8-1	-
25	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.218622/ -96.751921	0.01	134	A	8-1	12

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
26*	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.218410/ -96.751938	0.002	23	A	8-1	-
27	Ditch	Ditch Drainage Feature	33.218815/ -96.751178	0.03	629	A	8-1 and 8-2	13
28	Ditch	Ditch Drainage Feature	33.218365/ -96.748640	0.04	860	A	8-1 and 8-2	13
29	Ditch	Ditch Drainage Feature	33.218820/ -96.748870	0.04	258	A	8-2	14
30*	Unnamed Tributary to Rutherford Branch	Perennial Stream	33.218149/ -96.748407	0.04	190	A	8-2	-
31	Unnamed Tributary to Rutherford Branch	Perennial Stream	33.218763/ -96.748396	0.09	271	A	8-2	15, 16, 17, 61
32	Forested Wetland Associated with Rutherford Branch	Palustrine Forested Wetland	33.219023/ -96.748507	0.19	-	A	8-2	15, 16, 17, 61
33	Emergent Wetland Associated with Rutherford Branch	Palustrine Emergent Wetland	33.219978/ -96.748478	1.95	-	A	8-2	15, 16, 17, 61, 62
34	Ditch	Ditch Drainage Feature	33.218394/ -96.747561	0.02	384	A	8-2	13
35	Ditch	Ditch Drainage Feature	33.218371/ -96.746613	0.01	128	A	8-2	18
36	Ditch	Ditch Drainage Feature	33.218772/ -96.747506	0.02	514	A	8-2	13

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
37	Unnamed Tributary to Rutherford Branch	Perennial Stream	33.219339/ -96.746994	0.17	723	A	8-2	17, 18, 19, 61, 62
38	Ditch	Ditch Drainage Feature	33.218752/ -96.743624	0.08	1,791	A	8-2	13
39	Ditch	Ditch Drainage Feature	33.218387/ -96.745977	0.002	37	A	8-2	13
40	Ditch	Ditch Drainage Feature	33.218384/ -96.744802	0.01	125	A	8-2	13
41	Ditch	Ditch Drainage Feature	33.218374/ -96.744162	0.004	78	A	8-2	13
42	Ditch	Ditch Drainage Feature	33.218373/ -96.743701	0.004	85	A	8-2	13
43	Ditch	Ditch Drainage Feature	33.218361/ -96.742495	0.002	50	A	8-2	13
44	Ditch	Ditch Drainage Feature	33.218353/ -96.741615	0.04	275	A	8-2	14
45	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218590/ -96.740878	0.02	247	A	8-2	20
46*	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.219223/ -96.740196	0.04	416	A	8-2	-
47	Ditch	Ditch Drainage Feature	33.218333/ -96.739581	0.05	983	A	8-2	13
48	Ditch	Ditch Drainage Feature	33.218726/ -96.738955	0.03	548	A	8-2	13
49	Ditch	Ditch Drainage Feature	33.218758/ -96.738247	0.02	153	A	8-2	14
50*	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.218192/ -96.738089	0.01	88	A	8-2	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
51	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.218521/ -96.737984	0.02	183	A	8-2	21
52*	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.219211/ -96.738022	0.04	370	A	8-2	-
53*	Scrub/ Shrub Wetland Associated with Rutherford Branch	Palustrine Scrub/ Shrub Wetland	33.219728/ -96.738218	0.28	-	A	8-2	-
54	Ditch	Ditch Drainage Feature	33.218319/ -96.736534	0.03	406	A	8-2	22
55	Ditch	Ditch Drainage Feature	33.218290/ -96.735923	0.02	349	A	8-2	13
56	Ditch	Ditch Drainage Feature	33.218706/ -96.736021	0.04	868	A	8-2	13
57	Ditch	Ditch Drainage Feature	33.218626/ -96.726919	0.11	2,464	A	8-3	13
58	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218955/ -96.727926	0.001	10	A	8-3	23
59*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.219454/ -96.727602	0.03	409	A	8-3	-
60	Ditch	Ditch Drainage Feature	33.219045/ -96.725615	0.06	1,237	A	8-3	13
61	Emergent Wetland Associated with Wilson Creek	Palustrine Emergent Wetland	33.218671/ -96.722608	0.08	-	A	8-3	24, 25
62	Unnamed Tributary to Wilson Creek	Perennial Stream	33.219013/ -96.722532	0.05	391	A	8-3	24, 25, 26

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
63	On-Channel Pond Associated with Wilson Creek	On-Channel Pond	33.219555/ -96.722655	0.03	-	A	8-3	25, 26, 27, 28
64	Swale	Swale Drainage Feature	33.219633/ -96.722775	-	72	A	8-3	27
65	Unnamed Tributary to Wilson Creek	Perennial Stream	33.220010/ -96.722409	0.06	432	A	8-3	26, 28
66	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.220332/ -96.723075	0.01	133	A	8-3	29
67	Ditch	Ditch Drainage Feature	33.219215/ -96.721670	0.02	449	A	8-3	13
68	Ditch	Ditch Drainage Feature	33.218850/ -96.721321	0.002	40	A	8-3	13
69	Forested Wetland Associated with Wilson Creek	Palustrine Forested Wetland	33.220057/ -96.720336	0.01	-	A	8-3	30, 31
70	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.219558/ -96.720128	0.06	416	A	8-3	30, 31
71	Swale	Swale Drainage Feature	33.218809/ -96.719705	-	74	A	8-3	32
72	Swale	Swale Drainage Feature	33.218782/ -96.719183	-	207	A	8-3	33
73	Ditch	Ditch Drainage Feature	33.219245/ -96.717606	0.04	888	A	8-3 and 8-4	13, 35
74	Ditch	Ditch Drainage Feature	33.218865/ -96.716807	0.06	1,288	A	8-3 and 8-4	13
75	Ditch	Ditch Drainage Feature	33.218776/ -96.716939	0.19	1172	A	8-3 and 8-4	14

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76	Swale	Swale Drainage Feature	33.218701/ -96.717855	-	388	A	8-3	35
77	Swale	Swale Drainage Feature	33.218667/ -96.715812	-	474	A	8-4	34
78	Swale	Swale Drainage Feature	33.219421/ -96.714552	-	488	A	8-4	35
79	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218511/ -96.715135	0.002	48	A	8-4	36
80	Forested Wetland Associated with Wilson Creek	Palustrine Forested Wetland	33.218560/ -96.714480	0.19	-	A	8-4	36, 37, 39, 40
81	Swale	Swale Drainage Feature	33.218851/ -96.714506	-	139	A	8-4	38
82	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218248/ -96.714173	0.01	188	A	8-4	39
83	Swale	Swale Drainage Feature	33.218502/ -96.714133	-	12	A	8-4	34
84	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218783/ -96.714340	0.02	91	A	8-4	40
85	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.219871/ -96.713216	0.06	690	A	8-4	41
86	Ditch	Ditch Drainage Feature	33.218916/ -96.713041	0.03	746	A	8-4	13
87	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.220048/-96.712232	0.01	212	A	8-4	42
88	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.219529/ -96.711973	0.01	216	A	8-4	42
89	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.218792/ -96.711567	0.01	161	A	8-4	43
90	Ditch	Ditch Drainage Feature	33.218906/ -96.711278	0.01	279	A	8-4	13

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91	Upland Pond	Upland Pond	33.218726/ -96.711093	0.05	-	A	8-4	43
92	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.221653/-96.710545	0.003	25	A	8-4	44
93	Ditch	Ditch Drainage Feature	33.218891/ -96.706051	0.09	2,012	A	8-4	13
94	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.218160/ -96.704640	0.06	334	A	8-4	45
95	Ditch	Ditch Drainage Feature	33.218094/ -96.703239	0.003	58	A	8-4	13
96	Ditch	Ditch Drainage Feature	33.218081/ -96.702292	0.03	580	A	8-4	13
97*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.218822/ -96.701420	0.11	618	A	8-4	-
98*	Upland Pond	Upland Pond	33.220354/ -96.700691	0.12	-	A	8-4	-
99	Forested Wetland Associated with Wilson Creek	Palustrine Forested Wetland	33.223393/ -96.706169	0.04	-	A	8-4	46, 47
100	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.223528/-96.705798	0.02	158	A	8-4	47, 48
101	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.223483/-96.705110	0.05	302	A	8-4	47, 48
102	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.223098/ -96.706252	0.01	267	A	8-4	49, 50
103*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.221721/ -96.705961	0.02	383	A	8-4	-
104	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.222946/ -96.705536	0.03	686	A	8-4	48, 50
105	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.223040/ -96.703494	0.08	681	A	8-4	48, 50, 51

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106*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.221959/ -96.703509	0.02	478	A	8-4	-
107	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.222544/ -96.702733	0.01	205	A	8-4	52
108*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.222915/ -96.701594	0.06	534	A	8-4	-
109	Emergent Wetland Associated with Wilson Creek	Palustrine Emergent Wetland	33.223723/ -96.704052	1.39	-	A	8-4	53
110	Wilson Creek	Perennial Stream	33.223770/ -96.703243	0.45	777	A	8-4	53, 54
111*	Wilson Creek	Perennial Stream	33.223230/ -96.701580	0.33	573	A	8-4	-
112*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.224154/ -96.701728	0.09	643	A	8-4 and 8-5	-
113	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.225126/ -96.702920	0.06	434	A	8-4 and 8-5	55, 56, 57
114	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.225108/ -96.703308	0.04	289	A	8-4 and 8-5	56
115	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.226399/ -96.703030	0.10	828	A	8-4 and 8-5	57
116	Erosion Gully	Erosion Gully Drainage Feature	33.226528/ -96.702918	-	18	A	8-4 and 8-5	58
117	Erosion Gully	Erosion Gully Drainage Feature	33.227200/ -96.703333	-	50	A	8-5	58
118	On-Channel Pond Associated with Stover Creek	On-Channel Pond	33.234368/ -96.703329	0.34	-	A	8-5	59, 60
119	Unnamed Tributary to Stover Creek	Ephemeral Stream	33.234524/ -96.703814	0.01	233	A	8-5	59, 60

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120*	Unnamed Tributary to Stover Creek	Ephemeral Stream	33.234612/ -96.704455	0.01	201	A	8-5	-
121*	Stover Creek	Perennial Stream	33.237106/ -96.703034	0.07	202	A	8-6	-
122*	Upland Pond	Upland Pond	33.237941/ -96.703706	0.13	-	A	8-6	-
123*	Stover Creek	Perennial Stream	33.243315/ -96.703941	0.78	1,709	A	8-6	-
124	On-Channel Pond Associated with Rutherford Branch	On-Channel Pond	33.220264/ -96.748534	1.94	-	B	8-2	17, 61
125	Forested Wetland Associated with Rutherford Branch	Palustrine Forested Wetland	33.219799/ -96.747518	0.27	-	B	8-2	17, 61, 62
126	Upland Pond	Upland Pond	33.224514/ -96.743508	0.19	-	B	8-2	63
127	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.225262/ -96.743959	0.03	202	B	8-2	63, 64
128*	Forested Wetland Associated with Rutherford Branch	Palustrine Forested Wetland	33.227954/ -96.739946	0.19	-	B	8-7	-
129*	On-Channel Pond Associated with Rutherford Branch	On-Channel Pond	33.228394/ -96.740234	1.04	-	B	8-7	-
130*	Rutherford Branch	Perennial Stream	33.228508/ -96.741457	0.11	125	B	8-7	-
131*	Rutherford Branch	Perennial Stream	33.229666/ -96.737644	0.67	1,936	B	8-7	-

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132*	Unnamed Tributary to Rutherford Branch	Intermittent Stream	33.229268/ -96.737587	0.09	341	B	8-7	-
133*	Upland Pond	Upland Pond	33.230436/ -96.738767	0.27	-	B	8-7	-
134*	Upland Pond	Upland Pond	33.231118/ -96.736338	0.37	-	B	8-7	-
135*	Upland Pond	Upland Pond	33.231615/ -96.737054	0.49	-	B	8-7	-
136	Rutherford Branch	Perennial Stream	33.233875/ -96.732090	0.01	33	B	8-7	65, 69
137	Emergent Wetland Associated with Rutherford Branch	Palustrine Emergent Wetland	33.233851/ -96.732061	0.004	-	B	8-7	65, 69
138	Rutherford Branch	Perennial Stream	33.233876/ -96.732026	0.01	34	B	8-7	65, 69
139	Unnamed Tributary to Rutherford Branch	Ephemeral Stream	33.234057/ -96.732213	0.003	36	B	8-7	66, 68
140	Emergent Wetland Associated with Rutherford Branch	Palustrine Emergent Wetland	33.234150/ -96.732071	0.02	-	B	8-7	66, 67, 68, 73
141	Upland Pond	Upland Pond	33.234111/ -96.732081	0.01	-	B	8-7	68
142	Rutherford Branch	Perennial Stream	33.234912/ -96.729925	1.12	1,960	B	8-7 and 8-8	65, 67, 68, 69
143*	Wilson Creek	Perennial Stream	33.236659/ -96.726896	0.45	559	B	8-8	-
144*	Unnamed Tributary to Wilson Creek	Perennial Stream	33.238332/ -96.720178	0.34	984	B	8-8	-
145*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.240636/ -96.710871	0.10	712	B	8-6	-
146*	Unnamed Tributary to Stover Creek	Intermittent Stream	33.244158/ -96.704012	0.25	732	B	8-6	-

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147*	On-Channel Pond Associated with Stover Creek	On-Channel Pond	33.245694/ -96.701397	0.12	-	A, B	8-6	-
148	Unnamed Tributary to Stover Creek	Intermittent Stream	33.246399/ -96.700038	0.03	435	E	8-6 and 8-9	70
149*	Unnamed Tributary to Stover Creek	Ephemeral Stream	33.246927/ -96.699184	0.02	353	E	8-6 and 8-9	-
150*	Unnamed Tributary to Stover Creek	Ephemeral Stream	33.246598/ -96.698414	0.04	600	E	8-6 and 8-9	-
151*	Swale	Swale Drainage Feature	33.247041/ -96.691761	-	164	E	8-9	-
152*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.246426/ -96.692100	0.04	328	E	8-9	-
153*	On-Channel Pond Associated with Wilson Creek	On-Channel Pond	33.245938/ -96.691875	0.13	-	E	8-9	-
154*	Unnamed Tributary to Wilson Creek	Intermittent Stream	33.244453/ -96.691061	0.21	1,144	E	8-9	-
155*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.245542/ -96.691911	0.03	225	E	8-9	-
156*	Unnamed Tributary to Wilson Creek	Ephemeral Stream	33.244454/ -96.691441	0.03	242	E	8-9	-
157*	Franklin Branch	Intermittent Stream	33.248581/ -96.680349	0.06	174	E	8-10	-
158	Franklin Branch	Intermittent Stream	33.247541/ -96.679926	0.19	558	E	8-10	71
159	Ditch	Ditch Drainage Feature	33.247322/ -96.680134	0.01	134	E	8-10	72
160*	Emergent Wetland Associated with Franklin Branch	Palustrine Emergent Wetland	33.246746/ -96.679775	0.02	-	E	8-10	-

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161*	Franklin Branch	Intermittent Stream	33.246272/ -96.679629	0.13	483	E	8-10	-
162*	Unnamed Tributary to Franklin Branch	Ephemeral Stream	33.246427/ -96.678601	0.13	547	E	8-10	-
163*	Unnamed Tributary to Franklin Branch	Ephemeral Stream	33.247688/ -96.677824	0.11	461	E	8-10	-
164*	Swale	Swale Drainage Feature	33.246572/ -96.673953	-	297	E	8-10	-
165*	Emergent Wetland Associated with Franklin Branch	Palustrine Emergent Wetland	33.247558/ -96.666942	0.12	-	E	8-10 and 8-11	-
166*	Upland Pond	Upland Pond	33.247126/ -96.660494	0.04	-	E	8-11	-
167*	Upland Pond	Upland Pond	33.247211/ -96.659766	0.48	-	E	8-11	-
168*	Unnamed Tributary to Honey Creek	Perennial Stream	33.246221/ -96.654502	0.13	556	E	8-11	-
169	Swale	Swale Drainage Feature	33.249904/ -96.644105	-	50	E	8-12	73
170	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.249743/ -96.644096	0.08	-	E	8-12	74
171	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.249776/ -96.643753	0.02	-	E	8-12	75
172	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.251272/ -96.640619	0.13	690	E	8-12	76, 77
173	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.251488/ -96.639341	0.01	211	E	8-12	76, 77
174*	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.251817/ -96.639400	0.001	20	E	8-12	-

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175	Unnamed Tributary to Honey Creek	Intermittent Stream	33.250685/ -96.634914	0.01	56	E	8-12 and 8-13	78
176	Unnamed Tributary to Honey Creek	Perennial Stream	33.251867/ -96.634639	0.15	815	E	8-12 and 8-13	78, 79
177	Upland Pond	Upland Pond	33.252247/ -96.631389	0.30	-	E	8-13	80
178	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.252701/ -96.631361	0.001	-	E	8-13	81
179	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.252001/ -96.630427	0.31	-	E	8-13	80, 82
180	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.251104/ -96.629462	0.10	-	E	8-13	83
181	Swale	Swale Drainage Feature	33.251761/ -96.629191	-	431	E	8-13	84
182	Honey Creek	Perennial Stream	33.251321/ -96.627645	1.09	1,905	E	8-13	85, 88
183	Ditch	Ditch Drainage Feature	33.250508/ -96.626477	0.001	8	E	8-13	86
184	Swale	Swale Drainage Feature	33.251501/ -96.626326	-	784	E	8-13	87
185	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.251157/ -96.625670	0.33	-	E	8-13	88
186	Swale	Swale Drainage Feature	33.250810/ -96.625172	-	448	E	8-13	87
187	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.249546/ -96.623804	0.003	31	E	8-13	89
188*	Upland Pond	Upland Pond	33.249000/ -96.621990	0.55	-	E	8-13	-

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189	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.235599/ -96.630674	0.001	15	E	8-14	90
190	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.244049/ -96.625342	0.14	-	E	8-13	91
191	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.245441/ -96.625876	0.12	-	E	8-13	92
192	Honey Creek	Perennial Stream	33.246292/ -96.623565	0.25	430	E	8-13	85
193	Ditch	Ditch Drainage Feature	33.250117/ -96.620078	0.01	261	E	8-13	94
194	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.250437/ -96.619792	0.02	-	E	8-13	93
195	Swale	Swale Drainage Feature	33.250440/ -96.619701	-	77	E	8-13	94
196	Unnamed Tributary to Honey Creek	Intermittent Stream	33.251764/ -96.618083	0.01	34	E	8-13 and 8-15	95
197*	Ditch	Ditch Drainage Feature	33.252437/ -96.614511	0.003	23	E	8-15	-
198*	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.252589/ -96.614307	0.05	-	E	8-15	-
199	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.254211/ -96.614358	0.004	35	E	8-15	96

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
200	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.254996/ -96.613371	0.005	-	E	8-15	97
201	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.256341/ -96.611674	0.02	-	E	8-15	98, 99, 100
202	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.256622/ -96.611323	0.01	-	E	8-15	98, 99, 100
203*	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.255802/ -96.610182	0.08	-	E	8-15	-
204	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.257379/ -96.610197	0.03	387	E	8-15	98, 99, 100
205	East Fork Trinity River	Perennial Stream	33.257266/ -96.609413	0.44	479	E	8-15	98, 99, 100, 101, 102, 103
206	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.257357/ -96.608135	0.01	98	E	8-15	102, 103
207	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.257582/ -96.607844	0.13	-	E	8-15	102, 103
208	Ditch	Ditch Drainage Feature	33.258426/ -96.606574	0.02	728	E	8-15	104

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
209	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.259247/ -96.607917	0.01	64	E	8-15	105
210	Ditch	Ditch Drainage Feature	33.259833/ -96.606720	0.02	794	E	8-15	104
211	Ditch	Ditch Drainage Feature	33.261973/ -96.601562	0.03	1,443	E	8-15 and 8-16	104
212	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.263000/ -96.603838	0.01	44	E	8-16	106
213	Ditch	Ditch Drainage Feature	33.265639/ -96.600129	0.04	1,664	E	8-16	104
214	Ditch	Ditch Drainage Feature	33.264217/ -96.602577	0.05	796	E	8-16	107
215	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.263331/ -96.599624	0.01	68	E	8-16	108
216	Ditch	Ditch Drainage Feature	33.264423/ -96.597666	0.06	1,368	E	8-16	109
217	Ditch	Ditch Drainage Feature	33.269284/ -96.593762	0.002	80	E	8-16	104
218	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.269617/ -96.596378	0.01	23	E	8-16	110, 111, 128
219	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.269631/ -96.596155	0.08	-	E	8-16	110, 111

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
220*	Scrub/ Shrub Wetland Associated with Honey Creek	Palustrine Scrub/Shrub Wetland	33.249006/ -96.617080	3.11	-	E	8-15 and 8-17	-
221	Emergent Wetland Associated with Honey Creek	Palustrine Emergent Wetland	33.248874/ -96.618153	0.44	-	E	8-13 and 8-17	112, 113
222	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.247368/ -96.617542	1.45	-	E	8-13 and 8-17	112, 113, 114, 115
223	On-Channel Pond Associated with Honey Creek	On-Channel Pond	33.246915/ -96.619293	0.09	-	E	8-13 and 8-17	114
224	Unnamed Tributary to Honey Creek	Ephemeral Stream	33.246662/ -96.617975	0.02	405	E	8-13 and 8-17	114, 115
225*	Ditch	Ditch Drainage Feature	33.246357/ -96.614756	0.05	723	E	8-17	-
226*	Ditch	Ditch Drainage Feature	33.243197/ -96.614450	0.06	847	E	8-17	-
227	Honey Creek	Perennial Stream	33.244037/ -96.615003	0.09	164	E	8-17	85
228*	Forested Wetland Associated with Honey Creek	Palustrine Forested Wetland	33.243055/ -96.614757	0.02	-	E	8-17	-
229*	Ditch	Ditch Drainage Feature	33.24238/ -96.6143630	0.01	244	E	8-17	-
230*	Swale	Swale Drainage Feature	33.246310/ -96.610767	-	260	E	8-17	-
231	East Fork Trinity River	Perennial Stream	33.245586/ -96.610250	0.71	770	E	8-17	101
231A*	East Fork Trinity River	Perennial Stream	33.243895/ -96.609092	0.29	344	E	8-17	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
232	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.244123/ -96.608077	0.03	243	C, D	8-17	116
233	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.238427/ -96.600567	0.08	-	D	8-18	117, 131, 132
234	East Fork Trinity River	Perennial Stream	33.237547/ -96.602079	0.27	293	D	8-18	101
235	East Fork Trinity River	Perennial Stream	33.235245/ -96.600091	0.58	632	D	8-18	101, 117, 132, 133
236	East Fork Trinity River	Perennial Stream	33.226427/ -96.594895	0.23	255	D	8-19	101
237	Emergent Wetland Associated with Powerhouse Creek	Palustrine Emergent Wetland	33.222156/ -96.599051	0.87	-	D	8-19	118
238*	Emergent Wetland Associated with Powerhouse Creek	Palustrine Emergent Wetland	33.221288/ -96.599271	0.03	-	D	8-19	-
239*	Emergent Wetland Associated with Powerhouse Creek	Palustrine Emergent Wetland	33.221025/ -96.599104	0.13	-	D	8-19	-
240*	Emergent Wetland Associated with Powerhouse Creek	Palustrine Emergent Wetland	33.220494/ -96.598161	0.35	-	D	8-19	-
241*	Powerhouse Creek	Perennial Stream	33.219433/ -96.600522	0.04	194	D	8-20	-
242	Powerhouse Creek	Perennial Stream	33.219487/- 96.600146	0.01	41	D	8-20	119

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
243*	Powerhouse Creek	Perennial Stream	33.219520/ -96.598770	0.19	808	D	8-20	-
244*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.217489/ -96.597855	0.28	-	D	8-20	-
245*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.215840/ -96.598849	0.36	-	D	8-20	-
246*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.213372/ -96.597739	1.42	-	D	8-20	-
247*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.213630/ -96.598832	0.35	-	D	8-20	-
248*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.213433/ -96.599171	0.10	852	D	8-20	-
249*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.212561/ -96.598843	0.59	-	D	8-20	-
250*	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.211530/ -96.598204	2.95	-	D	8-20	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
251*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.210946/ -96.599171	0.86	-	D	8-20	-
252*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.209853/ -96.599061	0.43	-	D	8-20	-
253*	Swale	Swale Drainage Feature	33.208555/ -96.598910	-	210	D	8-20 and 8-21	-
254*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.208363/ -96.598621	0.29	-	D	8-20 and 8-21	-
255*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.207979/ -96.599244	0.11	-	D	8-21	-
256*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.207611/ -96.600303	0.58	-	D	8-21	-
257*	Swale	Swale Drainage Feature	33.207095/ -96.598633	-	598	D	8-21	-
258	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.206645/ -96.600286	2.01	-	D	8-21	120

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
259	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.206064/ -96.599821	0.21	-	D	8-21	120, 121, 123
260*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.205965/ -96.599456	1.28	-	D	8-21	-
261	Unnamed Tributary to the East Fork Trinity River	Perennial Stream	33.205839/ -96.600270	0.08	344	D	8-21	120, 122, 123
262	Unnamed Tributary to the East Fork Trinity River	Perennial Stream	33.205828/ -96.600035	0.01	50	D	8-21	120, 121, 123
263*	Unnamed Tributary to East Fork Trinity River	Perennial Stream	33.205404/ -96.599420	0.05	265	D	8-21	-
264	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.205275/ -96.600081	0.37	-	D	8-21	124
265*	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.205106/ -96.599609	0.25	-	D	8-21	-
266*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.205059/ -96.598912	0.02	139	D	8-21	-
267*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.204858/ -96.598721	0.002	50	D	8-21	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
268*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.204910/ -96.598655	0.004	77	D	8-21	-
269	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.204744/ -96.598906	0.01	84	D	8-21	120, 123, 125
270*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.204775/ -96.598343	0.04	280	D	8-21	-
271	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.204740/ -96.597422	0.01	287	D	8-21	120, 126
272*	East Fork Trinity River	Perennial Stream	33.205744/ -96.596613	0.94	816	D	8-21	-
273	East Fork Trinity River	Perennial Stream	33.203712/ -96.596520	1.39	1,207	D	8-21	101, 123, 157
274*	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.203726/ -96.594190	0.12	-	D	8-21	-
275	Upland Pond	Upland Pond	33.202116/ -96.592066	0.26	-	D	8-21	123
276*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.203361/ -96.586127	3.06	-	D, C	8-24	-
277*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.201758/ -96.586379	0.21	-	D	8-24	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
278*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.201483/ -96.585436	0.11	-	D	8-24	-
279*	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.201723/ -96.584262	1.14	-	D	8-24	-
280*	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.201973/ -96.583998	0.65	-	C	8-24	-
281	Upland Pond	Upland Pond	33.200143/ -96.584798	0.14	-	D	8-24	128
282*	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream		0.02	53	D	8-24	-
283	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.199895/ -96.584019	0.30	875	D	8-24	128, 129
284*	Upland Pond	Upland Pond	33.200731/ -96.583557	0.51	-	C	8-24	-
285	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.199700/ -96.583092	0.03	248	C	8-24	130
286	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.241816/ -96.602102	0.07	-	C, D	8-17 and 8-18	131
287	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.241048/ -96.600562	0.02	136	C	8-18	9, 131

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
288	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.239786/ -96.600405	0.92	-	C	8-18	117, 131, 132
289	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.239861/ -96.599787	2.47	-	C	8-18	117, 131, 132, 133
290	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.239552/ -96.599151	0.31	-	C	8-18	131, 132, 133
291	Unnamed Tributary to the East Fork Trinity River	Perennial Stream	33.239576/ -96.597608	0.21	596	C	8-18	134
292*	Clemons Creek	Intermittent Stream	33.240009/ -96.596506	0.04	133	C	8-18	-
293	Clemons Creek	Intermittent Stream	33.238930/ -96.595902	0.43	1,554	C	8-18	135
294*	Clemons Creek	Intermittent Stream	33.238165/ -96.595550	0.06	221	C	8-18	-
295*	Clemons Creek	Intermittent Stream	33.237663/ -96.594190	0.11	308	C	8-18	-
296*	Forested Wetland Associated with Clemons Creek	Palustrine Forested Wetland	33.239179/ -96.594167	0.11	-	C	8-18	-
297	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.238731/ -96.594008	0.22	-	C	8-18	136
298*	Forested Wetland Associated with Clemons Creek	Palustrine Forested Wetland	33.237572/ -96.592708	3.09	-	C	8-18	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
299*	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.238020/ -96.591986	0.67	-	C	8-18	-
300*	Upland Pond	Upland Pond	33.236651/ -96.587292	0.47	-	C	8-18	-
301*	Swale	Swale Drainage Feature	33.236214/ -96.587647	-	195	C	8-18	-
302*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.235831/ -96.587578	0.01	103	C	8-18	-
303	Ditch	Ditch Drainage Feature	33.235688/ -96.587538	0.01	377	C	8-18	138
304	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.235493/ -96.587832	0.03	249	C	8-18	137
305*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.234379/ -96.588183	0.07	626	C	8-18	-
306	Ditch	Ditch Drainage Feature	33.234067/ -96.587806	0.01	481	C	8-18	138
307*	Upland Pond	Upland Pond	33.233418/ -96.585974	0.11	-	C	8-18	-
308	Ditch	Ditch Drainage Feature	33.232241/ -96.587912	0.01	489	C	8-18 and 8-22	138
309*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.232385/ -96.585166	0.02	130	C	8-18 and 8-22	-
310*	Swale	Swale Drainage Feature	33.231893/ -96.585362	-	374	C	8-18 and 8-22	-
311*	Upland Pond	Upland Pond	33.231259/ -96.585414	0.46	-	C	8-18 and 8-22	-
312*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.230799/ -96.585407	0.30	1,321	C	8-18 and 8-22	-

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
313*	Swale	Swale Drainage Feature	33.226374/ -96.581980	-	185	C	8-22	-
314	Swale	Swale Drainage Feature	33.226116/ -96.582434	-	165	C	8-22	139
315*	Swale	Swale Drainage Feature	33.225542/ -96.582632	-	274	C	8-22	-
316	Swale	Swale Drainage Feature	33.225108/ -96.583023	-	136	C	8-22	139
317*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.224687/ -96.584001	0.08	294	C	8-22	-
318*	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.216803/ -96.584218	0.33	-	C	8-23	-
319*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.217229/ -96.582658	0.41	603	C	8-23	140
320*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.216416/ -96.582486	0.08	450	C	8-23	140
321	Upland Pond	Upland Pond	33.215522/ -96.582352	0.17	-	C	8-23	140
322	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.212362/ -96.583132	0.12	658	C	8-23	141
323*	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.211381/ -96.584341	0.04	-	C	8-23	-

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324	Ditch	Ditch Drainage Feature	33.210630/ -96.583835	0.01	161	C	8-23	13
325	Upland Pond	Upland Pond	33.210055/ -96.583050	1.13	-	C	8-23 and 8-24	142
326	Ditch	Ditch Drainage Feature	33.208982/ -96.582723	0.04	777	C	8-23 and 8-24	13
327	Upland Pond	Upland Pond	33.207525/ -96.583133	0.18	-	C	8-24	143
328	Swale	Swale Drainage Feature	33.206939/ -96.581384	-	26	C	8-24	144
329	Isolated Forested Wetland	Palustrine Forested Wetland	33.206586/ -96.581446	0.22	-	C	8-24	145, 146
330	Upland Pond	Upland Pond	33.206503/ -96.581560	0.34	-	C	8-24	146
331*	Upland Pond	Upland Pond	33.204476/ -96.581871	0.21	-	C	8-24	-
332	Upland Pond	Upland Pond	33.205040/ -96.584848	0.47	-	C	8-24	142, 145
333	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.204694/ -96.585839	0.49	-	C	8-24	147, 148, 149
334	Emergent Wetland Associated with East Fork Trinity River	Palustrine Emergent Wetland	33.204698/ -96.586051	0.26	-	C	8-24	147, 148, 149
335	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.204502/ -96.586364	0.001	33	C	8-24	147, 148, 149
336*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.198610/ -96.579331	0.12	645	C	8-24 and 8-25	-
337	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.199421/ -96.577880	0.07	384	C	8-24	150

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
338	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.200058/ -96.577682	0.001	20	C	8-24	151
339*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.199887/ -96.577462	0.01	195	C	8-24	-
340*	Unnamed Tributary to East Fork Trinity River	Intermittent Stream	33.200075/ -96.576660	0.11	584	C	8-24	-
341	Upland Pond	Upland Pond	33.196063/ -96.577018	0.48	-	C	8-25	142
342	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.197013/ -96.573852	0.01	133	C	8-25	152
343	Swale	Swale Drainage Feature	33.197243/ -96.573651	-	85	C	8-25	153
344	Ditch	Ditch Drainage Feature	33.196950/ -96.572117	0.01	258	C	8-25	154
345	Ditch	Ditch Drainage Feature	33.197160/ -96.571373	0.01	416	C	8-25	154
346*	Upland Pond	Upland Pond	33.197840/ -96.572053	0.08	-	C	8-25	-
347*	Unnamed Tributary to East Fork Trinity River	Ephemeral Stream	33.196025/ -96.570289	0.01	148	C	8-25	-
348	Swale	Swale Drainage Feature	33.196272/ -96.570125	-	59	C	8-25	32
349	Ditch	Ditch Drainage Feature	33.196130/ -96.569034	0.01	440	C	8-25	154
350	Ditch	Ditch Drainage Feature	33.196242/ -96.568203	0.02	937	C	8-25	154

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
351	Unnamed Tributary to the East Fork Trinity River	Ephemeral Stream	33.195490/ -96.567568	0.01	140	C	8-25	155
352	Ditch	Ditch Drainage Feature	33.195556/ -96.567316	0.02	735	C	8-25	154
353*	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.198463/ -96.599552	0.01	60	C	8-21	-
354	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.198545/ -96.598042	0.08	588	C	8-21	156
355*	Unnamed Tributary to the East Fork Trinity River	Perennial Stream	33.202223/ -96.600293	0.15	298	C	8-21	-
356	Unnamed Tributary to the East Fork Trinity River	Perennial Stream	33.202855/ -96.598315	0.54	1078	C	8-21	157
357	Swale	Swale Drainage Feature	33.187564/ -96.577772	-	280	C	8-25	158
358	East Fork Trinity River	Perennial Stream	33.190381/ -96.577237	0.63	689	C	8-25	101
359	Unnamed Tributary to the East Fork Trinity River	Intermittent Stream	33.190661/ -96.576704	0.04	226	C	8-25	159
360	Swale	Swale Drainage Feature	33.191063/ -96.576946	-	262	C	8-25	159, 160
361	Swale	Swale Drainage Feature	33.191447/ -96.577235	-	379	C	8-25	160

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
362	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.191987/ -96.576904	0.07	-	C	8-25	161
363	Swale	Swale Drainage Feature	33.192322/ -96.576883	-	101	C	8-25	160
364	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.192794/ -96.577035	0.20	-	C	8-25	161
365	Swale	Swale Drainage Feature	33.193421/ -96.577345	-	170	C	8-25	160
366	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.192357/ -96.578068	0.21	-	C	8-25	162
367	Forested Wetland Associated with East Fork Trinity River	Palustrine Forested Wetland	33.192725/ -96.578163	0.15	-	C	8-25	162, 163
368	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.193769/ -96.578011	0.05	-	C	8-25	164
369	Swale	Swale Drainage Feature	33.193878/ -96.577991	-	41	C	8-25	160
370	On-Channel Pond Associated with East Fork Trinity River	On-Channel Pond	33.194065/ -96.578005	0.10	-	C	8-25	164

Water Feature Number	Name	Type	Lat/Long	Acres within Environmental Footprint (all water features including streams)	Linear feet (LF) within Environmental Footprint (streams only)	Associated Study Segment(s)	Figure Reference(s)	Photo Log Reference(s)
371	Upland Pond	Upland Pond	33.195288/ -96.576013	1.23	-	C	8-25	142
Total				77.375 AC	105,670 LF			

* Indicates a Photo-Interpreted Feature

5.2.1 Water Feature Summaries

The western portion of the Study Area primarily drains to Wilson Creek (Water Features 110, 111*, and 143*) which flows from northwest to southeast, exhibiting a 25 to 35-foot average OHWM width. Within the Environmental Footprint, Wilson Creek has a connection to several ephemeral, intermittent, and perennial tributaries as well as on-channel pond, forested wetland, and emergent wetland. Major, named tributaries include Rutherford Branch, Stover Creek, and Franklin Branch. Wilson Creek and all associated features are listed in Table 4 which includes information on name, feature type, location, and quantity within the Environmental Footprint and information on which study segment it is associated with, which figure this feature can be seen on, and which photos and associated photo descriptions represent this feature.

Rutherford Branch (Water Features 14*, 15*, 16, 17*, 19*, 130*, 131*, 136, 138, and 142) is a perennial stream with an average OHWM width of 15 to 40 feet within the Environmental Footprint, including one location where it forks around an emergent wetland (Water Feature 137) into two 12.5-foot channels (Water Features 136 and 138) then reverts back to a single 25-foot channel (Water Feature 142). Rutherford Branch flows southwest to northeast where it drains into Wilson Creek (Water Feature 143*). Within the Environmental Footprint, Rutherford Branch has a connection to several ephemeral, intermittent, and perennial tributaries as well as on-channel pond, forested wetland, scrub-shrub wetland, and emergent wetland. See Table 4 for a complete inventory of these features associated with Rutherford Branch.

Stover Creek (Water Features 121* and 123*) is a perennial stream with an average OHWM width of 15 to 20 feet within the Environmental Footprint. It flows from north to south and drains into Wilson Creek outside of the Environmental Footprint. Within the Environmental Footprint, Stover Creek exhibits a connection to on-channel ponds and ephemeral and intermittent tributaries. See Table 4 for a complete inventory of these features associated with Stover Creek.

Franklin Branch (Water Features 157*, 158, and 161*) is an intermittent stream with an average OHWM width of 12 to 15 feet within the Environmental Footprint. It flows from north to south and drains into Wilson Creek outside of the Environmental Footprint. Within the Environmental Footprint, Franklin Branch exhibits a connection to ephemeral tributaries and emergent wetland. See Table 4 for a complete inventory of these features associated with Franklin Branch.

The eastern portion of the Environmental Footprint primarily drains to the East Fork Trinity River (Water Features 205, 231, 234, 235, 236, 272*, 273, and 358) which flows from northwest to southeast, exhibiting a 40 to 50-foot average OHWM width. Within the Environmental Footprint, East Fork Trinity River has a connection to several ephemeral, intermittent, and perennial tributaries as well as on-channel pond, forested wetland, and emergent wetland. Major, named tributaries include Honey Creek, Clemons Creek, and Powerhouse Creek. East Fork Trinity and all associated features are listed in Table 4 which includes information on name, feature type, location, and

quantity within the Environmental Footprint and information on which study segment it is associated with, which figure this feature can be seen on, and which photos and associated photo descriptions represent this feature.

Honey Creek (Water Features 182, 192, and 227) is a perennial stream with an average OHWM width of 25 feet within the Environmental Footprint. Honey Creek flows northwest to southeast where it drains into East Fork Trinity outside of the Environmental Footprint. Within the Environmental Footprint, Honey Creek has a connection to several ephemeral, intermittent, and perennial tributaries as well as on-channel pond, forested wetland, scrub-shrub wetland, and emergent wetland. See Table 4 for a complete inventory of these features associated with Honey Creek.

Clemons Creek (Water Features 292*, 293, 294*, 295*) is an intermittent stream with an average OHWM width of 12 to 15 feet within the Environmental Footprint. It generally flows from north to south and drains into East Fork Trinity River outside of the Environmental Footprint. Within the Environmental Footprint, Clemons Creek exhibits a connection to forested wetland. See Table 4 for a complete inventory of these features associated with Clemons Creek.

Powerhouse Creek (Water Features 241*, 242, and 243*) is a perennial stream with an average OHWM width of 10 feet within the Environmental Footprint. It flows from west to east and drains into East Fork Trinity River outside of the Environmental Footprint. Within the Environmental Footprint, Powerhouse Creek exhibits a connection an emergent wetland. See Table 4 for a complete inventory of these features associated with Powerhouse Creek.

An area of particular interest is the complex (see Photos 160 to 164) between US 380 and East Fork Trinity River (Water Feature 358). Between 1952 and 1972 (see Table 3) a ditch was excavated to the northwest of the Environmental Footprint to reroute the former alignment of Water Feature 358 and drain the floodplain, likely eliminating a historic wetland area. This modification resulted in a split watershed. Forested Wetland Water Feature 367, On-Channel Pond Water Features 366, 368, and 370, and Swale Water Feature 369 drain into the man-made alignment of the former stream and drain northwest to the East Fork Trinity River outside the Environmental Footprint. 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 Feature 362 and 364). These ponds are connected by upland, vegetated swales (Swale Water Features 360, 361, 363, and 365). These swales and ponds drain to the only remaining portion of the original stream, Intermittent Stream Water Feature 359 which flows into the East Fork Trinity River (358). All water features in this complex are flooded by the East Fork Trinity River in a typical year.

Another area of particular interest is the wetland complex (see Photos 117 and 131 to 134) east of State Highway (SH) 5 and north of the East Fork Trinity River (Water Features 234 and 235). Emergent Wetland Water Features 233, 288, and 290, and Forested Wetland Water Feature 289 formed in the floodplain abutting an old railroad track. Overland flow from Water Features 234 and 235 provides annual hydrology to the area. Runoff from residential developments to the north also contributes to hydrology of the emergent and forested wetlands. Perennial Stream Water Feature 291 flows south into Water Feature 235 and contributes to overland flow in the area during high flow events.

5.2.2 Hydrology

A review of the Antecedent Precipitation Tool (APT) reported mostly normal conditions that ranged from wetter than normal to drier than normal within the Study Area at the time of the field investigations. The table below summarizes wetland hydrological indicators identified within the Environmental Footprint. 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	32, 69, 80, 99, 125, 170, 178, 179, 200, 201, 202, 207, 222, 264, 286, 289, 297, 329, 333, 367	A1 – Surface Water A2 – High Water Table A3 – Saturation B1 – Water Marks B3 – Drift Deposits B4 – Algal Mat or Crust B7 – Inundation Visible on Aerial Imagery B9 – Water-Stained Leaves C4 – Presence of Reduced Iron	B6 – Surface Soil Cracks B8 – Sparsely Vegetated Concave Surface B10 – Drainage Patterns C9 – Saturation Visible on Aerial Imagery D2 – Geomorphic Position D5 – FAC-Neutral Test
Palustrine Emergent Wetland	5, 33, 61, 109, 137, 140, 171, 180, 185, 190, 191, 194, 219, 221, 233, 237, 259, 288, 290, 334	A1 – Surface Water A2 – High Water Table A3 – Saturation B3 – Drift Deposits B7 – Inundation Visible on Aerial Imagery B13 – Aquatic Invertebrates C3 – Oxidized Rhizospheres on Living Roots	B6 – Surface Soil Cracks B8 – Sparsely Vegetated Concave Surface B10 – Drainage Patterns C9 – Saturation Visible on Aerial Imagery D2 – Geomorphic Position D5 – FAC-Neutral Test

5.2.3 Vegetation

Normal conditions were reported within the Environmental Footprint at the time of the field investigations. Representative dominant taxa for each distinct habitat type encountered within the Environmental Footprint 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	*Celtis laevigata*	sugar-berry	FAC
Tree	*Fraxinus pennsylvanica*	green ash	FAC
Tree	*Maclura pomifera*	Bois d 'arc	FACU
Tree	*Populus deltoides*	Eastern cottonwood	FAC
Tree	*Salix nigra*	black willow	FACW
Tree	*Ulmus americana*	American elm	FAC
Sapling/Shrub	*Carya illinoinensis*	pecan	FAC

Strata	Scientific Name	Common Name	NWPL Classification
Sapling/Shrub	*Celtis laevigata*	sugar-berry	FAC
Sapling/Shrub	*Fraxinus pennsylvanica*	green ash	FAC
Sapling/Shrub	*Salix nigra*	black willow	FACW
Sapling/Shrub	*Ulmus americana*	American elm	FAC
Sapling/Shrub	*Ulmus crassifolia*	cedar elm	FAC

Table 7: Wetland Dominant Emergent Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Herbaceous	*Alisma triviale*	Northern water-plantain	OBL
Herbaceous	*Carex vulpinoidea*	common fox sedge	FACW
Herbaceous	*Cynodon dactylon*	Bermudagrass	FACU
Herbaceous	*Chasmanthium sessiliflorum*	long-leaf wood-oats	FAC
Herbaceous	*Eleocharis obtusa*	blunt spike-rush	OBL
Herbaceous	*Eleocharis palustris*	common spike-rush	OBL
Herbaceous	*Iva annua*	annual marsh-elder	FAC
Herbaceous	*Leersia oryzoides*	rice cut grass	OBL
Herbaceous	*Persicaria hydropiperoides*	swamp smartweed	OBL
Herbaceous	*Phyla lanceolata*	northern frogfruit	FACW
Herbaceous	*Phyla nodiflora*	turkey-tangle	FAC
Herbaceous	*Typha angustifolia*	narrow-leaf cattail	OBL
Herbaceous	*Typha latifolia*	broad-leaf cattail	OBL
Herbaceous	*Xanthium strumarium*	rough cocklebur	FAC
Herbaceous	*Zizaniopsis miliacea*	marsh-millet	OBL

Table 8: Upland Dominant Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Tree	*Carya illinoinensis*	pecan	FAC
Tree	*Celtis laevigata*	sugar-berry	FAC
Tree	*Acer negundo*	boxelder	FAC

Strata	Scientific Name	Common Name	NWPL Classification
Tree	*Diospyros virginiana*	common persimmon	FAC
Tree	*Fraxinus pennsylvanica*	green ash	FAC
Tree	*Gleditsia triacanthos*	honey-locust	FACU
Tree	*Juniperus virginiana*	Eastern red-cedar	UPL
Tree	*Quercus muehlenbergii*	chinkapin oak	FAC
Tree	*Ulmus alata*	winged elm	FACU
Tree	*Ulmus americana*	American elm	FAC
Sapling/Shrub	*Celtis laevigata*	sugar-berry	FAC
Sapling/Shrub	*Ilex vomitoria*	yaupon	FAC
Sapling/Shrub	*Salix nigra*	black willow	FACW
Sapling/Shrub	*Sambucus nigra*	black elder	FAC
Sapling/Shrub	*Ulmus americana*	American elm	FAC
Herbaceous	*Ambrosia trifida*	great ragweed	FAC
Herbaceous	*Cardiospermum halicacabum*	love-in-a-puff	FAC
Herbaceous	*Cenchrus ciliaris*	buffel grass	FACU
Herbaceous	*Cynodon dactylon*	bermudagrass	FACU
Herbaceous	*Eragrostis spectabilis*	petticoat-climber	UPL
Herbaceous	*Iva annua*	annual marsh-elder	FAC
Herbaceous	*Liriope muscari*	big blue lilyturf	UPL
Herbaceous	*Paspalum urvillei*	Vasey's grass	FACW
Herbaceous	*Schedonorus arundinaceus*	tall false rye grass	FACU
Herbaceous	*Solidago altissima*	tall goldenrod	FACU
Herbaceous	*Sorghum halepense*	johnsongrass	FACU
Herbaceous	*Stenotaphrum secundatum*	St. Augustine grass	FAC
Woody Vine	*Parthenocissus quinquefolia*	Virginia-creeper	FACU
Woody Vine	*Campsis radicans*	trumpet-creeper	FACU
Woody Vine	*Smilax bona-nox*	fringed greenbrier	FACU
Woody Vine	*Toxicodendron radicans*	Eastern poison ivy	FACU

5.2.4 Soils

Normal conditions were present within the Environmental Footprint 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 Environmental Footprint.

Table 9: Hydric Soil Indicators

Wetland Type	Water Feature Number(s)	Hydric Soil Indicator(s)
Palustrine Forested Wetland	32, 69, 80, 99, 125, 170, 178, 179, 200, 201, 202, 207, 222, 264, 286, 289, 297, 329, 333, 367	F3 – Depleted Matrix F6 – Redox Dark Surface F8 – Redox Depressions Other: Too saturated to determine color profile, organic layer within top inch, strong hydrology and hydrophytic vegetation
Palustrine Emergent Wetland	5, 33, 61, 109, 137, 140, 171, 180, 185, 190, 191, 194, 219, 221, 233, 237, 259, 288, 290, 334	A4 – Hydrogen Sulfide F3 – Depleted Matrix F6 – Redox Dark Surface F8 – Redox Depressions Other: Netted matting visible on aerial imagery

6.0 Conclusion

A water feature delineation was conducted for US 380 (From Coit Road to FM 1827) in McKinney and Prosper, Collin County, Texas (CSJ 0135-02-065, 0135-03-053, and 0135-15-002). The field delineation was completed on August 24, 28; September 8, 10, 11, 14, 16, 17, 24, 25; October 12, 13, 15, 20; November 3, 9, 11, 29; December 1, 3, 22; 2020; January 17, 19; June 8; August 12, 16, 17, 18, 25; and September 22; 2021. Refer to Section 5.2, above, for a table summarizing the water features (i.e., waterbodies/wetlands) identified within the Environmental Footprint.

The Environmental Footprint contained ephemeral, intermittent, and perennial tributaries, palustrine forested, scrub-shrub and emergent wetlands, open water features (on-channel ponds), excavated upland ponds, swales, ditches, water-filled depressions associated with road construction, stormwater retention ponds and an isolated wetland. Many of the water features are hydrologically associated with, connected to, or influenced by RPWs, including Wilson Creek, the East Fork Trinity River, Throckmorton Creek, Rutherford Branch, Franklin Branch, Stover Creek, Honey Creek, Jean's Creek, and Clemons Creek.

7.0 References

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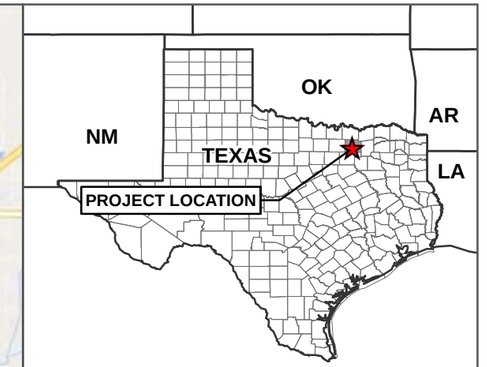
8.0 Attachments

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



LEGEND

- ENVIRONMENTAL FOOTPRINT
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

GENERAL LOCATION

US 380
CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

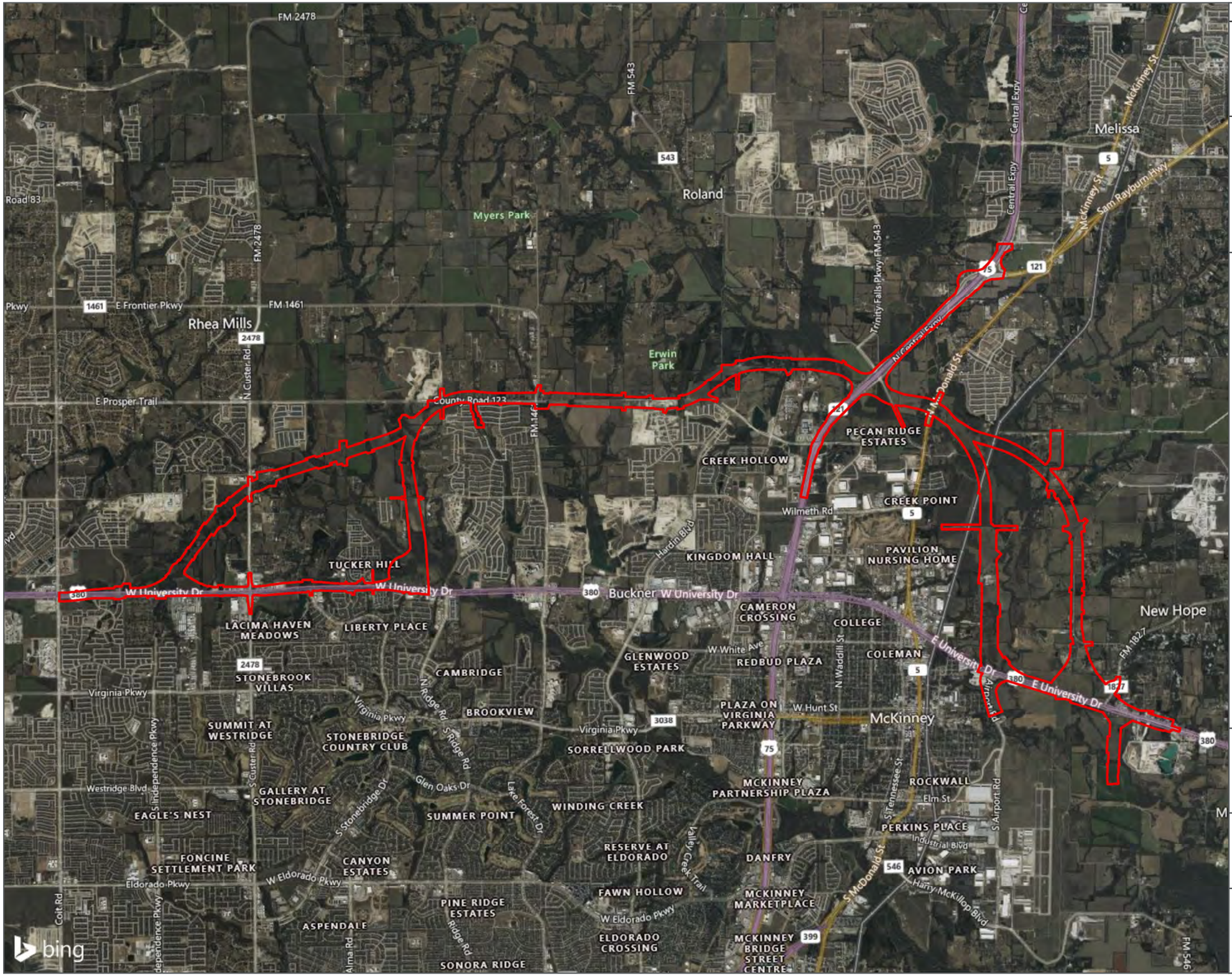
N

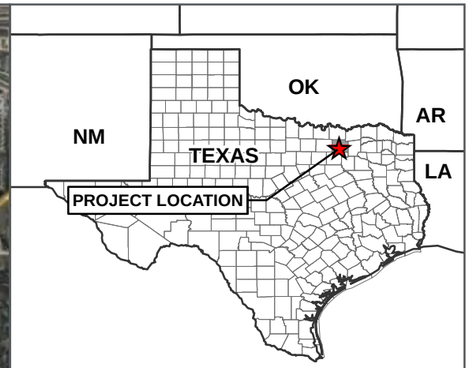
0 0.75 1.5
MILES

Texas Department of Transportation

FIGURE 1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG1_GENLOC_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

PROJECT LOCATION ON AERIAL

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

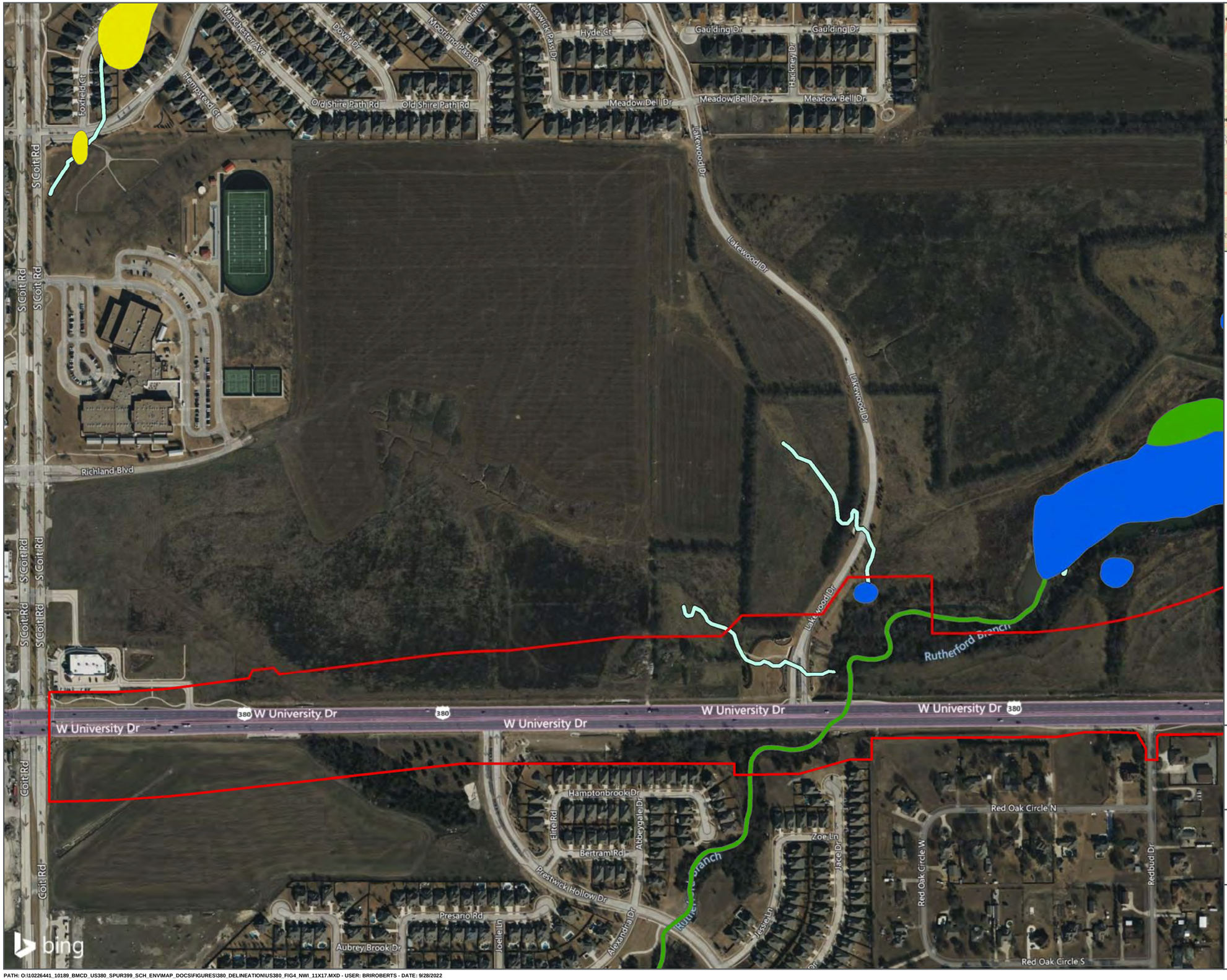
0 0.5 1

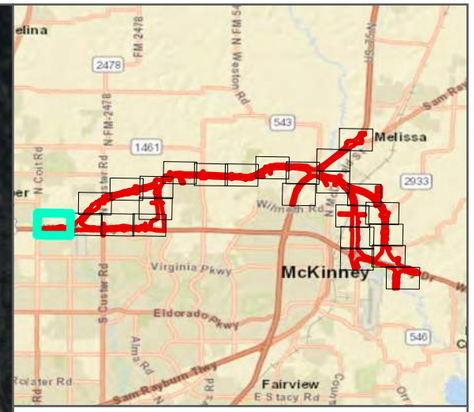
MILES

Texas Department of Transportation

FIGURE 2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG2_AERIAL_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

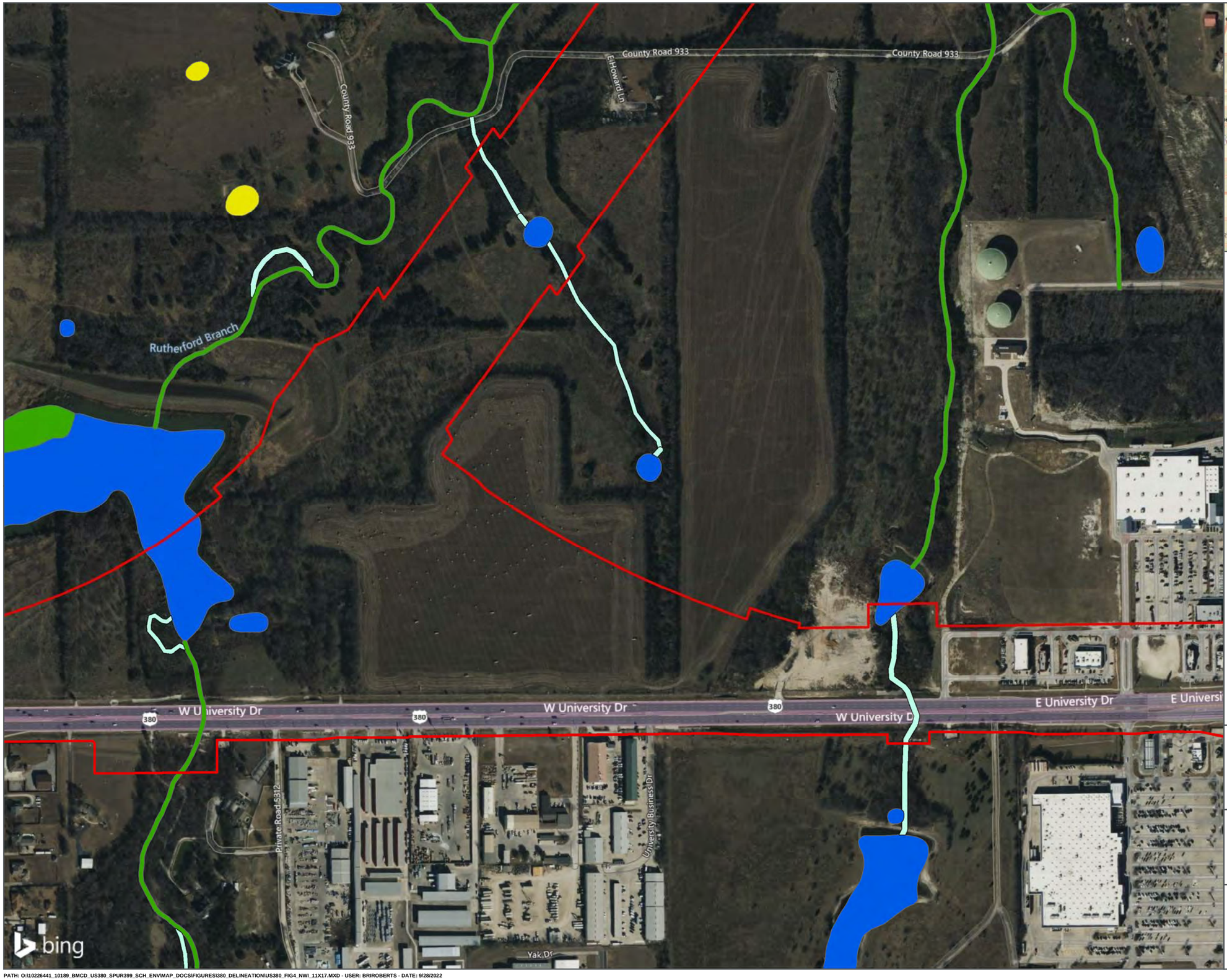
0 250 500

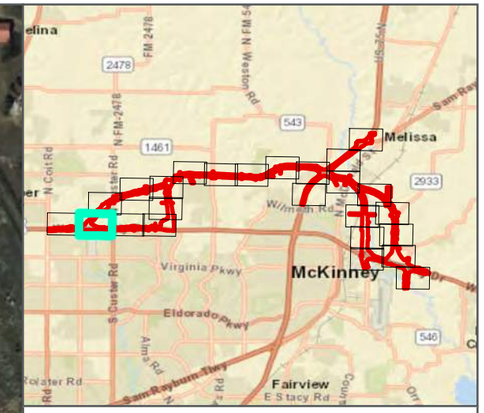
FEET

Texas Department of Transportation

FIGURE 4-1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

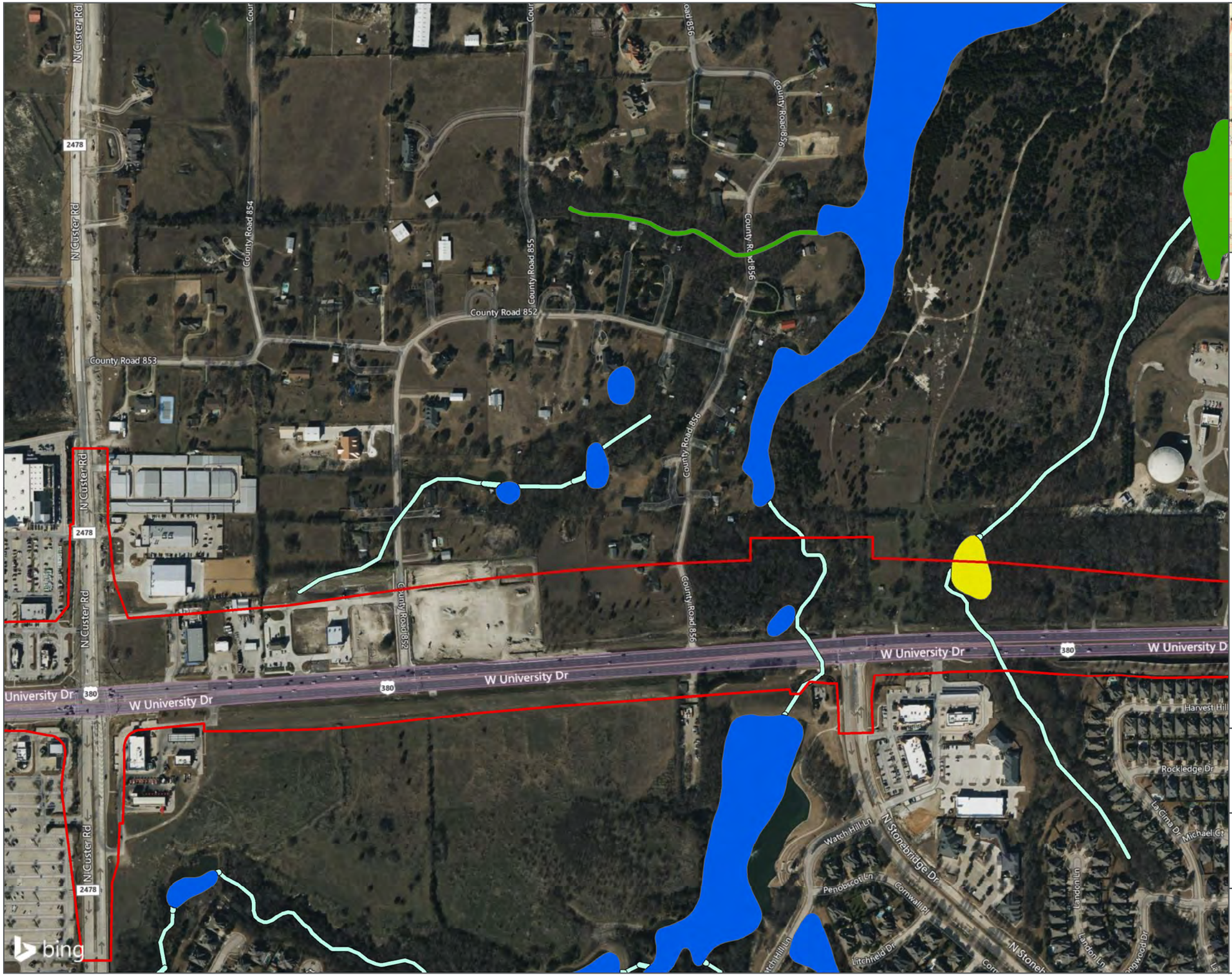
0 250 500

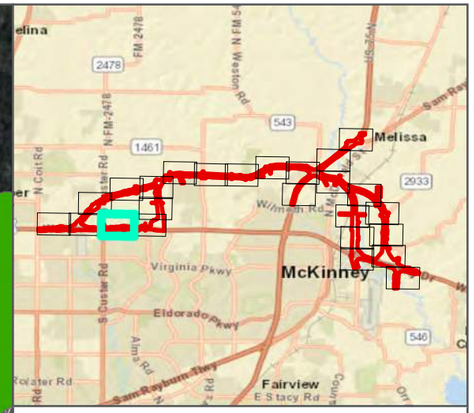
FEET

Texas Department of Transportation

FIGURE 4-2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

FEET

Texas Department of Transportation

FIGURE 4-3

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022

LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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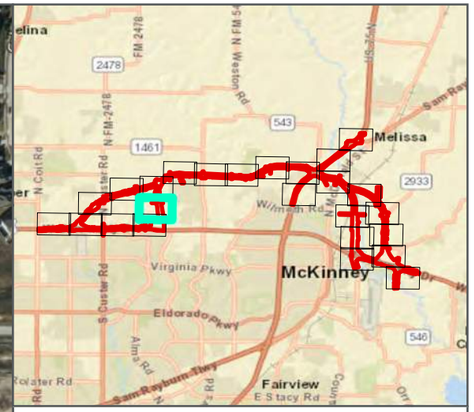
Texas Department of Transportation

FIGURE 4-4

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

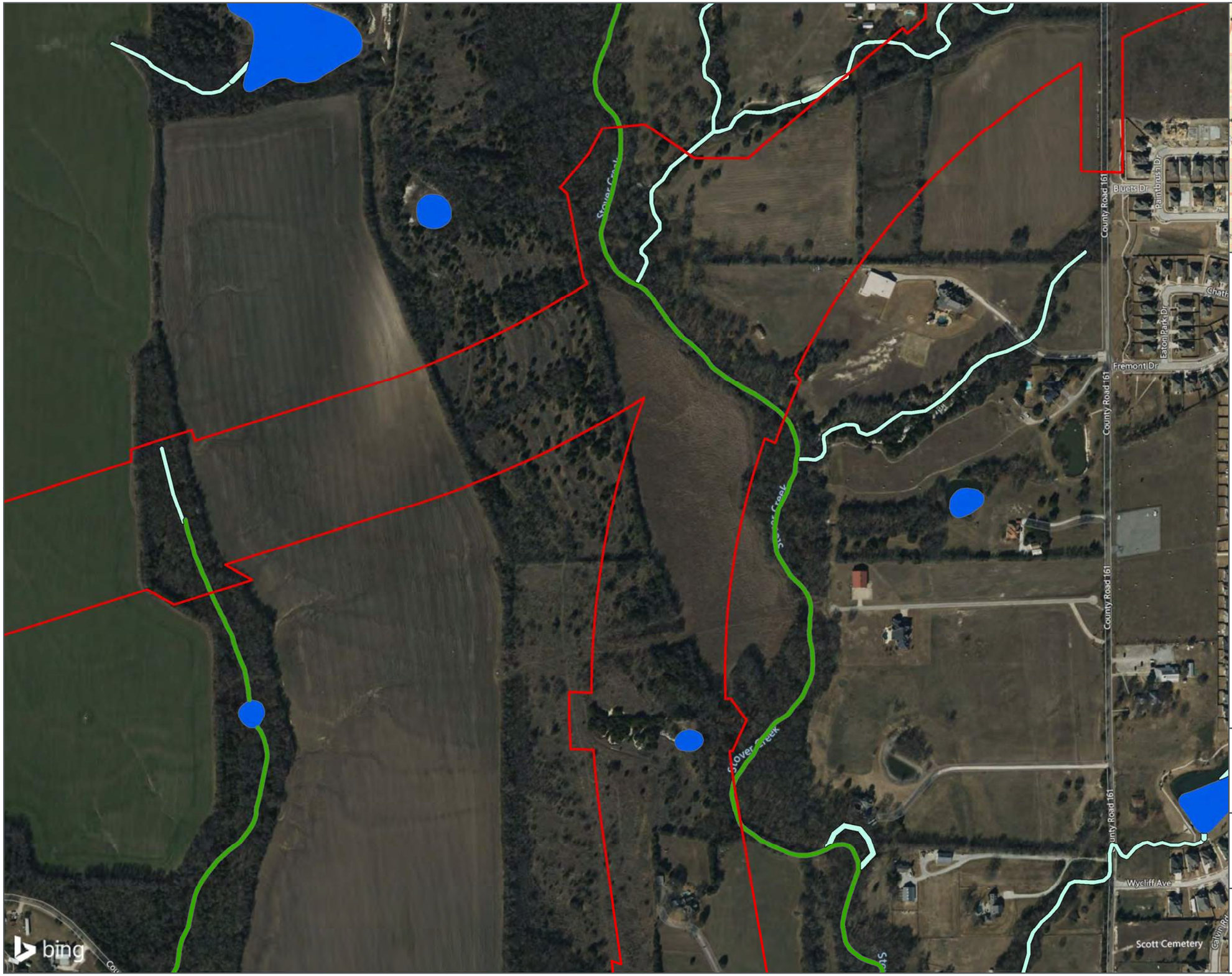
0 250 500

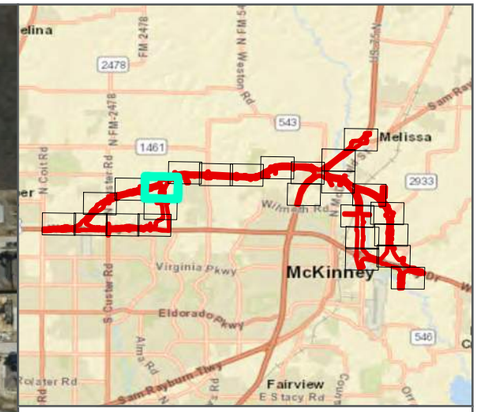
FEET

Texas Department of Transportation

FIGURE 4-5

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

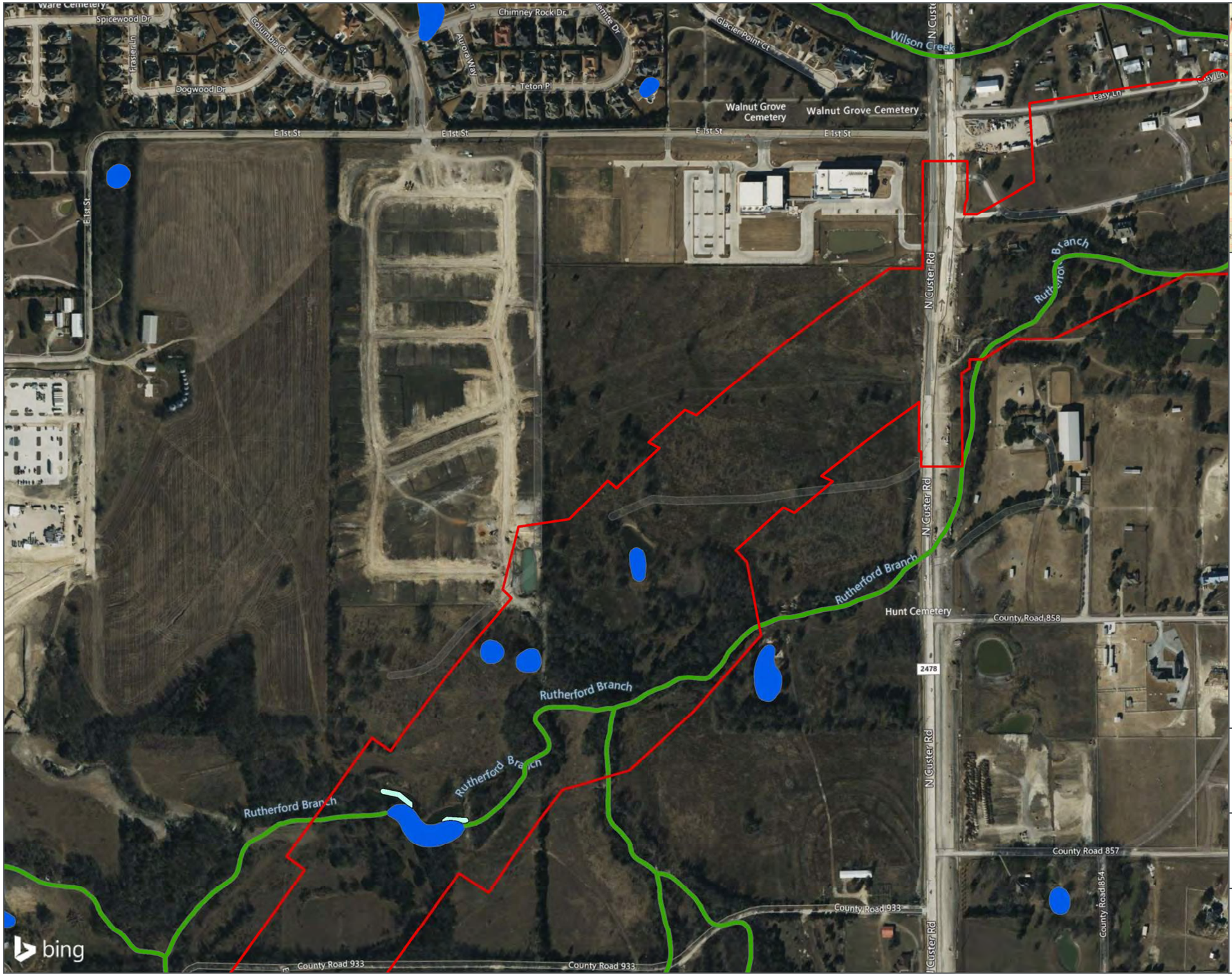
0 250 500

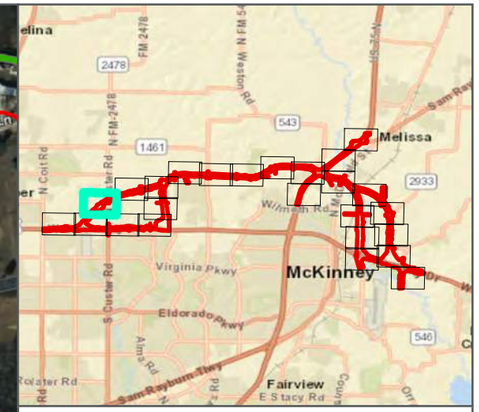
FEET

Texas Department of Transportation

FIGURE 4-6

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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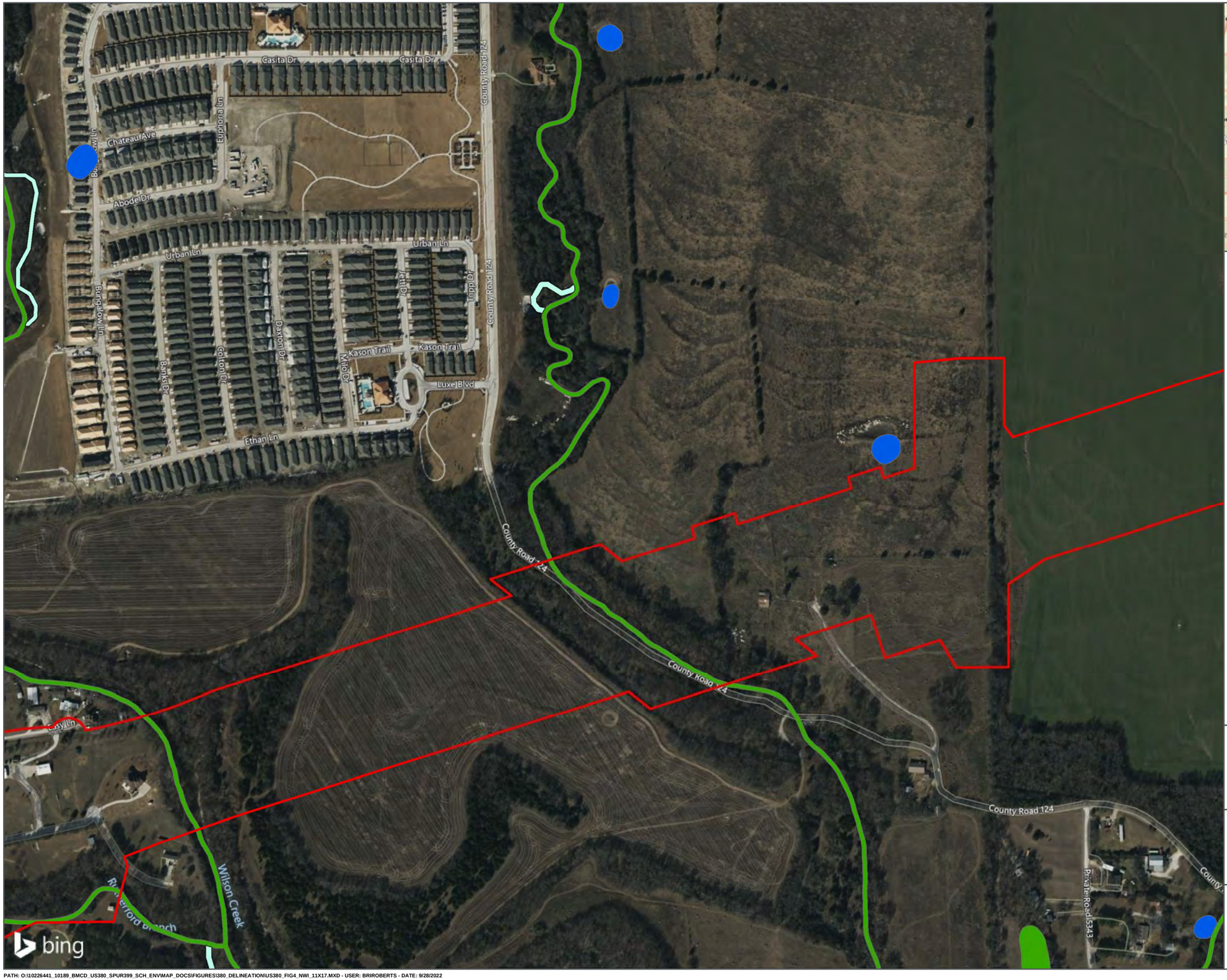
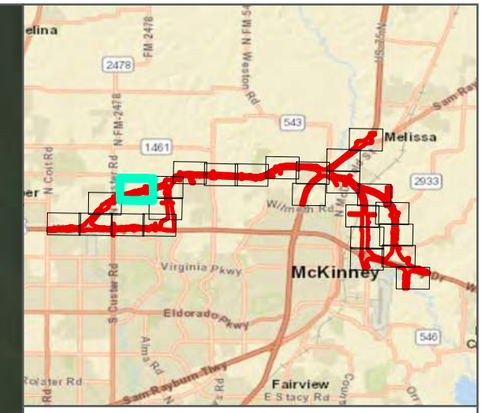
Texas Department of Transportation

FIGURE 4-7

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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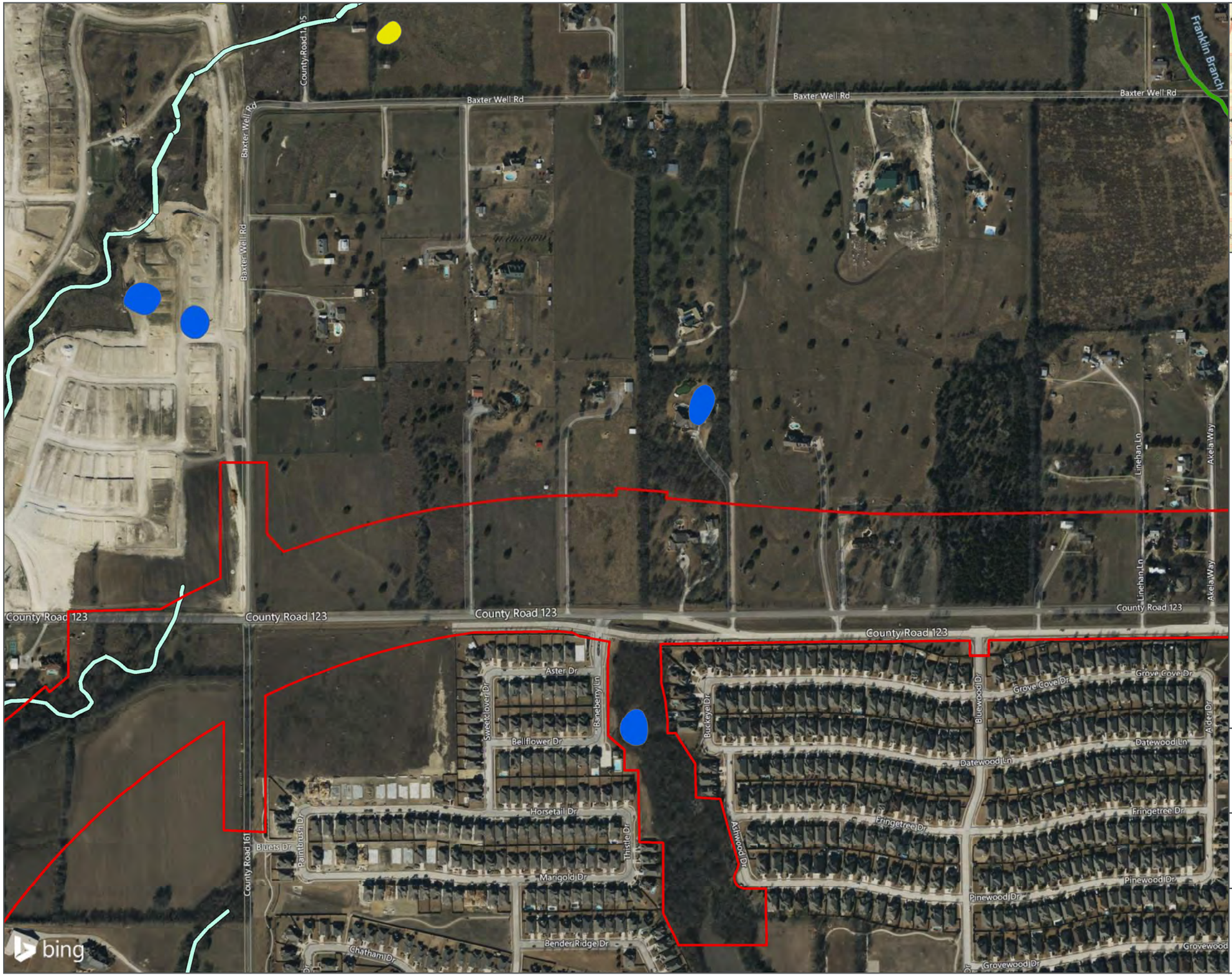
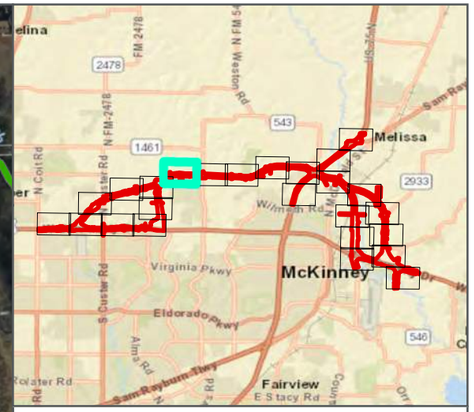
Texas Department of Transportation

FIGURE 4-8

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

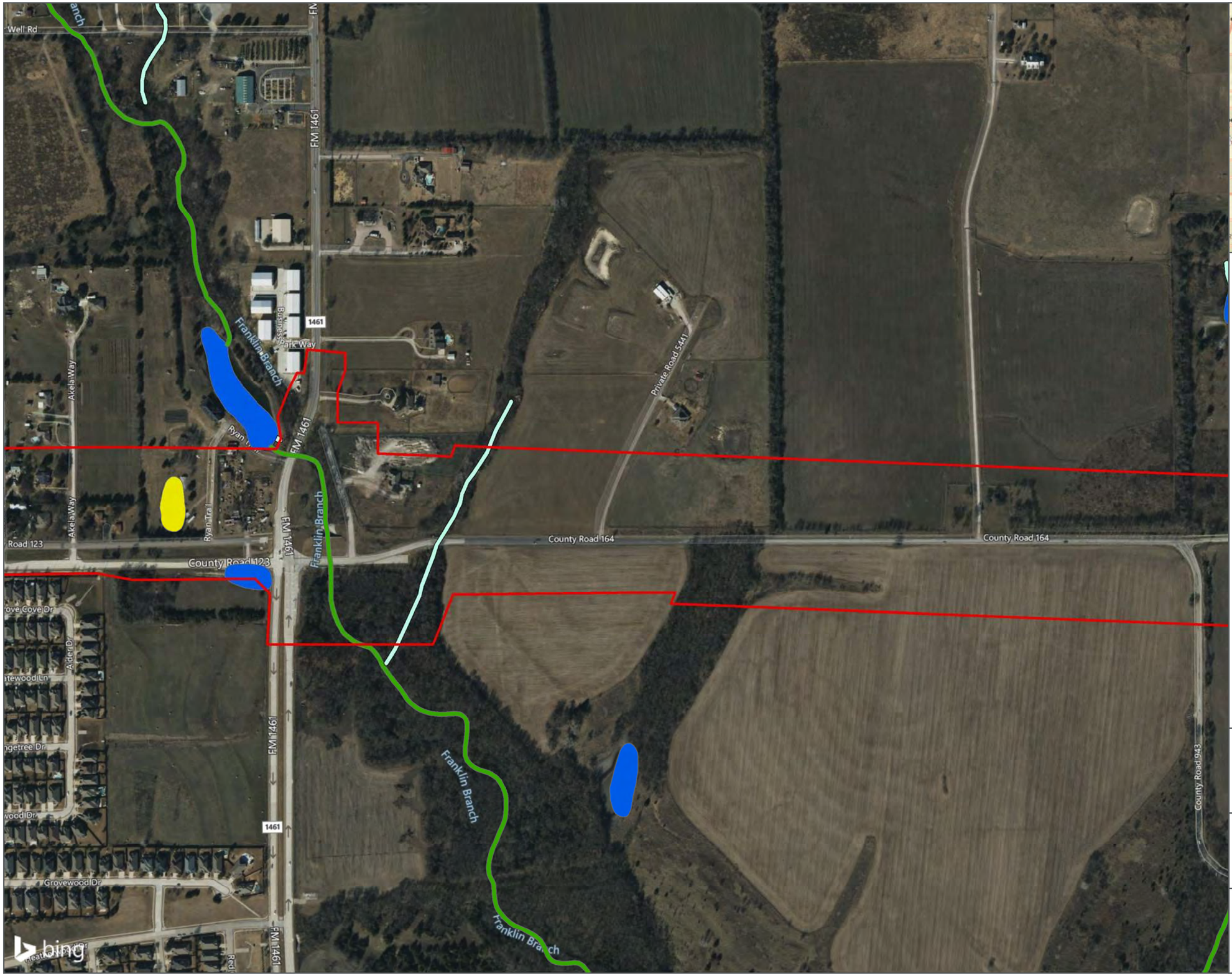
0 250 500

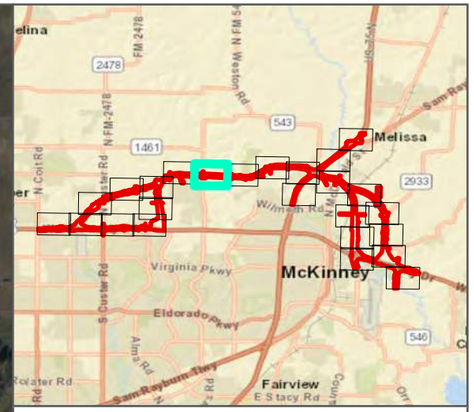
FEET

Texas Department of Transportation

FIGURE 4-9

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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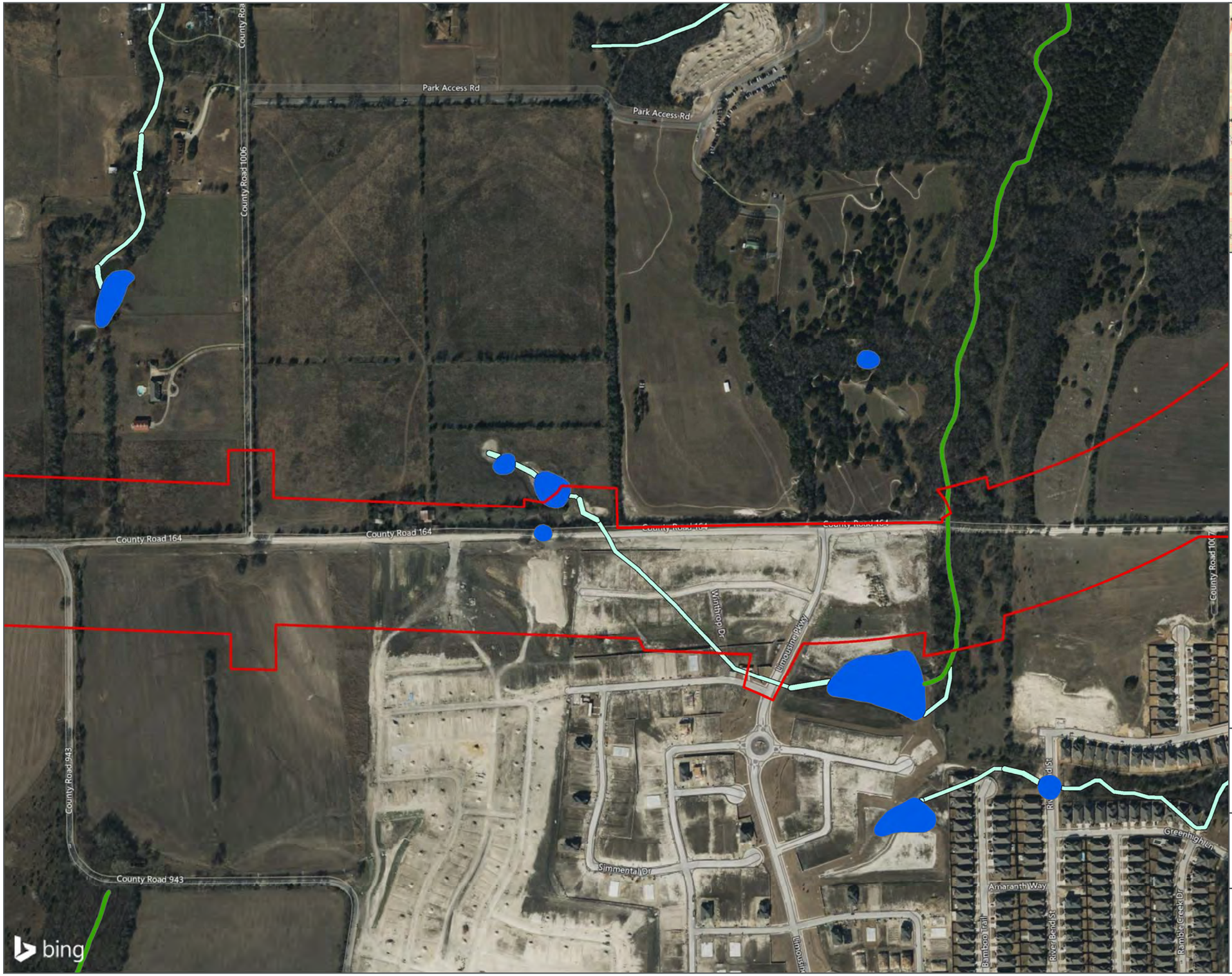
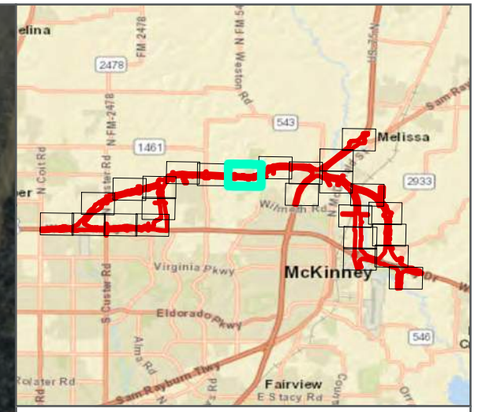
Texas Department of Transportation

FIGURE 4-10

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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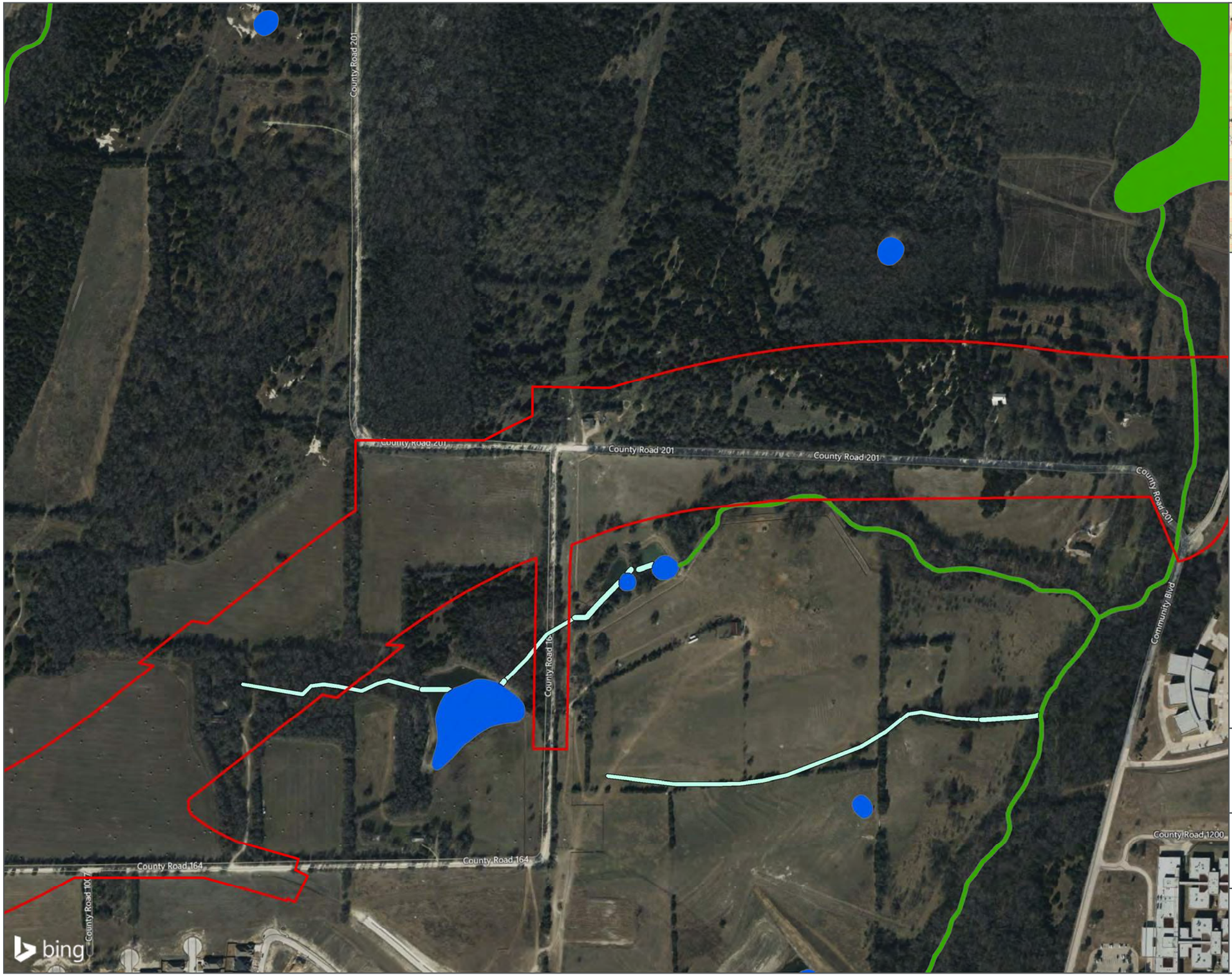
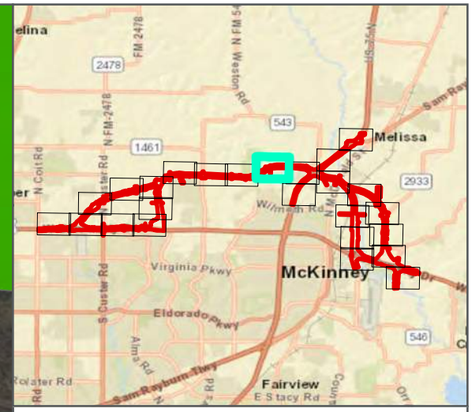
Texas Department of Transportation

FIGURE 4-11

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

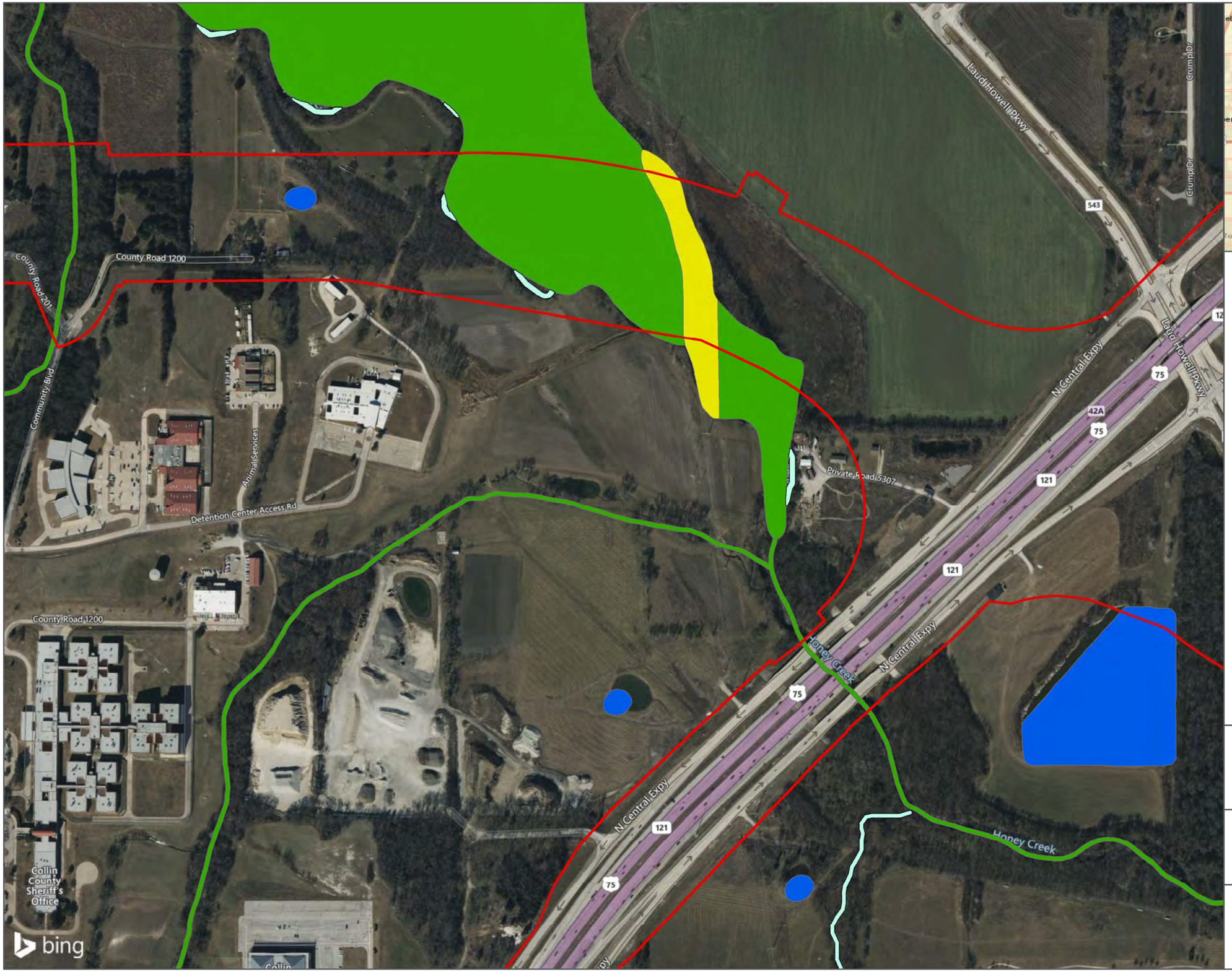
0 250 500

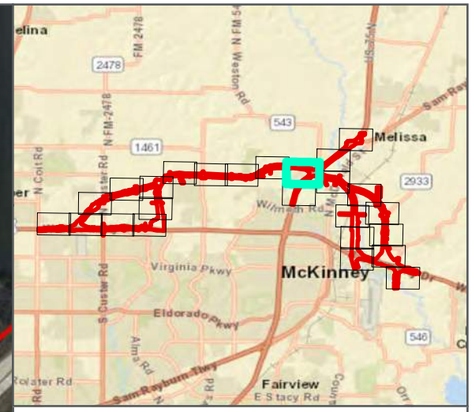
FEET

Texas Department of Transportation

FIGURE 4-12

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

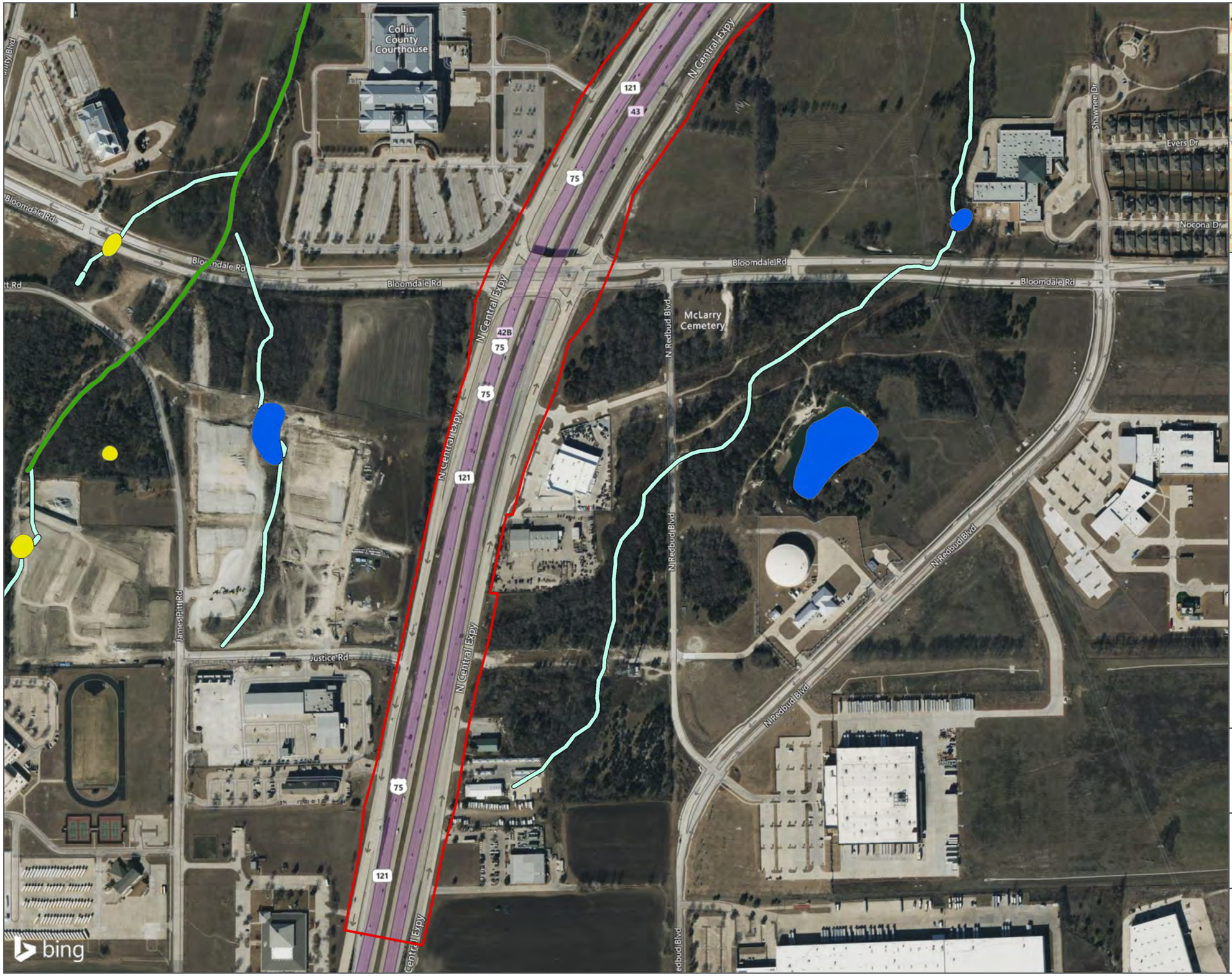
0 250 500

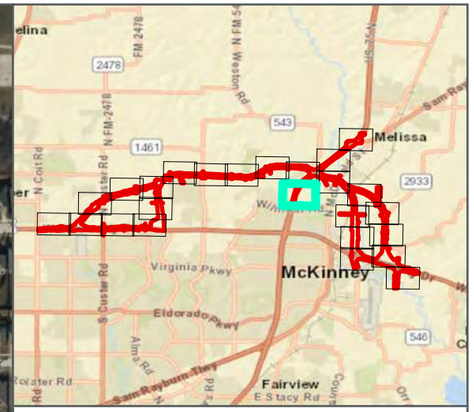
FEET

Texas Department of Transportation

FIGURE 4-13

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

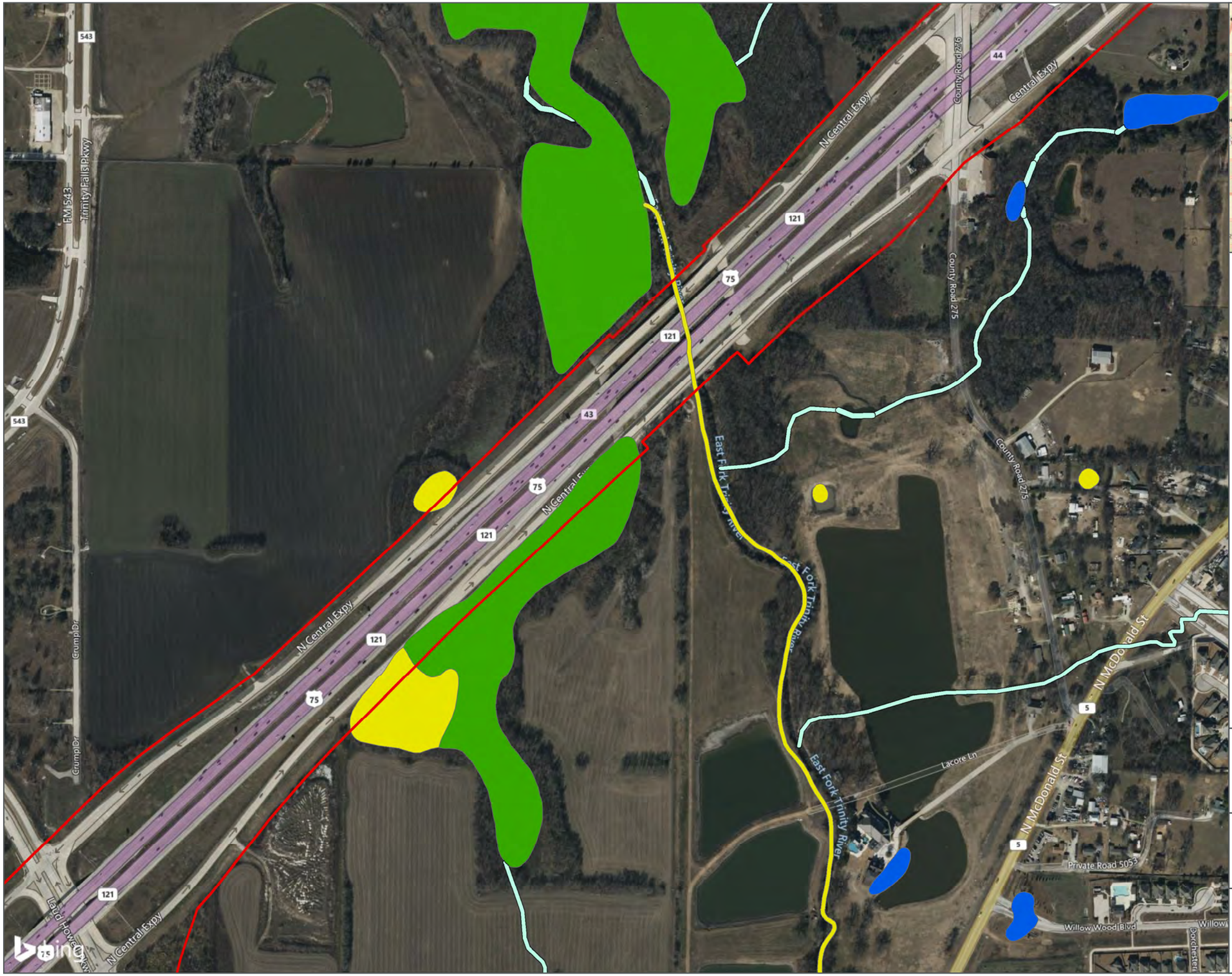
0 250 500

FEET

Texas Department of Transportation

FIGURE 4-14

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

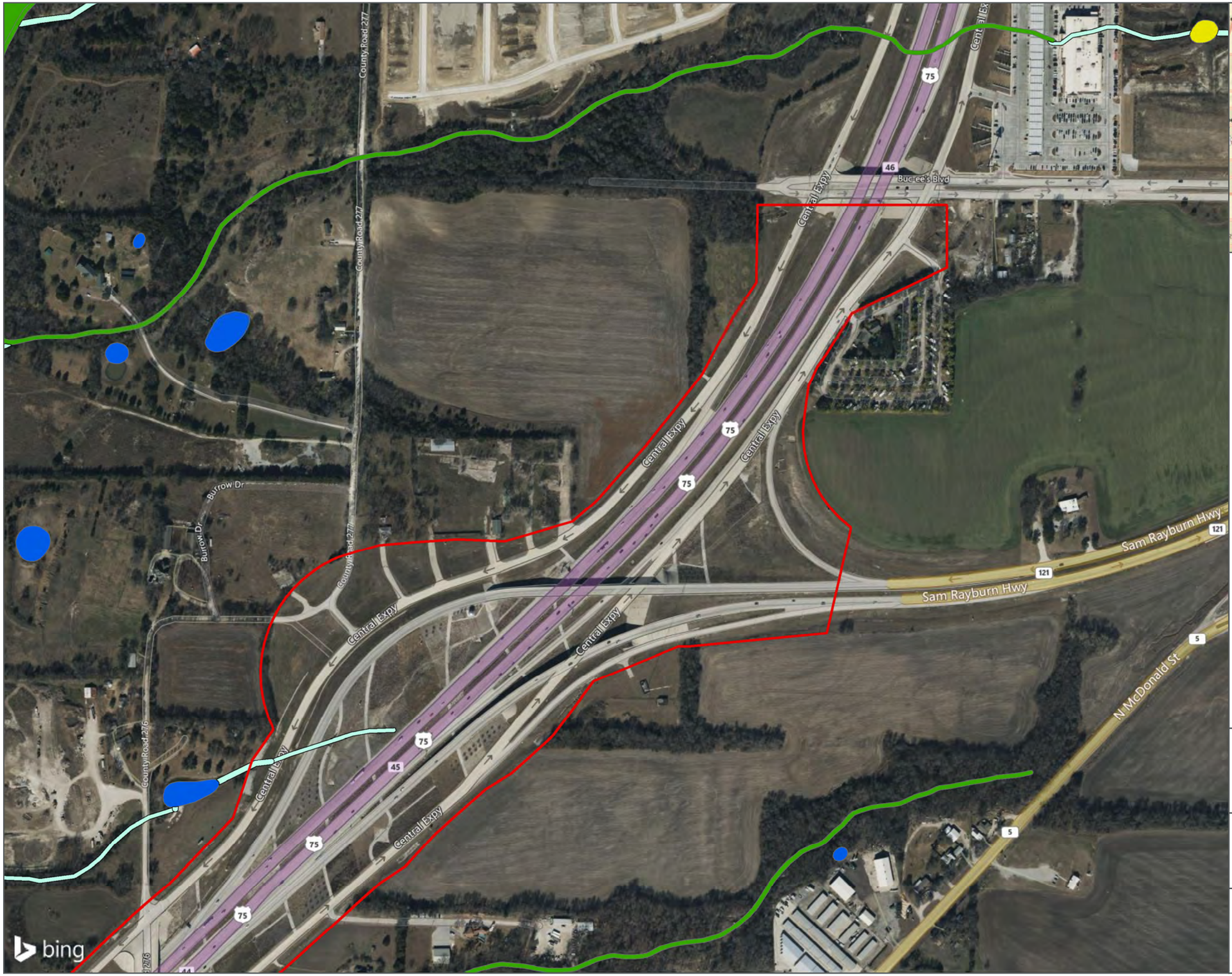
0 250 500

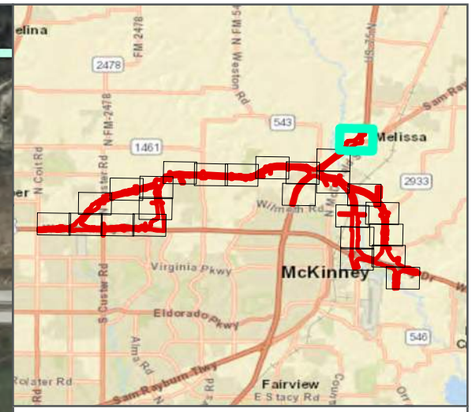
FEET

Texas Department of Transportation

FIGURE 4-15

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

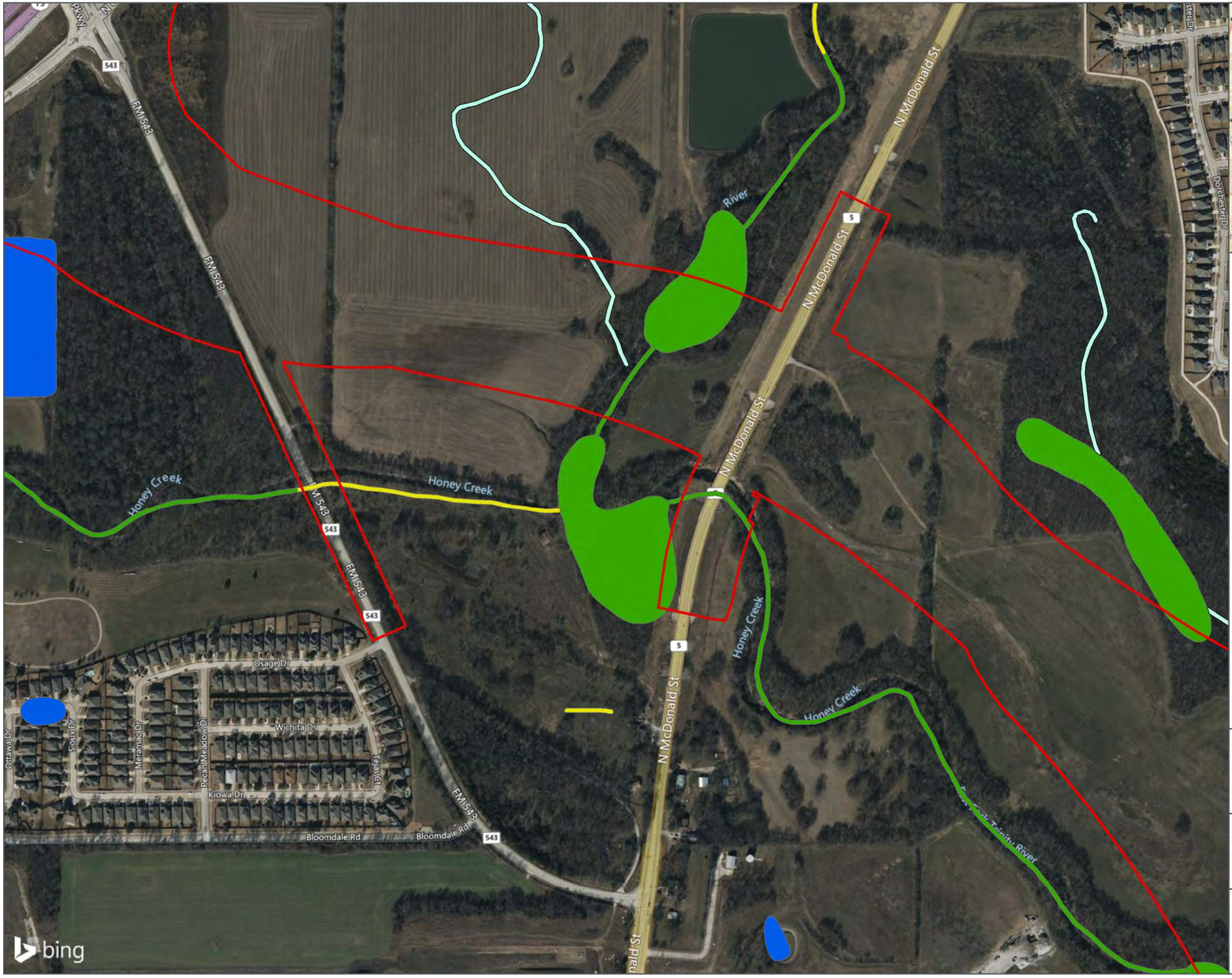
0 250 500

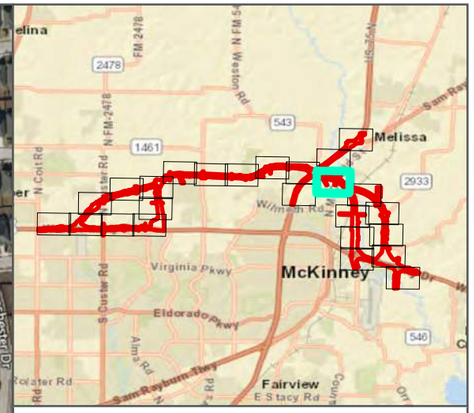
FEET

Texas Department of Transportation

FIGURE 4-16

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

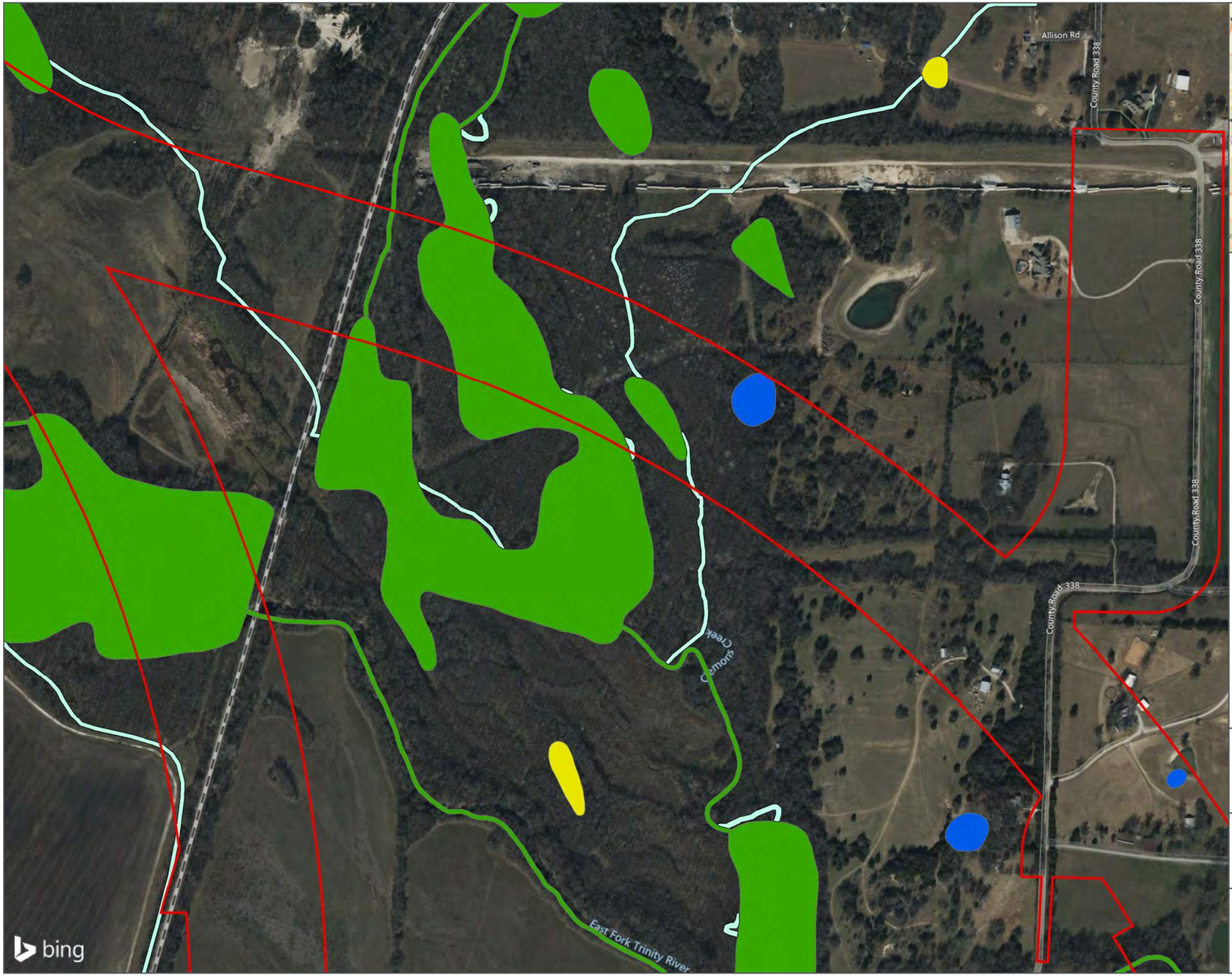
0 250 500

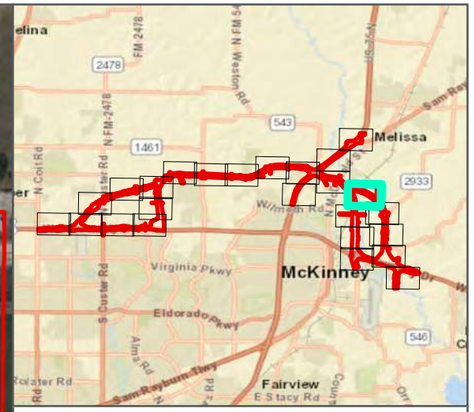
FEET

Texas Department of Transportation

FIGURE 4-17

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATIONIUS380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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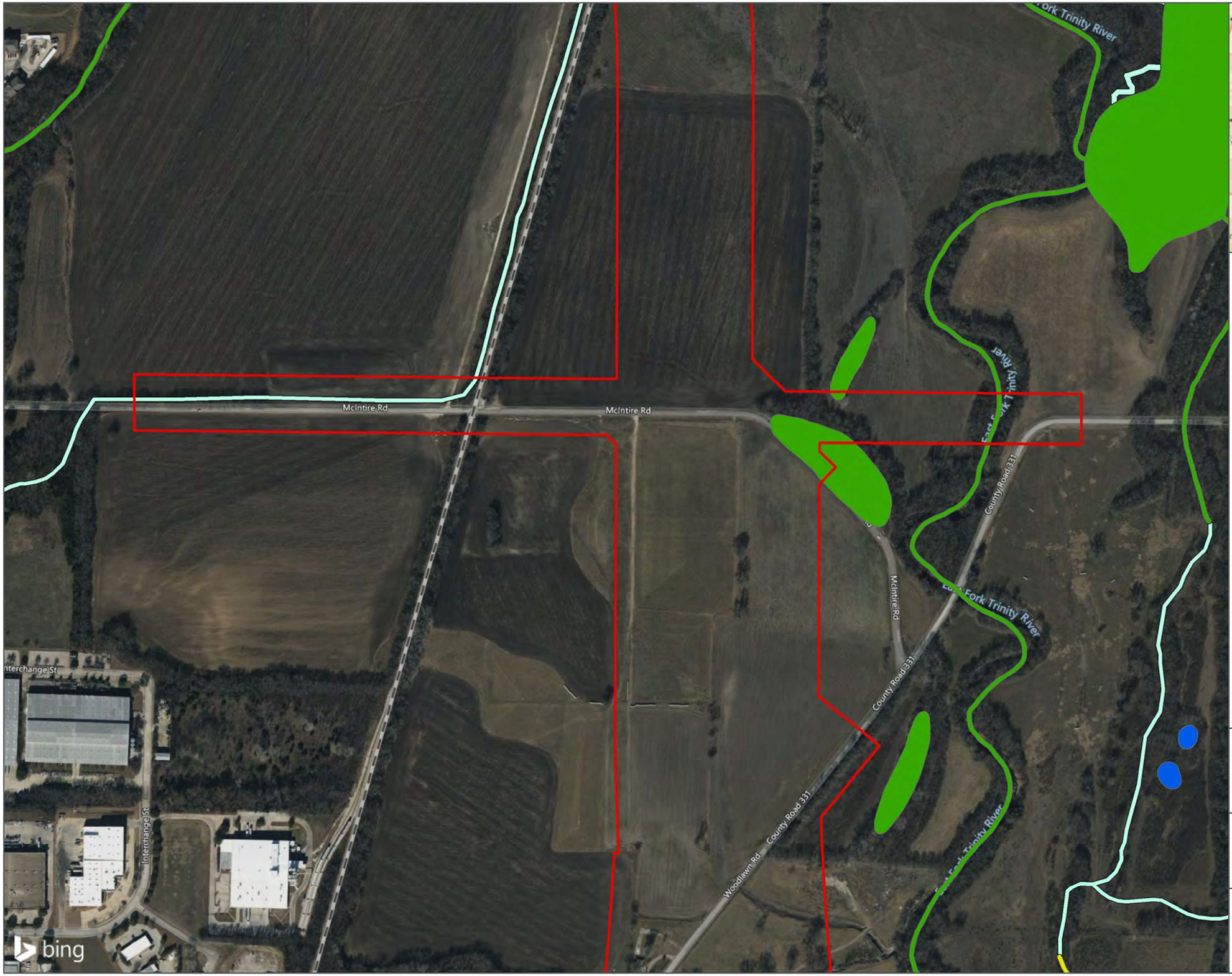
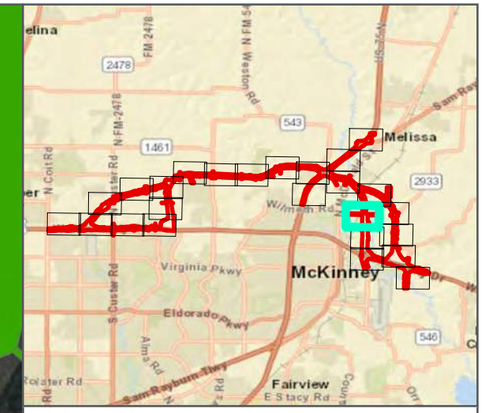
Texas Department of Transportation

FIGURE 4-18

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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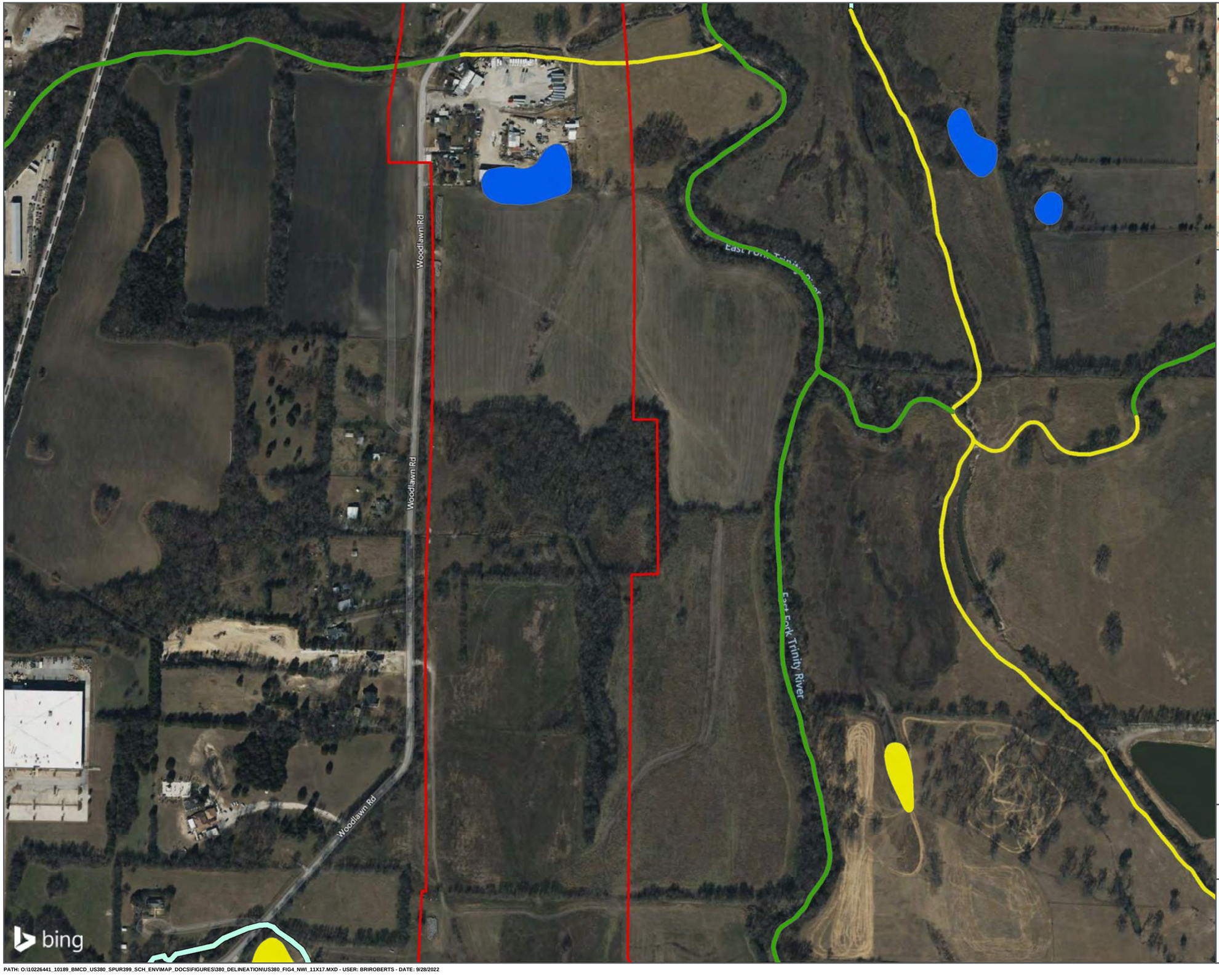
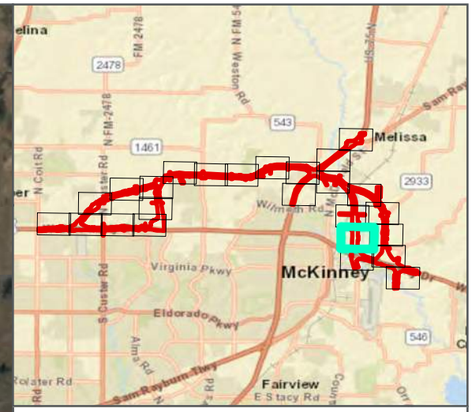
Texas Department of Transportation

FIGURE 4-19

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

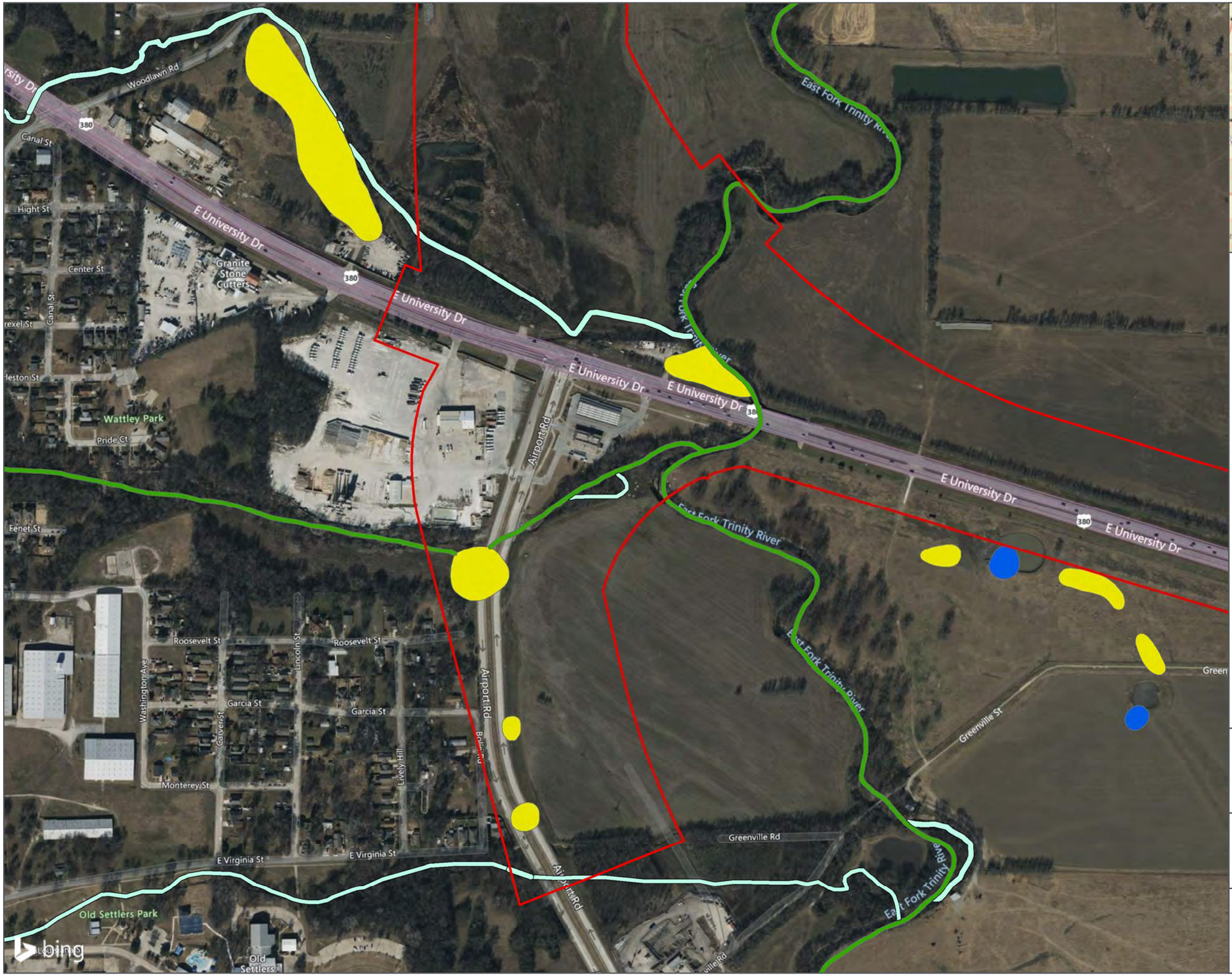
0 250 500

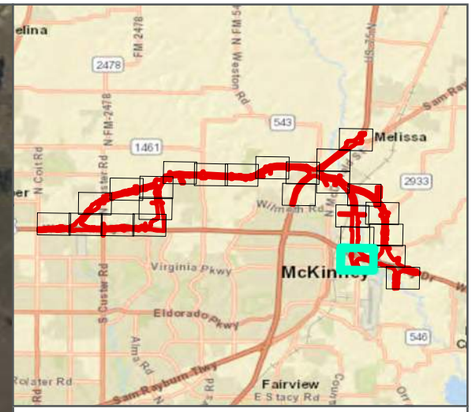
FEET

Texas Department of Transportation

FIGURE 4-20

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

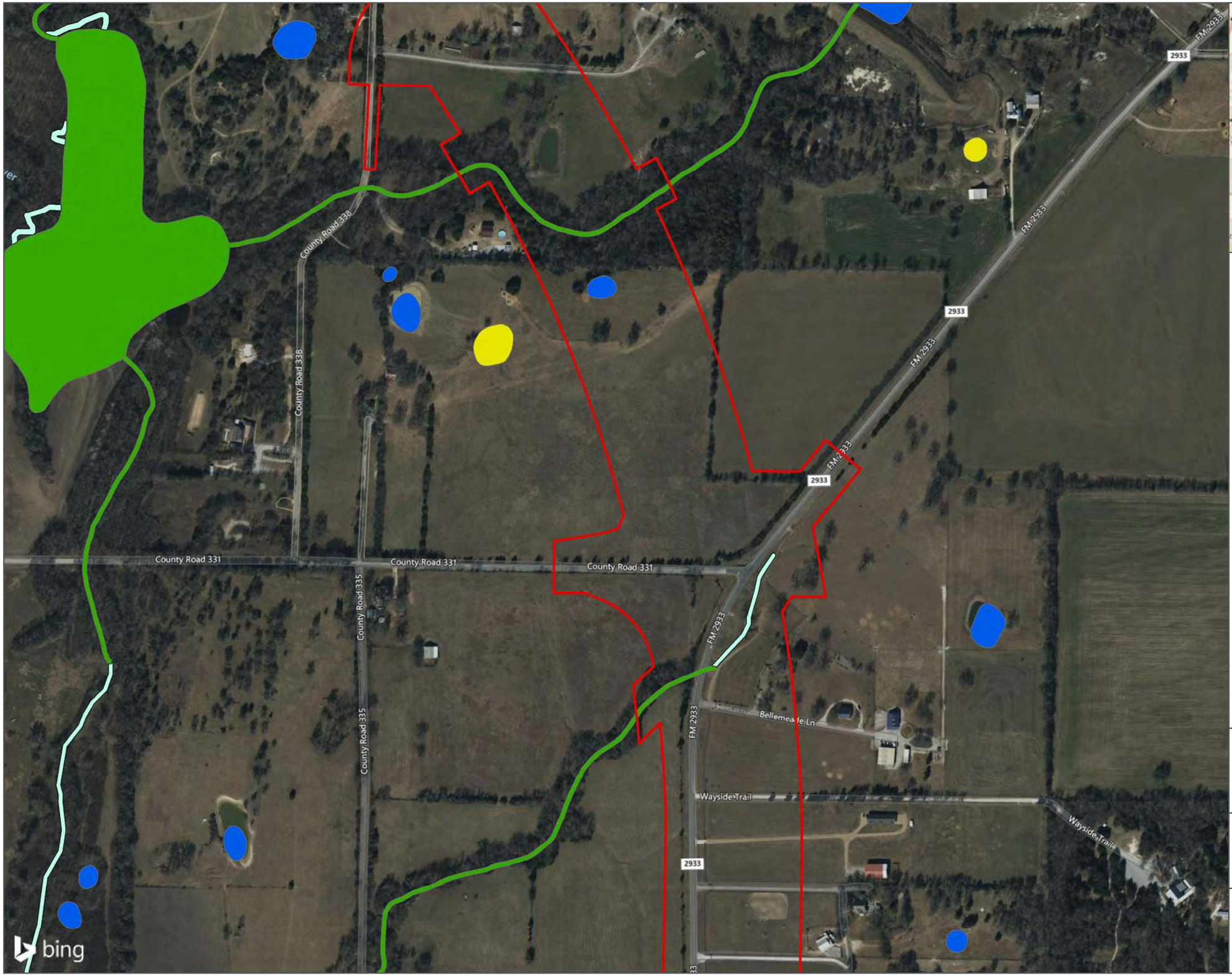
0 250 500

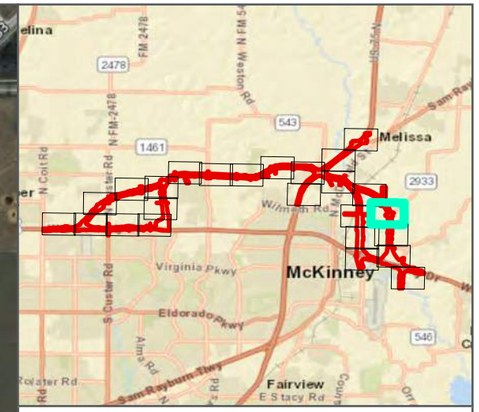
FEET

Texas Department of Transportation

FIGURE 4-21

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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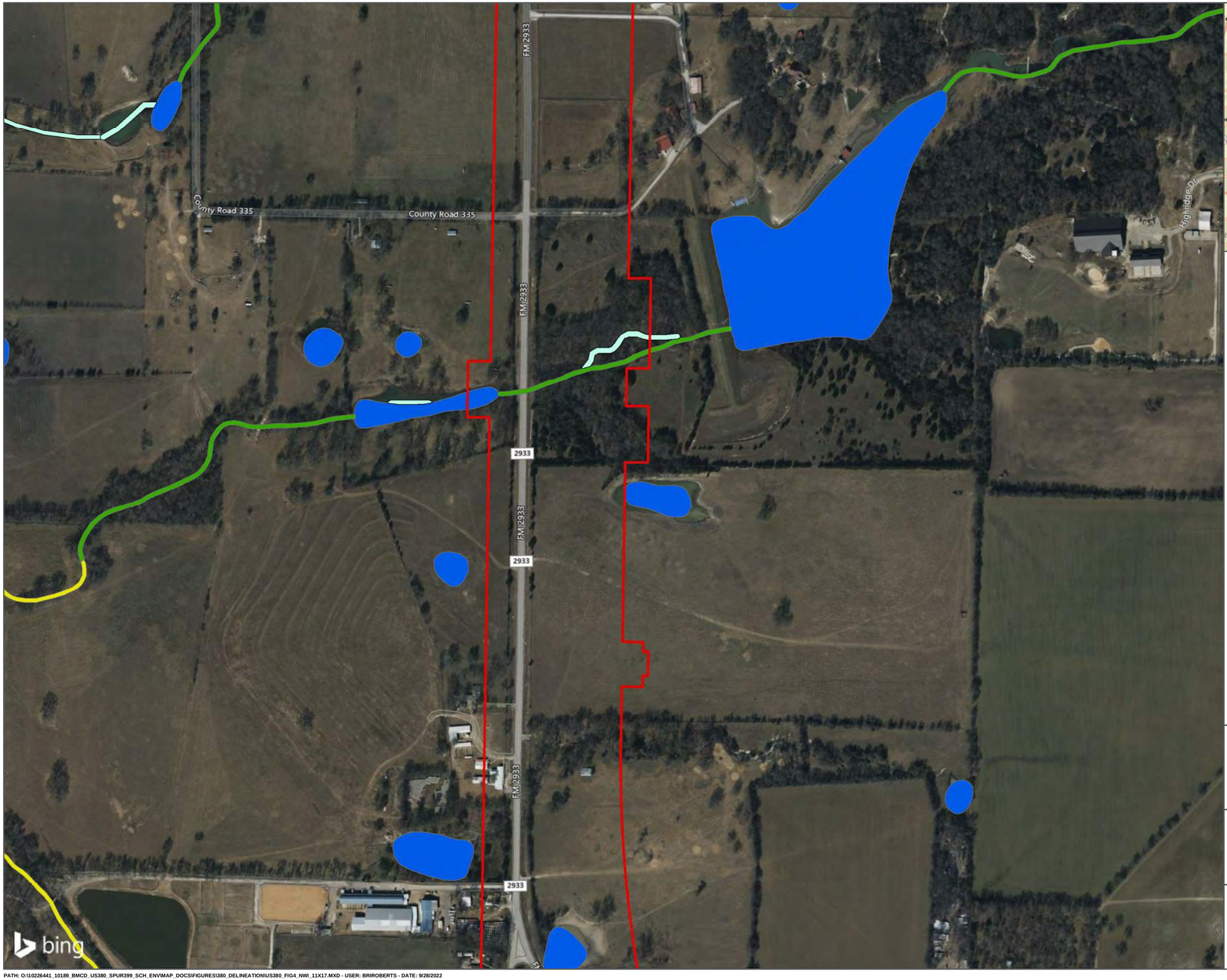
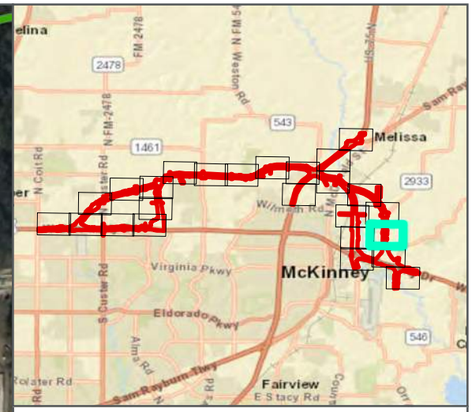
Texas Department of Transportation

FIGURE 4-22

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

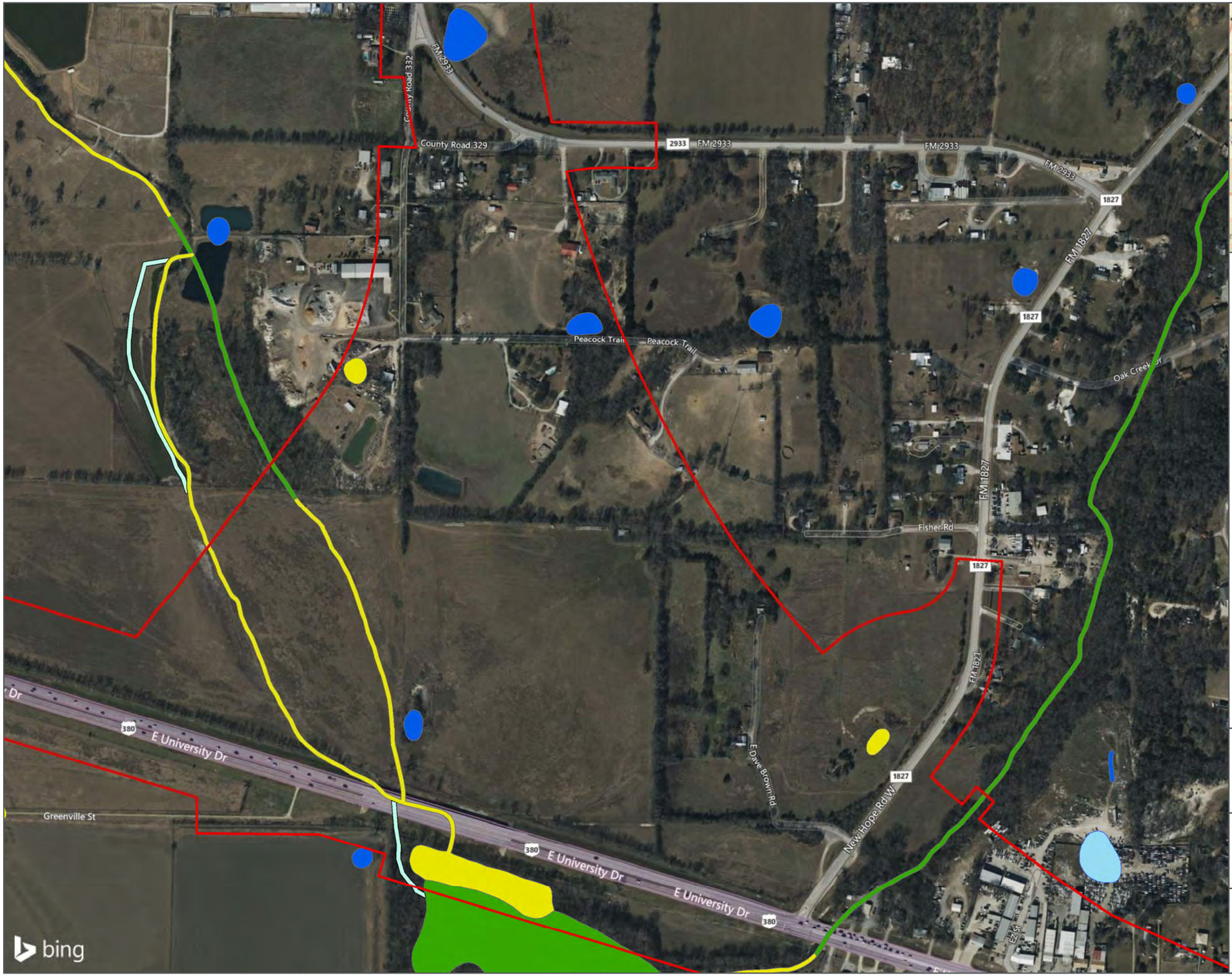
0 250 500

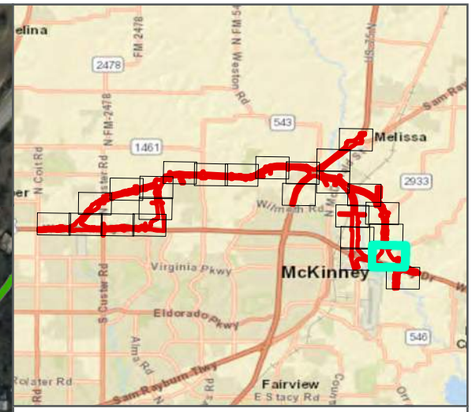
FEET

Texas Department of Transportation

FIGURE 4-23

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATIONIUS380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

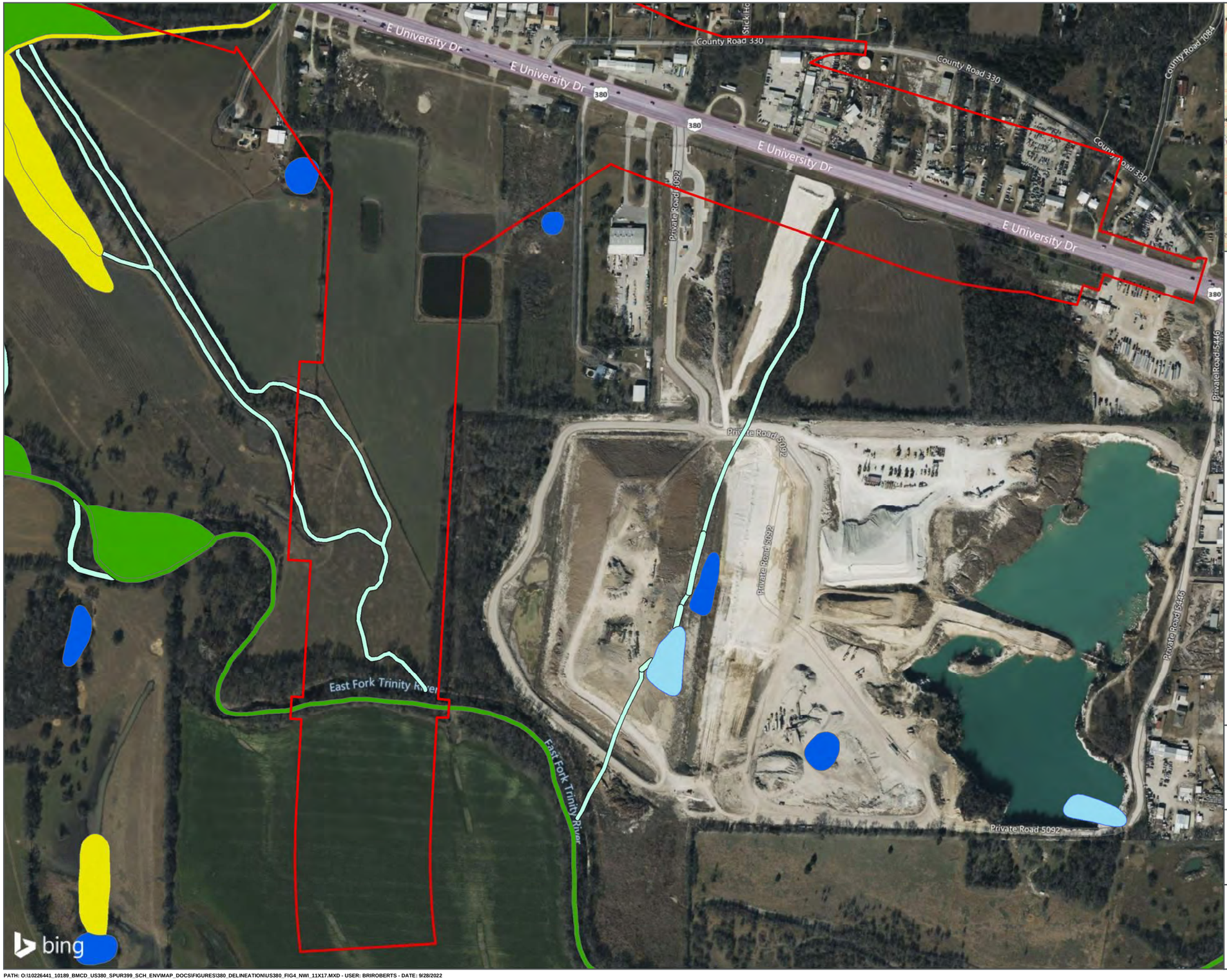
0 250 500

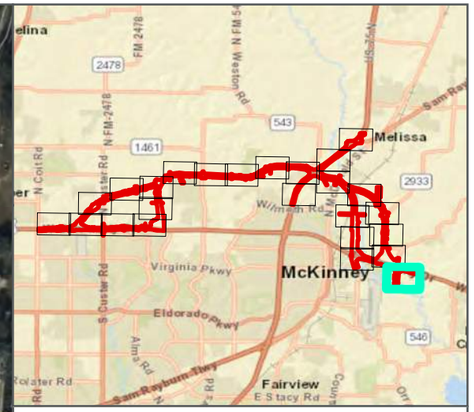
FEET

Texas Department of Transportation

FIGURE 4-24

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- RIVERINE

NWI MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

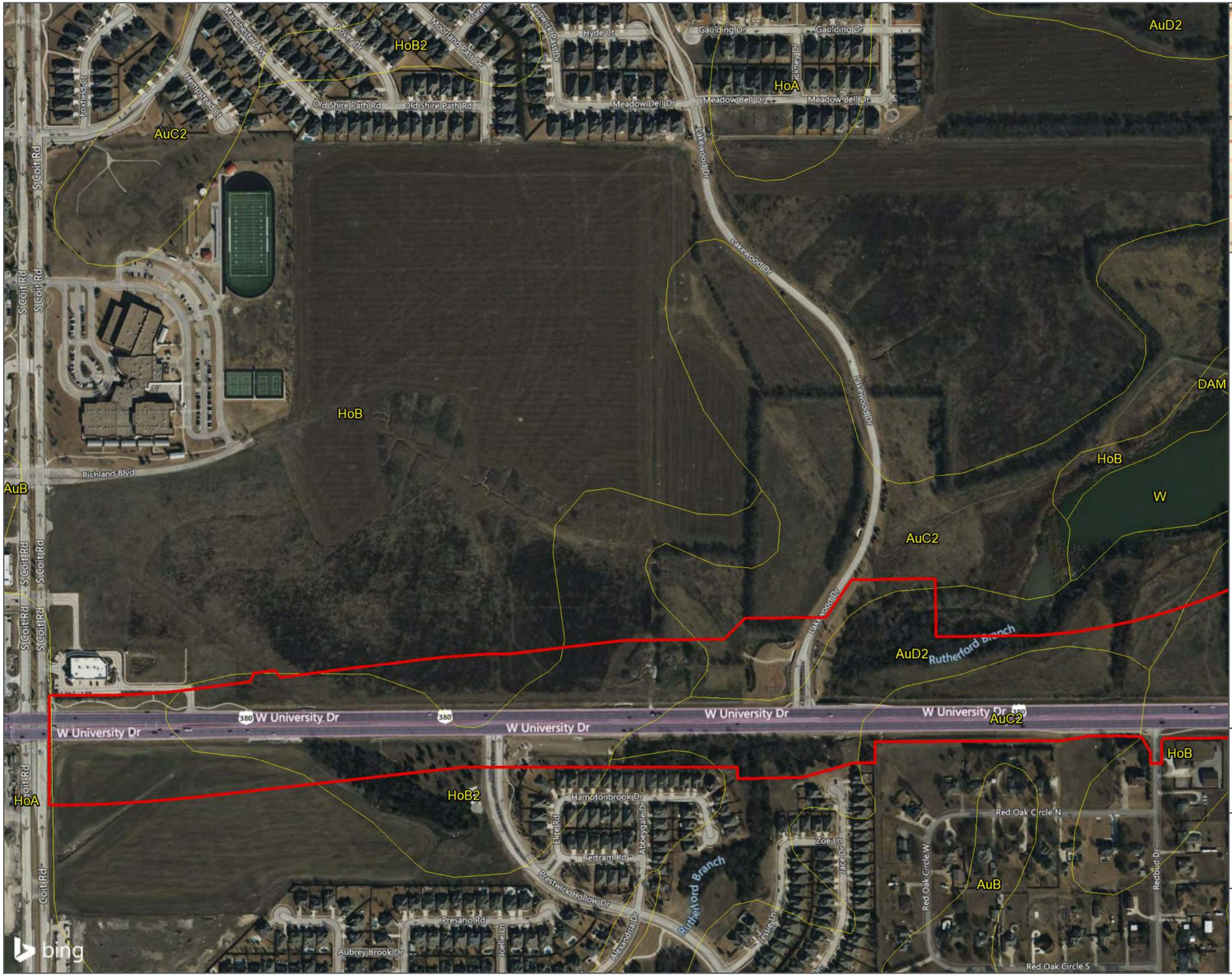
0 250 500

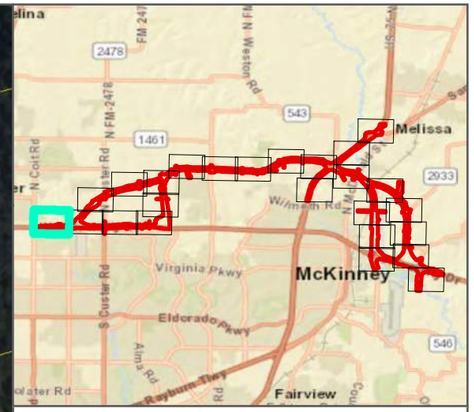
FEET

Texas Department of Transportation

FIGURE 4-25

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATIONIUS380_FIG4_NWI_11X17.MXD - USER: BRIROBERTS - DATE: 9/28/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

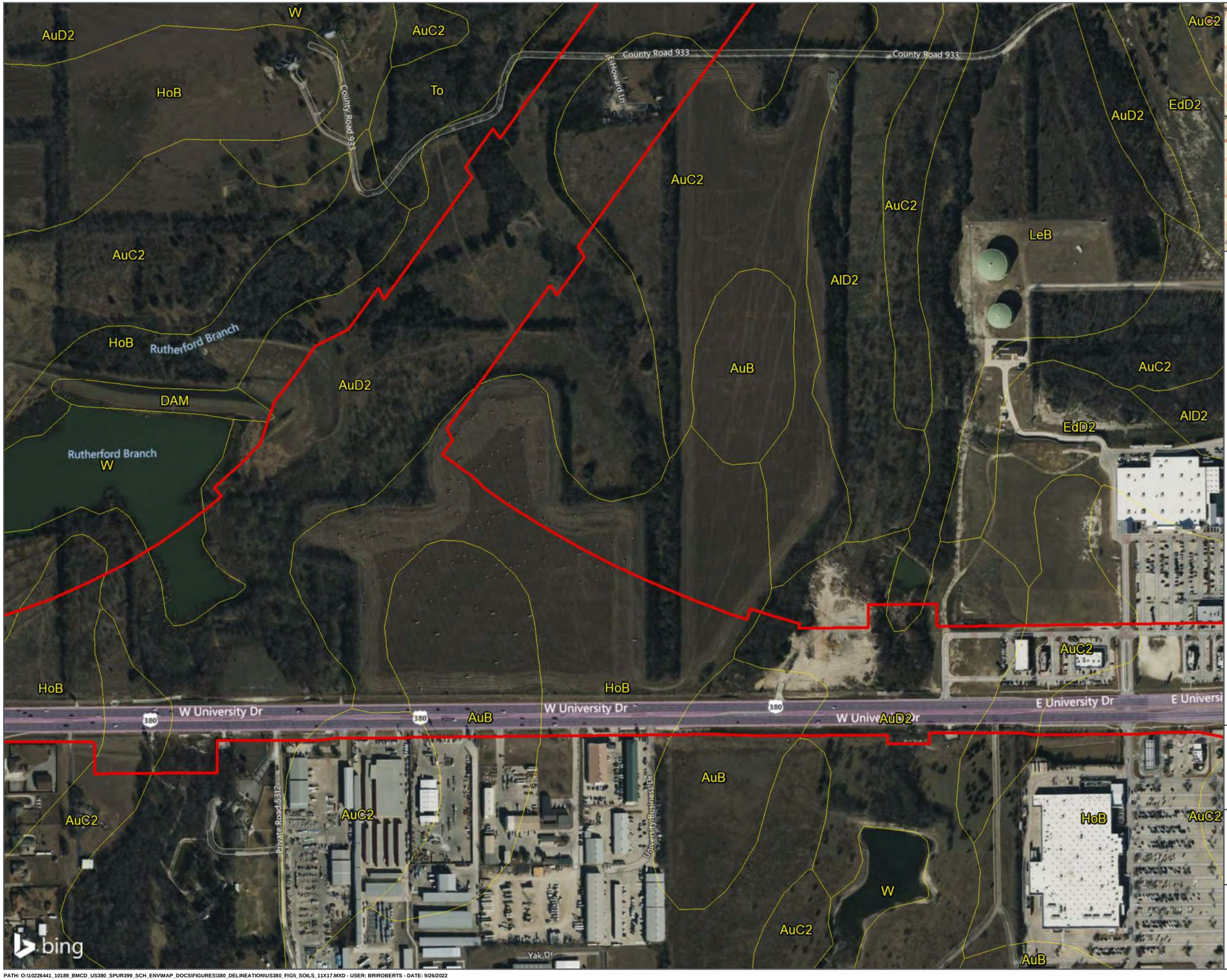
0 250 500

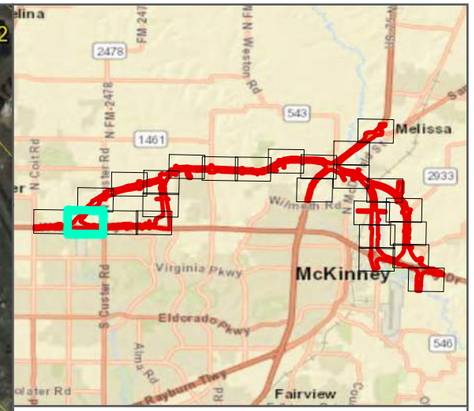
FEET

Texas Department of Transportation

FIGURE 5-1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

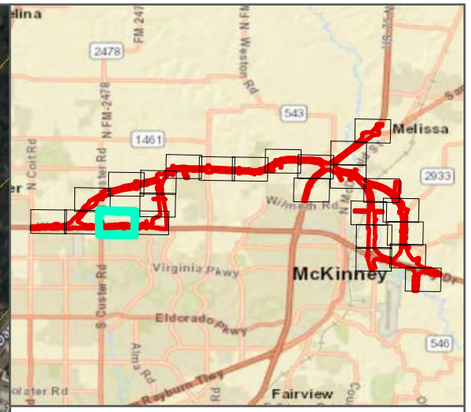
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

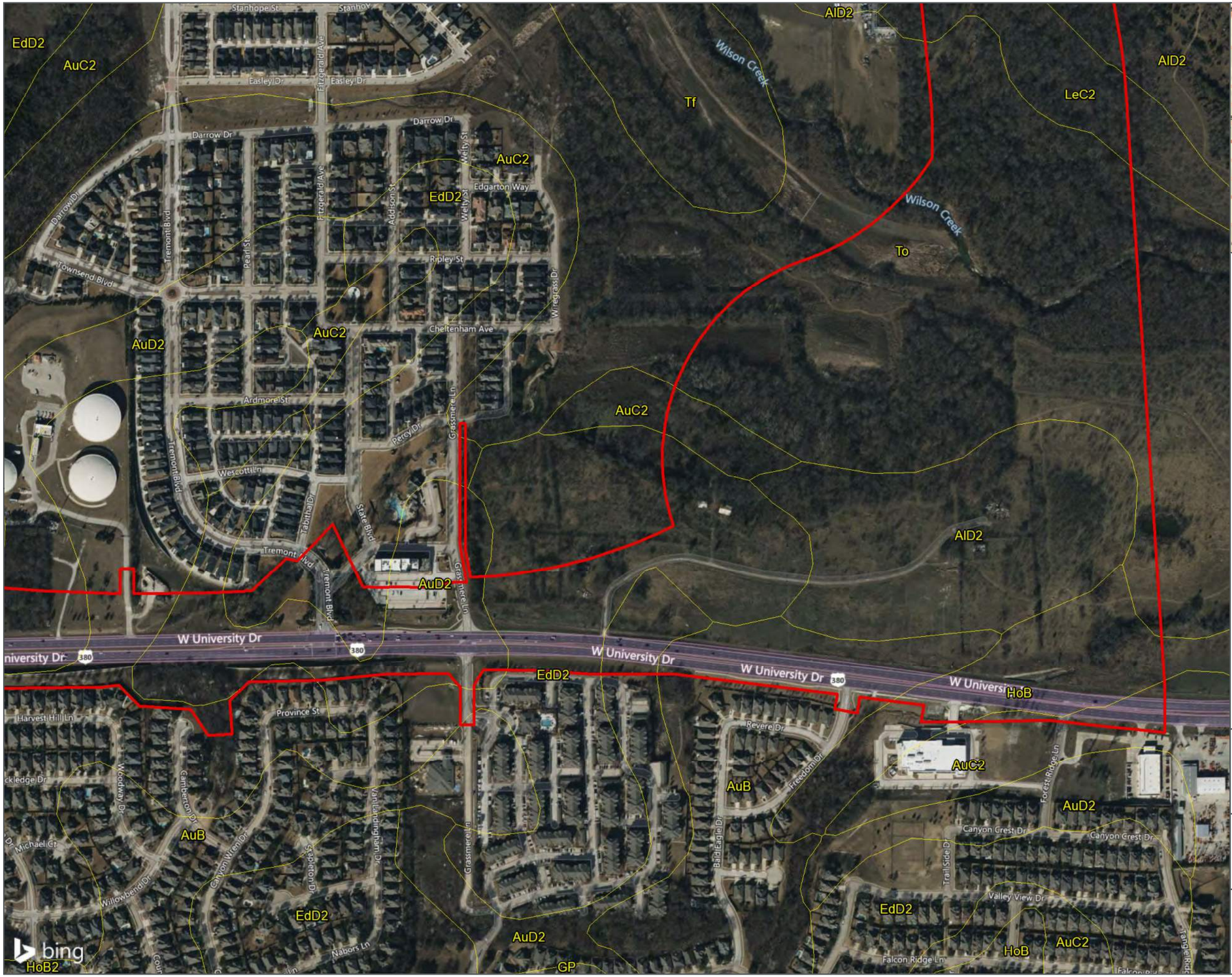
0 250 500

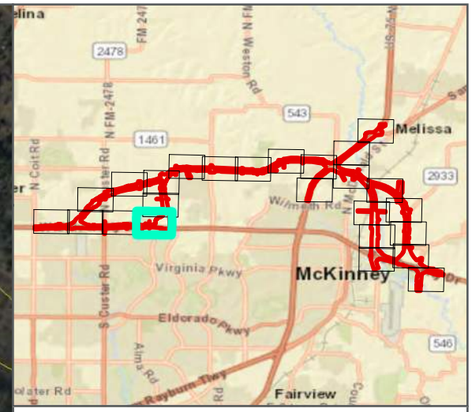
FEET

Texas Department of Transportation

FIGURE 5-3

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

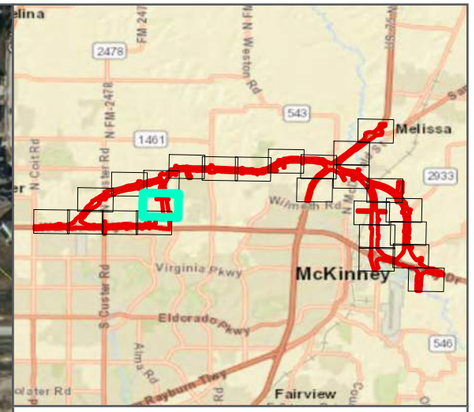
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-4

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATIONIUS380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

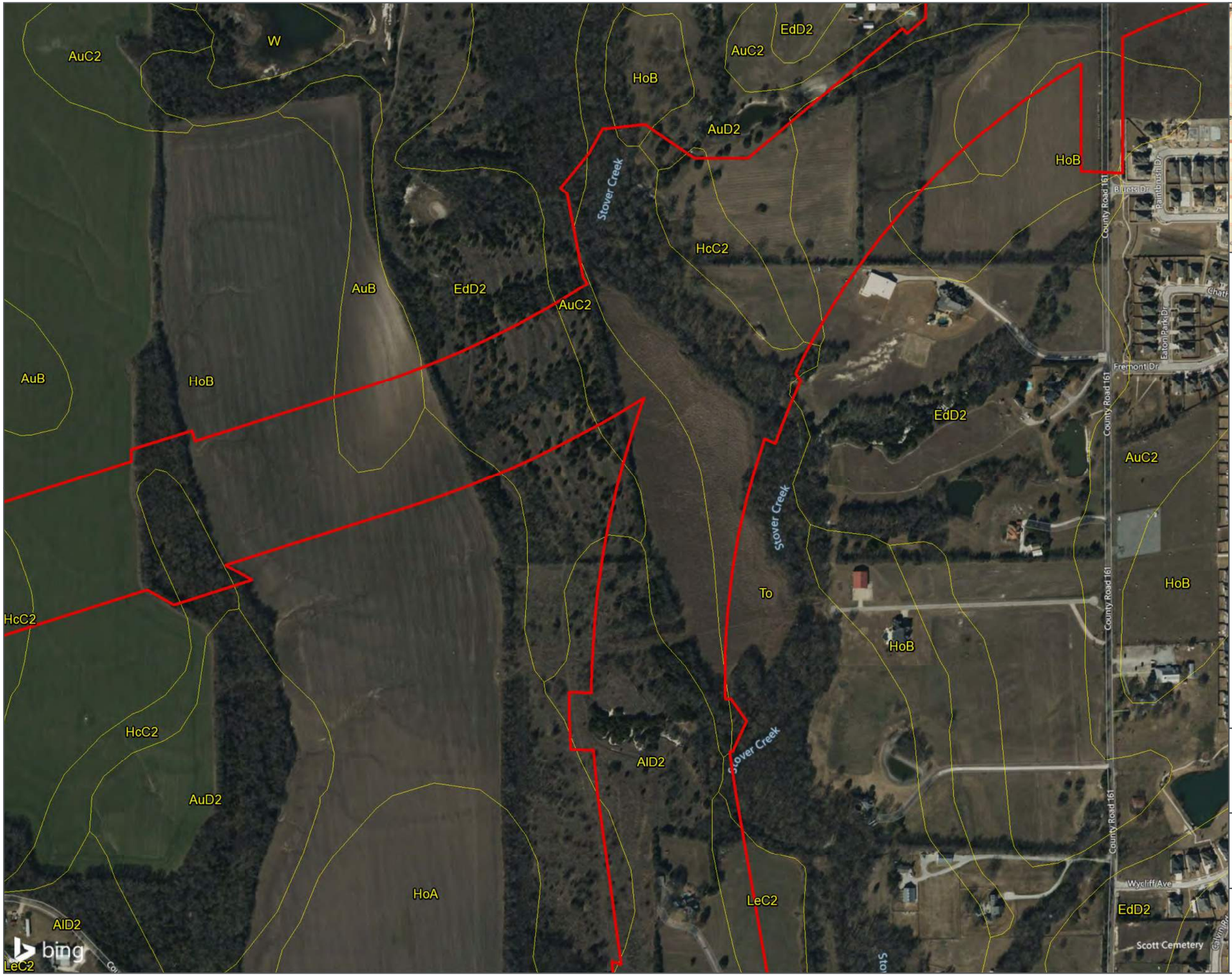
0 250 500

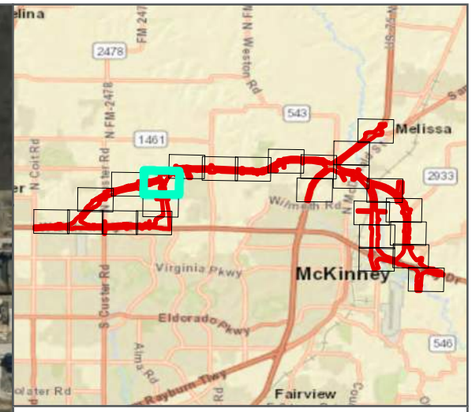
FEET

Texas Department of Transportation

FIGURE 5-5

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

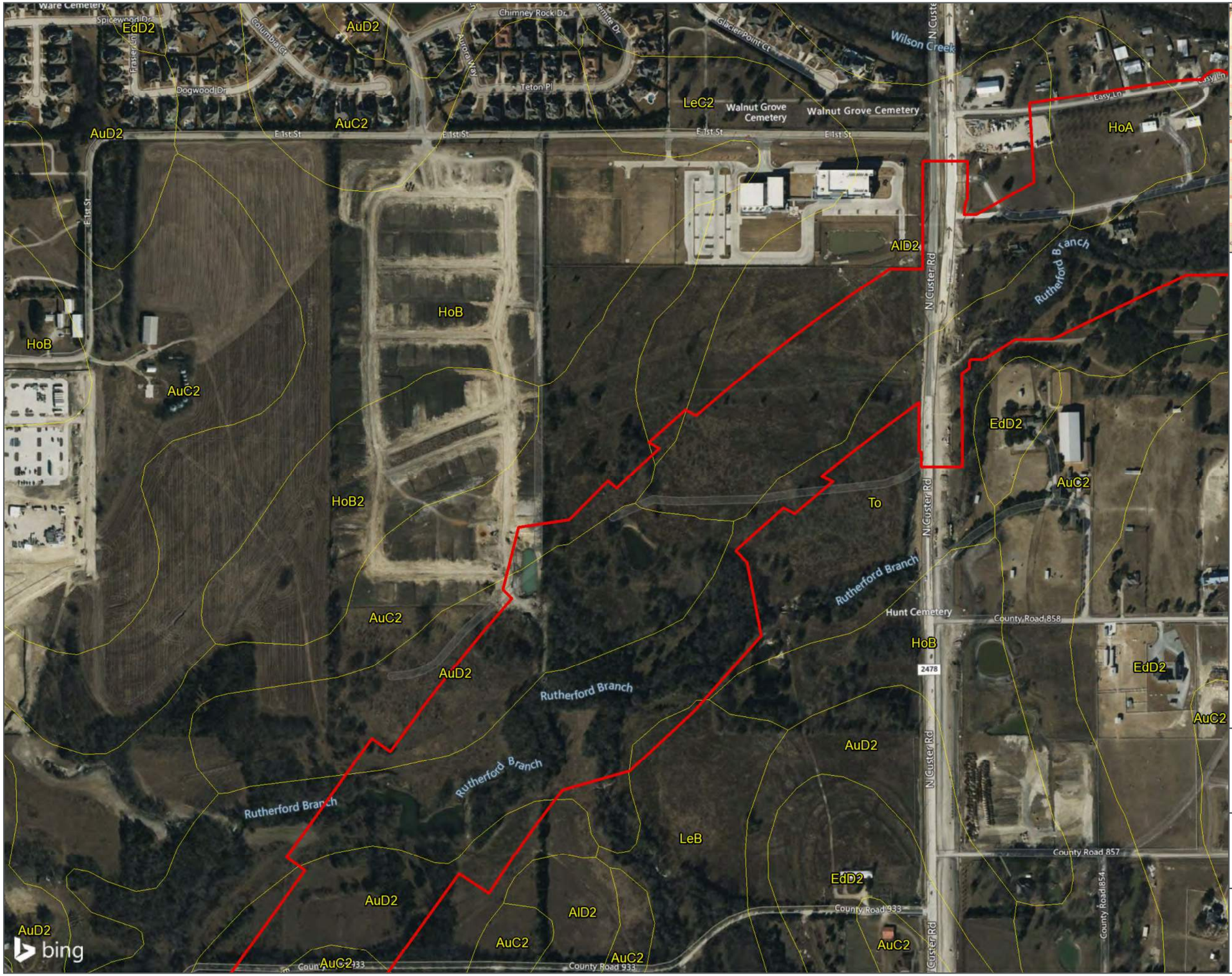
N

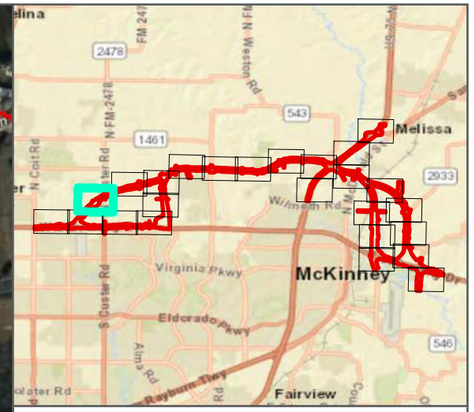
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-6





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

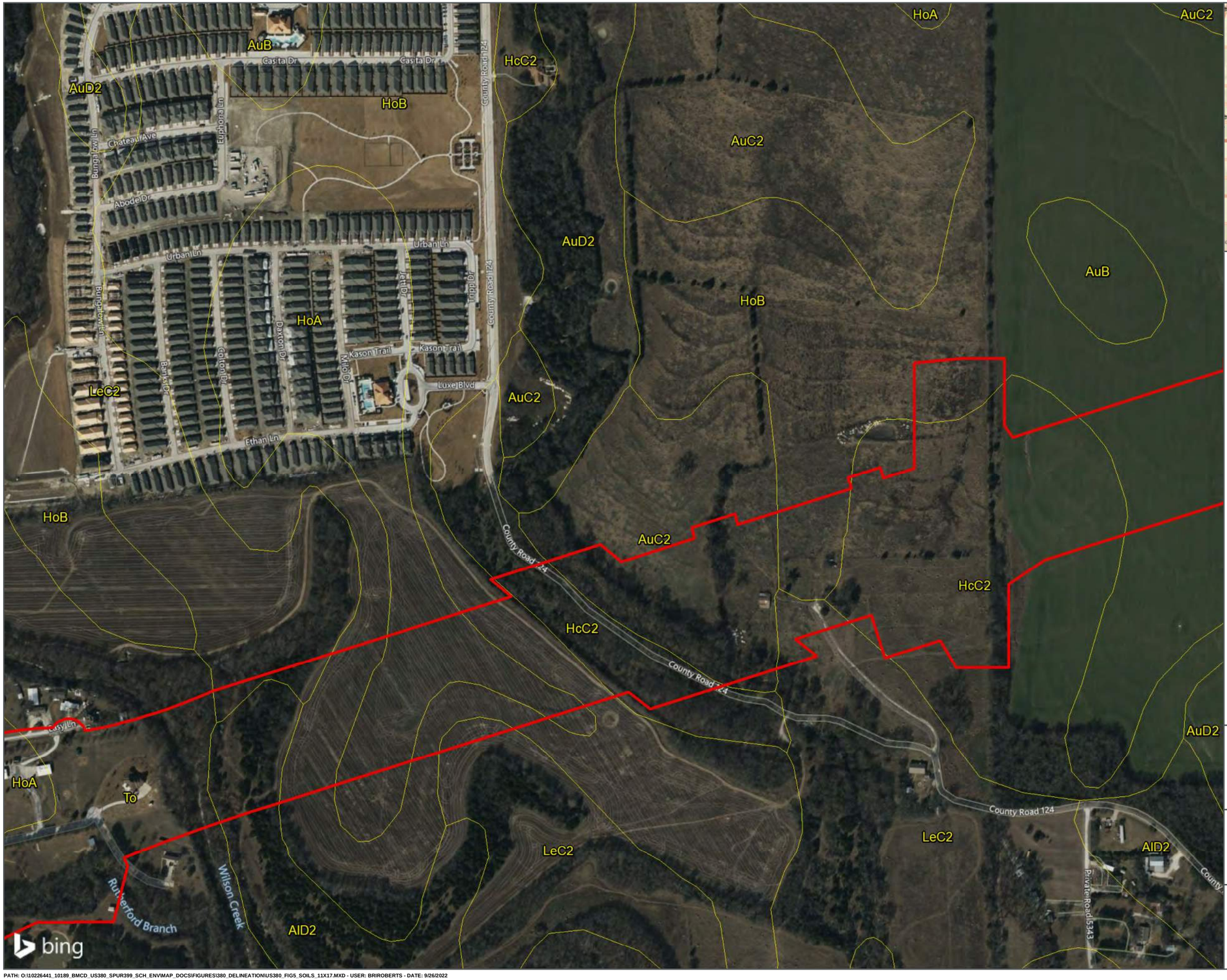
0 250 500

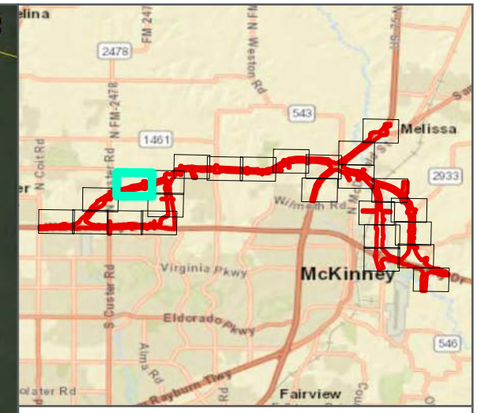
FEET

Texas Department of Transportation

FIGURE 5-7

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

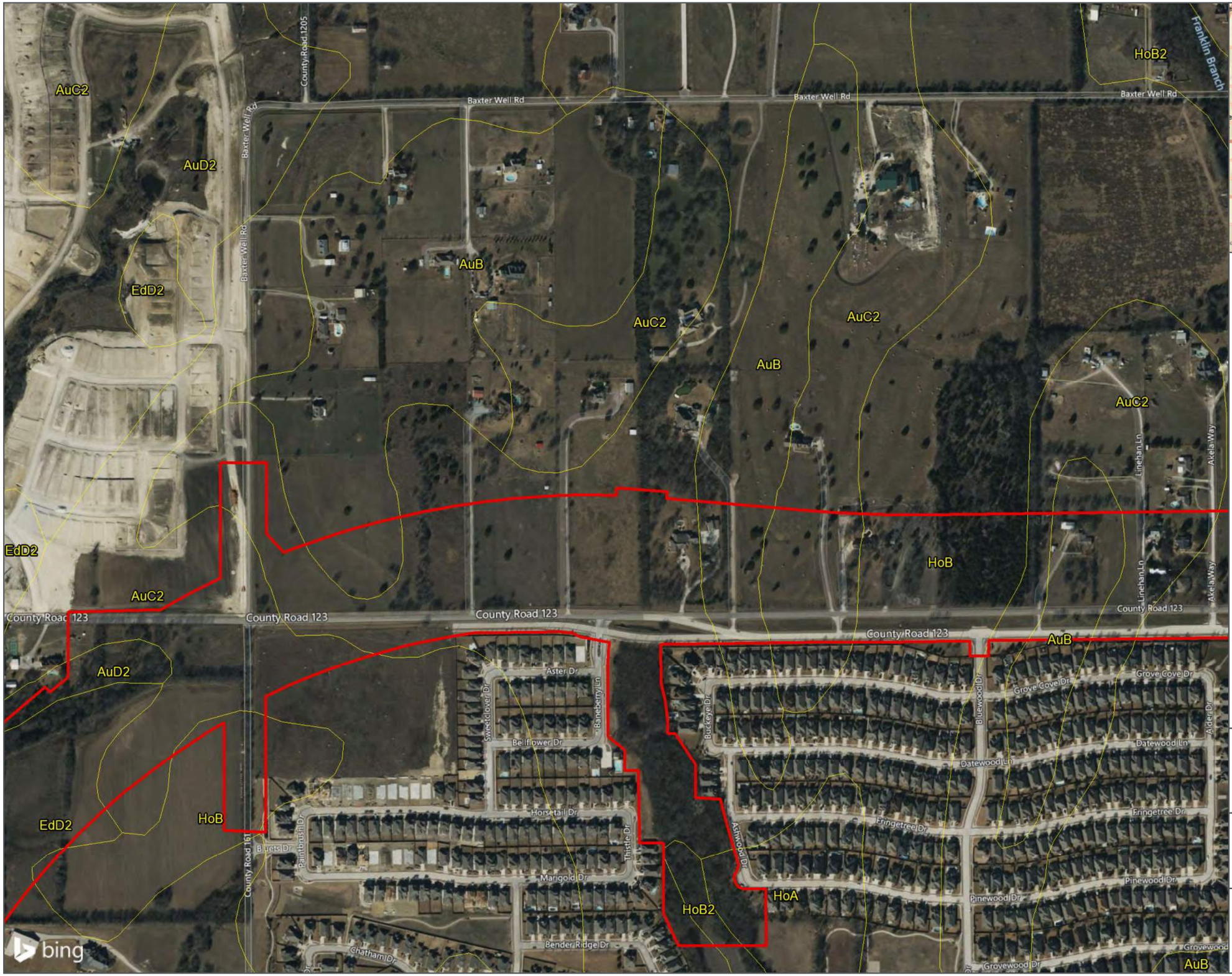
0 250 500

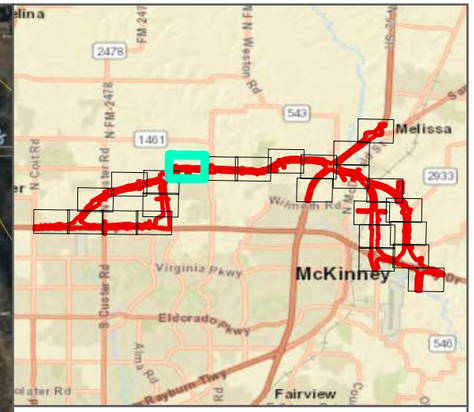
FEET

Texas Department of Transportation

FIGURE 5-8

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

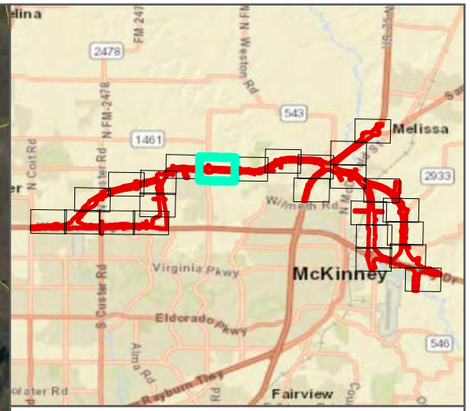
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-9

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

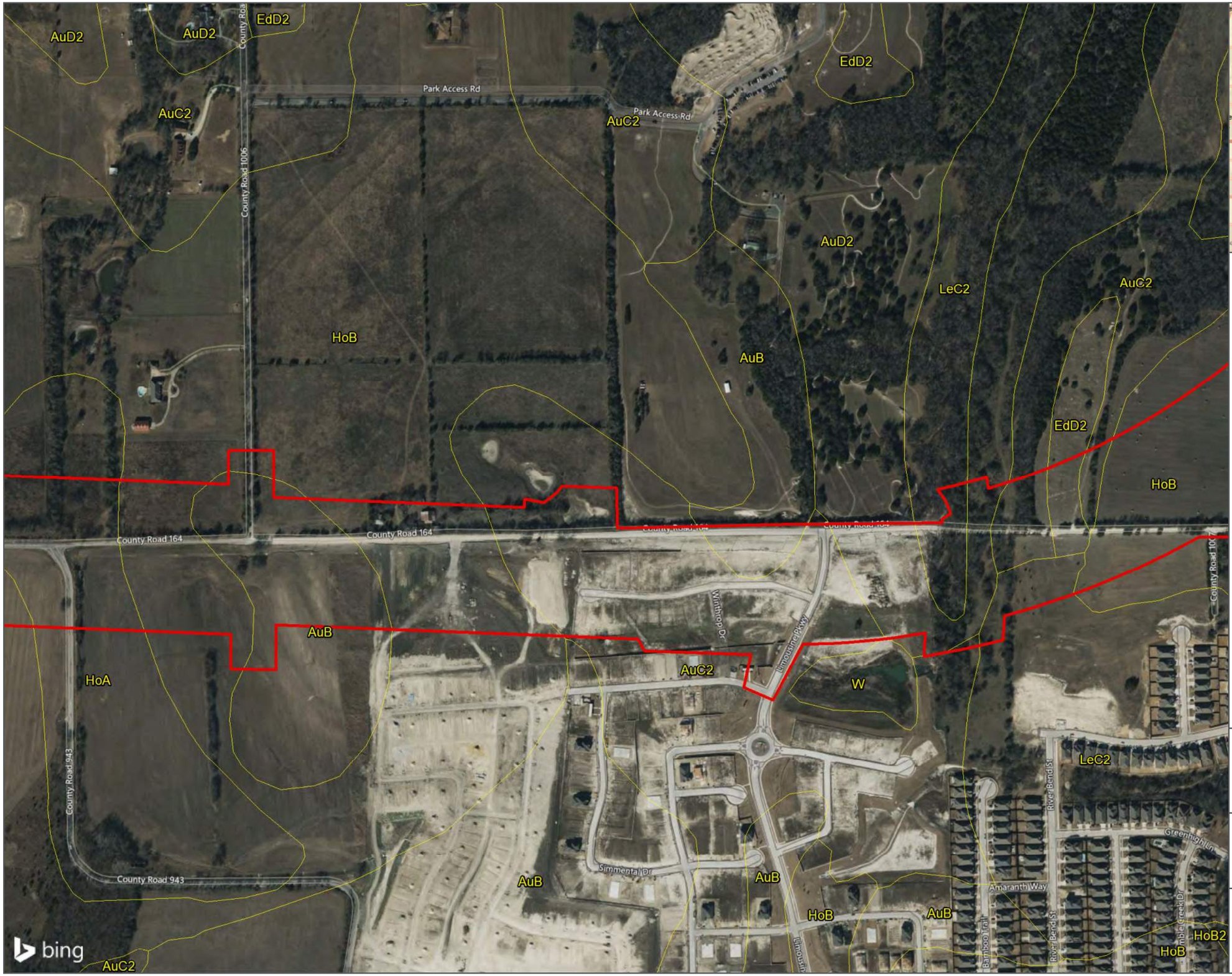
0 250 500

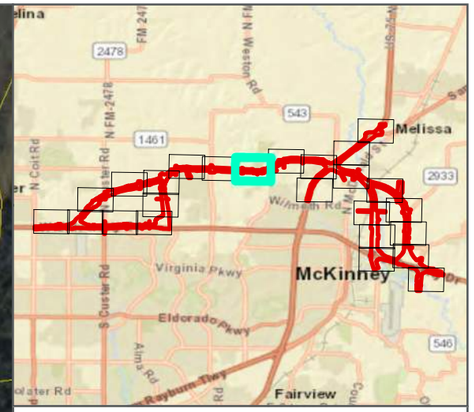
FEET

Texas Department of Transportation

FIGURE 5-10

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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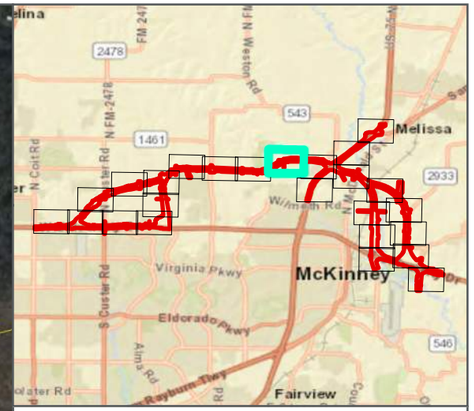
Texas Department of Transportation

FIGURE 5-11

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

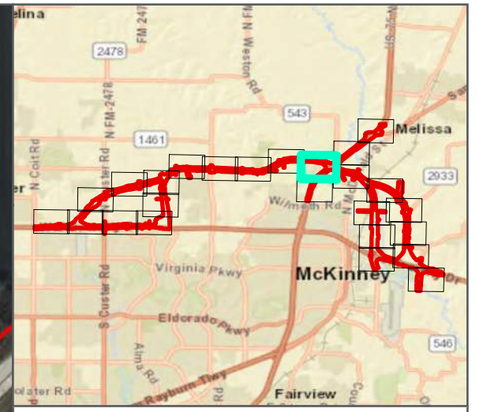
N

0 250 500

FEET

Texas Department of Transportation

FIGURE 5-12



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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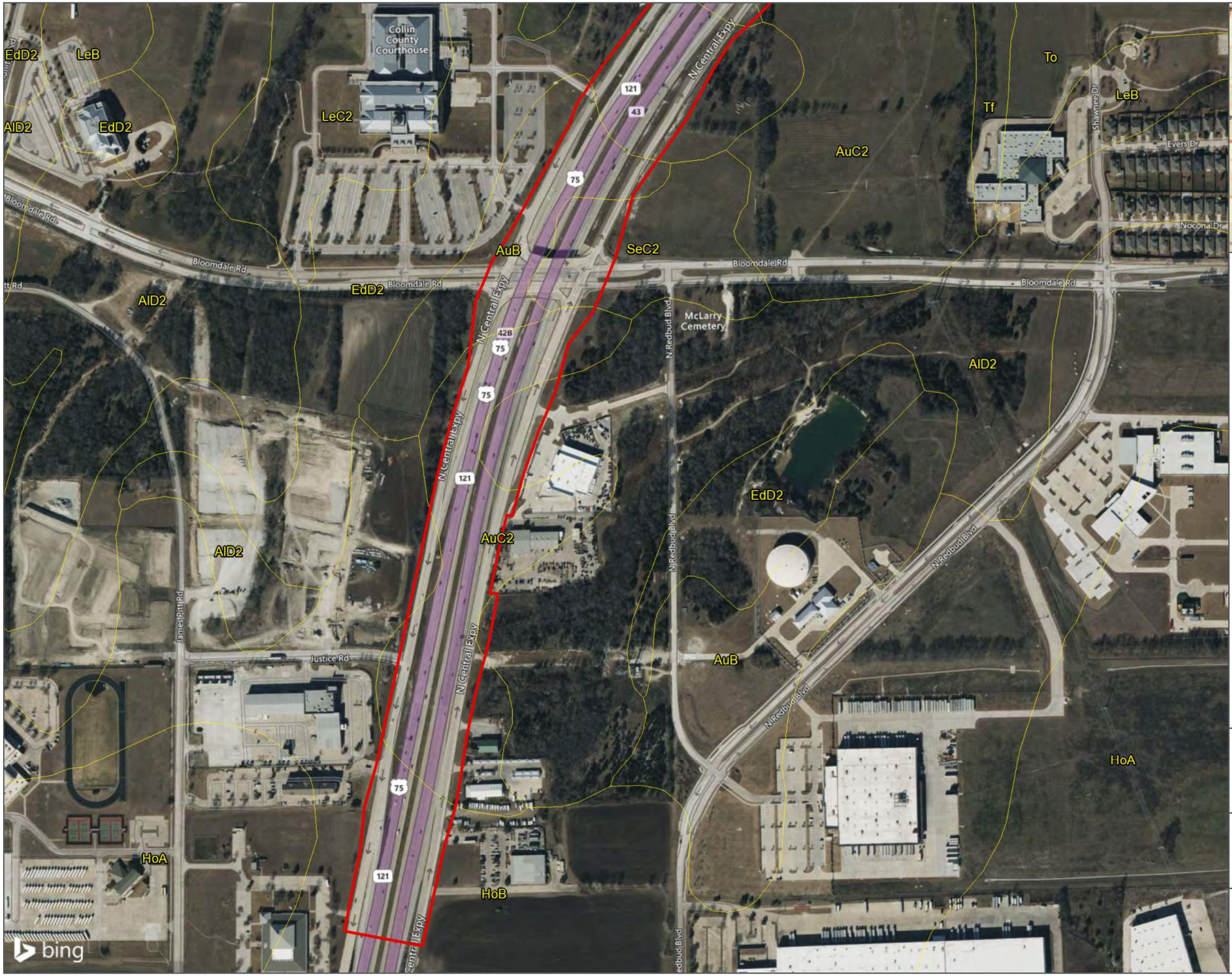
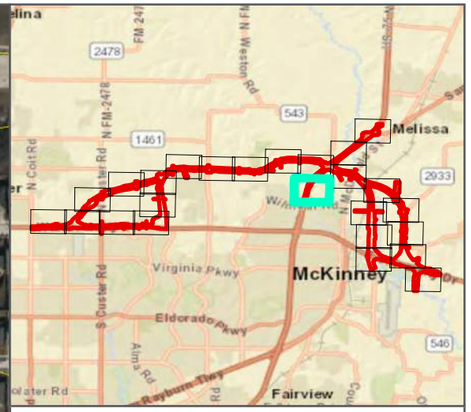
Texas Department of Transportation

FIGURE 5-13

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

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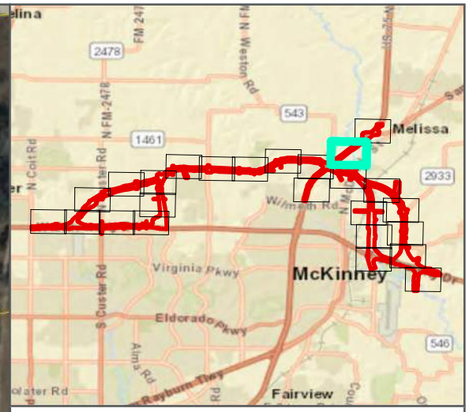
Texas Department of Transportation

FIGURE 5-14

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

FEET

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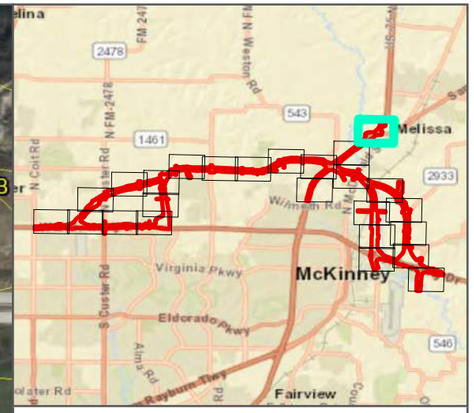
FIGURE 5-15

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

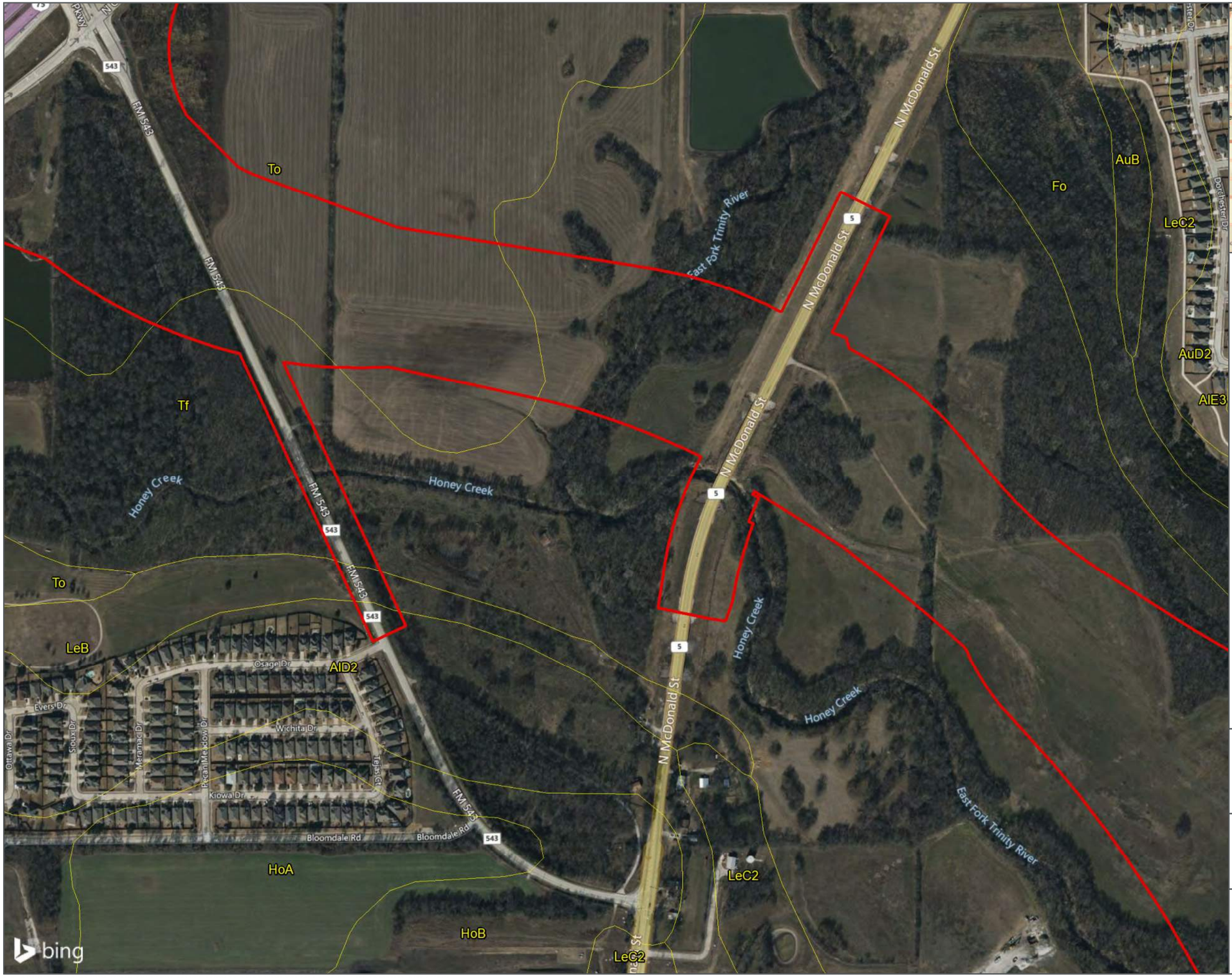
0 250 500

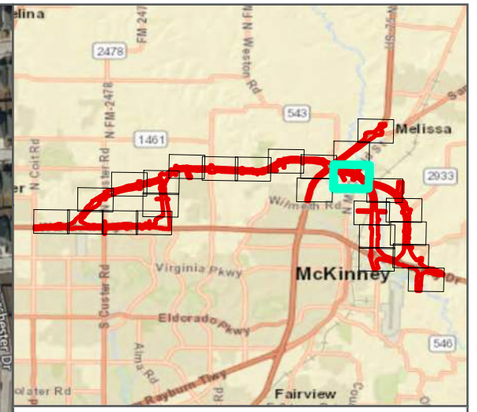
FEET

Texas Department of Transportation

FIGURE 5-16

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

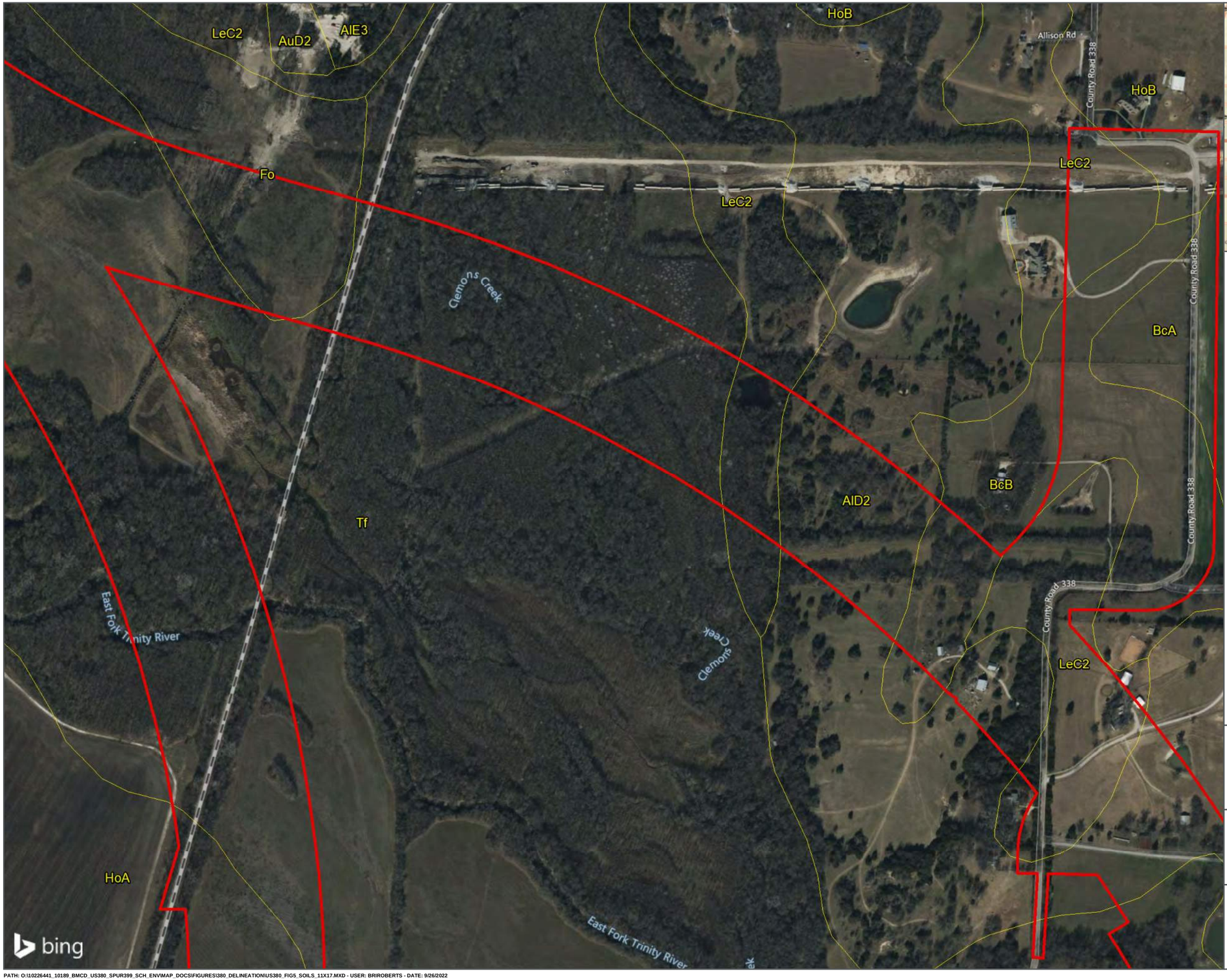
0 250 500

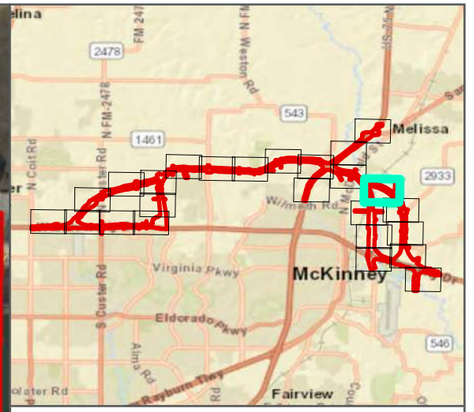
FEET

Texas Department of Transportation

FIGURE 5-17

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

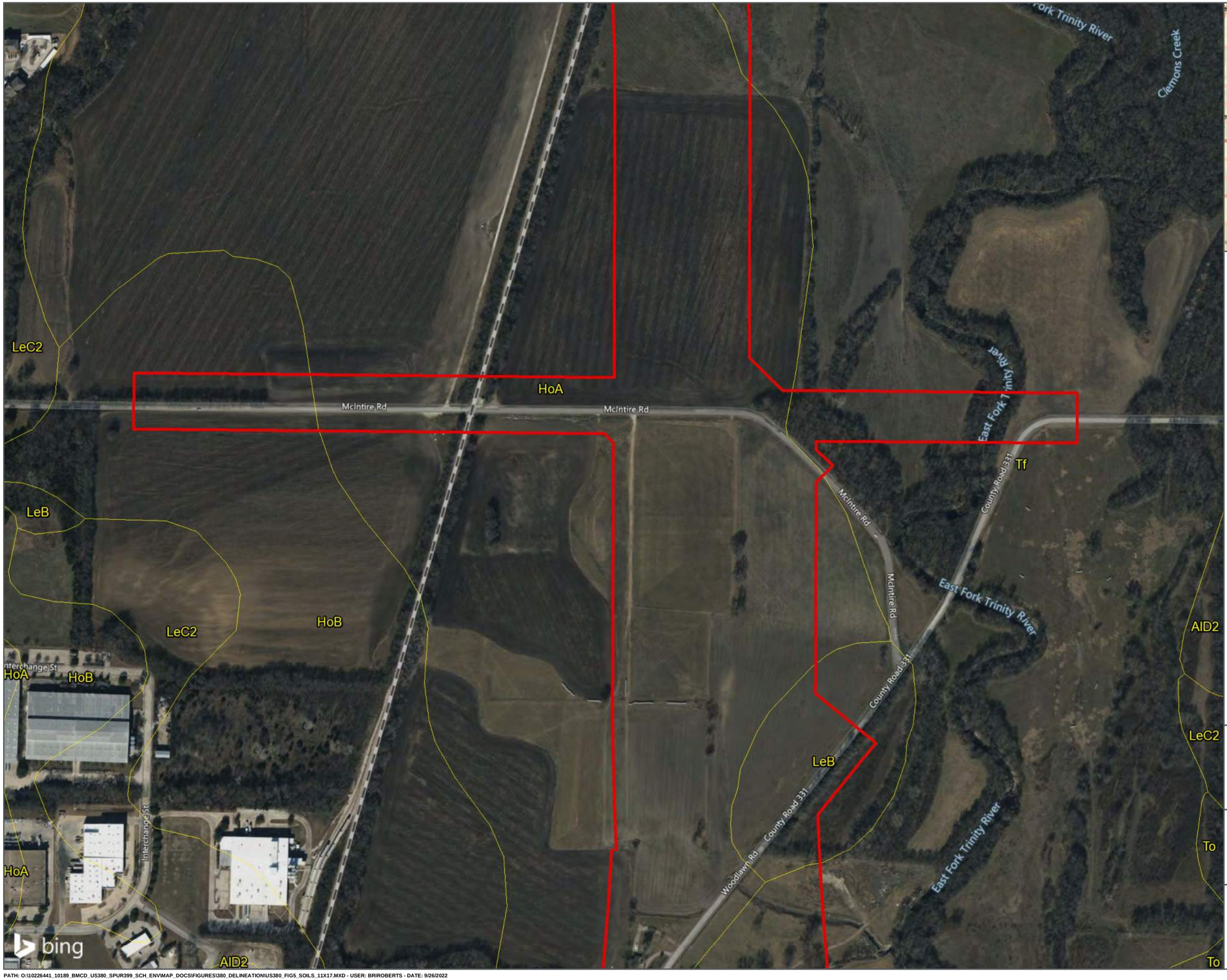
N

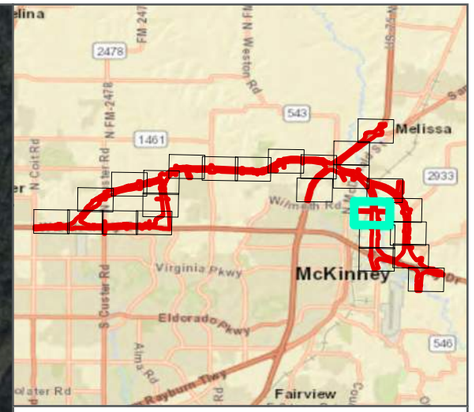
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-18





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

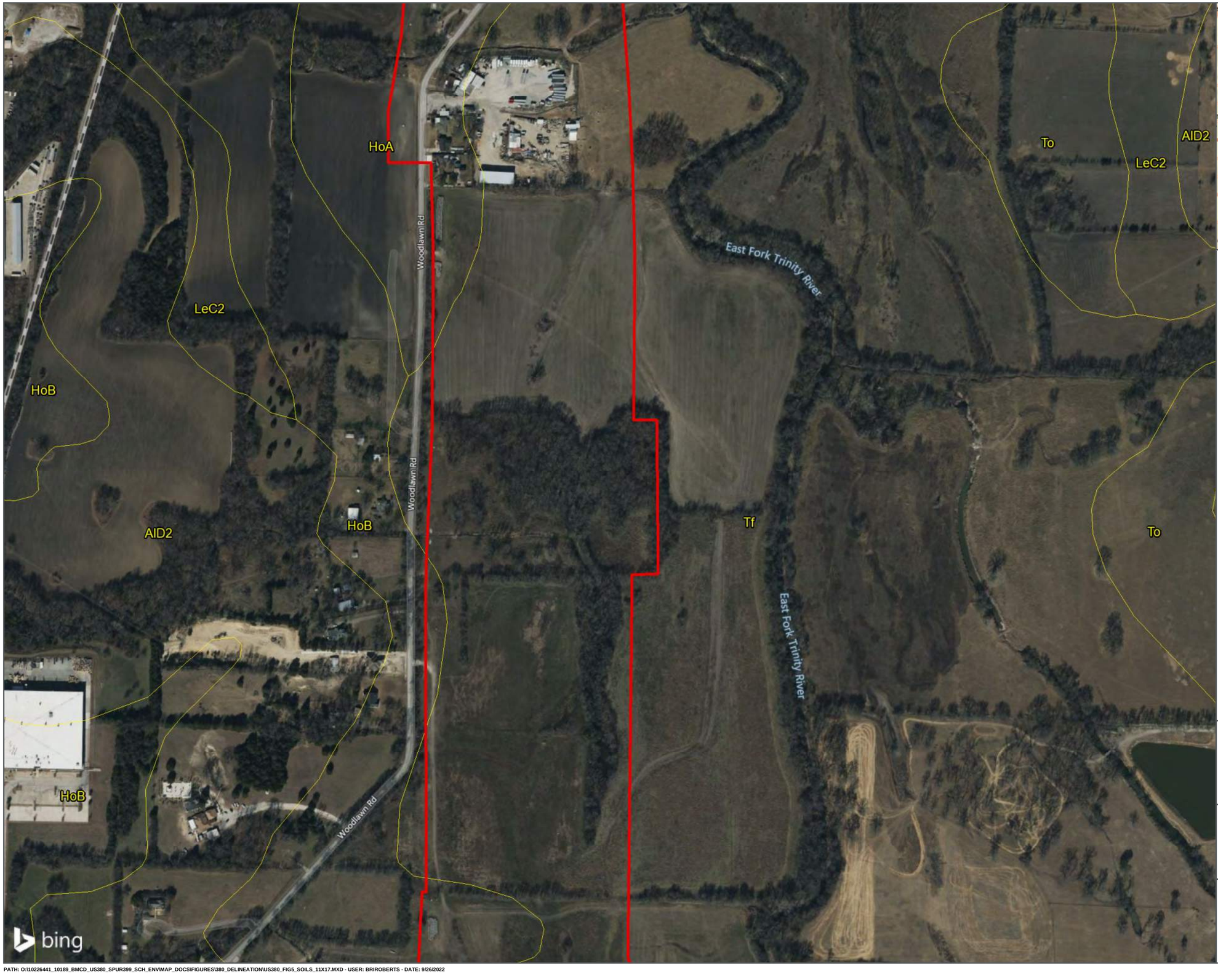
0 250 500

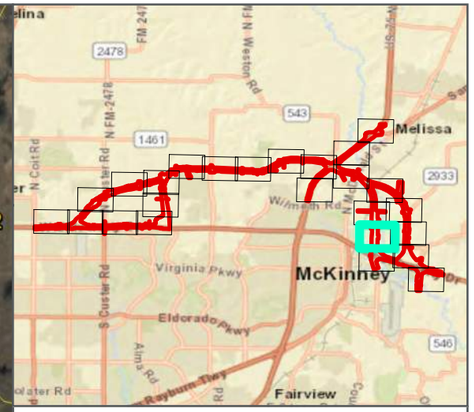
FEET

Texas Department of Transportation

FIGURE 5-19

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATIONUS380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

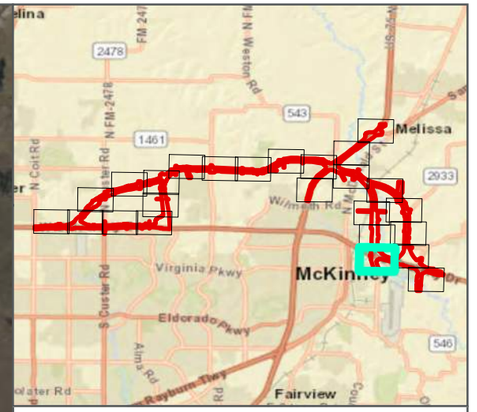
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-20

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

FEET

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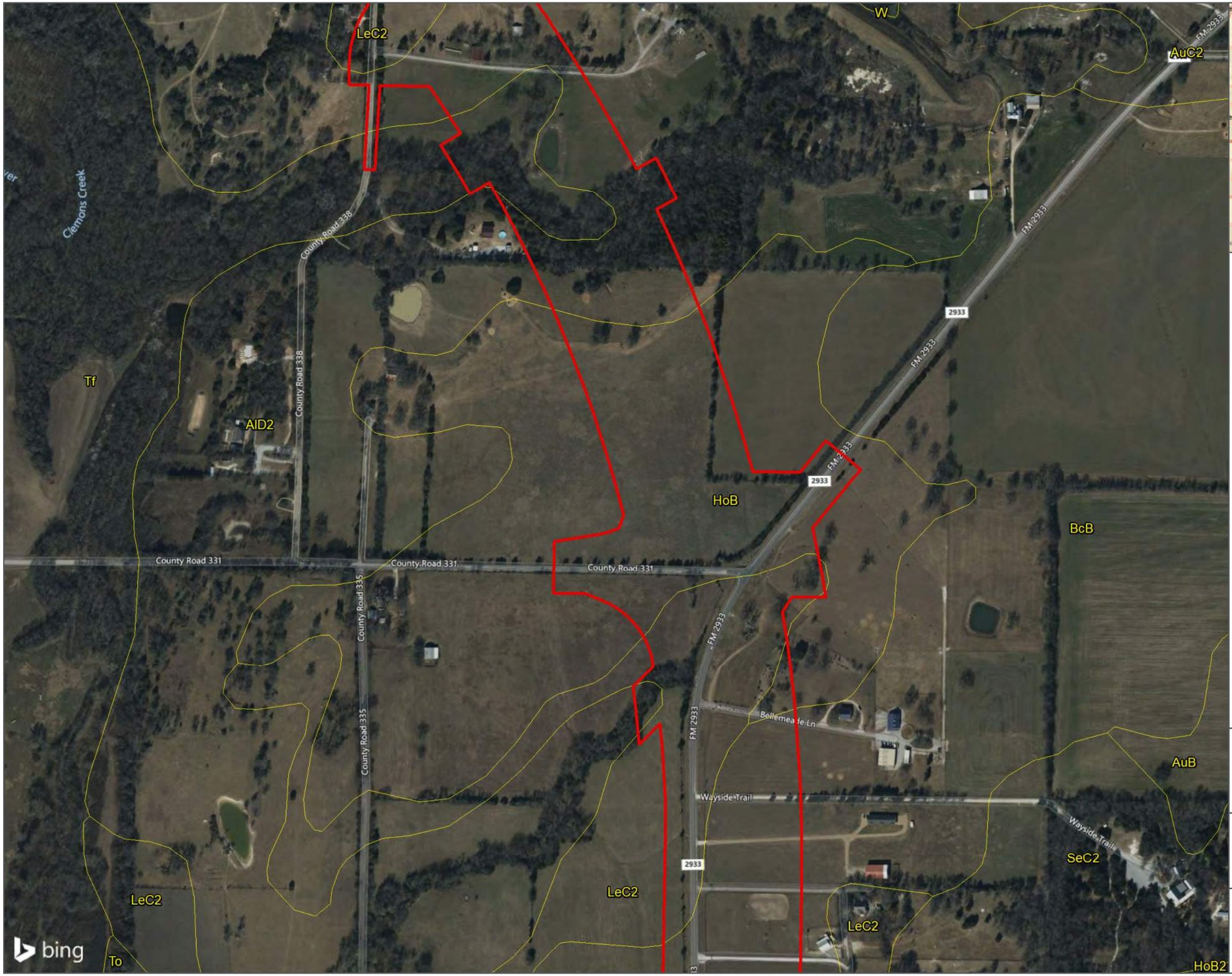
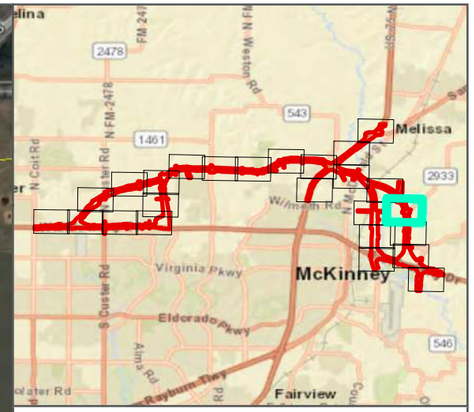
FIGURE 5-21

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

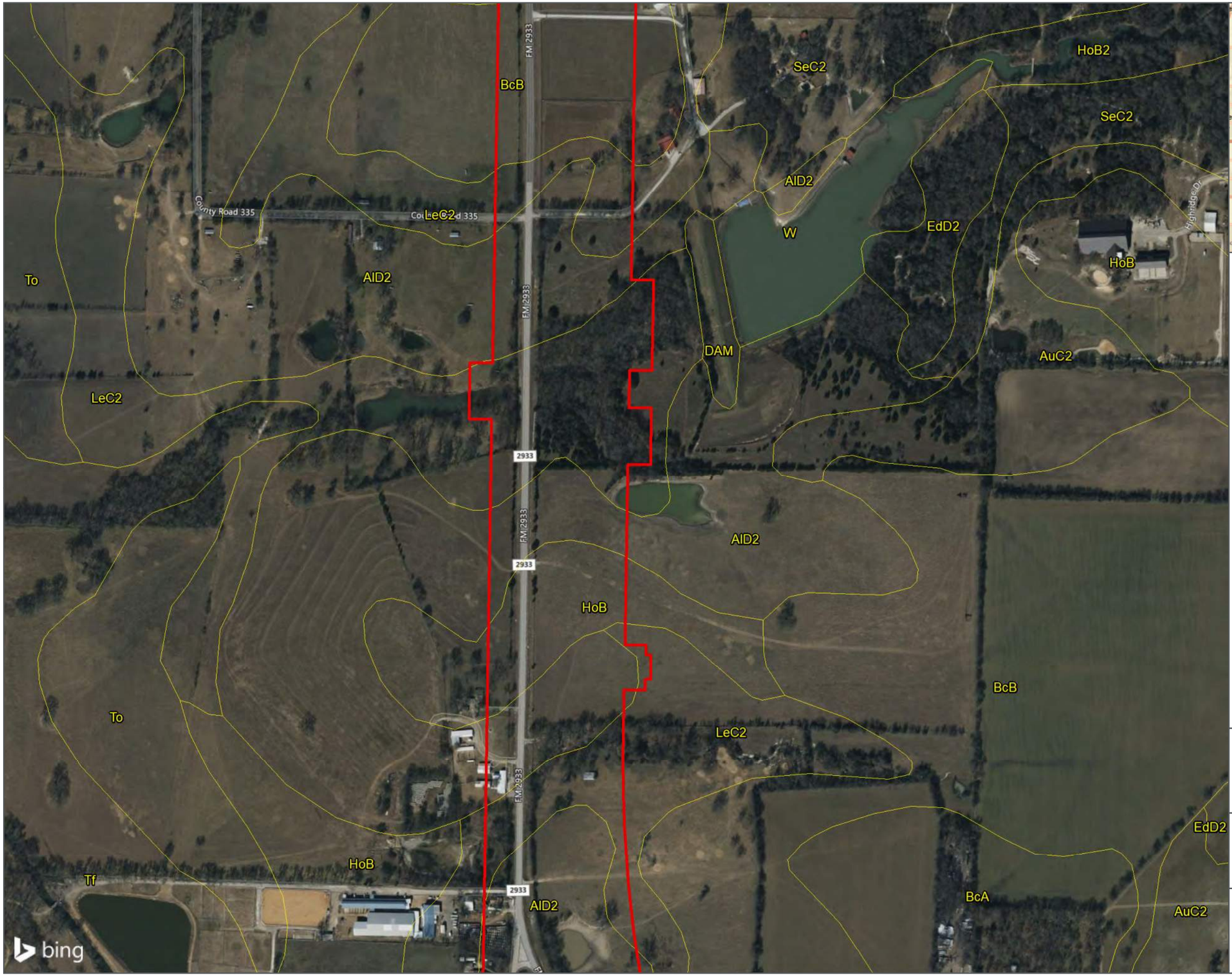
0 250 500

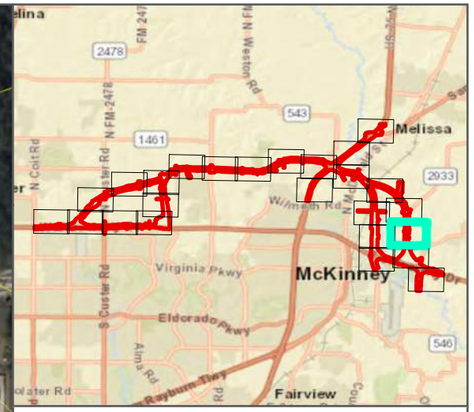
FEET

Texas Department of Transportation

FIGURE 5-22

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

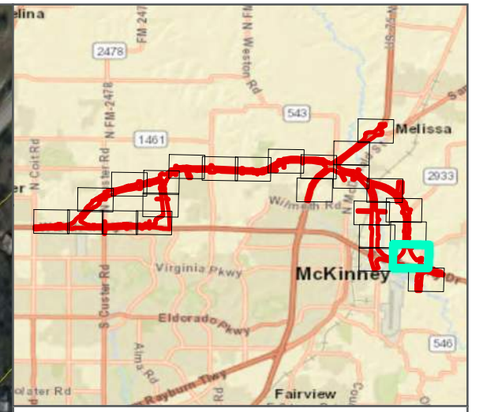
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-23

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATIONUS380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

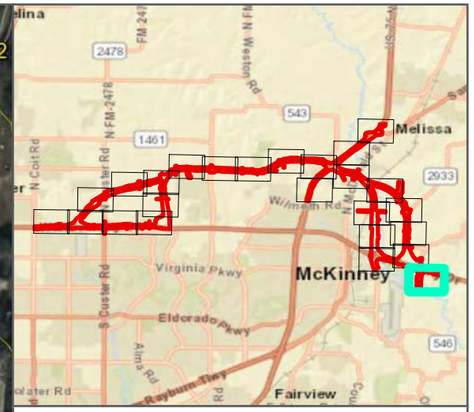
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-24

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

SOIL MAP UNIT

NOTE: SEE PAGE 5-26 FOR SOILS TABLE

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

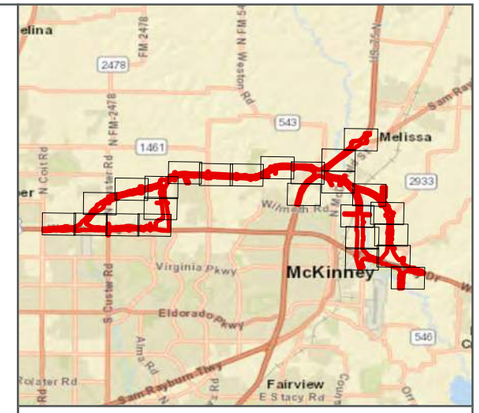
0 250 500

FEET

Texas Department of Transportation

FIGURE 5-25

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



Map Unit	Soil Description	Percent of Study Area
Tf	Tinn clay, 0 to 1 percent slopes, frequently flooded	21.91%
HoB	Houston Black clay, 1 to 3 percent slopes	17.45%
AlD2	Altoga silty clay, 5 to 8 percent slopes, eroded	10.59%
To	Trinity clay, 0 to 1 percent slopes, occasionally flooded	10.09%
AuD2	Austin silty clay, 5 to 8 percent slopes, moderately eroded	7.88%
AuC2	Austin silty clay, 2 to 5 percent slopes, eroded	7.78%
LeC2	Lewisville silty clay, 3 to 5 percent slopes, eroded	5.97%
HoA	Houston Black clay, 0 to 1 percent slopes	5.05%
EdD2	Eddy gravelly clay loam, 3 to 8 percent slopes, eroded	3.21%
AuB	Austin silty clay, 1 to 3 percent slopes	2.54%
BcB	Burleson clay, 1 to 3 percent slopes	2.19%
HcC2	Heiden clay, 3 to 5 percent slopes, eroded	1.45%
HoB2	Houston Black clay, 2 to 4 percent slopes, eroded	1.30%
LeB	Lewisville silty clay, 1 to 3 percent slopes	1.26%
Fo	Frio clay loam, occasionally flooded	0.49%
BcA	Burleson clay, 0 to 1 percent slopes	0.32%
SeC2	Stephen-Eddy complex, 2 to 5 percent slopes	0.24%
W	Water	0.10%
AlE3	Altoga silty clay, 8 to 12 percent slopes, severely ero ded	0.09%
GP	Gravel pits and quarries	0.09%

NRCS SOILS MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

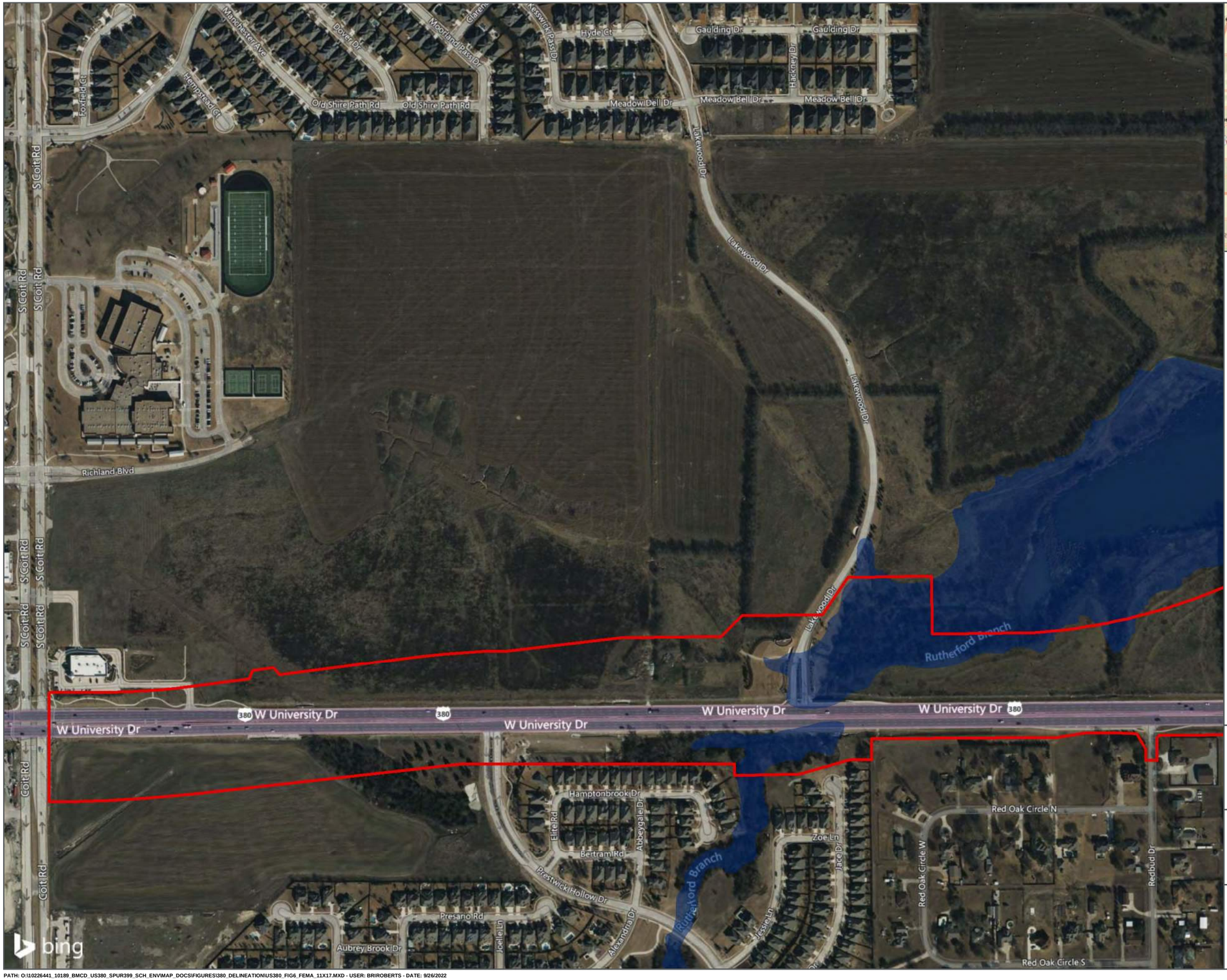
N

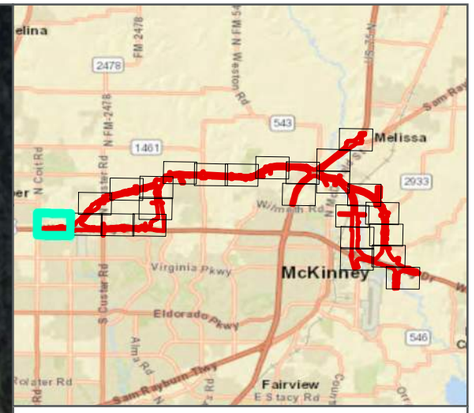
0 125,000 250,000
FEET

Texas Department of Transportation

FIGURE 5-26

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG5_SOILSTABLE_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

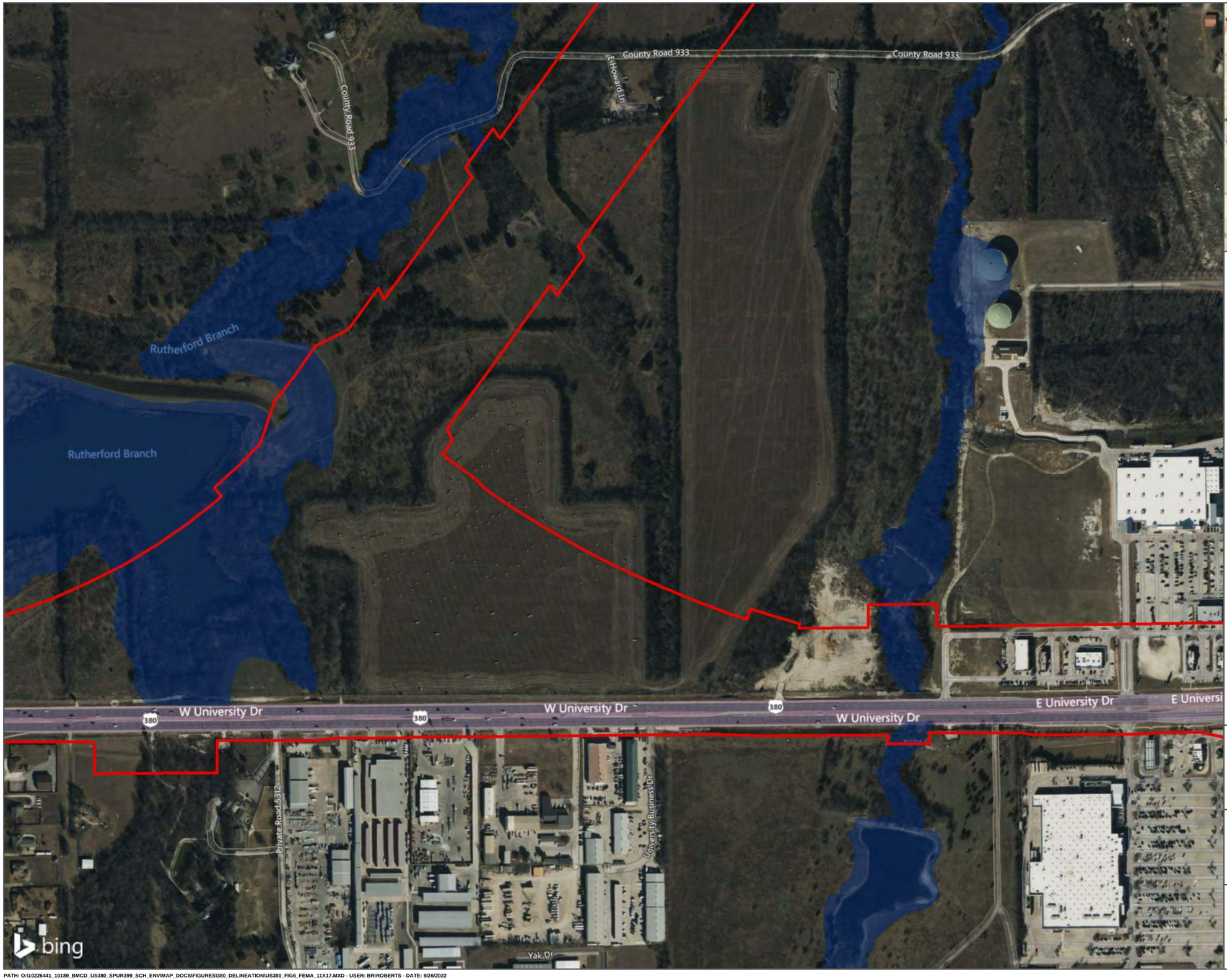
0 250 500

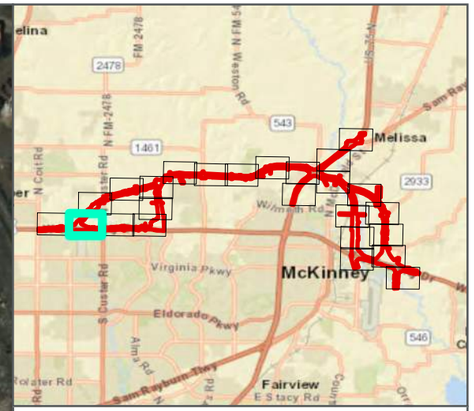
FEET

Texas Department of Transportation

FIGURE 6-1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

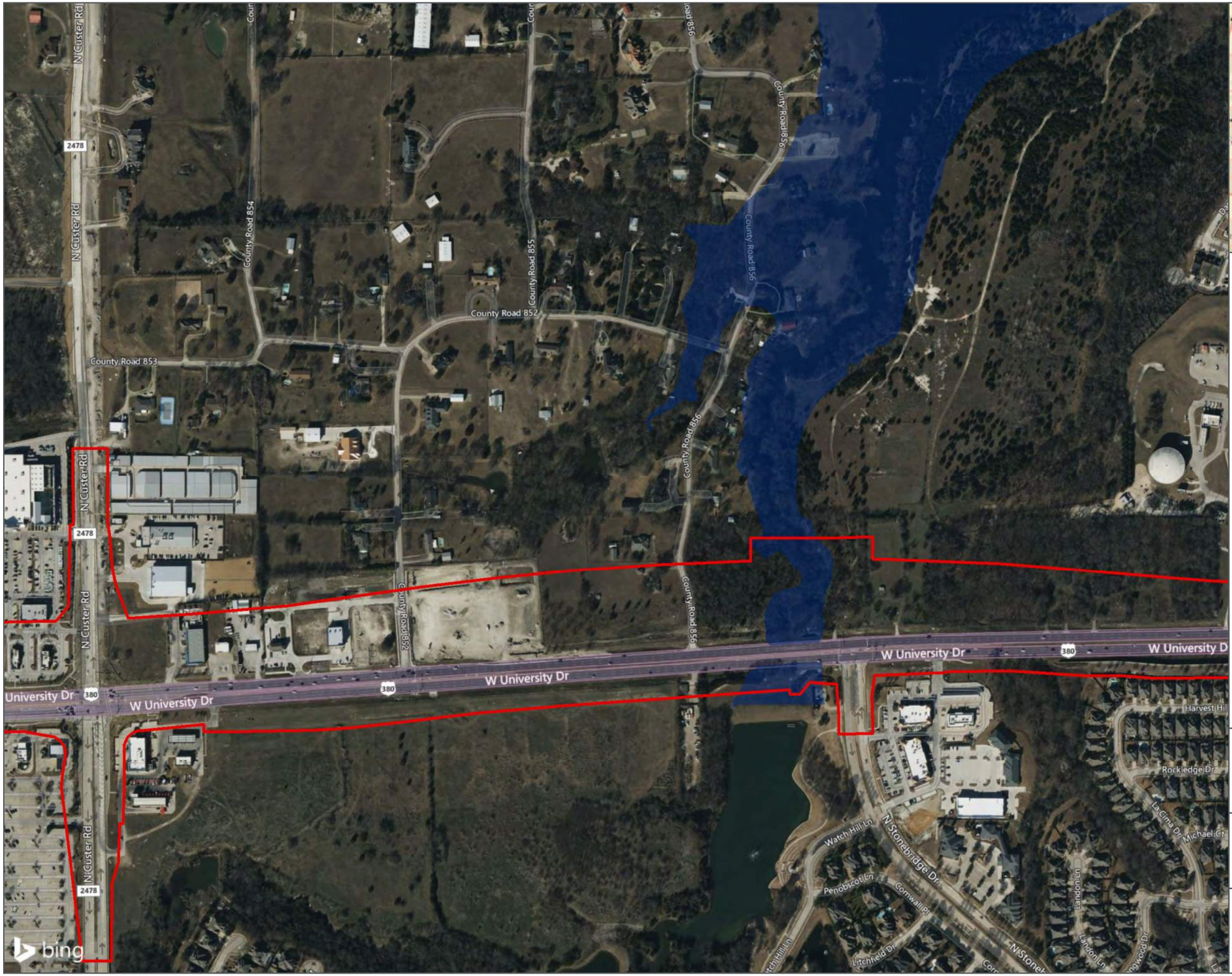
0 250 500

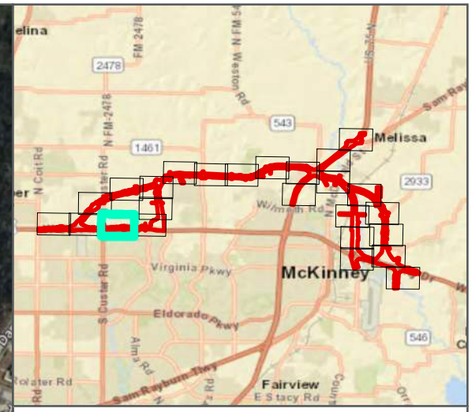
FEET

Texas Department of Transportation

FIGURE 6-2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

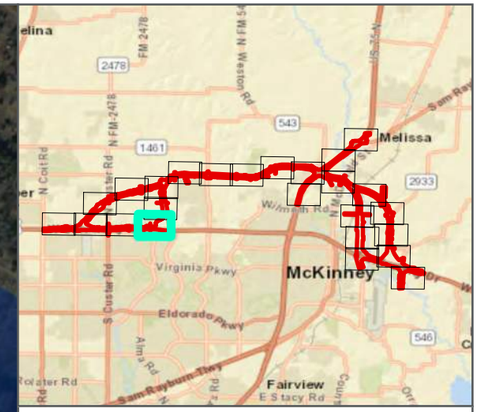
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-3

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

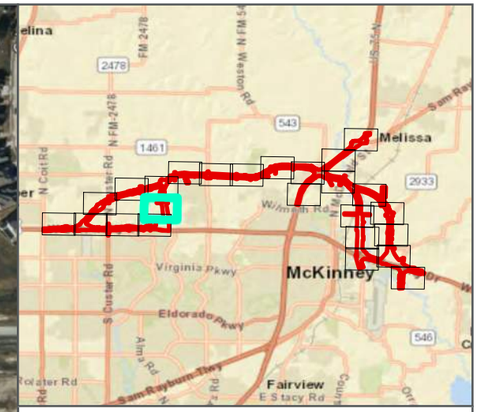
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-4

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

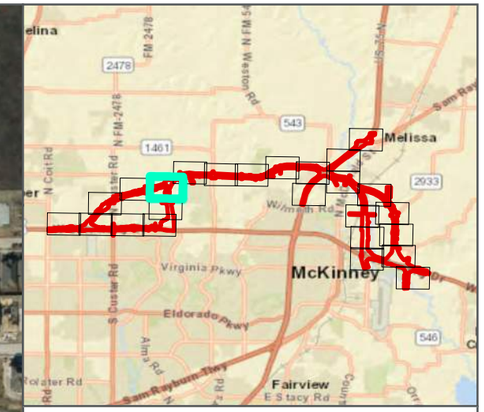
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-5

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

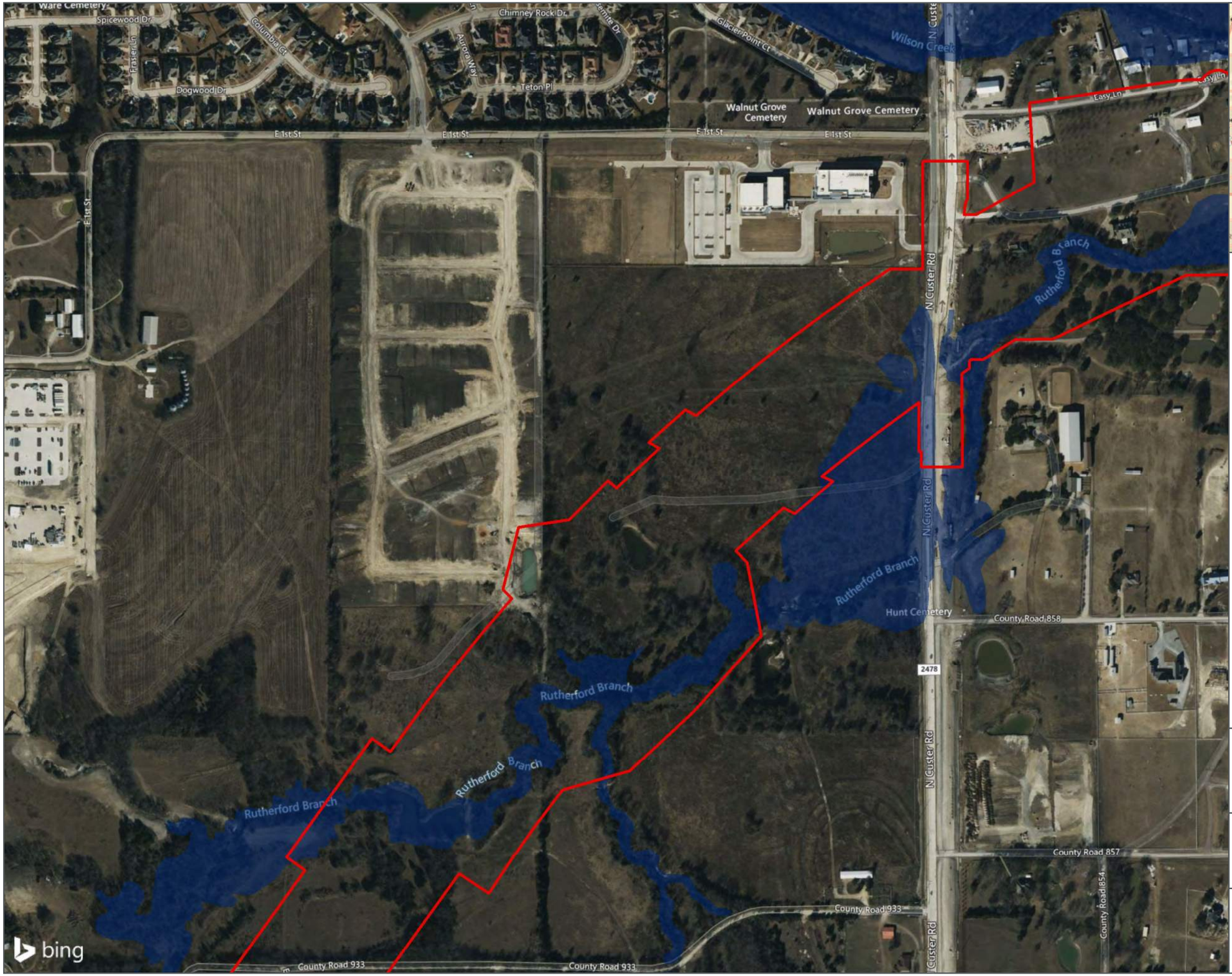
0 250 500

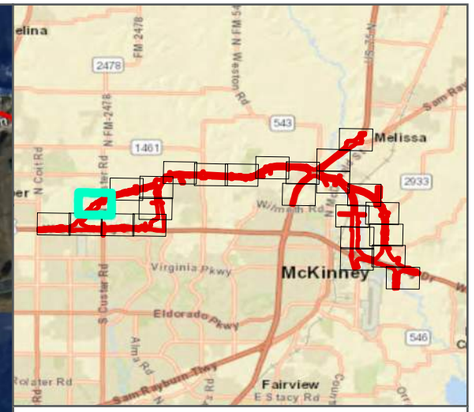
FEET

Texas Department of Transportation

FIGURE 6-6

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

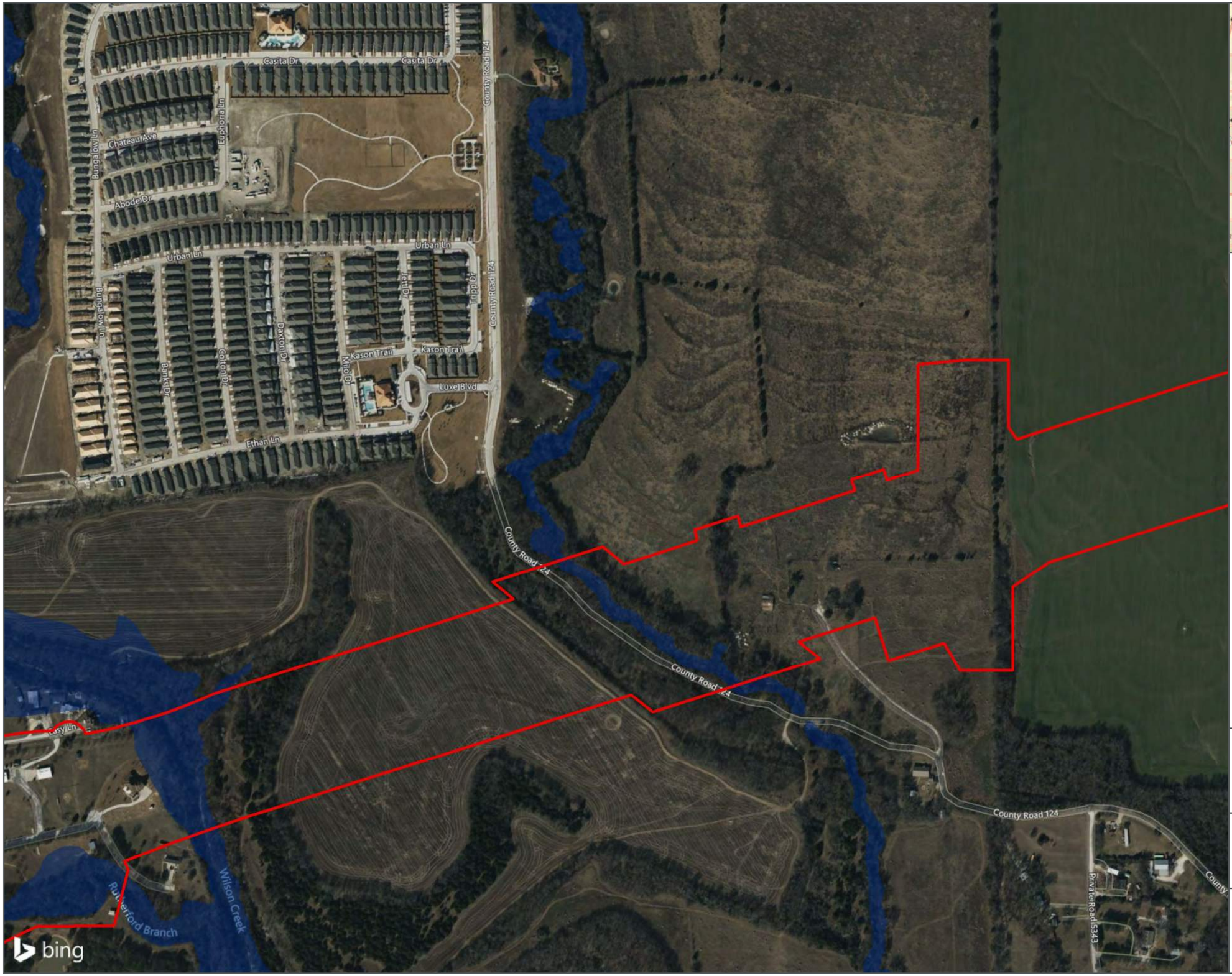
0 250 500

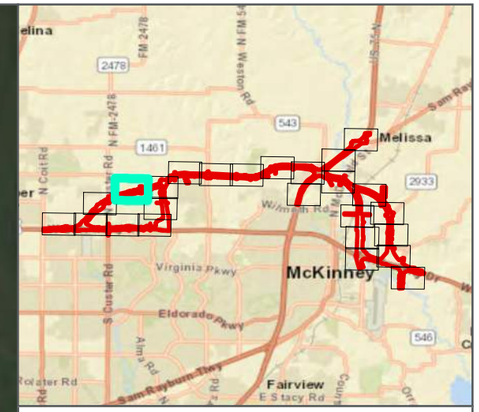
FEET

Texas Department of Transportation

FIGURE 6-7

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

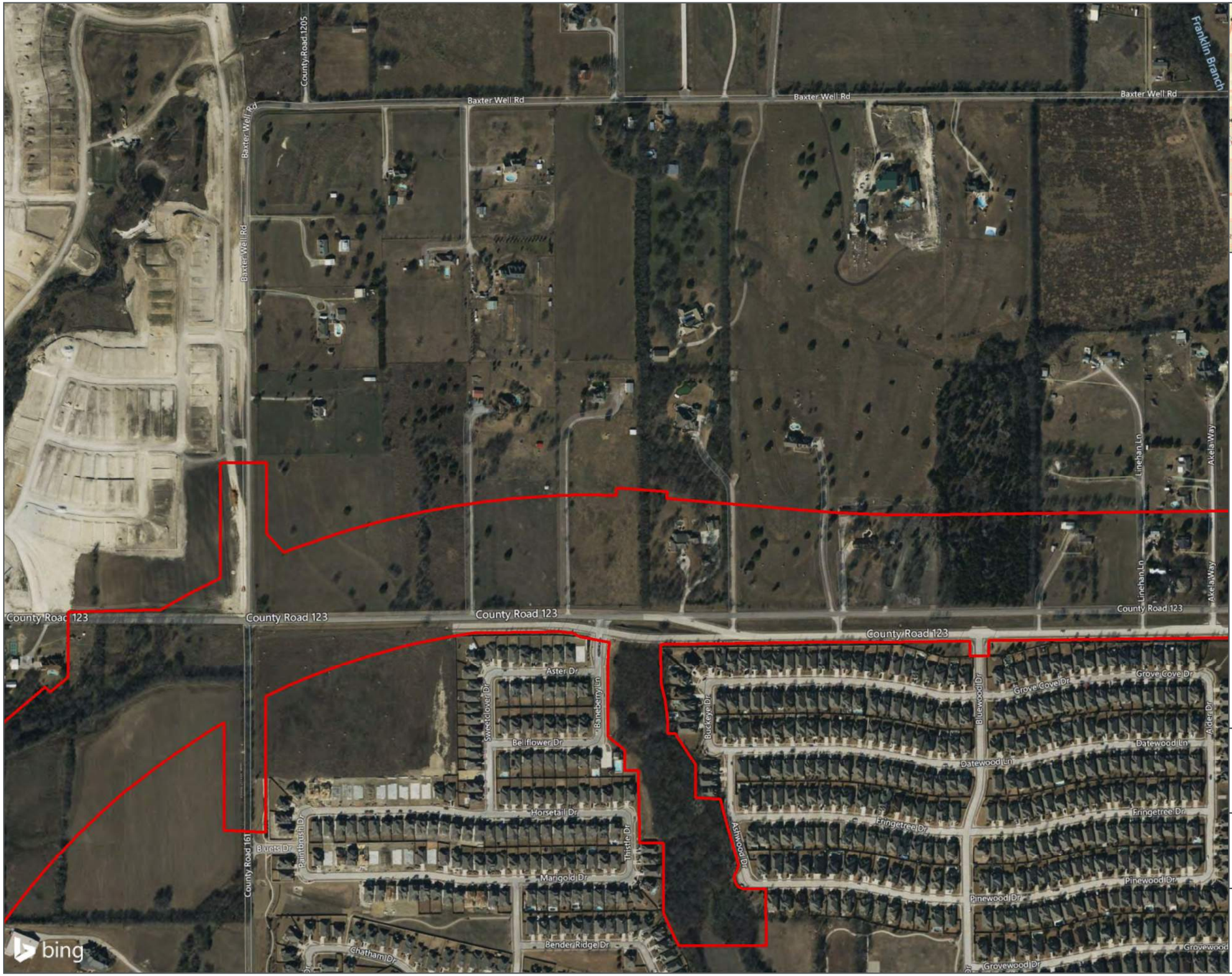
0 250 500

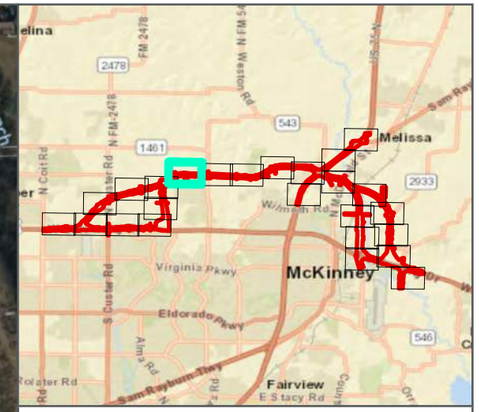
FEET

Texas Department of Transportation

FIGURE 6-8

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

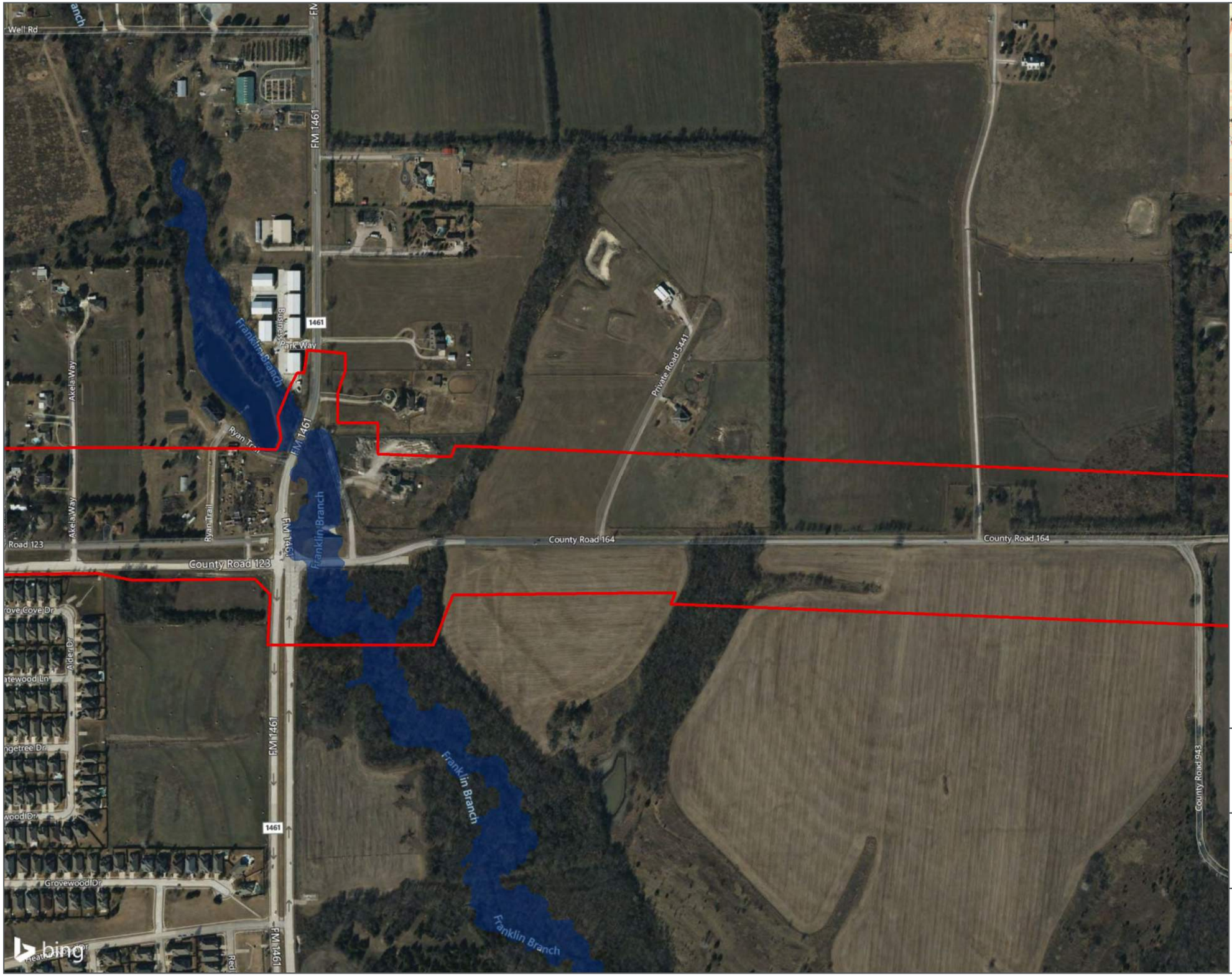
0 250 500

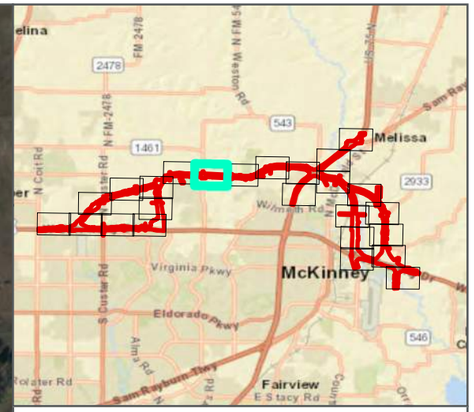
FEET

Texas Department of Transportation

FIGURE 6-9

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

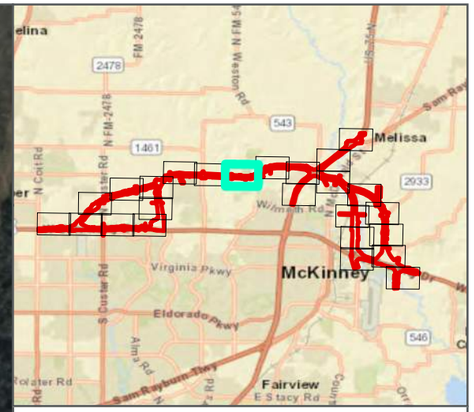
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-10

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

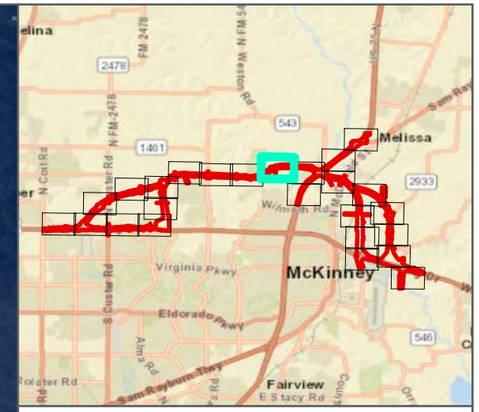
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-11

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

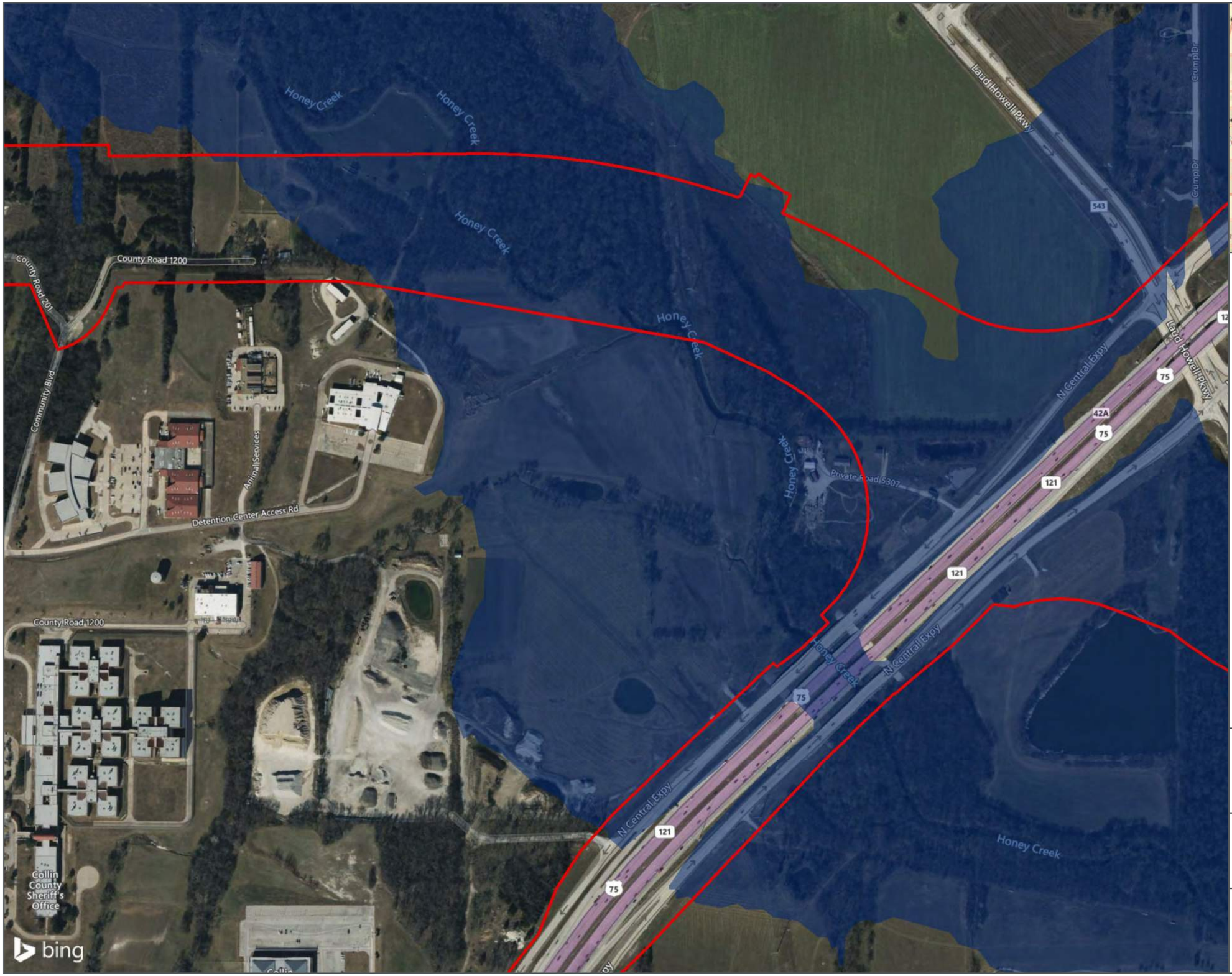
0 250 500

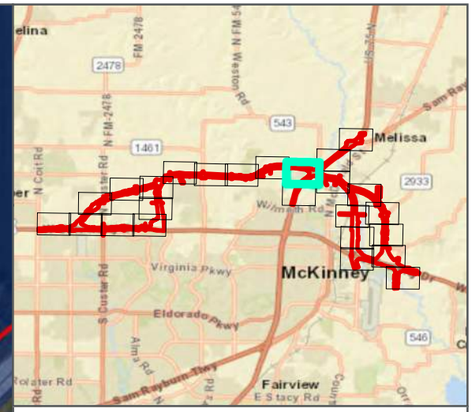
FEET

Texas Department of Transportation

FIGURE 6-12

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

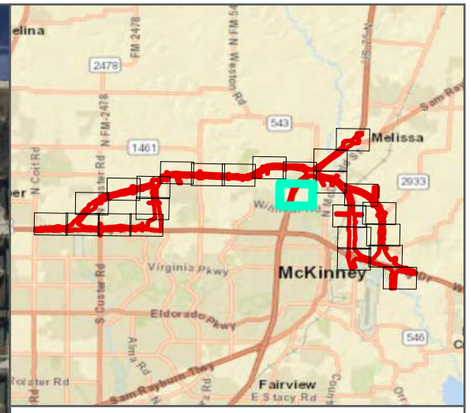
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-13

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

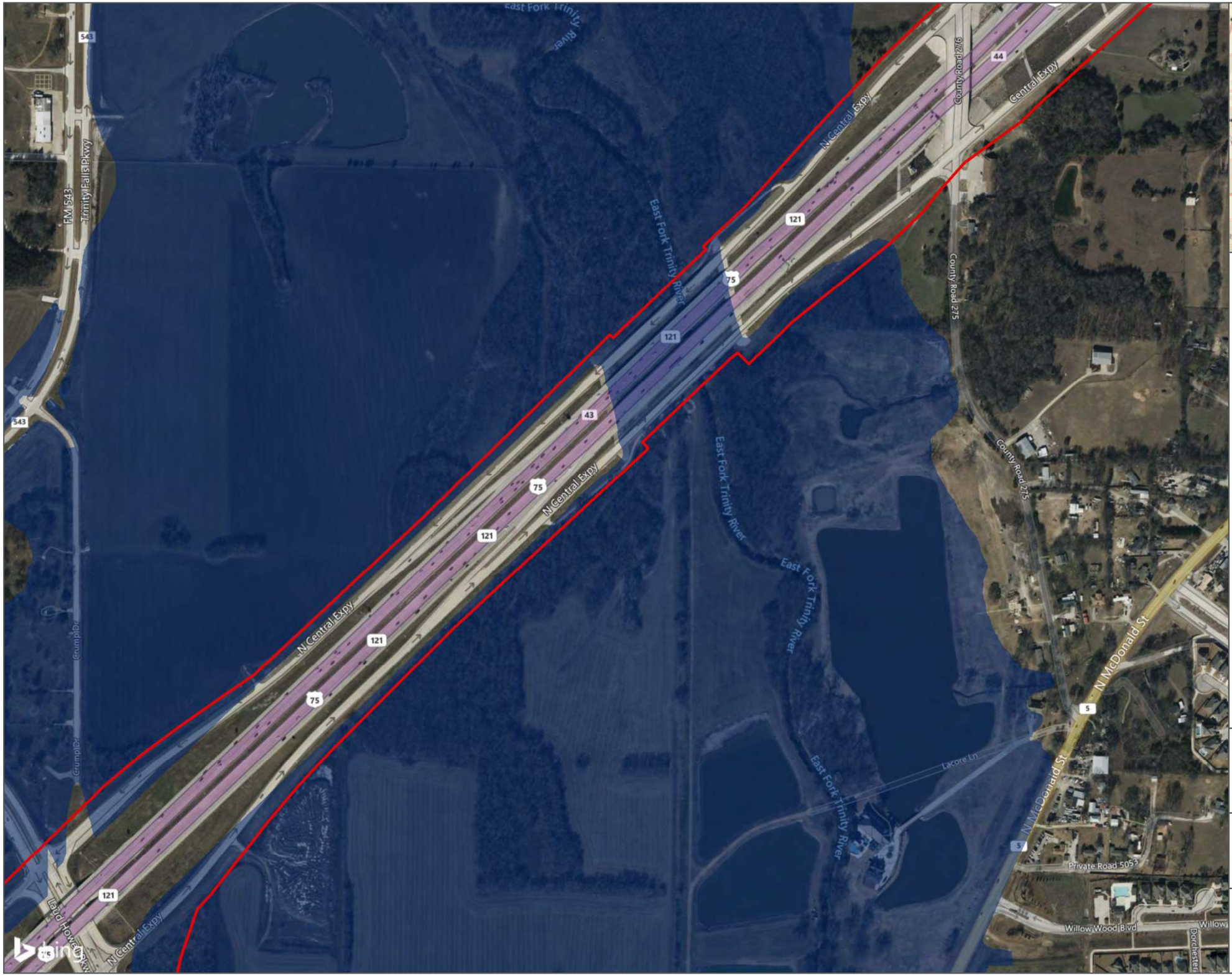
0 250 500

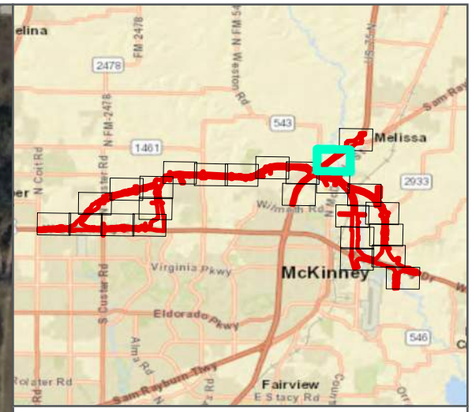
FEET

Texas Department of Transportation

FIGURE 6-14

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

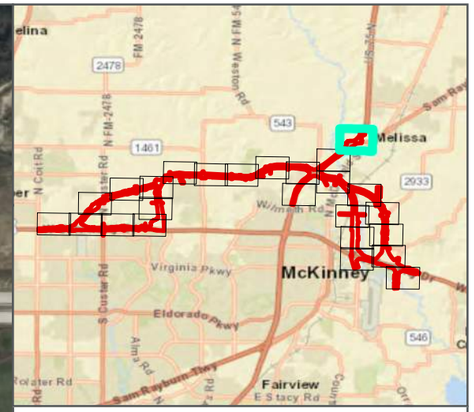
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-15

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

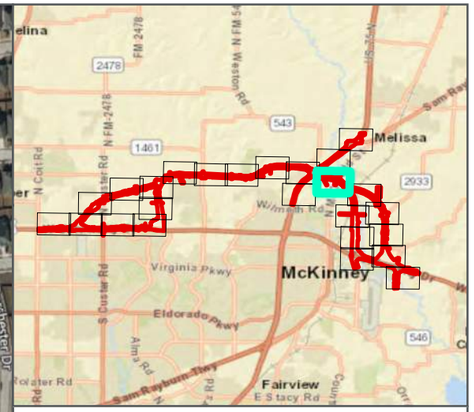
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-16

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

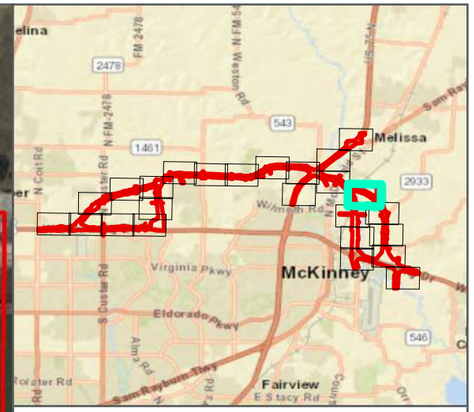
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-17

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

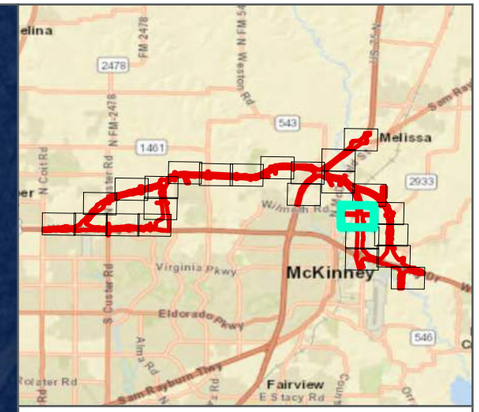
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-18

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

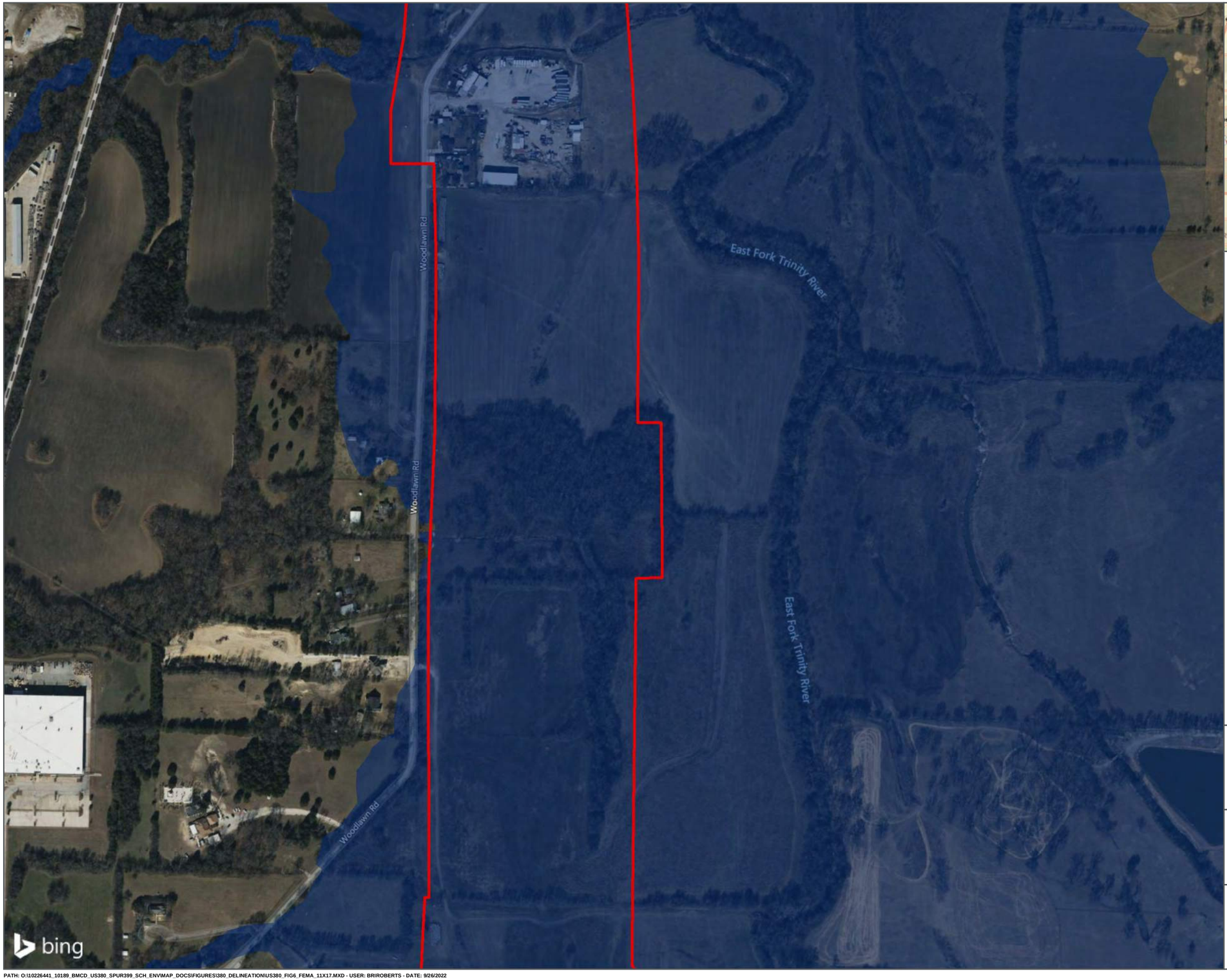
0 250 500

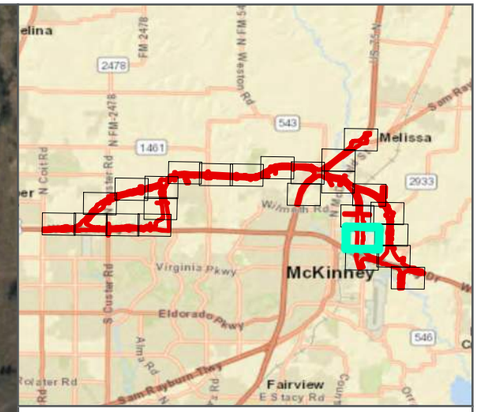
FEET

Texas Department of Transportation

FIGURE 6-19

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

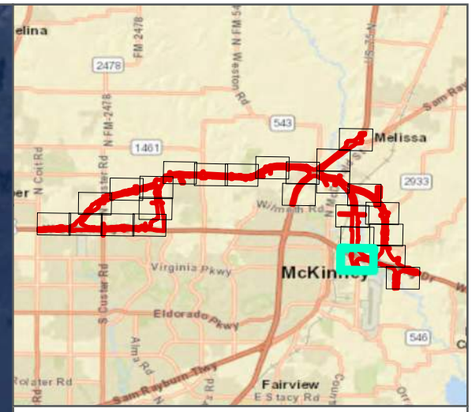
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-20

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

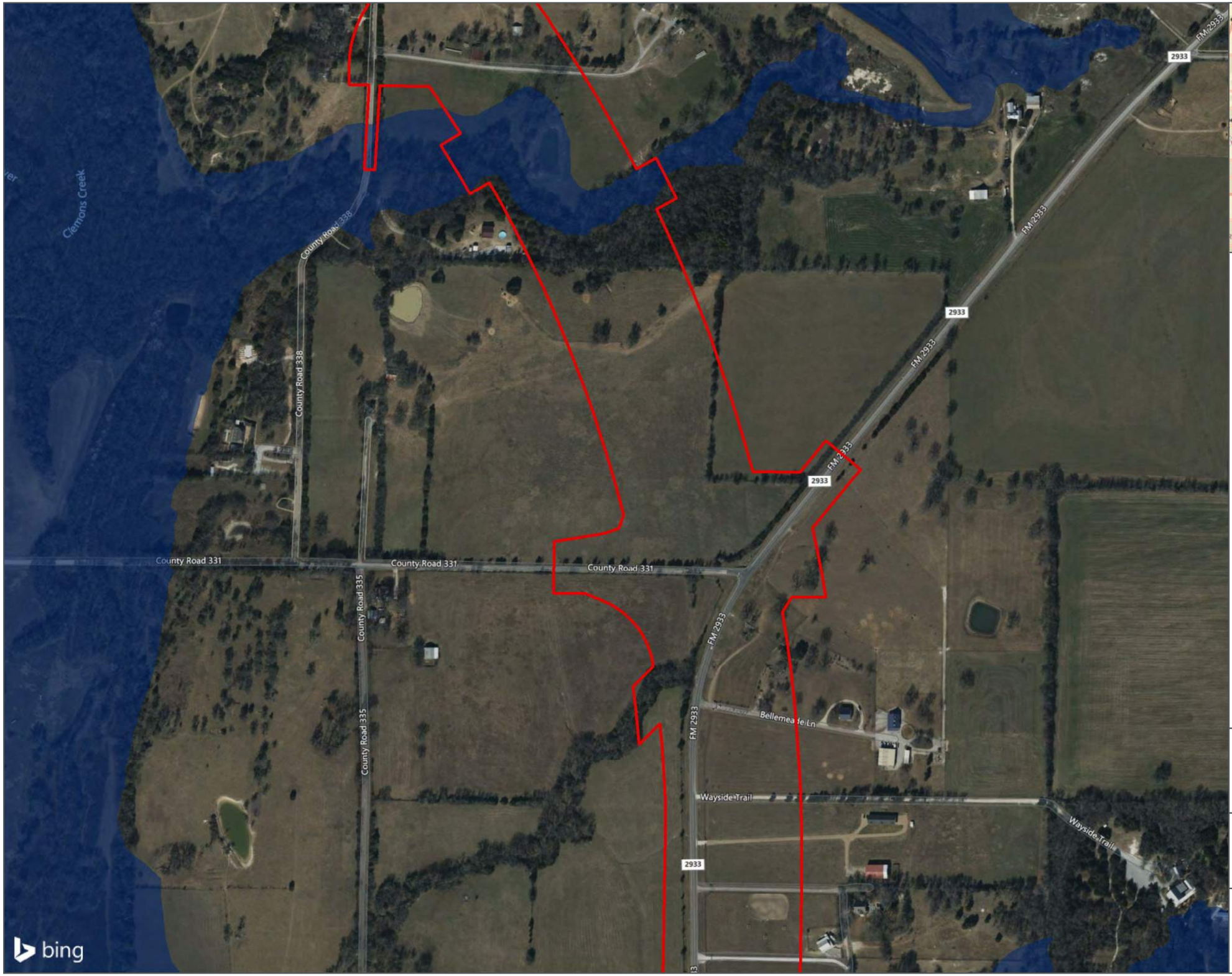
0 250 500

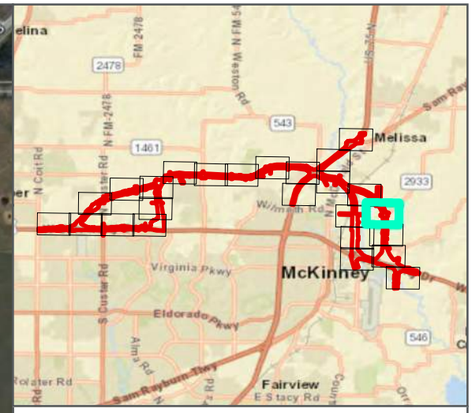
FEET

Texas Department of Transportation

FIGURE 6-21

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

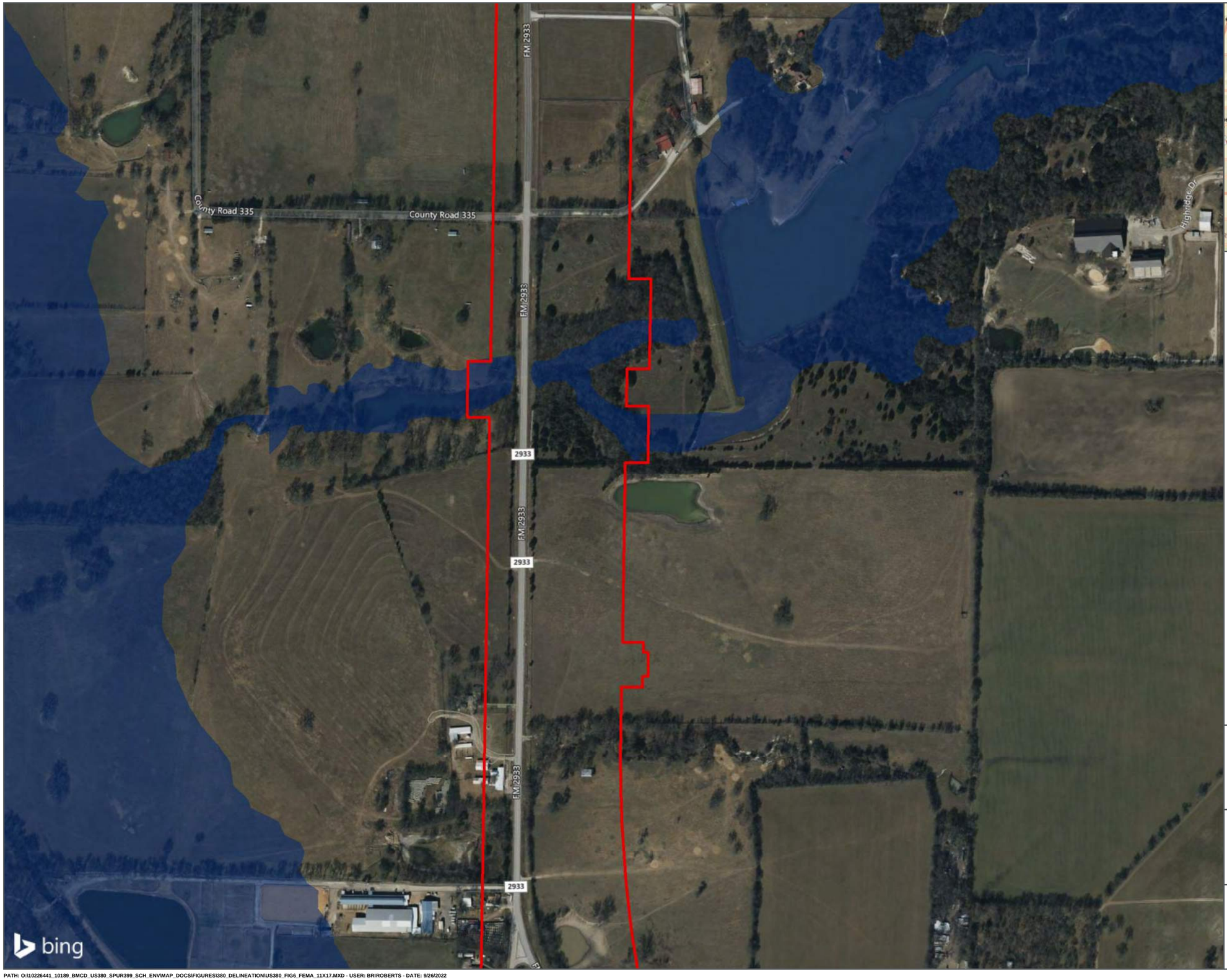
0 250 500

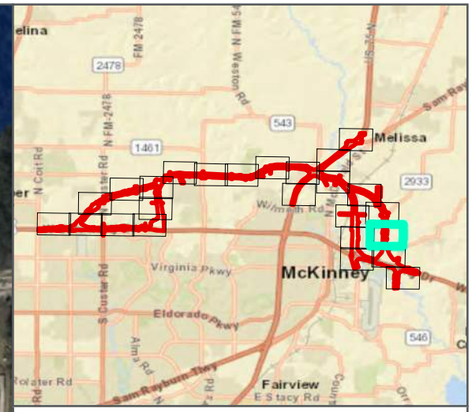
FEET

Texas Department of Transportation

FIGURE 6-22

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

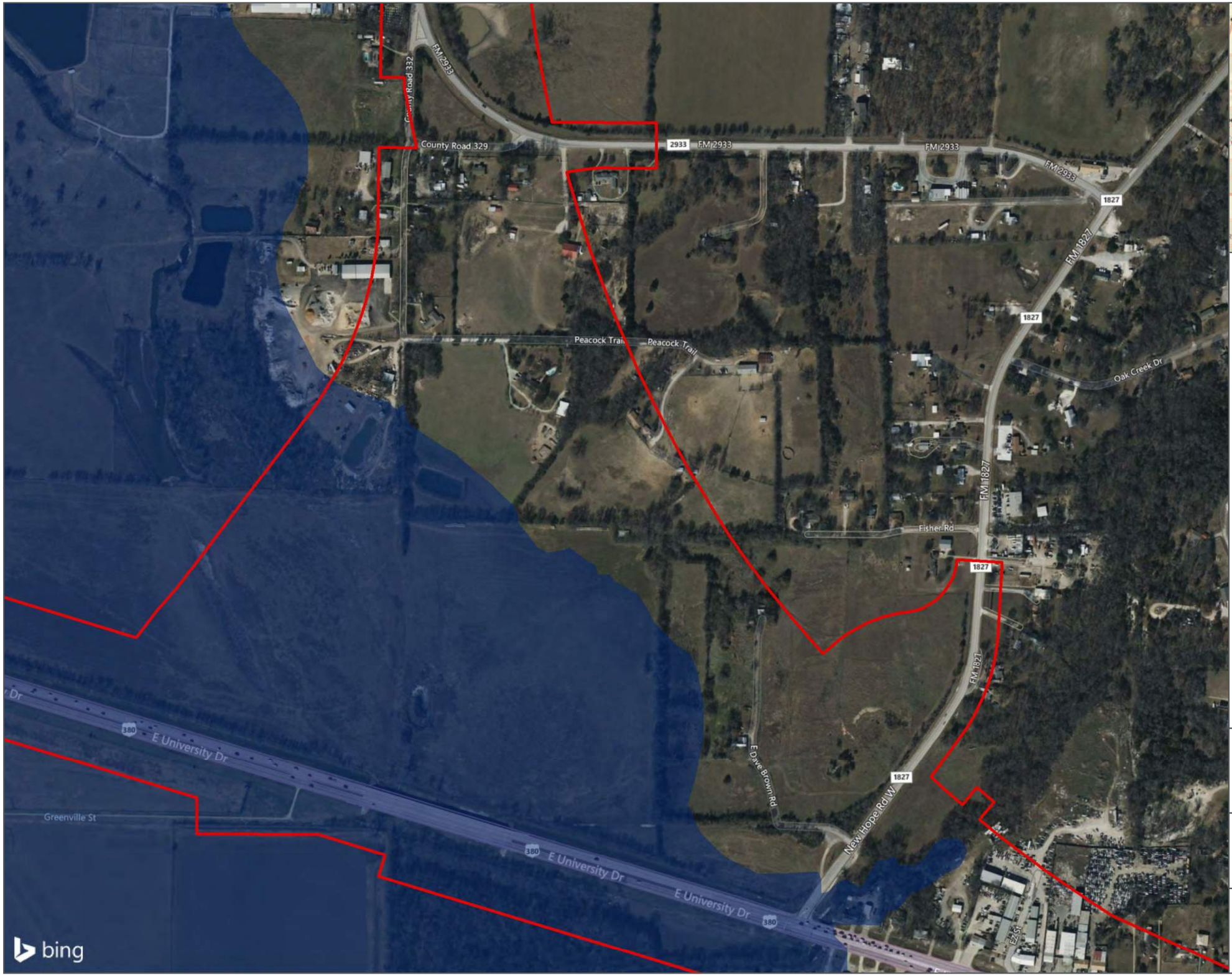
0 250 500

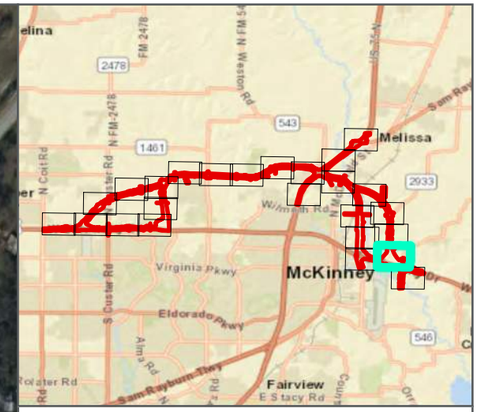
FEET

Texas Department of Transportation

FIGURE 6-23

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATIONUS380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

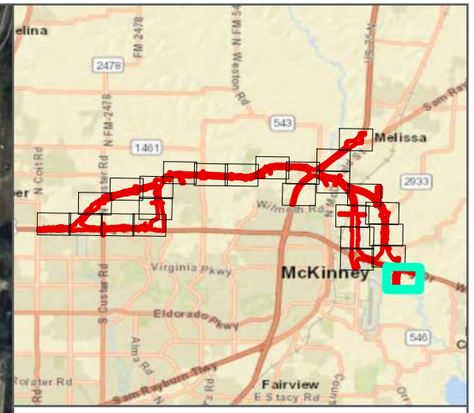
0 250 500

FEET

Texas Department of Transportation

FIGURE 6-24

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

ENVIRONMENTAL FOOTPRINT

100-YEAR FLOODPLAIN

FEMA FLOODPLAIN MAP

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

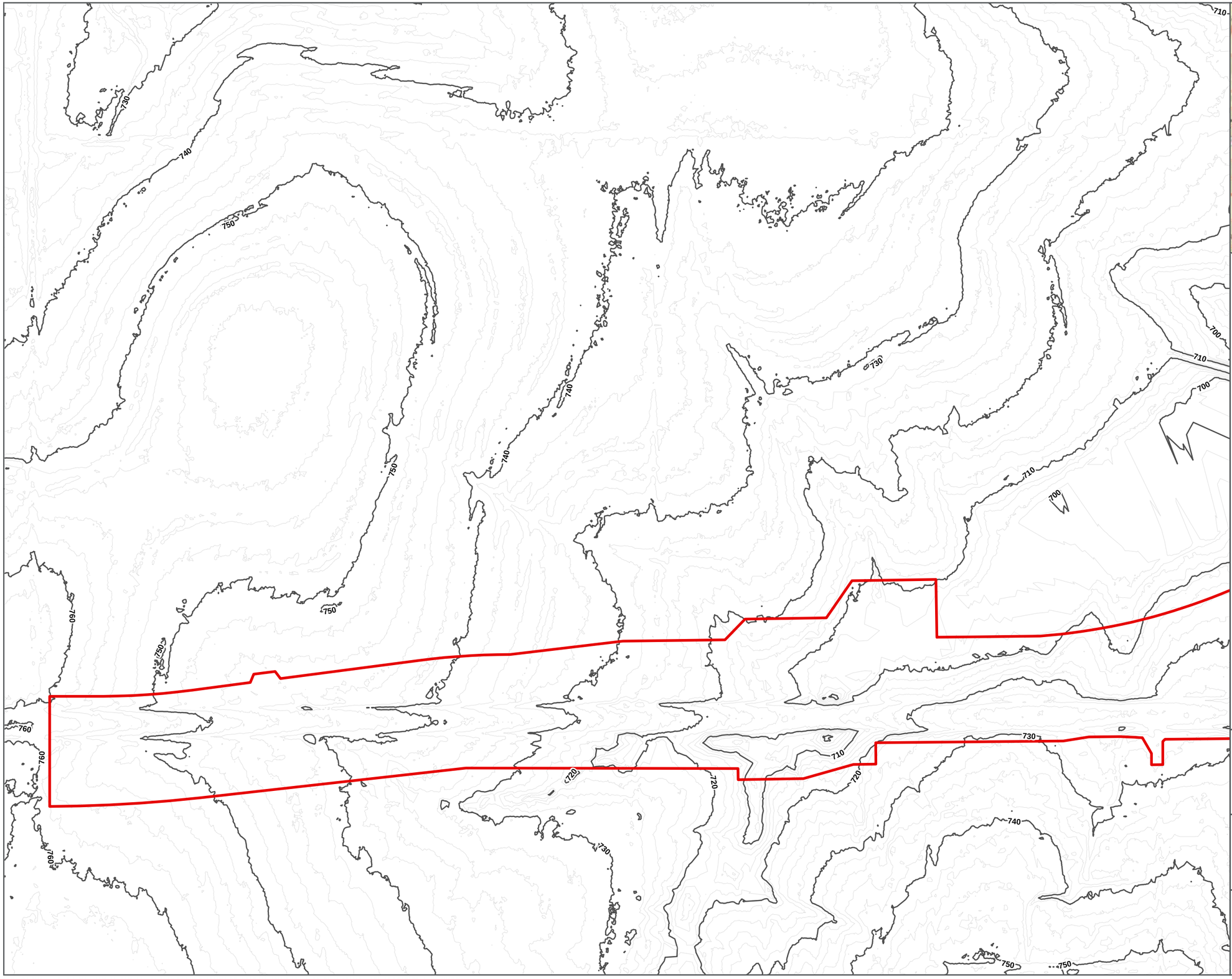
0 250 500

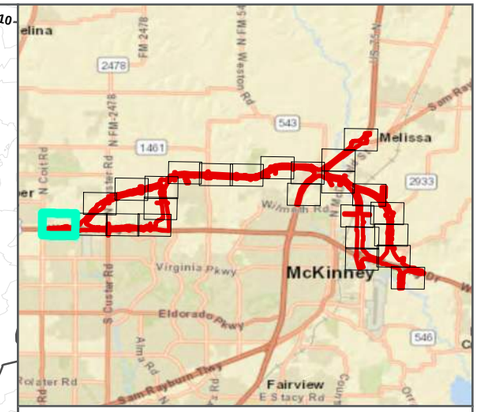
FEET

Texas Department of Transportation

FIGURE 6-25

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG6_FEMA_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

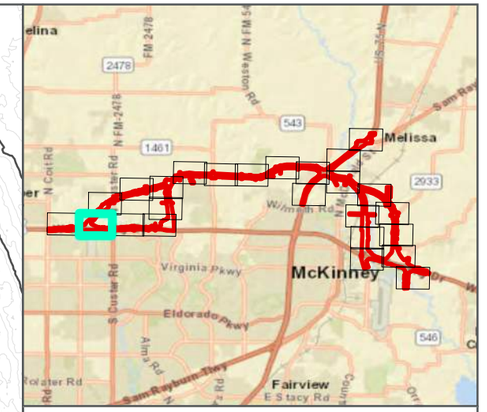
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

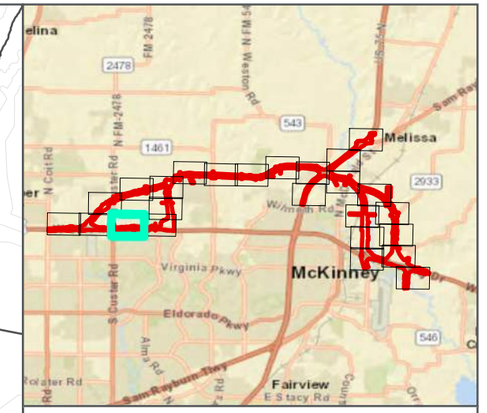
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

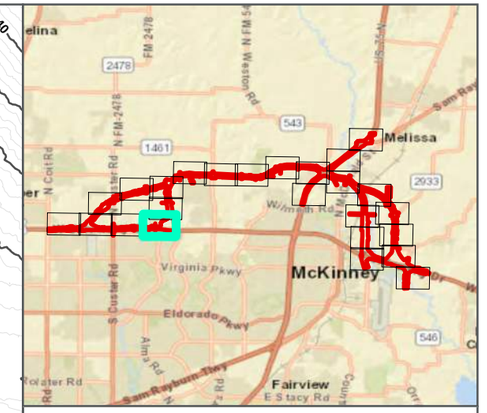
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-3

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

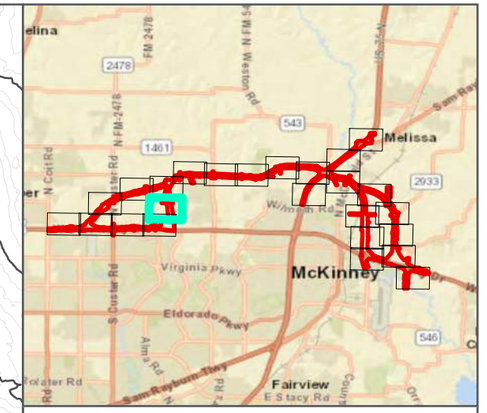
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-4

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

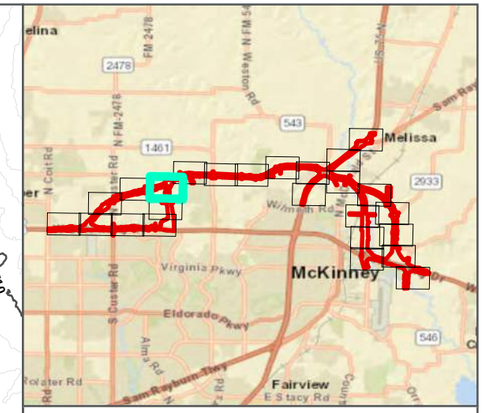
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-5

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

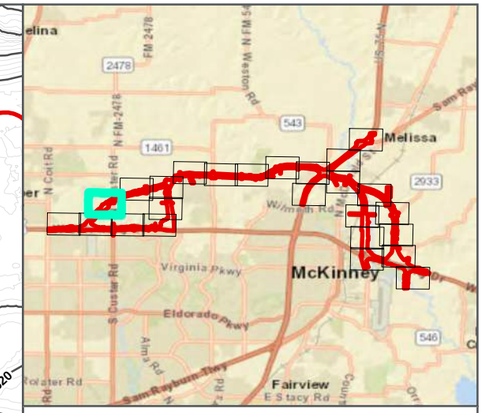
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-6

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

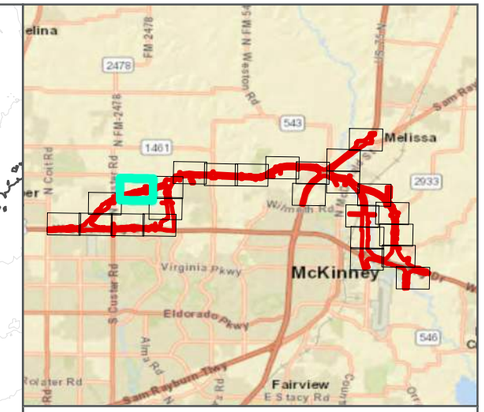
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-7

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

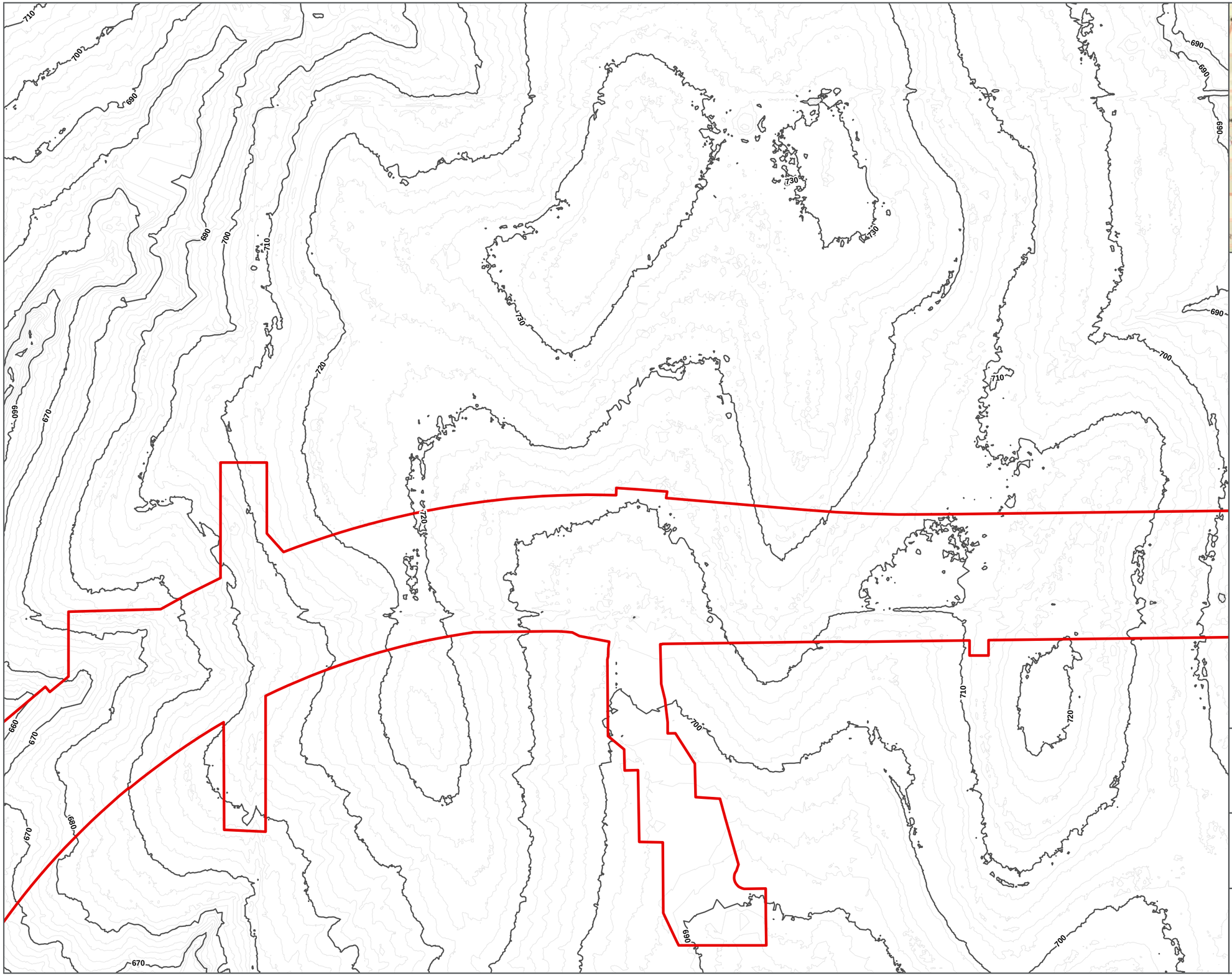
0 250 500

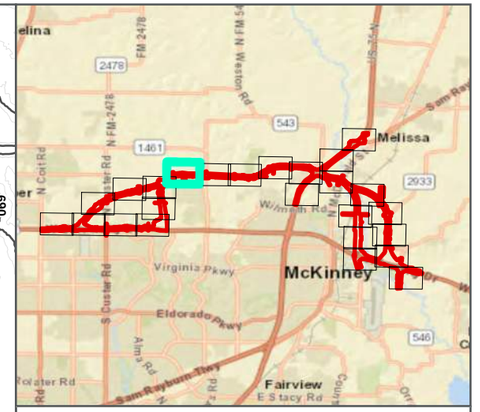
FEET

Texas Department of Transportation

FIGURE 7-8

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

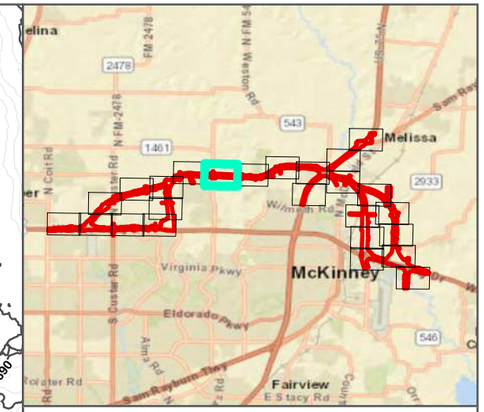
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-9

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

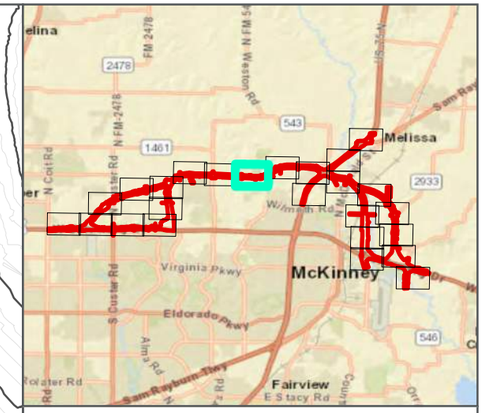
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-10

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

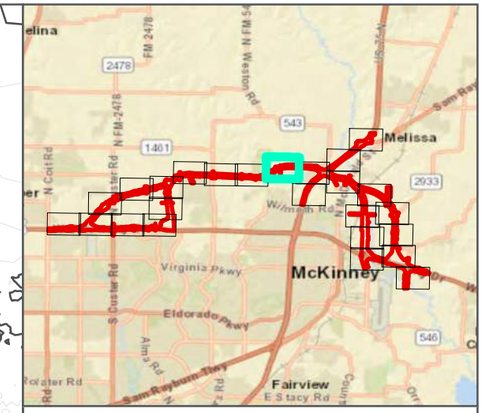
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-11

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

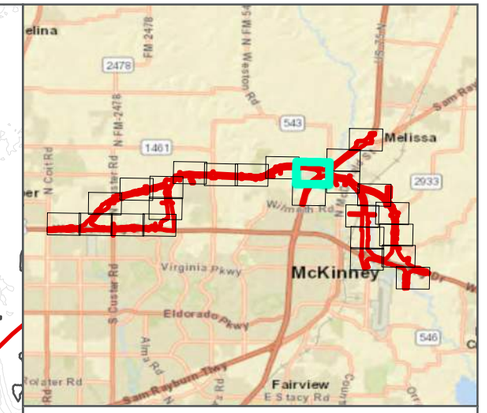
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-12

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

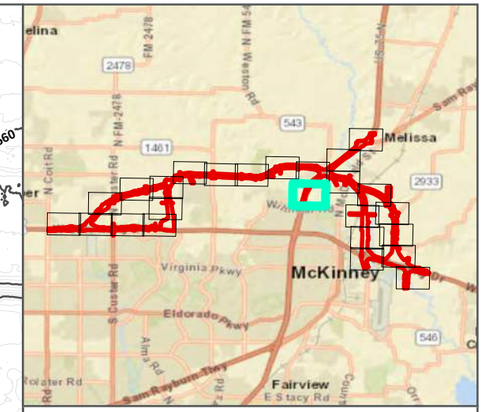
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-13

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

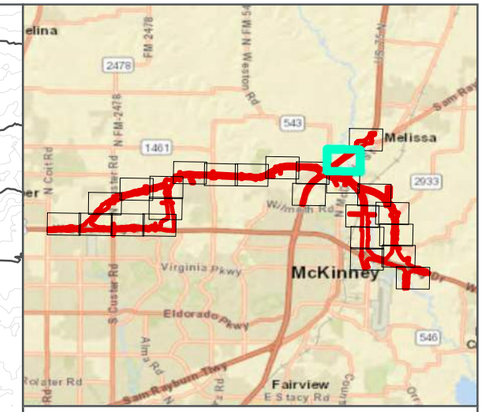
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-14

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

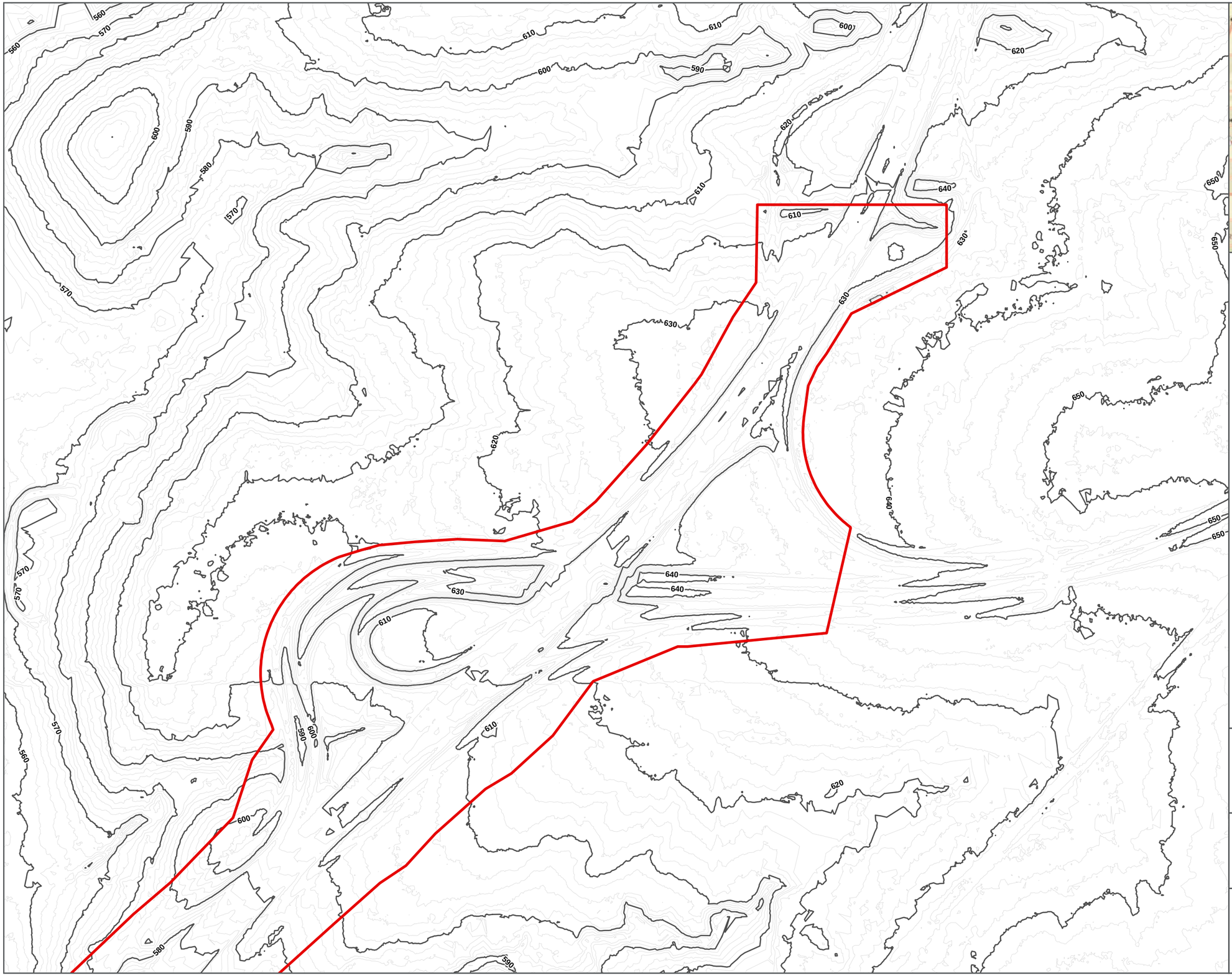
0 250 500

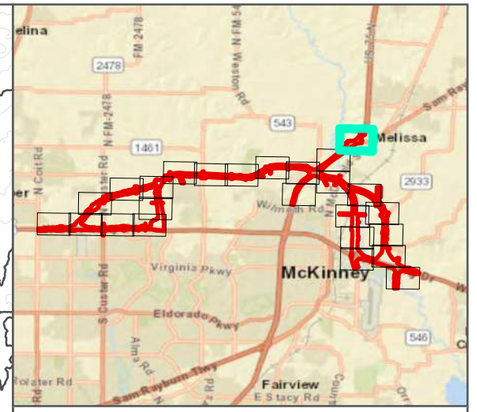
FEET

Texas Department of Transportation

FIGURE 7-15

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

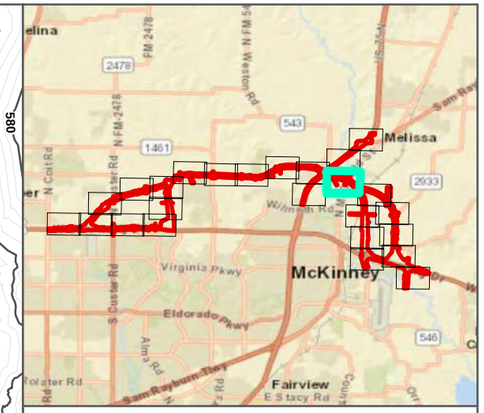
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-16

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

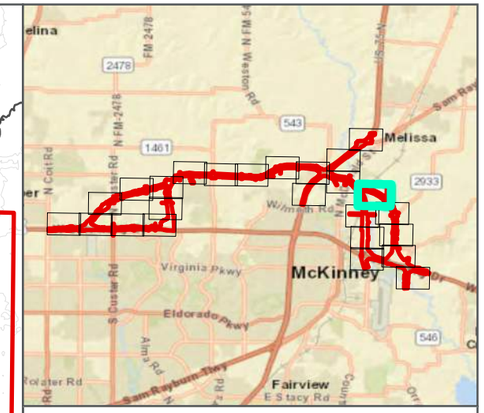
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-17

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

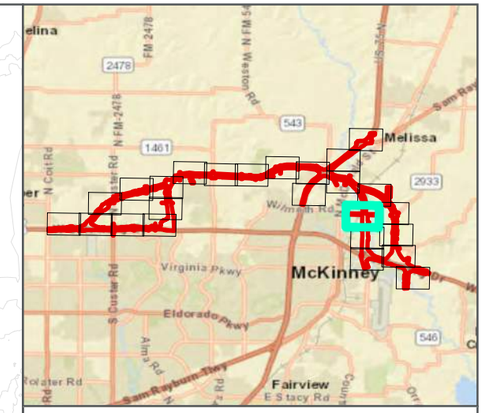
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-18

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

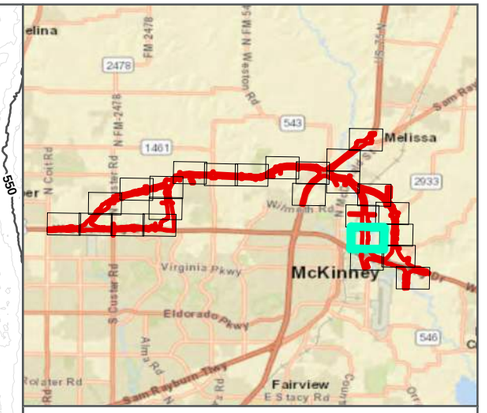
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-19

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

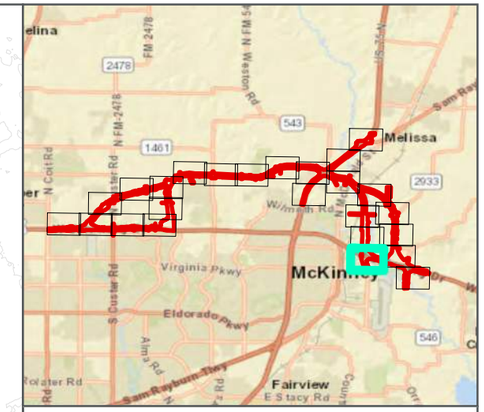
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-20

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

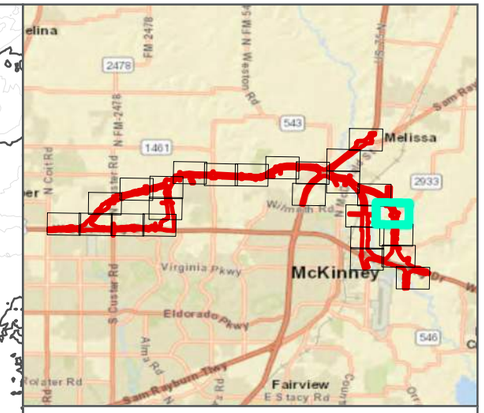
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-21

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

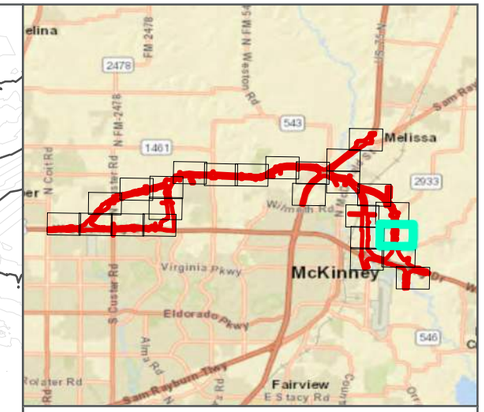
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-22

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

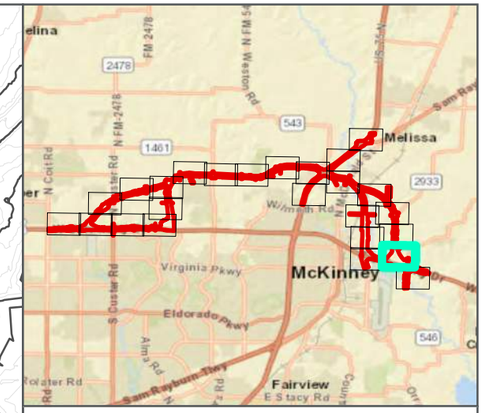
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-23

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

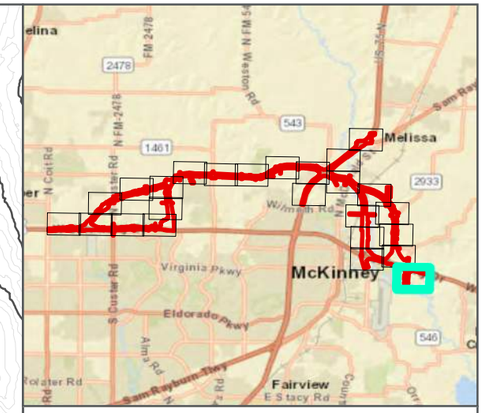
0 250 500

FEET

Texas Department of Transportation

FIGURE 7-24

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- MAJOR CONTOUR (10 FT)
- MINOR CONTOUR (2 FT)

TOPO CONTOURS FROM TXDOT

US 380

CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

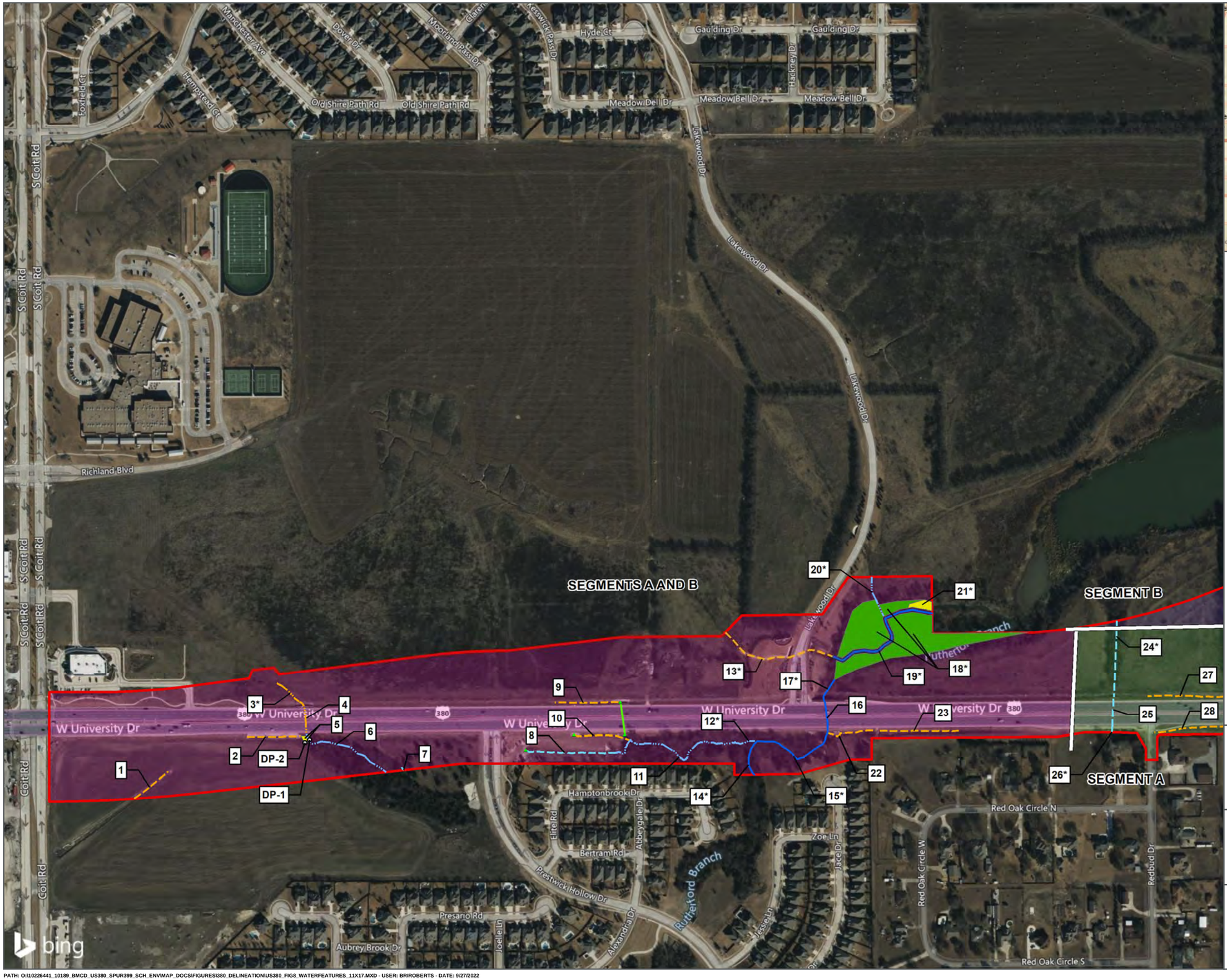
0 250 500

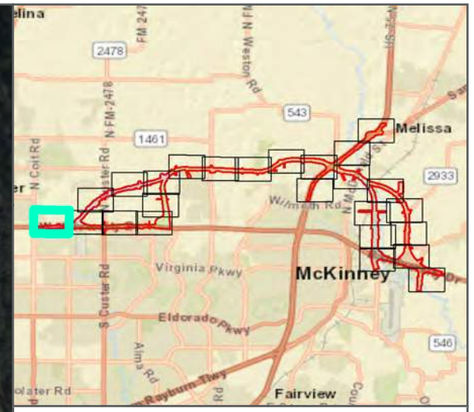
FEET

Texas Department of Transportation

FIGURE 7-25

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG7_CONTOURS_11X17.MXD - USER: BRIROBERTS - DATE: 9/26/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

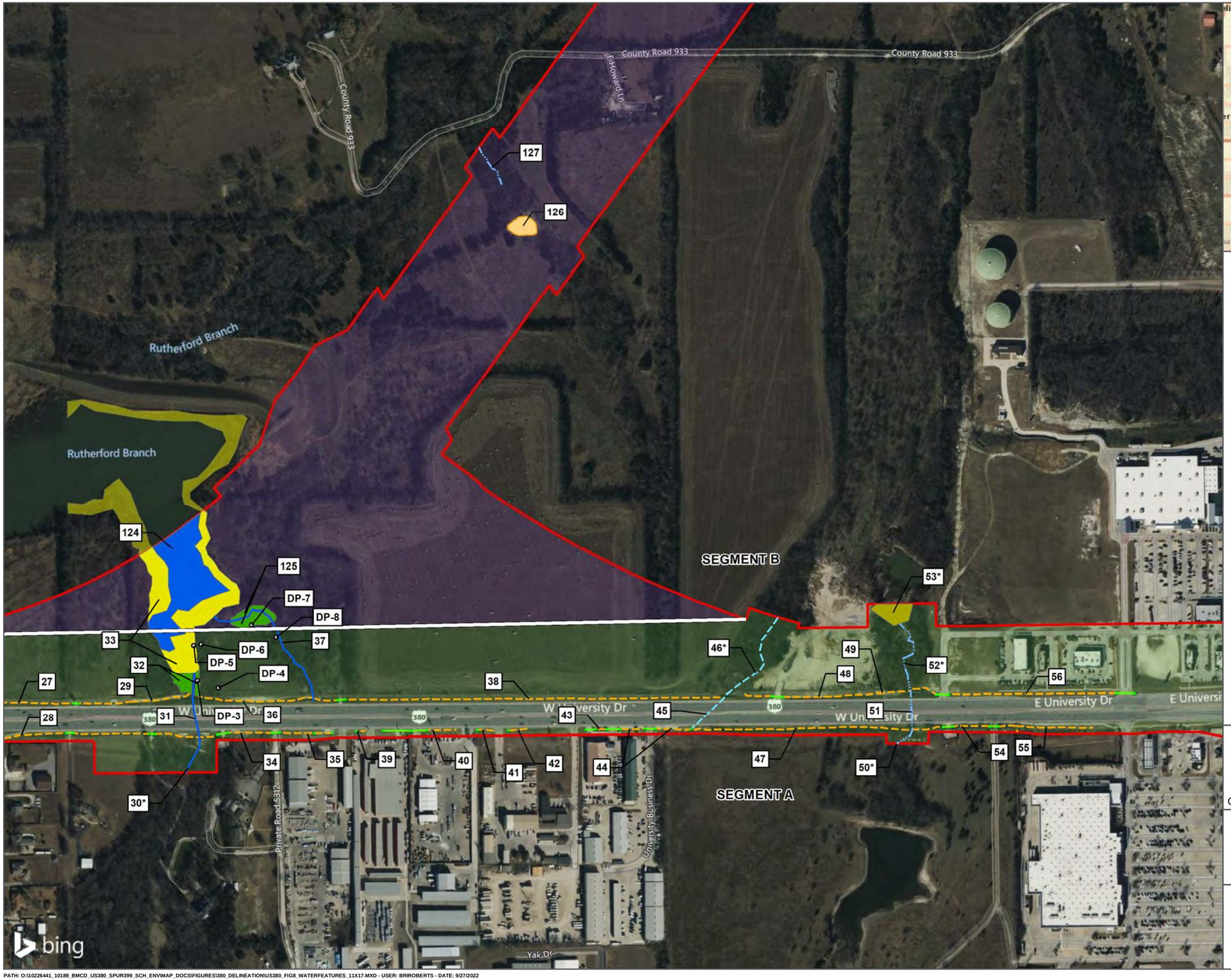
0 250 500

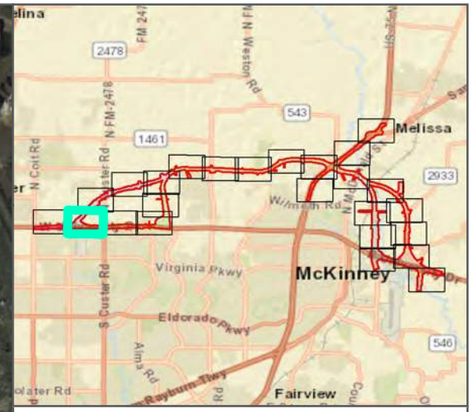
FEET

Texas Department of Transportation

FIGURE 8-1

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

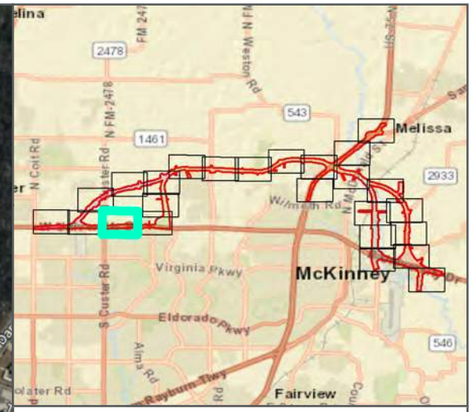
0 250 500

FEET

Texas Department of Transportation

FIGURE 8-2

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

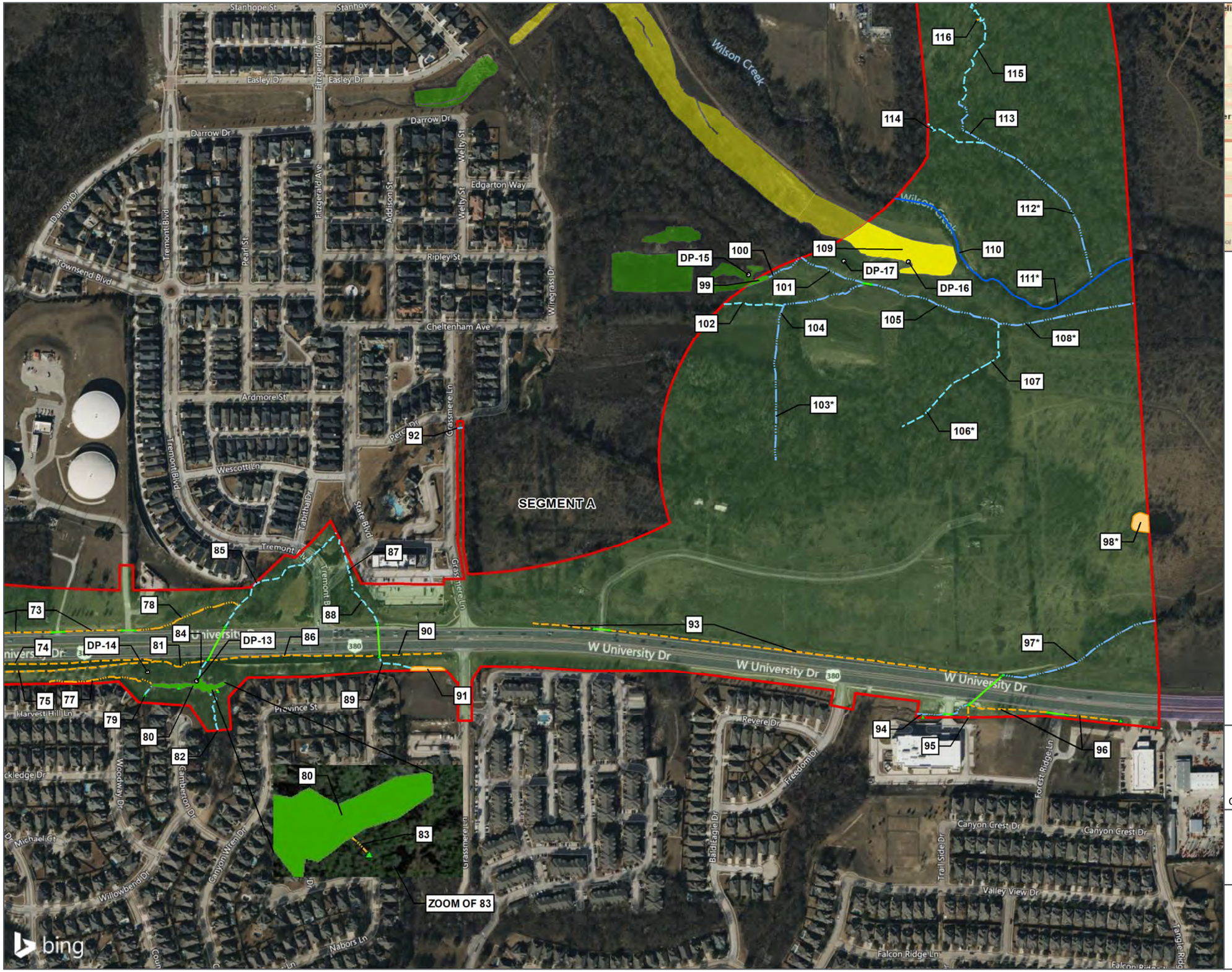
0 250 500

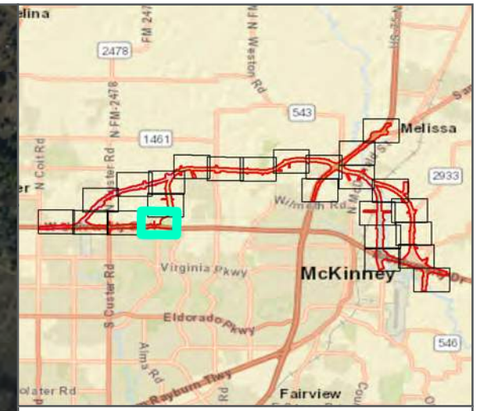
FEET

Texas Department of Transportation

FIGURE 8-3

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

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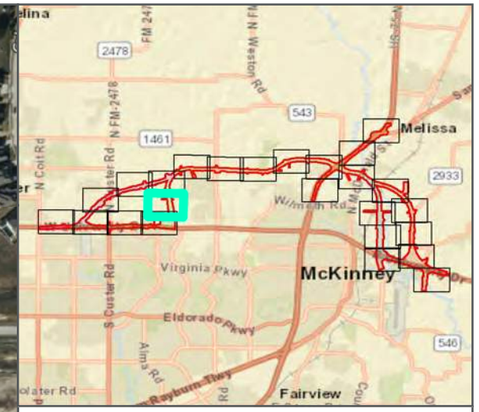
FIGURE 8-4

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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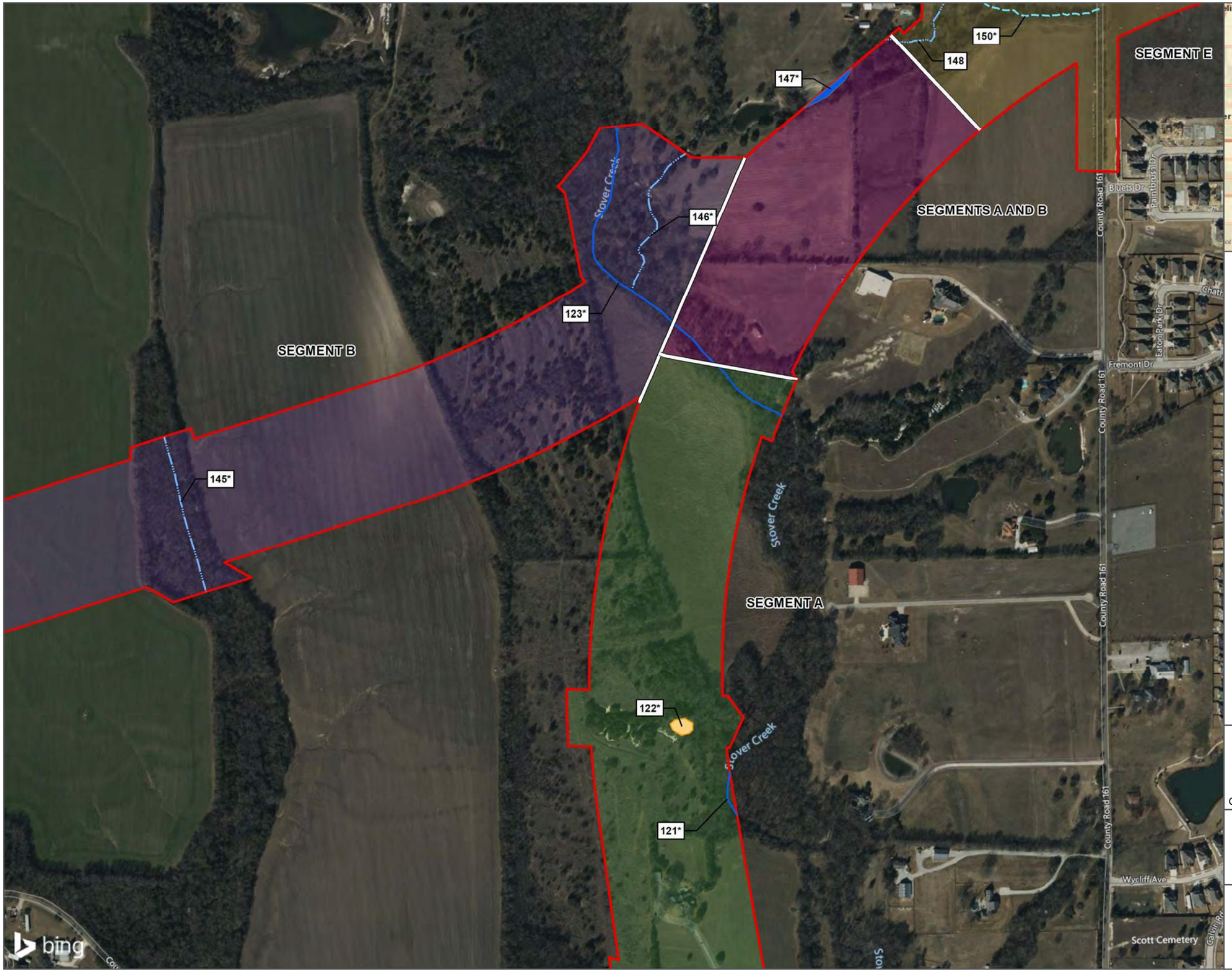
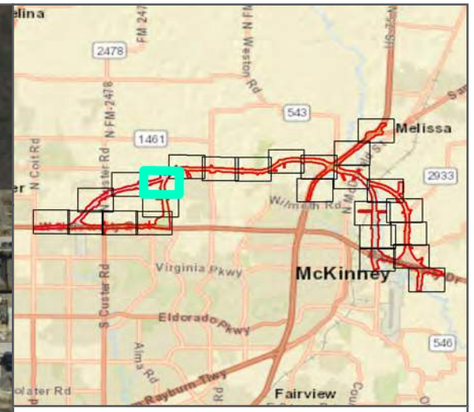
FIGURE 8-5

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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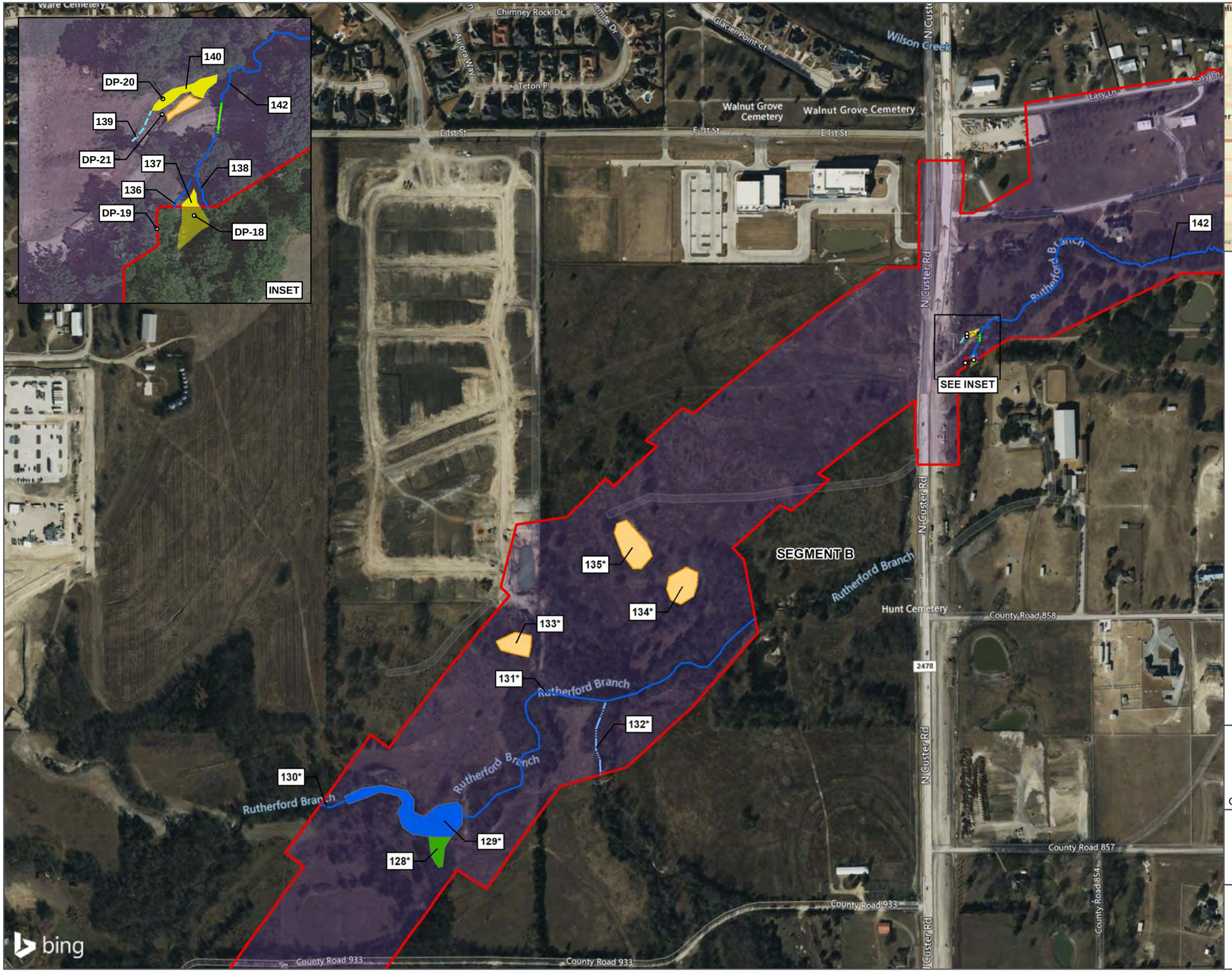
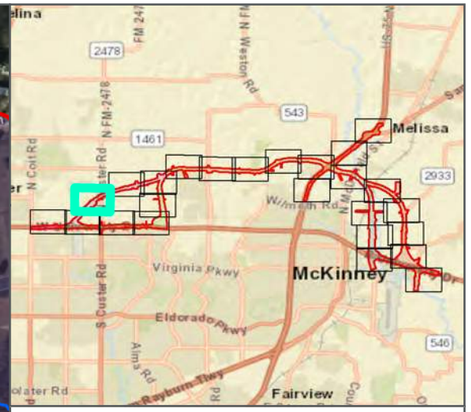
FIGURE 8-6

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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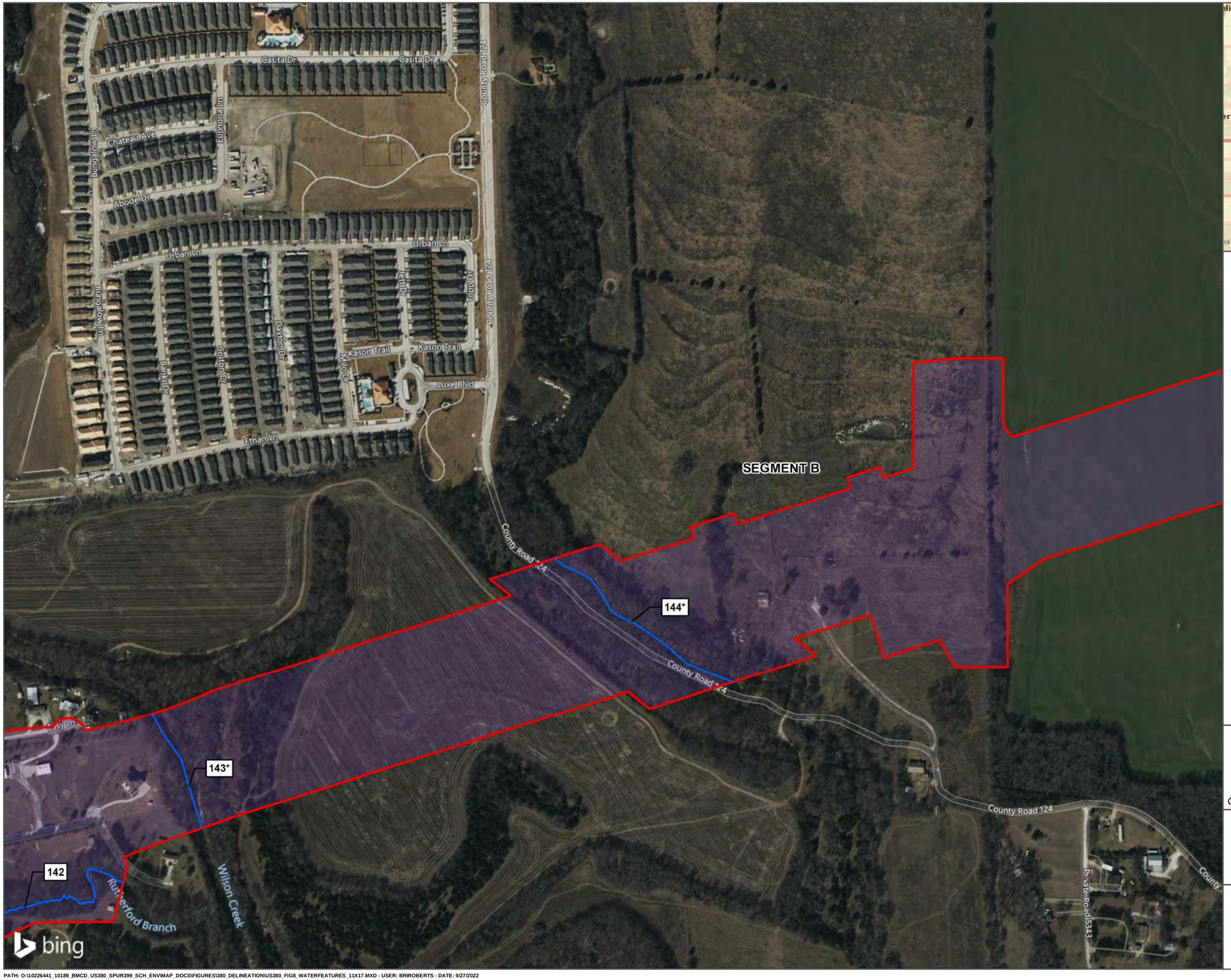
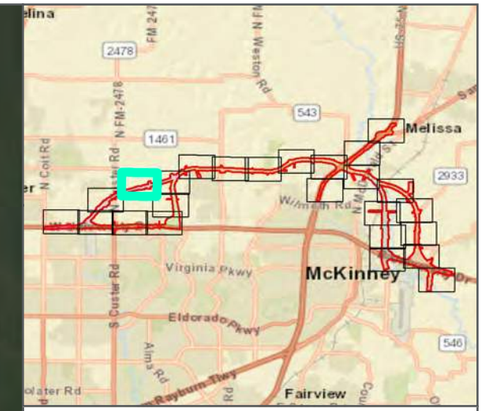
FIGURE 8-7

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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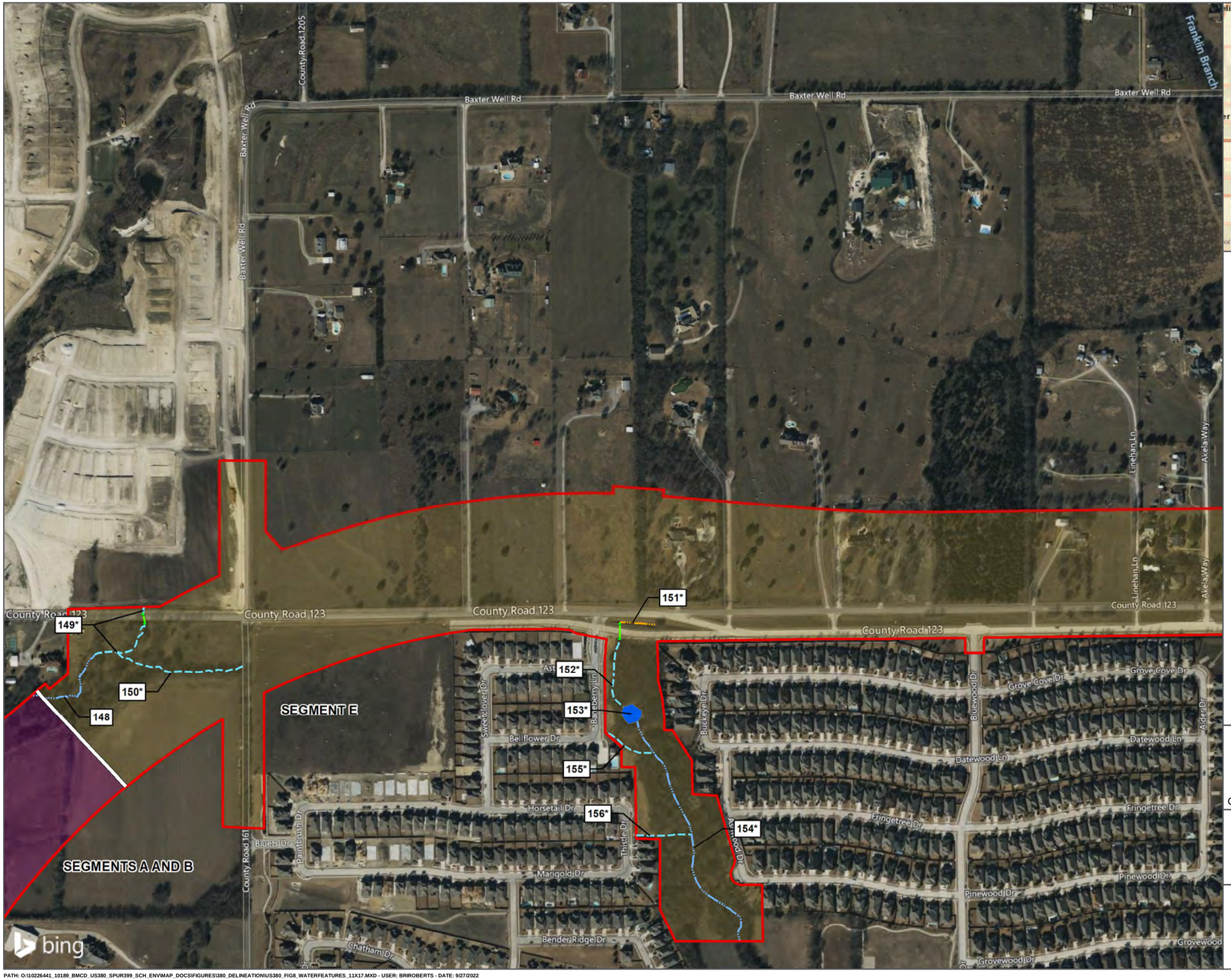
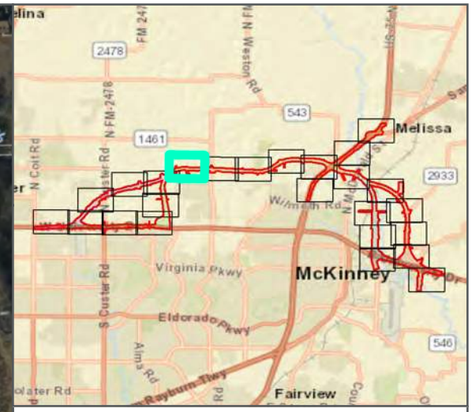
FIGURE 8-8

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
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- DITCH
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- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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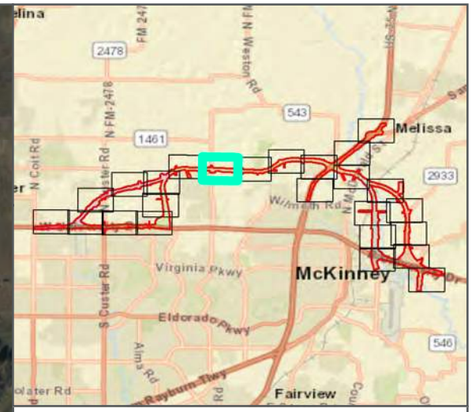
FIGURE 8-9

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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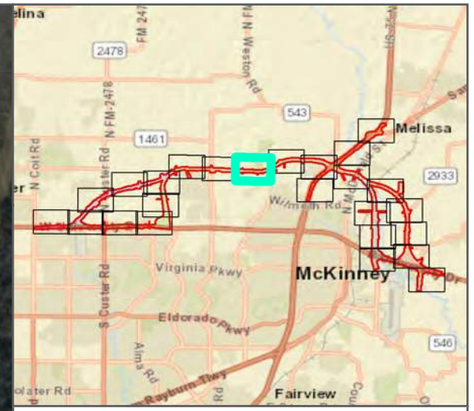
FIGURE 8-10

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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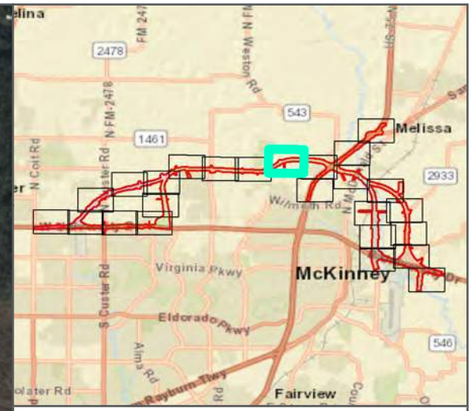
FIGURE 8-11

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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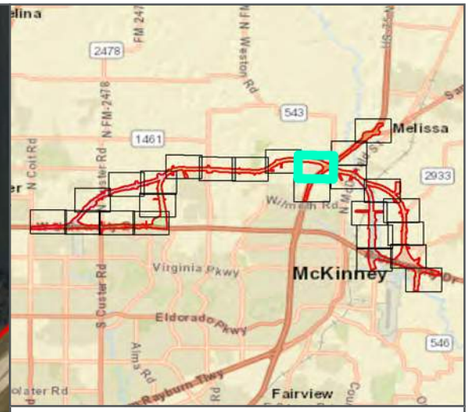
FIGURE 8-12

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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FEET

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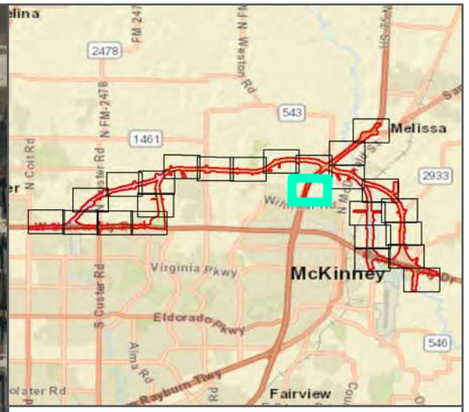
FIGURE 8-13

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

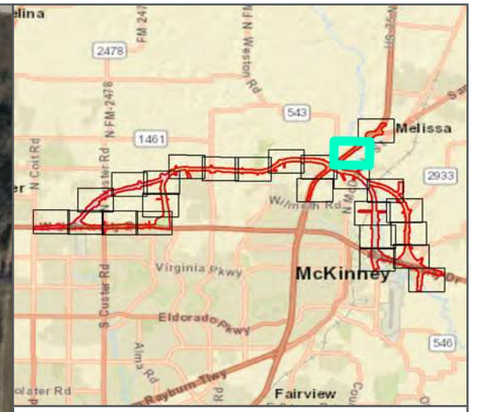
0 250 500

FEET

Texas Department of Transportation

FIGURE 8-14

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

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FEET

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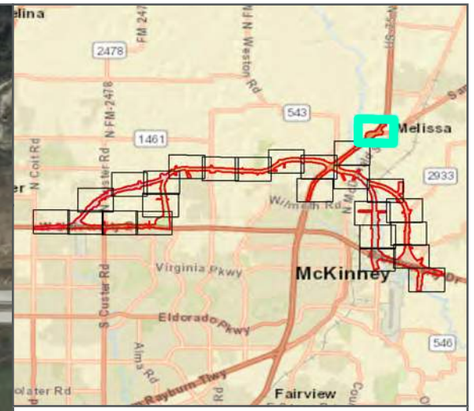
FIGURE 8-15

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

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FEET

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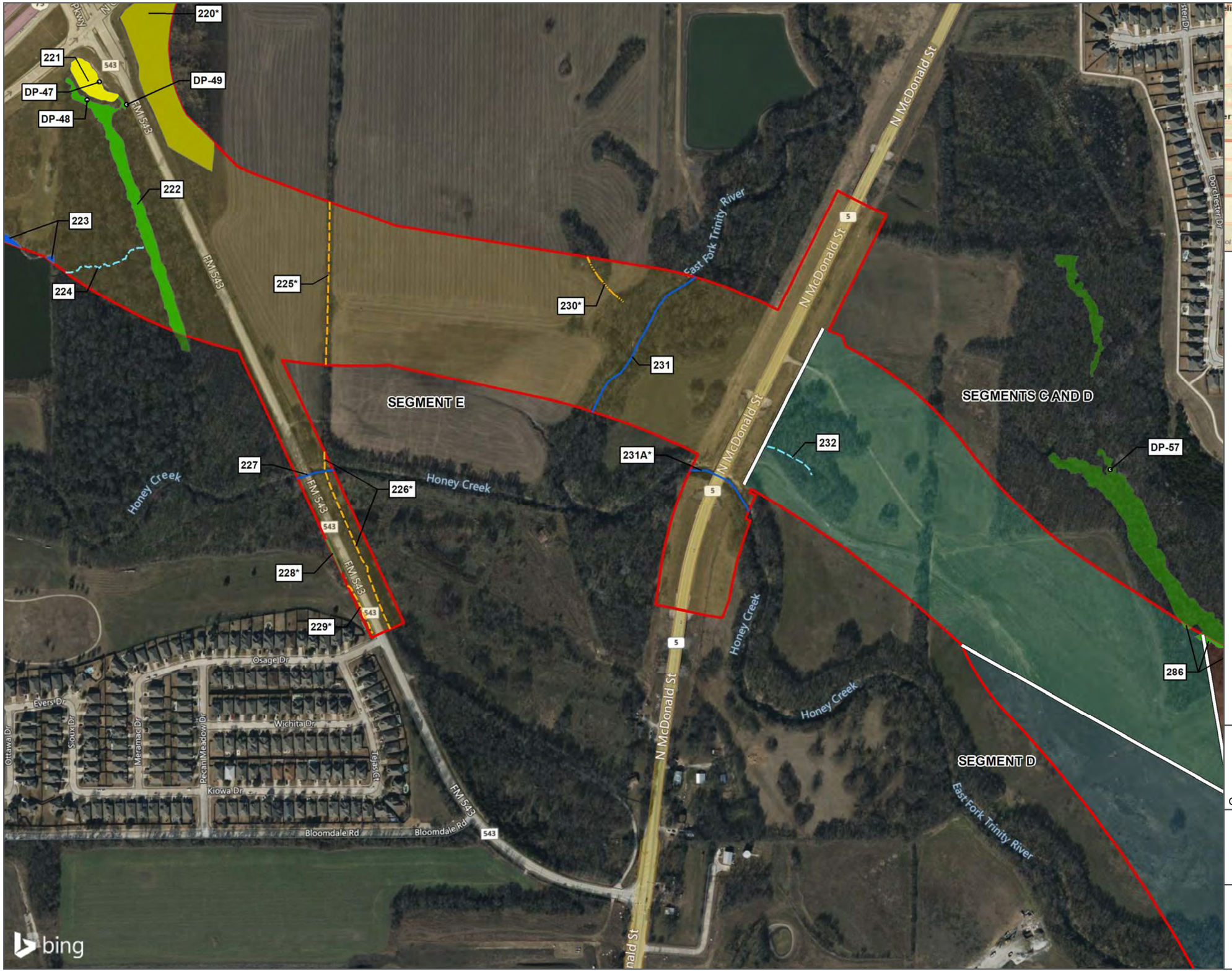
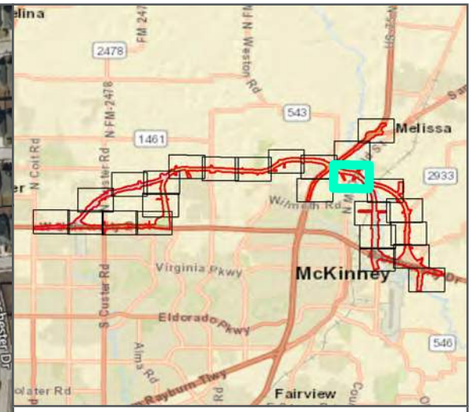
FIGURE 8-16

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

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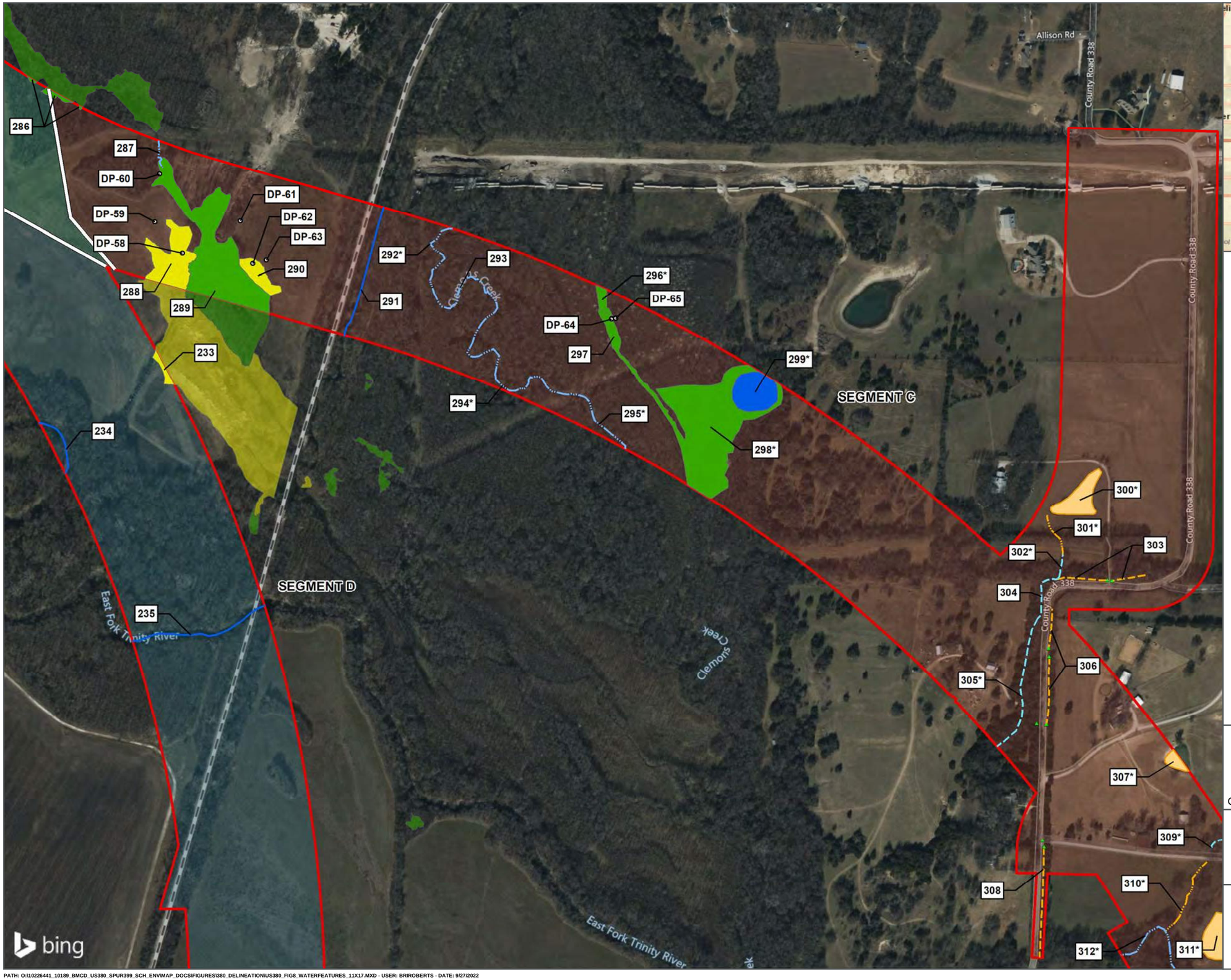
FIGURE 8-17

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
- ISOLATED WETLAND
- UPLAND POND
- DITCH
- SWALE/EROSION GULLY
- CULVERT LINE
- CULVERT POINT
- SEGMENT BOUNDARY
- SEGMENT A
- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

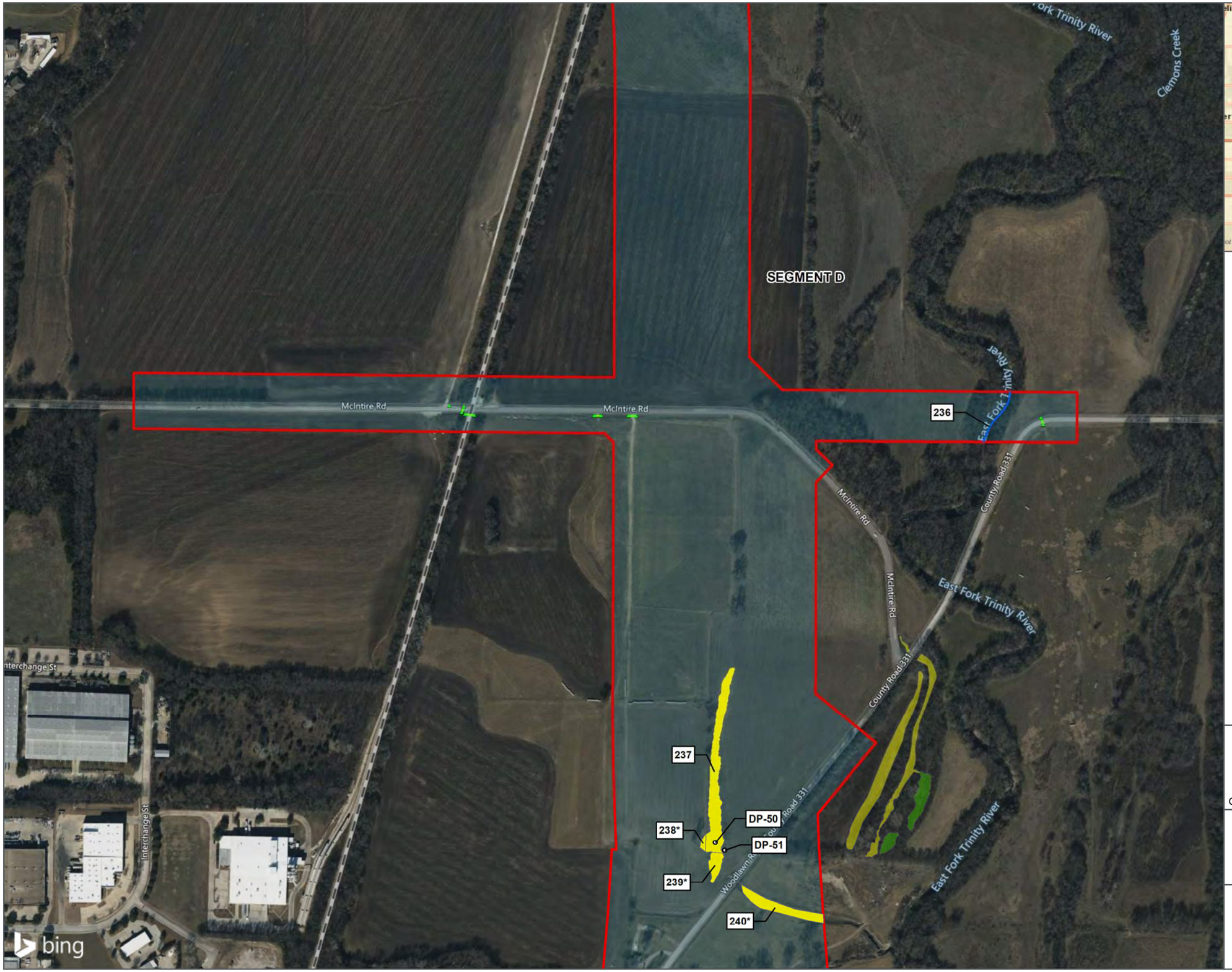
0 250 500

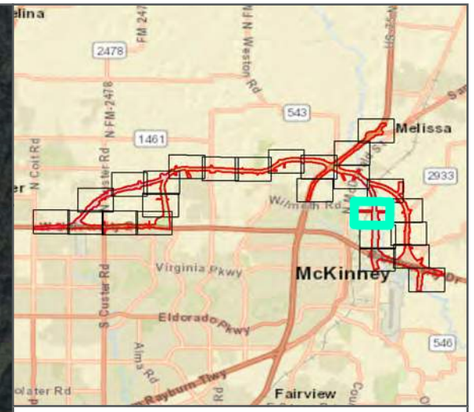
FEET

Texas Department of Transportation

FIGURE 8-18

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVIMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
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*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

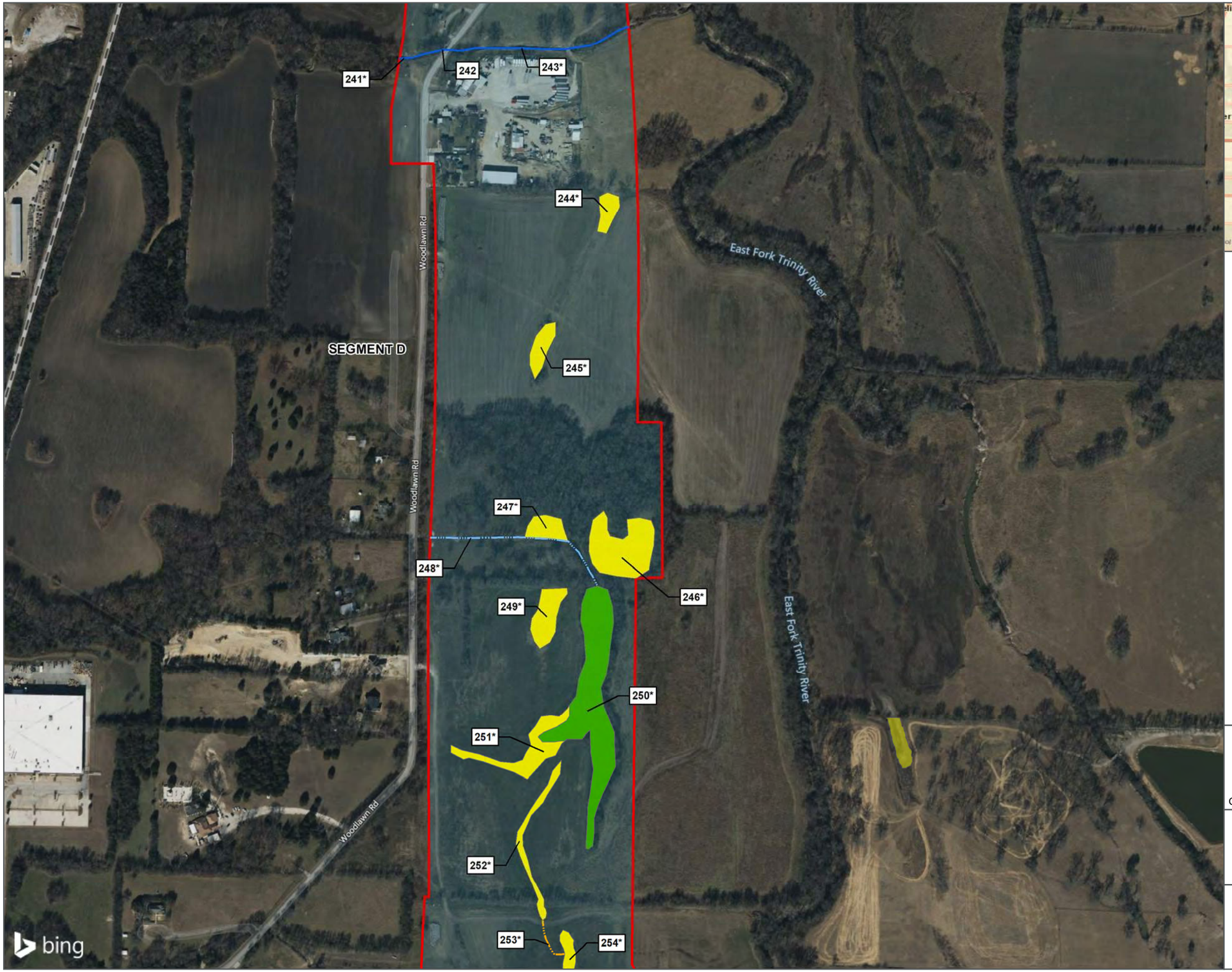
0 250 500

FEET

Texas Department of Transportation

FIGURE 8-19

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENV\MAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
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- SCRUB/SHRUB WETLAND
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- UPLAND POND
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- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

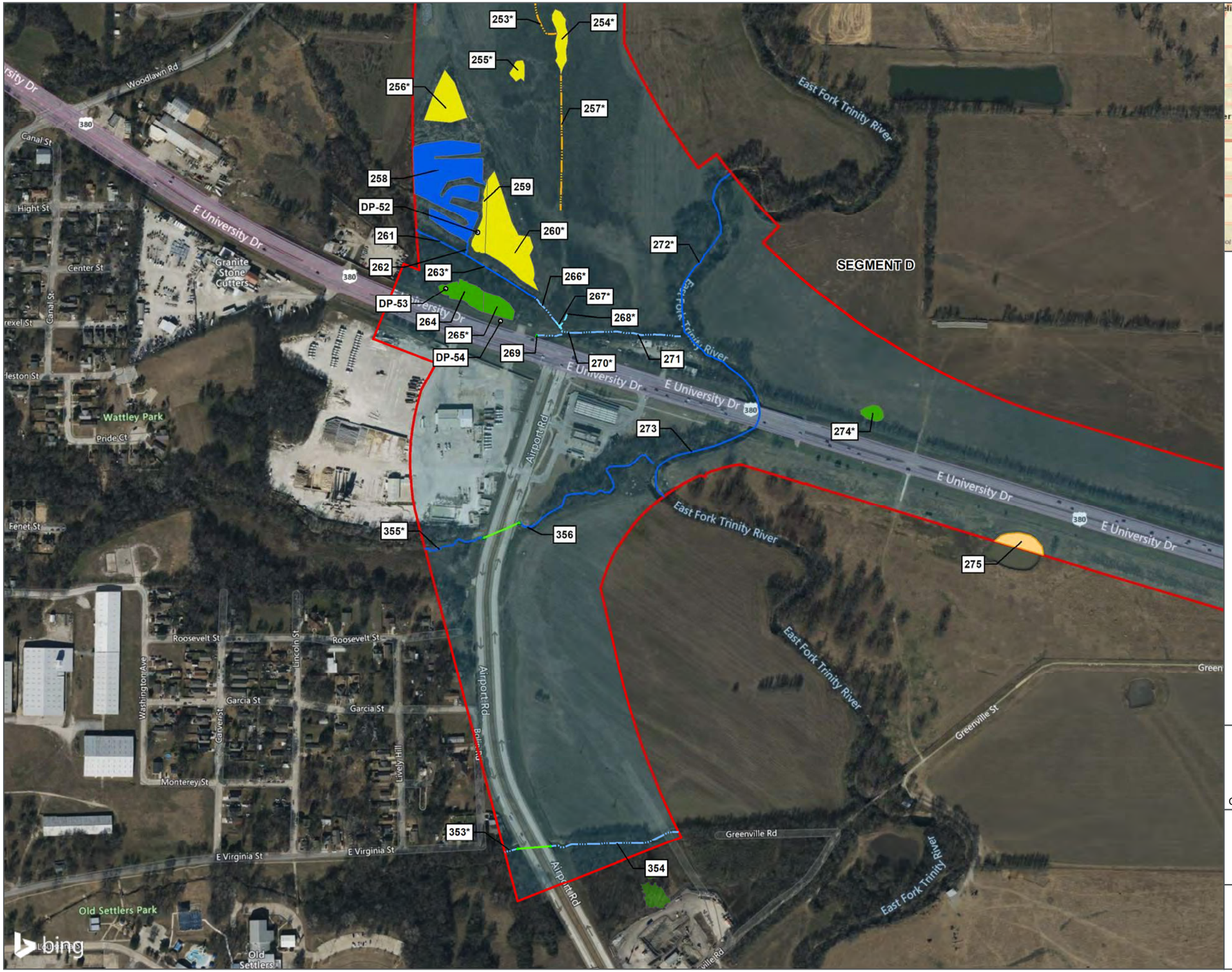
0 250 500

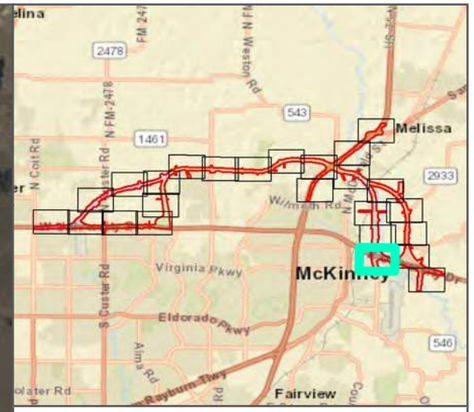
FEET

Texas Department of Transportation

FIGURE 8-20

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
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- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

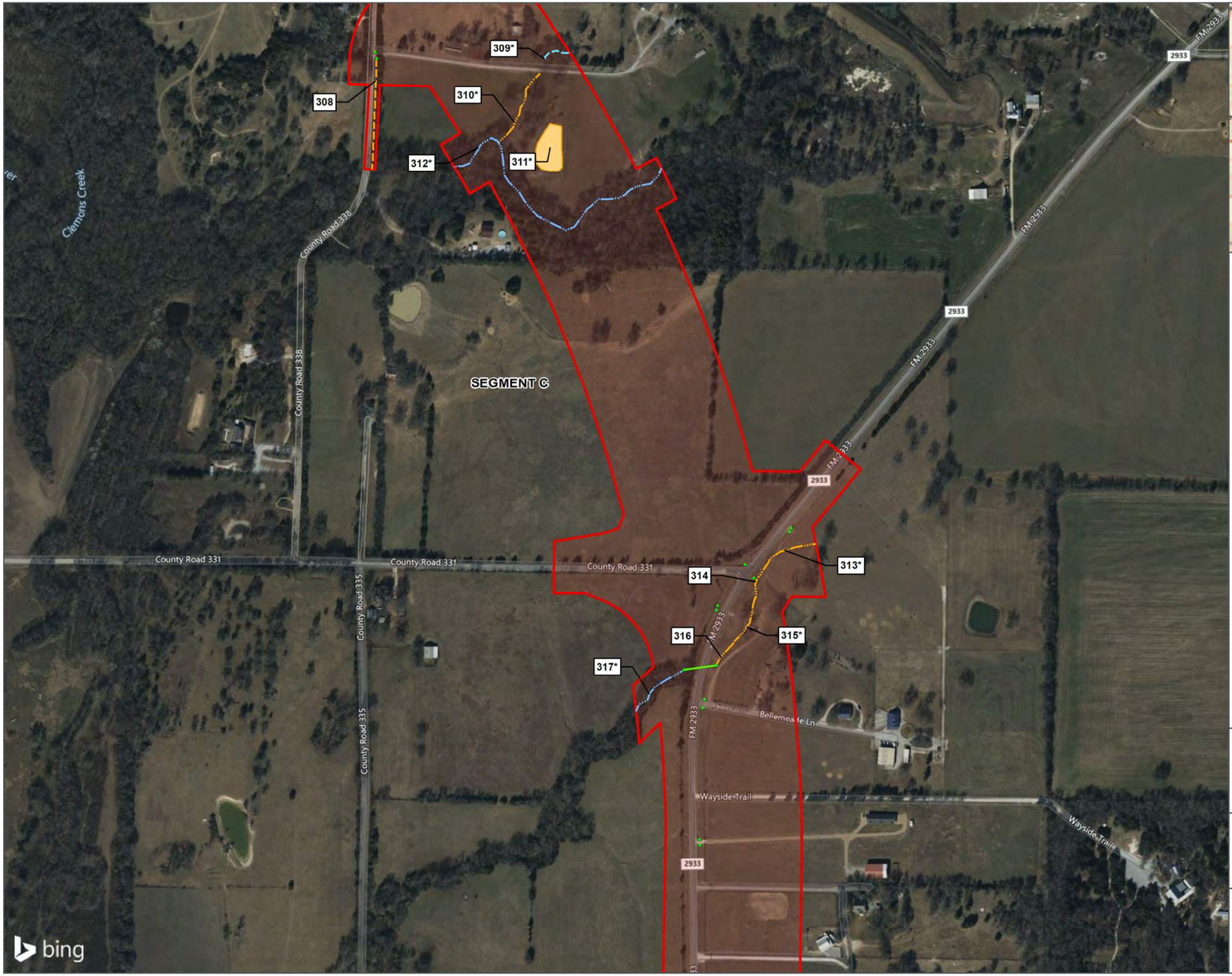
0 250 500

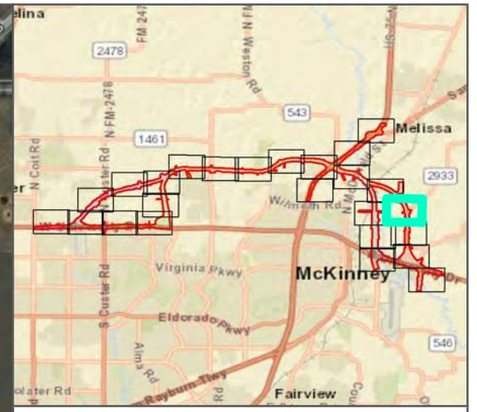
FEET

Texas Department of Transportation

FIGURE 8-21

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
- SCRUB/SHRUB WETLAND
- ON-CHANNEL POND
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- FORESTED WETLAND (OUTSIDE ENV. FOOTPRINT)
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- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

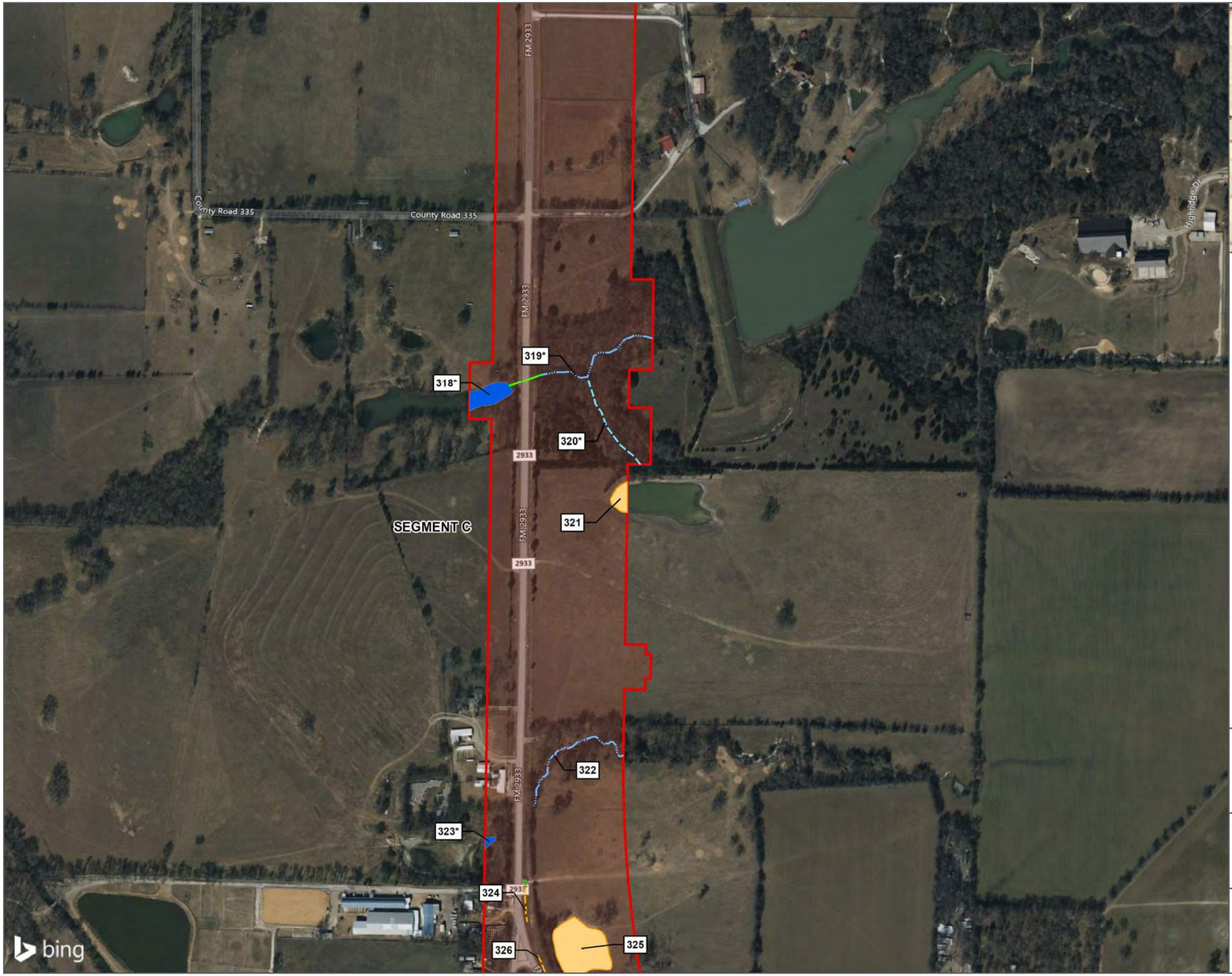
0 250 500

FEET

Texas Department of Transportation

FIGURE 8-22

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
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*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

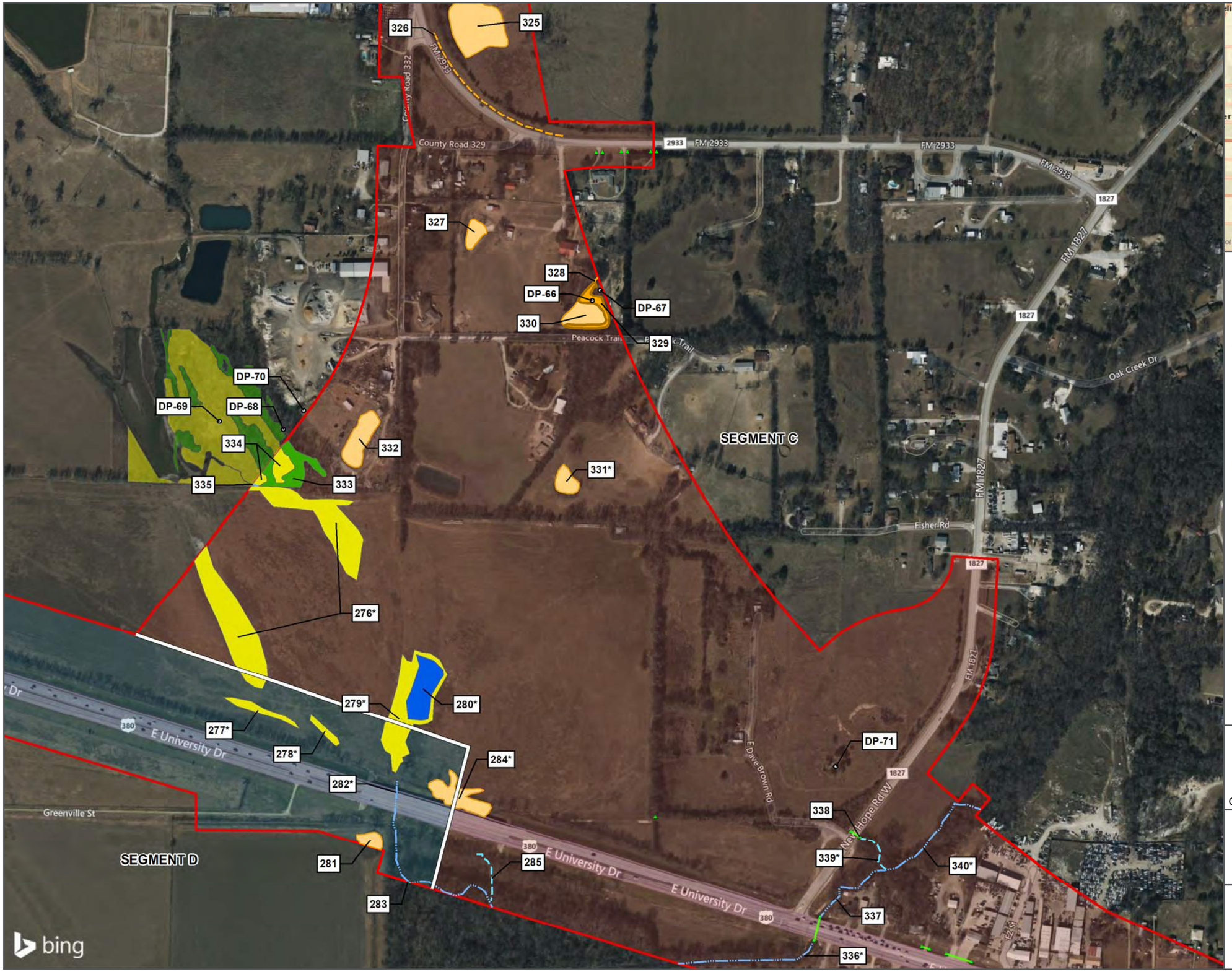
0 250 500

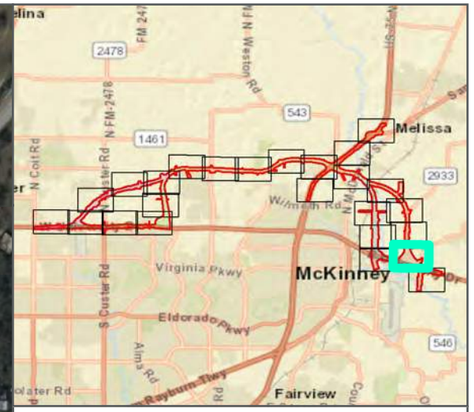
FEET

Texas Department of Transportation

FIGURE 8-23

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022





LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
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- CULVERT POINT
- SEGMENT BOUNDARY
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- SEGMENT B
- SEGMENT C
- SEGMENT D
- SEGMENT E
- SEGMENTS A AND B
- SEGMENTS C AND D

*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

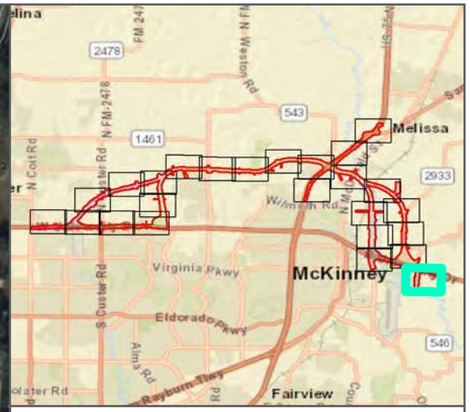
N

0 250 500

FEET

Texas Department of Transportation

FIGURE 8-24



LEGEND

- ENVIRONMENTAL FOOTPRINT
- WETLAND DETERMINATION DATA POINT
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- EMERGENT WETLAND
- FORESTED WETLAND
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- EMERGENT WETLAND (OUTSIDE ENV. FOOTPRINT)
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*INDICATES A PHOTO-INTERPRETED FEATURE

WATER FEATURES

US 380

CSJS - CSJ 0135-02-065, 0135-15-002, AND 0135-03-053

N

0 250 500

FEET

Texas Department of Transportation

FIGURE 8-25

PATH: O:\10226441_10189_BMCD_US380_SPUR399_SCH_ENVMAP_DOCS\FIGURES\380_DELINEATION\US380_FIG8_WATERFEATURES_11X17.MXD - USER: BRIROBERTS - DATE: 9/27/2022

Attachment 2 – Wetland Determination Data Forms and Stream Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: McKinney/Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-1

Investigator(s): Kathryn Burton, Kelsea Hiebert Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Fringe Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218447 Long: -96.763579 Datum: NAD 83

Soil Map Unit Name: Houston Black clay, 2 to 4 percent slopes, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 5 and abutting Intermittent Stream Water Feature 6. Precipitation the day before delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	10	yes	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	10	yes	FACW
2.			
3.			
4.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Typha latifolia	75	yes	OBL
2. Cynodon dactylon	20	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 75	x 1 = 75
FACW species 20	x 2 = 40
FAC species 0	x 3 = 0
FACU species 20	x 4 = 80
UPL species 0	x 5 = 0
Column Totals: 115 (A)	195 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-2	10YR3/1	95					loamy clay	
	10YR7/4	5					loamy clay	Likely fill material
2-8	10YR3/2	84	7.5Y4/6	1	C	PL	loamy clay	
	10YR7/4	15					loamy clay	Likely fill material
8-12	10YR3/1	32	7.5Y4/6	3	C	PL	loamy clay	
	2.5Y6/3	60					loamy clay	Likely fill material
	2.5Y6/8	5					loamy 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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation visible on aerial imagery 12/2015, 09/2017, 09/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-2

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218417 Long: -96.763653 Datum: NAD 83

Soil Map Unit Name: Houston Black clay, 2 to 4 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on hill slope adjacent to Emergent Wetland Water Feature 5. Precipitation the day before delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Solidago altissima	60	yes	FACU
2. Sorghum halepense	10	no	FACU
3. Chamaesyce maculata	5	no	FACU
4. Croton glandulosus	5	no	UPL
5.			
6.			
7.			
8.			
9.			
10.			
	80.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	5	x 5 =	25
Column Totals:	80 (A)		325 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR3/1	80					Clay	
	10YR7/6	5					Sandy Clay	Likely fill material.
	10YR7/1	15					Sandy Clay	Likely fill material.
4-7	10YR7/8	75					Sandy Clay	Likely fill material.
	10YR3/1	20					Clay	
	10YR7/4	5					Sandy Clay	Likely fill material.
7-12	10YR2/1	97					Clay	
	5Y8/1	3					Sandy Clay	Likely fill material.

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-3

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Fringe Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219037 Long: -96.748344 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 32 and abutting Perennial Stream Water Feature 31. Light precipitation during delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	50	yes	FACW
2.			
3.			
4.			
5.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	15	yes	FAC
2.			
3.			
4.			
	15 = Total Cover		
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = 0.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR5/2	90	2.5Y6/8	10	C	M	Clay	
5-8	10YR5/1	95	5YR4/6	5	C	PL	Clay	
8-11	10YR5/2	50	10YR5/6	20	C	M/PL	Clay	
	2.5Y8/1	30					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel within the matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation visible on aerial imagery 02/2001, 12/2015, 1/2018, and 04/2016. Saturation on aerial imagery 12/2009, 03/2015, 01/2017, 06/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-4

Investigator(s): Kelsea Hiebert, Wyatt Wolfenkoehler, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218943 Long: -96.748049 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located within unimproved pasture adjacent to Forested Wetland Water Feature 32.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	5	yes	FACW
2.			
3.			
4.			
	5	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	50	yes	FACU
2. Solidago altissima	25	yes	FACU
3. Cynodon dactylon	20	yes	FACU
4. Euphorbia marginata	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species		x 5 =	0
Column Totals:	105 (A)		410 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR6/2	40						
0-12	10YR4/1	30						
0-12	10YR7/6	30						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-5

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Pond Fringe Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219469 Long: -96.748387 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 33. Water Feature 33 is a fringe wetland to Pond water feature 124.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	10	yes	FACW
2. Fraxinus pennsylvanica	10	yes	FAC
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Persicaria hydropiperoides	90	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		140 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ 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 (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR2/1	40	2.5YR4/6	5	C	PL	Clay Loam	
0-6	10YR4/2	55						
6-12	5YR2.5/1	70	7.5YR4/6	30	C	M/PL	Clay Loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation visible on aerial imagery 02/2001, 12/2015, 1/2018, and 04/2016. Saturation on aerial imagery 12/2009, 03/2015, 01/2017, 06/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-6

Investigator(s): Kelsea Hiebert, Wyatt Wolfenkoehler, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219475 Long: -96.748285 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 33.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus alata	30	yes	FACU
2. Ulmus americana	20	yes	FAC
3. Gleditsia triacanthos	20	yes	FACU
4.			
5.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ilex vomitoria	15	yes	FAC
2. Fraxinus pennsylvanica	15	yes	FAC
3.			
4.			
	30	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cardiospermum halicacabum	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	110 (A)		380 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR4/2	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 12/22/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-7

Investigator(s): Kelsea Hiebert, Mike Kenan Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219708 Long: -96.747548 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 125. Water Feature 125 abuts Perennial Stream Water Feature 37. Area was inundated during delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	40	yes	FACW
2.			
3.			
4.			
5.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Persicaria hydropiperoides	40	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 60.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		140 (B)

Prevalence Index = B/A = 1.6

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Organic layer within the top inch. Soil sample was too saturated to color. Assumed hydric from strong hydrology and hydrophytic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ✓ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 6

Water Table Present? Yes ✓ No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation on aerial imagery 02/2001, 12/2015, 1/2018, and 04/2016. Saturation on aerial imagery 12/2009, 03/2015, 01/2017, 06/2019, and 11/2020. Reduced iron present within standing water.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-8

Investigator(s): Kelsea Hiebert, Wyatt Wolfenkoehler, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219551 Long: -96.747190 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Located on a hill slope adjacent to Forested Wetland Water Feature 125 and Perennial Stream Water Feature 37.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Diospyros virginiana	40	yes	FAC
2. Ulmus americana	20	yes	FAC
3. Celtis laevigata	20	yes	FAC
4. Salix nigra	10	no	FACW
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Smilax bona-nox	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/2	60	7.5YR4/6	10	C	PL	silty clay	
0-8	10YR4/2	30						
8-12	10YR3/2	70	7.5YR4/6	5	C	PL		
8-12	10YR4/2	25						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No inundation or saturation visible on multiple years of recent aerial imagery.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-9

Investigator(s): Kathryn Burton, Kelsea Hiebert Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218659 Long: -96.722699 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Emergent Wetland Water Feature 61 and abutting Perennial Stream Water Feature 62.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	5	yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	5	yes	FAC
2.			
3.			
4.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Typha latifolia	50	yes	OBL
2. Eleocharis palustris	20	yes	OBL
3. Pluchea odorata	10	no	FACW
4. Ludwigia peploides	10	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR5/1	80					Loam	
0-2	2.5Y4/1	20					Loam	
2-9	10YR4/1	30					Loam	
2-9	10YR5/2	55	7.5YR4/6	10	C	M/PL	Loam	
2-9	10YR7/2	5					Loam	Likely fill material.
9-12	2.5Y5/1	75	7.5YR4/6	20	C	M/PL	Loam	
9-12	2.5Y6/2	5					Loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel and fill within matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 3

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation and saturation visible on aerial imagery on 03/2005, 07/2008,12/2009, 10/2013, 04/2016, 01/2017, 11/2018, and 09/2019. Construction and likely fill runoff on aerial on 08/2021.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-10

Investigator(s): Kathryn Burton, Kelsea Hiebert Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218664 Long: -96.-96.722784 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on maintained hill slope adjacent to Emergent Wetland Water Feature 61.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Stenotaphrum secundatum	80	yes	FAC
2. Cynodon dactylon	20	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR4/2	100					Clay	
10-12	10YR4/2	77	10YR5/8	3	C	M/PL	Clay	
	10YR2/1	10					Clay	
	2.5Y7/4	10					Loam Clay	Likely fill material

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 11/11/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-11

Investigator(s): Kelsea Hiebert, Mike Keenan Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.220227 Long: -96.720164 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 2 to 5 percent slopes, eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Forested Wetland Water Feature 69. Hydrologically connected to Ephemeral Stream Water Feature 70.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	65	yes	FACW
2.			
3.			
4.			
5.			
	65 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	10	yes	FACW
2.			
3.			
4.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Chasmanthium sessiliflorum	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		165 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR4/1	75	10YR4/6	5	C	M	Loamy clay	
			2.5Y3/1	15	D	M	Loamy clay	
			10YR3/6	5	C	M	Loamy clay	
10-14	2.5Y4/1	93	10YR4/6	2	C	M	Loamy clay	
			10YR3/6	2	C	M	Loamy clay	
			2.5Y3/1	3	D	M	Loamy 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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible on Google Earth aerial imagery 04/2016, 03/2018, 06/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-12

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.219596 Long: -96.719455 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located in upland area adjacent to Forested Wetland Water Feature 69.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya illinoinensis	50	yes	FAC
2. Fraxinus pennsylvanica	30	yes	FAC
3. Ulmus americana	10	no	FAC
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	10	yes	FAC
2. Celtis laevigata	10	yes	FAC
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Elymus virginicus	10	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Parthenocissus quinquefolia	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 90.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	120	x 3 =	360
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	130 (A)		400 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Clay loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-13

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218616 Long: -96.714433 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within an anthropogenically influenced Forested Wetland Water Feature 80. Culverts and concrete retention walls at borders. Precipitation the day before delineation. Heavily disturbed soils.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	50	yes	FAC
2. Salix nigra	10	no	FACW
3. Populus deltoides	10	no	FAC
4. Carya illinoinensis	10	no	FAC
5.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Carya illinoinensis	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	30	yes	FACU
2.			
	30	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	120 (A)		380 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	2.5Y6/4	70					Silty Clay	Likely fill material
0-16	10YR5/2	30						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Matrix is composed of majority fill material. Significant hydrology within wetland, hydrophytic vegetation within wetland. Soil assumed hydric from hydrology and recent disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 4

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Localized anthropogenically made depression with influence from culverts. Inundated during delineation. Historic aerial imagery shows excavation 03/2005.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/18/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-14

Investigator(s): Kelsea Hiebert, Kathryn Burton, Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.218742 Long: -96.715130 Datum: NAD 83

Soil Map Unit Name: Austin silty clay, 5 to 8 percent slopes, moderately eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Located on berm adjacent to Forested Wetland Water Feature 80. Soils previously disturbed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya illinoinensis	40	yes	FAC
2. Ulmus americana	40	yes	FAC
3. Celtis laevigata	20	yes	FAC
4.			
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Celtis laevigata	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	120 (A)		370 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	2.5Y6/4	70					Silty Clay	Likely fill material.
0-16	10YR5/2	30						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Highly disturbed soils, but no indication from hydrology that would be hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/16/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-15

Investigator(s): Michael Keenan and Ethan Eichler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2-3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.223465 Long: -96.706321 Datum: NAD 27

Soil Map Unit Name: To - Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Water Feature 99. Beaver activity dammed the stream to form wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	35	yes	FAC
2. Ulmus crassifolia	3	no	FAC
3.			
4.			
	38 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	35	yes	FAC
2. Ulmus crassifolia	15	yes	FAC
3. Salix nigra	15	yes	FACW
4. Catalpa bignonioides	10	no	UPL
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Iva annua	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 95

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
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 ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-15

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: -

Depth (inches): -

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too wet to describe, assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2-24

Water Table Present? Yes ___ No ✓ Depth (inches): -

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/15/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-16

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.223581 Long: -96.704035 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 109. Likely anthropogenically created due to netted matting within soil profile at 6 inches.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	15	yes	FACW
2.			
3.			
4.			
	15 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis obtusa	60	yes	OBL
2. Iva annua	30	yes	FAC
3. Typha angustifolia	20	no	OBL
4. Xanthium strumarium	10	no	FAC
5. Phyla nodiflora	10	no	FAC
6.			
7.			
8.			
9.			
10.			
	130.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum -30.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	15	x 2 =	30
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		260 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-16

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							Silty Clay	Too saturated to color.

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Net mat

Depth (inches): 6

Hydric Soil Present? Yes ✓ No ___

Remarks:

Netted matting visible on aerial imagery on 01/2017. Too wet to describe and likley disturbed, assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible on Google Earth aerial imagery 06/2019, 09/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-17

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.223593 Long: -96.704935 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 109 and Forested Wetland Water Feature 99.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Sorghum halepense	90	yes	FACU
2. Iva annua	10	no	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	100					Clay	Gravel within matrix

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: 1

Depth (inches): plastic erosion control netting

Hydric Soil Present? Yes _____ No ✓

Remarks:

Man made restrictive layer at 1 inch to control hillslope erosion.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/09/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-18

Investigator(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.233814 Long: -96.732052 Datum:

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Located within Emergent Wetland Water Feature 137 located within braided channels of Rutherford Branch, Perennial Stream Water Feature 136 and Perennial Stream Water Feature 138.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Phyla lanceolata	50	yes	FACW
2. Sorghum halepense	20	no	FACU
3. Echinochloa colona	20	no	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	100 (A)		260 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: DP-18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	30	7.5YR 4/6	3	C	M/PL	Sandy Clay	
	10YR 5/2	67					Sandy Clay	
3-7	10YR 4/1	50					Sandy Clay	
	10YR 5/2	50					Sandy Clay	
7-12	10YR 4/1	13	7.5YR 4/6	10	C	M/PL	Sandy Clay	
	10YR 5/2	77					Sandy 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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel within matrix from 0-7 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits of dead vegetation across the wetland likely from overland flow when Rutheford Branch is inundated at a higher level. Dead bivalves located along the edges of the wetland boundary adjacent to Rutheford Branch. Saturation on aerial imagery 12/2015.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/09/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-19

Investigator(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.233775 Long: -96.732177 Datum:

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

Located on a hillslope adjacent to Emergent Wetland Water Feature 137 and Perennial Stream Water Feature 136, a braided channel of Rutherford Branch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	70	yes	FAC
2.			
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Stenotaphrum secundatum	30	yes	FAC
2. Cynodon Dactylon	60	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: DP-19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	100					Sandy Clay	Likely Fill material

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Thicker fill material

Depth (inches): 10

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/09/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-20

Investigator(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.234133 Long: -96.732146 Datum:

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Located within Emergent Wetland Water Feature 140. Adjacent to Perennial Stream Water Feature 142, a reach of Rutherford Branch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis palustris	70	yes	OBL
2. Cynodon dactylon	30	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	30	x 4 =	120
UPL species		x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: DP-20

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/2	45	7.5YR 4/6	15	C	M/PL	Sandy Clay	
	2.5Y 2.5/1	40					Sandy Clay	
8-16	10YR 4/1	45	7.5YR 4/6	15	C	M/PL	Sandy Clay	
	10YR 6/4	40					Sandy 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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel layer at 8 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/09/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-21

Investigator(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.234089 Long: -96.732149 Datum:

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 140 and Upland Pond Water Feature 141.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon Dactylon	90	yes	FACU
2. Cenchrus ciliaris	10	no	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = 0
FACW species ____	x 2 = 0
FAC species ____	x 3 = 0
FACU species ____	x 4 = 0
UPL species ____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: DP-21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Clay	
4-12	10YR 3/2	78	10YR 4/6	2	C	PL	Clay	
	10YR 3/1	20						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

Gravel in the matrix. Redox dark surface does not specify percent of matrix (3/1 or 3/2) needed to qualify for redox percentages (2 or 5 percent). Thus this indicator is considered met by the 2% redox for matrix 3/1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-22

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.249844 Long: -96.644082 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

Located within Forested Wetland Water Feature 170. Light precipitation during delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	40	yes	FAC
2. Salix nigra	20	yes	FACW
3. Populus deltoides	20	yes	FAC
4.			
5.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	70	x 3 =	210
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	90 (A)		250 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: DP-22

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR3/1		10YR5/8					
	10YR 4/2							

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils too saturated for true color determination, estimates above. Assumed hydric soils based on vegetation and hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 6

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Beaver activity within Forested Wetland. Receives runoff from roadway. Saturation and aerial imagery present on 03/2005.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-23

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.249960 Long: -96.644055 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

Located adjacent to Forested Wetland Water Feature 170. Light precipitation during delineation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus muehlenbergii	40	yes	FAC
2. Ulmus americana	20	yes	FAC
3. Juniperus virginiana	20	yes	UPL
4. Ulmus crassifolia	10	no	FAC
5.			
	90	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0.0	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	20	yes	FACU
2. Smilax bona-nox	10	yes	FACU
3. Parthenocissus quinquefolia	10	yes	FACU
	40	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	130 (A)		470 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: DP-23

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/2	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Root layer

Depth (inches): 6

Hydric Soil Present? Yes ____ No ✓

Remarks:

Gravel in matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-24

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Linear depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.249773 Long: -96.643759 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 171.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	15	yes	FACW
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Xanthium strumarium	30	yes	FAC
2. Eleocharis palustris	20	yes	OBL
3. Sagittaria lancifolia	15	yes	OBL
4. Iva annua	10	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 25.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		185 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-24

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	70	7.5YR 4/6	30	C	M/PL	Silty Clay	
4-12	10YR 4/1	93	7.5YR 4/6	7	C	M/PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Google aerials show saturation 3/2018, 11/2018, 12/2019

Remarks:

Connects and flows to pond to the east.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-25

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.249681 Long: -96.643816 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on a hillslope adjacent to Emergent Wetland Water Feature 171.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	20	yes	UPL
2. Maclura pomifera	20	yes	FACU
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Gleditsia triacanthos	5	yes	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	50	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Smilax bona-nox	5	yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 50.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	20	x 5 =	100
Column Totals:	100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-25

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	100					silty clay	limestone gravel throughout

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/24/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-26

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.252764 Long: -96.631415 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Forested Wetland Water Feature 178. Hydrologically connected to Forested Wetland Water Feature 179 through culvert to the southeast. Wood duck population observed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	45	yes	FAC
2. Ulmus americana	45	yes	FAC
3.			
4.			
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	15	yes	FAC
2. Morus alba	2	no	FACU
3.			
4.			
	17	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	10	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 90.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	105	x 3 =	315
FACU species	22	x 4 =	88
UPL species	0	x 5 =	0
Column Totals:	127 (A)		403 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-26

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/1	100					Clay	
10-16	10YR4/1	95	7.5YR6/8	5	C	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Linear depression visible in aerial imagery.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/24/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-27

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.252469 Long: -96.631137 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 179. Hydrologically connected to Forested Wetland Water Feature 178 through culvert to the northwest. Wood duck population observed during

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	45	yes	FAC
2. Ulmus americana	45	yes	FAC
3.			
4.			
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	15	yes	FAC
2. Morus alba	2	no	FACU
3.			
4.			
	17	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	10	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 90.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	105	x 3 =	315
FACU species	22	x 4 =	88
UPL species	0	x 5 =	0
Column Totals:	127 (A)		403 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-27

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/1	100					Clay	
10-16	10YR4/1	95	7.5YR6/8	5	C	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Linear depression visible in aerial imagery.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/24/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-28

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.252366 Long: -96.631616 Datum: NAD 83

Soil Map Unit Name: Lewisville silty clay, 3 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Forested Wetlands Water Feature 178 and Water Feature 179 and Upland Pond Water Feature 177. Area was previously disturbed/mowed on aerial imagery 09/2019.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	40	yes	FAC
2. Fraxinus pennsylvanica	40	yes	FAC
3.			
4.			
5.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Celtis laevigata	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Parthenocissus quinquefolia	5	yes	FACU
2. Toxicodendron radicans	5	yes	FACU
	10	= Total Cover	

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	105 (A)		330 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-28

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR3/2	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 03/12/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-29

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.250832 Long: -96.629414 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Emergent Wetland Water Feature 180.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis palustris	15	yes	OBL
2. Eleocharis obtusa	10	yes	OBL
3. Carex vulpinoidea	5	no	FACW
4. Rumex crispus	1	no	FAC
5. Hydrocotyl ranunculoides	1	no	OBL
6.			
7.			
8.			
9.			
10.			
	32.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 68.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	26	x 1 =	26
FACW species	5	x 2 =	10
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	32 (A)		39 (B)

Prevalence Index = B/A = 1.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-29

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/1	90	5YR 5/8	10	C	PL	Silty Clay Loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0-3

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-30

Investigator(s): Mike Keenan and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.249800 Long: -96.629170 Datum: NAD 83

Soil Map Unit Name: Lewisville silty clay, 3 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 180.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Schedonorus arundinaceus	50	yes	FACU
2. Cynodon dactylon	50	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-30

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/1	100					Silty Clay	
4-12	10YR 3/1	80	10YR 5/8	10	C	M	Clay	
	10YR 6/4	10						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 01/07/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-31

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.251257 Long: -96.625680 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 185 adjacent to Perennial Stream Water Feature 182, Honey Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Sambucus nigra	1	no	FAC
2. Ulmus crassifolia	1	no	FAC
3.			
4.			
	2 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Carex vulpinoidea	40	yes	FACW
2. Xantium strumarium	25	yes	FAC
3. Alisma triviale	20	yes	OBL
4. Cardiospermum halicacabum	15	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	40	x 2 =	80
FAC species	42	x 3 =	126
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	102 (A)		226 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-31

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	98	7.5YR 4/6	2	C	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation visible on aerial imagery 04/2016 and 01/2017. Saturation visible on aerial imagery 12/2009, 03/2015, 12/2015, and 11/2018,

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 01/07/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-32

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.250711 Long: -96.625317 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 185.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	45	yes	FAC
2. Celtis laevigata	35	yes	FAC
3. Ulmus americana	5	no	FAC
4. Ulmus crassofolia	5	no	FAC
5.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Sambucus nigra	20	yes	FAC
2. Ulmus crassifolia	1	no	FAC
3.			
4.			
	21	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Liriope muscari	5	yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Smilax bona-nox	10	yes	FACU
2.			
	10	= Total Cover	

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	111	x 3 =	333
FACU species	10	x 4 =	40
UPL species	5	x 5 =	25
Column Totals:	126 (A)		398 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-32

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-33

Investigator(s): Kathryn Burton, Kelsea Hiebert Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.244287 Long: -96.625104 Datum: NAD 83

Soil Map Unit Name: Austin Silty Clay, 2 to 5 percent slopes, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Emergent Wetland Water Feature 190 adjacent to US 75 and in close proximity to Perennial Stream Water Feature 192, Honey Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	20	yes	FACW
2. Fraxinus pennsylvanica	5	yes	FAC
3.			
4.			
5.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	5	yes	FACW
2. Fraxinus pennsylvanica	5	yes	FAC
3.			
4.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Xanthium strumarium	30	yes	FAC
2. Phyla lanceolata	30	yes	FACW
3. Ammannia coccinea	10	no	OBL
4. Eleocharis palustris	5	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 25.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	55	x 2 =	110
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		245 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-33

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR7/1	50	10YR6/8	10	C	M/PL	Sandy Clay	
	10YR4/1	40					Sandy Clay	
4-10	10YR3/2	70	5YR4/6	30	C	M/PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation on aerial imagery 12/2015, 03/2018, 11/2018, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-34

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.244314 Long: --96.625139 Datum: NAD 83

Soil Map Unit Name: Austin Silty Clay, 2 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on maintained roadway hillslope adjacent to Emergent Wetland Water Feature 190 and US 75.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	90	yes	FACU
2. Sorghum halepense	10	no	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-34

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR3/2	100						
4-10	10YR4/3	40						
4-10	10YR3/2	60						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 03/12/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-35

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.246285 Long: -96.626041 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 191 (portion outside Study area).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis obtusa	20	yes	OBL
2. Eleocharis eleocharis	5	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 75.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	25 (A)		25 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-35

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR5/1	90	7.5YR 5/8	10	C	M/PL	Silty Clay Loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0-20

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 07/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-36

Investigator(s): Mike Keenan and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.246061 Long: -96.626171 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 191 (portion outside Study area).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Schedonorus arundinaceus	65	yes	FACU
2. Phyla lanceolata	15	no	FACW
3. Paspalum dilatatum	10	no	FAC
4. Iva annua	5	no	FAC
5. Sorghum halepense	5	no	FACU
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	100 (A)		355 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-36

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/1	85	5YR 4/6	15	C	M/PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-37

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.250438 Long: -96.619785 Datum: NAD 83

Soil Map Unit Name: Trinity Clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 194 within a stormwater runoff area between two culverts. Stormwater runoff area was constructed in 2013.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Persicaria hydropiperoides	85	yes	OBL
2. Typha latifolia	10	no	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		95 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-37

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/1	95	10YR5/8	5	C	M	Loamy 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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 4

Hydric Soil Present? Yes ✓ No ___

Remarks:

Sediment accumulation likely from runoff.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation on aerial imagery 09/2019 and 12/2019. Saturation on aerial imagery 01/2017, 09/2017, 03/2018, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-38

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.250608 Long: -96.619460 Datum: NAD 83

Soil Map Unit Name: Trinity Clay - 0 to 1 percent slopes, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on maintained roadway hillslope adjacent to Emergent Wetland Water Feature 194.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	90	yes	FACU
2. Sorghum halepense	10	no	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-38

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR3/2	100						
4-10	10YR4/3	40						
4-10	10YR3/2	60						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/08/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-39

Investigator(s): Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.255545 Long: -96.612942 Datum: NAD 83

Soil Map Unit Name: Frio clay loam, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 200 (portion outside Study area).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	40	yes	FAC
2. Celtis laevigata	35	yes	FAC
3. Ulmus americana	5	no	FAC
4.			
5.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus crassifolia	20	yes	FAC
2. Celtis laevigata	20	yes	FAC
3. Fraxinus pennsylvanica	10	yes	FAC
4.			
	50	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Leersia oryzoides	10	yes	OBL
2. Toxicodendron radicans	5	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 85.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	130	x 3 =	390
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	145 (A)		420 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-39

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
							Clay loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too saturated to describe color profile, but assumed hydric based on hydrology and vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 1-5

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation surrounding and within Forested Wetland Water Feature 200 on aerial imagery 03/2015.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/08/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-40

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.257154 Long: -96.611818 Datum: NAD 83

Soil Map Unit Name: Frio clay loam, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 201 (portion outside Study area), adjacent to Forested Wetland 202 and hydrologically connected to Intermittent Stream Water Feature 204 and Perennial Stream Water Feature 205, the East Fork Trinity River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	70	yes	FAC
2. Celtis laevigata	20	yes	FAC
3. Ulmus crassifolia	5	no	FAC
4.			
5.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Celtis laevigata	15	yes	FAC
2.			
3.			
4.			
	15	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Vitis riparia	5	yes	FAC
2. Smilax bona-nox	5	yes	FACU
	10	= Total Cover	

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	125 (A)		385 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-40

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	85	5YR 5/8	10	C	M	Clay Loam	
			2.5Y 6/4	5	D	PL	Clay Loam	
					C	M/PL		

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/08/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-41

Investigator(s): Mike Keenan and Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Oxbow Depression Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.257474 Long: -96.611378 Datum: NAD 83

Soil Map Unit Name: Frio clay loam, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 202 (portion outside Study area), adjacent to Forested Wetland Water Feature 201 and hydrologically connected to Intermittent Stream Water Feature 204 and Perennial Stream Water Feature 205, the East Fork Trinity River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	35	yes	FAC
2.			
3.			
4.			
5.			
	35 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Persicaria hydropiperoides	35	yes	OBL
2. Ludwigia peploides	20	yes	OBL
3. Phyla lanceolata	10	no	FACW
4. Cardiospermum halicacabum	5	no	FAC
5. Echinochloa crus-galli	5	no	FAC
6.			
7.			
8.			
9.			
10.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 25.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	10	x 2 =	20
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		210 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Large number of dead trees due to inundation.

SOIL

Sampling Point: DP-41

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	90	7.5YR 5/8	10	C	M/PL	Clay Loam	
						PL		
					C	M/PL		

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0-18

Water Table Present? Yes ✓ No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-42

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.256383 Long: -9-96.611543 Datum: NAD 83

Soil Map Unit Name: Tinn Clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on maintained roadway hillslope adjacent to Forested Wetlands Water Feature 200, Water Feature 201, and Water Feature 202.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	90	yes	FACU
2. Sorghum halepense	10	no	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-42

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR3/2	100						
4-10	10YR4/3	40						
4-10	10YR3/2	60						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-43

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.257553 Long: -96.607981 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Forested Wetland Water Feature 207. Water Feature 207 flows into Intermittent Stream Water Feature 206 then to the southwest to Water Feature 205, the East Fork Trinity River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	50	yes	FACW
2.			
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	10	yes	FACW
2. Acer negundo	10	yes	FAC
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Ludwigia linearis	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		155 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-43

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	70	10YR 5/8	10	C	M/PL	Clay	
0-4	10YR 4/1	20						
9-8	10YR 4/2	60	10YR 5/8	20	C	M/PL	Clay	
9-8	10YR 4/1	20						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 12-24

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturation visible on Google aerials 11/2018, 3/2018, 12/2019, 11/2020

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-44

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.257588 Long: -96.608038 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Forested Wetland Water Feature 207 and US 75.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Ambrosia trifida	50	yes	FAC
2. Cynodon dactylon	25	yes	FACU
3. Rapistrum rugosum	10	no	UPL
4. Panicum dichotomiflorum	10	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	25	x 4 =	100
UPL species	10	x 5 =	50
Column Totals:	95 (A)		330 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-44

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/1	40						
0-12	10YR 3/1	40						
0-12	2.5 YR 7/8	20						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Fill dirt on roadway embankment.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-45

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.269597 Long: -96.596228 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Emergent Wetland Water Feature 219. Light precipitation during delineation. Area was a roadway with stream channel prior to 04/2016.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	5	yes	FACW
2.			
3.			
4.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eleocharis palustris	30	yes	OBL
2. Typha latifolia	15	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	45.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 55.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		55 (B)

Prevalence Index = B/A = 1.1

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Bare ground likely due to hog disturbance. Dead Salix nigra saplings within wetland.

SOIL

Sampling Point: DP-45

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y5/2	70	10YR4/6	5	C	PL	silty clay	gravel in matrix
0-4	2.5Y8/3	15					silty clay	
0-4	10YR2/1	10					silty clay	
4-6	2.5Y5/2	50	10YR4/6	10	C	M/PL	silty clay	
4-6	2.5Y8/3	15					silty clay	
4-6	10YR2/1	25					silty clay	
6-11	5Y5/1	40					silty clay	no gravel
6-11	2.5Y4/1	60						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Disturbed soils likely from roadway removal prior to 2016.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturation and inundation on aerial imagery.

Remarks:

Inundation within previous stream channel prior to 2016. Saturation within wetland in 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-46

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.269501 Long: -96.596272 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 219. Area was a roadway with stream channel prior to 04/2016.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylum	80	yes	FACU
2. Sorghum halepense	20	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-46

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/1	50					Clay	
	10YR8/2	50					Clay	
2-6	10YR2/2	65	5YR4/6	5	C	M/PL	Clay	
	10YR8/2	30					Clay	
6-12	10YR2/2	95	5YR4/6	5	C	M/PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Disturbed by previous roadway removal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area previously a roadway with a stream channel prior to 04/2016.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/25/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-47

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.248843 Long: -96.618035 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Emergent Wetland Water Feature 221. Adjacent to Forested Wetland Water Feature 222. Influenced by roadway removal visible on aerial imagery between 10/2013 and 11/2014.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	10	yes	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	5	yes	FAC
2.			
3.			
4.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	50	yes	FACU
2. Typha angustifolia	25	yes	OBL
3. Paspalum notatum	10	no	FAC
4. Verbena halei	10	no	UPL
5. Ambrosia psilostachya	5	no	FACU
6. Phyla nodiflora	5	no	FAC
7.			
8.			
9.			
10.			
	105.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum -5.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	55	x 4 =	220
UPL species	10	x 5 =	50
Column Totals:	120 (A)		375 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-47

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR2/1	30	10YR5/8	10	C	PL	Clay	
			2.5Y6/1	60	D	M		

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Google Earth aerials

Remarks:

Inundation and saturation visible on Google Earth aerial images 03/2018, 09/2019, and 11/2020. Standing water located within Emergent Wetland Water Feature 221.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/25/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-48

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.248650 Long: -96.618182 Datum: NAD 83

Soil Map Unit Name: Trinity clay, 0 to 1 percent slopes, occasionally flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 222. Adjacent to Emergent Wetland Water Feature 221. Area was a roadway in 1952 that was removed and rerouted by 1972.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	40	yes	FAC
2. Salix nigra	30	yes	FACW
3. Ulmus crassifolia	15	no	FAC
4. Celtis laevigata	10	no	FAC
5. Fraxinus pennsylvanica	10	no	FAC
	105	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	20	yes	FAC
2. Ulmus americana	20	yes	FAC
3.			
4.			
	40	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Sagittaria lancifolia	20	yes	OBL
2. Cardiospermum halicacabum	20	yes	FAC
3. Phyla nodiflora	5	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	45.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 55.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	30	x 2 =	60
FAC species	140	x 3 =	420
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	190 (A)		500 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-48

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/1	90	10YR5/8	10	C	M	Clay	
10-16	10YR3/1	80	10YR5/8	20	C	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Concrete below soil within the majority of Water Feature 222.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-49

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.248580 Long: -96.617639 Datum: NAD 83

Soil Map Unit Name: Trinity Clay, 0 to 1 percent slopes, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Emergent Wetland Water Feature 221 and Forested Wetland Water Feature 222.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	70	yes	FACU
2. Sorghum halepense	30	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-49

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR3/2	40					Clay	Gravel in matrix
0-7	10YR6/6	30						
0-7	10YR8/1	30						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 7

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-50

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.221299 Long: -96.599092 Datum: NAD 83

Soil Map Unit Name: Houston Black Clay, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 237.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Populus deltoides	5	yes	FAC
2.			
3.			
4.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Xanthium strumarium	65	yes	FAC
2. Phyla lanceolata	10	no	FACW
3. Euphorbia nutans	10	no	FACU
4. Solanum elaeagnifolium	5	no	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	85 (A)		270 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-50

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR2/2	99	10YR4/6	1	C	M	Clay	
1-6	10YR2/2	90					Clay	
	10YR4/2	5	7.5YR5/8	5	C	M	Clay	
6-12	10YR3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel and debris throughout matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation on aerial imagery 03/1995, 12/2009, 03/2015, 12/2015, 04/2016, 01/2017, 11/2018, 12/2019, and 11/2020

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-51

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.221191 Long: -96.598948 Datum: NAD 83

Soil Map Unit Name: Houston Black Clay, 0 to 1 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located within a mowed and maintained pasture adjacent to Emergent Wetland Water Feature 237.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Eragrostis spectabillis	35	yes	UPL
2. Sorghum halepense	25	yes	FACU
3. Cenchrus ciliaris	25	yes	FACU
4. Echinochloa crus-galli	10	no	FAC
5. Iva annua	5	no	FAC
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	50	x 4 =	200
UPL species	35	x 5 =	175
Column Totals:	100 (A)		420 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-51

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR2/1	90	10YR5/8	2	C	PL	Clay	
	10YR8/2	8					Sandy Clay	
3-6	10YR2/2	85					Clay	
	10YR7/3	5					Clay	
	10YR4/2	10					Clay	
6-12	10YR2/2	80					Clay	
	10YR8/2	5					Clay	
	10YR4/2 10YR7/3	10 5					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation on aerial imagery 03/1995, 12/2009, and 03/2015

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 11/11/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-52

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.206011 Long: -96.599865 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 259. Hydrologically connected to Water Feature 262 and Water Feature 258.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix nigra	10	yes	FACW
2.			
3.			
4.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Leersia oryzoides	75	yes	OBL
2. Typha latifolia	25	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	100	x 1 = 100
FACW species	10	x 2 = 20
FAC species	0	x 3 = 0
FACU species	0	x 4 = 0
UPL species	0	x 5 = 0
Column Totals:	110 (A)	120 (B)

Prevalence Index = B/A = 1.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-52

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	97	2.5Y 5/6	3	C	M	Clay Loam	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too saturated to determine soil profile past 6 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0.5

Water Table Present? Yes ✓ No ___ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation on aerial imagery 03/2005, 04/2016, 01/2017, 02/2017, 11/2018, 12/2019, and 11/2020. Disturbance/mowing within the wetland area visible on 03/2011 aerial imagery.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 11/11/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-53

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.205318 Long: -96.600344 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 264. Hydrology influenced by roadway runoff to the south and man-made dirt mounds to the north.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	20	yes	FAC
2. Fraxinus pennsylvanica	20	yes	FAC
3. Celtis laevigata	10	no	FAC
4. Salix nigra	10	no	FACW
5.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Leersia oryzoides	15	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 85.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	10	x 2 =	20
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		215 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-53

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too saturated to determine soil profile, assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0.5

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation on aerial imagery 03/2011, 03/2015, 12/2015, and 01/2017

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-54

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Embankment Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.204927 Long: -96.599567 Datum: NAD 83

Soil Map Unit Name: Tinn Clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Forested Wetland Water Feature 264 and Emergent Wetland Water Feature 259 in maintained roadside right-of-way (ROW).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	100	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-54

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/1	60	5YR3/4	10	C	M/PL	Clay	Fill material in matrix
	10YR7/2	30						
6-14	10YR3/1	65						
	10YR7/2	35						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturation on 04/2016 aerial imagery

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/10/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-55

Investigator(s): Kelsea Hiebert, Michael Keenan, and Ethan Eichler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Slough Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.193183 Long: -96.578266 Datum: NAD 27

Soil Map Unit Name: Tf - Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

DP-55 located within Forested Wetland Water Feature 367. DP-55 located within northern portion of Forested Wetland Water Feature 367 just outside of the Study area. Recent precipitation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	65	yes	FAC
2. Fraxinus pennsylvanica	20	yes	FAC
3.			
4.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Acer negundo	15	yes	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Leersia oryzoides	5	yes	OBL
2. Persicaria hydropiperoides	5	yes	OBL
3. Xanthium strumarium	5	yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 85

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
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 ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-55

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8								TOO SATURATED TO COLOR
8-16	10YR 4/1	60	5YR 5/8	40	C	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2-4 inches

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0 inches

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Google Earth Aerial Photographs

Remarks:

Recent precipitation. Inundation and saturation on 03/2015, 12/2015, 01/2017, 03/2018, 11/2018, and 09/2019 aerial photographs.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 06/8/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-56

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.192745 Long: -96.578064 Datum: NAD 27

Soil Map Unit Name: Tf—Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

DP-56 located adjacent to Forested Wetland Water Feature 367. Recent heavy rainfall event.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	15	yes	FAC
2.			
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cynodon dactylon	90	yes	FACU
2. Ambrosia trifida	5	no	FAC
3. Paspalum dilatatum	5	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	115 (A)		435 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-56

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	2.5YR 3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 8/26/2020

Applicant/Owner: TxDOT State: TX Sampling Point: DP-57

Investigator(s): Kelsea Hiebert and Ethan Eichler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.243927 Long: -96.603439 Datum: NAD 27

Soil Map Unit Name: Tf—Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

DP-57 located within Forested Wetland Water Feature 286 (portion outside Study area). Water Feature 286 is hydrologically connected to Intermittent Stream Water Feature 287, Forested Wetland Water Feature 289, and Emergent Wetlands Water Feature 288, Water Feature 233, and Water Feature 290.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	40	yes	FAC
2. Acer negundo	20	yes	FAC
3. Fraxinus pennsylvanica	10	no	FAC
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	30	yes	FAC
2. Celtis laevigata	15	yes	FAC
3.			
4.			
5.			
	45	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Eclipta prostrata	20	yes	FACW
2. Xanthium strumarium	10	yes	FAC
3. Pluchea odorata	10	yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	5	yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 60.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	160 (A)		455 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-57

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too saturated to describe profile, assumed hydric based on hydrology and vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Located adjacent to standing water within Water Feature 286. Saturation on aerial imagery 12/2019, 11/2018, 01/2017, 03/2005, and 03/1995.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/26/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-58

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.239850 Long: -96.600264 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 288 and representative of Water Feature 233. Adjacent to Forested Wetland Water Feature 289 and Emergent Wetland Water Feature 290.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phyla nodiflora	30	yes	OBL
2. Zizaniopsis miliacea	30	yes	OBL
3. Persicaria hydropiperoides	20	yes	OBL
4. Typha angustifolia	20	yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-58

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/1	87	5YR4/6	10	C	PL	Silty clay	
			Gley25PB	3			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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 3

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible on Google Earth aerial images 04/2016, 09/2017, 03/2018, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-59

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.240227 Long: -96.600651 Datum: NAD 83

Soil Map Unit Name: Tinn Clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located within previously maintained area adjacent to Emergent Wetland Water Features 288 and 233. Llocated near old railroad. Aerial shows inundation in 2011 but none since then.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Ambrosia trifida	60	yes	FAC
2. Solidago altissima	20	yes	FACU
3. Phyla lanceolata	10	no	FACW
4. Cardiospermum halicacabum	5	no	FAC
5. Verbena halei	5	no	UPL
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	65	x 3 =	195
FACU species	20	x 4 =	80
UPL species	5	x 5 =	25
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Upland vegetation shows frequent mowing.

SOIL

Sampling Point: DP-59

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR3/1	100					Clay	
7-12	10YR3/1	98	5YR3/4	2	C	PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area shows inundation on 03/2011 aerial, but none in at least 10 different aerial photos in years since, and aerials show area frequently mowed and maintained.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/26/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-60

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.240820 Long: -96.600559 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Forested Wetland Water Feature 289. Berm located to the east near Data Point DP-61. Adjacent to Emergent Wetlands Water FeatureS 288, 233, and 290.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	50	yes	FAC
2. Fraxinus pennsylvanica	30	yes	FAC
3. Salix nigra	20	yes	FACW
4.			
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	50	yes	FAC
2. Ulmus crassifolia	10	no	FAC
3.			
4.			
	60	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Ambrosia trifida	30	yes	FAC
2. Zizaniopsis miliacea	20	yes	OBL
3. Iva annua	10	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	20	x 2 =	40
FAC species	180	x 3 =	540
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	220 (A)		600 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-60

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too saturated to describe profile, assumed hydric based on hydrology and vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

0.5 inches of standing water located within Forested Wetland Water feature 289. Saturation on aerial imagery 03/2018, 11/2018, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-61

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Maintained Pasture Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.240208 Long: -96.599406 Datum: NAD 83

Soil Map Unit Name: Frio Clay Loam, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Located within maintained area adjacent to Forested Wetland Water Feature 289. Area located near old railroad.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Iva annua	90	yes	FAC
2. Leersia oryzoides	10	no	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		280 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-61

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Since 2012, possible saturation on aerial shown only on 04/2016, but aerials shown area frequently mowed/maintained.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/26/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-62

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.239681 Long: -96.599261 Datum: NAD 83

Soil Map Unit Name: Frio clay loam, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 290. Adjacent to Forested Wetland Water Feature 289 and Emergent Wetland Water Feature 289 and Water Feature 233.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	15	yes	FAC
2. Salix nigra	5	yes	FACW
3.			
4.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phyla nodiflora	50	yes	FAC
2. Iva annua	25	yes	FAC
3. Persicaria hydropiperoides	10	no	OBL
4. Zizaniopsis miliacea	8	no	OBL
5. Rumex crispus	7	no	FAC
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	18	x 1 =	18
FACW species	5	x 2 =	10
FAC species	97	x 3 =	291
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		319 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-62

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/1	75	7.5YR5/8	25	C	PL	Clay	
8-12	10YR3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Inundation and saturation visible on Google Earth aerial imagery 09/2017, 03/2018, 09/2019, 12/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/16/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-63

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.239745 Long: -96.599039 Datum: NAD 83

Soil Map Unit Name: Frio Clay Loam, occasionally flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located within previously maintained area adjacent to Emergent Wetland Water Feature 290. Area located near old railroad.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Iva annua	85	yes	FAC
2. Leersia oryzoides	10	no	OBL
3. Euphorbia bicolor	5	no	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	85	x 3 =	255
FACU species		x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		265 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-63

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/1	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Aerials show possible saturation on 04/2016, 01/2017, and 11/2020, but area is frequently mowed and maintained.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/12/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-64

Investigator(s): Mike Keenan, Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.238946 Long: -96.594037 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 297. Water Feature 297 is an old stream channel and within close proximity to Perennial Stream Water Feature 293, Clemons Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	65	yes	FAC
2. Salix nigra	30	yes	FACW
3. Fraxinus pennsylvanica	5	no	FAC
4.			
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	20	yes	FAC
2. Celtis laevigata	5	yes	FAC
3.			
4.			
	25	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	95	x 3 =	285
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		345 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-64

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR4/1	95	10YR5/4	5	C	M	clay	distinct redox color

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 1

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation on 11/2020 aerial imagery.

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/12/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-65

Investigator(s): Mike Keenan, Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): convex Slope (%): 1-2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.238952 Long: -96.593978 Datum: NAD 83

Soil Map Unit Name: Lewisville Silty Clay, 3 to 5 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Forested Wetland Water Feature 297.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	80	yes	FAC
2. Fraxinus pennsylvanica	10	no	FAC
3. Maclura pomifera	5	no	FACU
4. Juniperus virginiana	5	no	UPL
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Ulmus americana	10	yes	FAC
2.			
3.			
4.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	5	yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Smilax bona-nox	5	yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 95.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	15	x 4 =	60
UPL species	5	x 5 =	25
Column Totals:	120 (A)		385 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-65

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR3/2	100					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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/14/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-66

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.206637 Long: -96.581436 Datum: NAD 83

Soil Map Unit Name: Altoga silty clay, 5 to 8 percent slopes, eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Isolated Forested Wetland Water Feature 329. Adjacent to Upland Pond Water Feature 330.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Maclura pomifera	20	yes	FACU
2. Ulmus americana	20	yes	FAC
3. Fraxinus pennsylvanica	20	yes	FAC
4. Salix nigra	20	yes	FACW
5. Carya illinoinensis	15	no	FAC
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	55	x 3 =	165
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	95 (A)		285 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-66

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Too wet to describe soil profile, assumed hydric based on hydrology and vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 12

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible on Google Earth aerial imagery 03/2018 and 11/2020.
Inundation visible on Google Earth aerial imagery 11/2018 and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 08/17/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-67

Investigator(s): Kelsea Hiebert, Kathryn Burton Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.206807 Long: -96.581322 Datum: NAD 83

Soil Map Unit Name: Altoga Silty Clay, 5 to 8 percent slopes, eroded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✓, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located on berm adjacent to Isolated Forested Wetland Water Feature 329 and Upland Pond Water Feature 330. Area was previously ponds constructed in uplands and filled in 2018.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Paspalum urvillei	15	yes	FACW
2. Ambrosia trifida	5	yes	FAC
3. Euphorbia nutans	5	yes	FACU
4. Eragrostis spectabillis	3	no	UPL
5. Setaria parviflora	2	no	FAC
6. Parthenium hysterophorus	2	no	FAC
7.			
8.			
9.			
10.			
	32.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 68.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	9	x 3 =	27
FACU species	5	x 4 =	20
UPL species	3	x 5 =	15
Column Totals:	32 (A)		92 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Fill material berm adjacent to Isolated Forested Wetland Water Feature 329 and Upland Pond Water Feature 330.

SOIL

Sampling Point: DP-67

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR4/2	60					Clay	
0-4	10YR3/1	15						
0-4	10YR7/1	15						
0-4	5YR8/1	10						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 4

Hydric Soil Present? Yes _____ No ✓

Remarks:

Gritty texture to clay fill material. Heavily disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area was previously ponds constructed in uplands and filled in 2018. Although area previously had inundation, the indicator does not apply due to filling of ponds since 2018.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/14/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-68

Investigator(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.205153 Long: -96.585951 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Located within Forested Wetland Water Feature 333 (portion outside Study area), adjacent to Emergent Wetland Water Feature 334, Intermittent Stream Water Feature 335, and hydrology connected to the East Fork Trinity River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	30	yes	FAC
2. Celtis laevigata	10	yes	FAC
3. Ulmus crassifolia	5	no	FAC
4.			
5.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Iva annua	60	yes	FAC
2. Cardiospermum halicacabum	10	no	FAC
3. Ambrosia trifida	10	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	125	x 3 =	375
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		375 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-68

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/1	96	7.5YR4/6	4	C	M/PL	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation visible on Google Earth aerial imagery 03/2018, 09/2019, and 11/2020.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/15/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-69

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.205251 Long: -96.586872 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Located within Emergent Wetland Water Feature 334 (portion outside Study area), adjacent to Forested Wetland Water Feature 333, Intermittent Stream Water Feature 335, and hydrology connected to the East Fork Trinity River.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Iva annua	90	yes	FAC
2. Chasmanthium sessiliflorum	10	no	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: DP-69

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y4/1	63	10YR5/6	2	C	PL	Clay	
	10YR6/1	30	2.5Y6/1	5	D	M	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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Pockets of standing water in other parts of wetland. Saturation visible on Google Earth aerial images 03/2018 and 12/2019. Cattle disturbance within wetland.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 09/15/2020

Applicant/Owner: TXDOT State: TX Sampling Point: DP-70

Investigator(s): Kelsea Hiebert, Ethan Eichler Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.205398 Long: -96.585654 Datum: NAD 83

Soil Map Unit Name: Tinn clay, 0 to 1 percent slopes, frequently flooded NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Located adjacent to Forested Wetland Water Feature 333 and Emergent Wetland Water Feature 334, at edge of Study area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Iva annua	40	yes	FAC
2. Cynodon dactylon	30	yes	FACU
3. Cardiospermum halicacabum	5	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 25.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	75 (A)		255 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: DP-70

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR4/2	100					Clay	Gravel in matrix
4-10	10YR3/1	80					Clay	
4-10	10YR4/2	20						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US 380 City/County: Collin County Sampling Date: 9/22/2021

Applicant/Owner: TxDOT State: TX Sampling Point: DP-71

Investigator(s): Kelsea Hiebert and Wyatt Wolfenkoehler Section, Township, Range: n/a

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Cotton and Forage Region Lat: 33.200936 Long: -96.578035 Datum: NAD 27

Soil Map Unit Name: LeB—Lewisville silty clay, 1 to 3 percent slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Isolated depression on hill, appears to be former excavated, upland pond.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Eleocharis compressa	50	yes	FACW
2. Iva annua	25	yes	FAC
3. Bothriochloa ischaemum	2	no	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	77.0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 23.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	77 (A)		185 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Maclura pomifera and Juniperus virginiana present at edge of area.

SOIL

Sampling Point: DP-71

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	30						
	10YR 4/1	30						
	10YR 5/2	20						
	10YR 8/1	20						

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Limestone Bedrock

Depth (inches): 5

Hydric Soil Present? Yes ___ No ✓

Remarks:

Gravel throughout matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Located in an upland hillside.

Stream Data Form #: Water Feature 6
Project Name: US 380
CSJ: 0135-02-065

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: January 19, 2021
USGS Stream Name:
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 6
Associated Wetland(s): Water Feature 5
Coordinates: 33.218369 -96.763156

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Concrete and silt fencing near roadway
Stream Flow Direction: Southeast
OHWM Width (ft): 5 OHWM Height (in): 12
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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

Riparian Vegetation: List species observed.

Eastern red cedar (Juniperus virginiana), fringed green brier (Smilax bona-nox), black willow (Salix nigra), black locust (Robinia pseudoacacia)

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

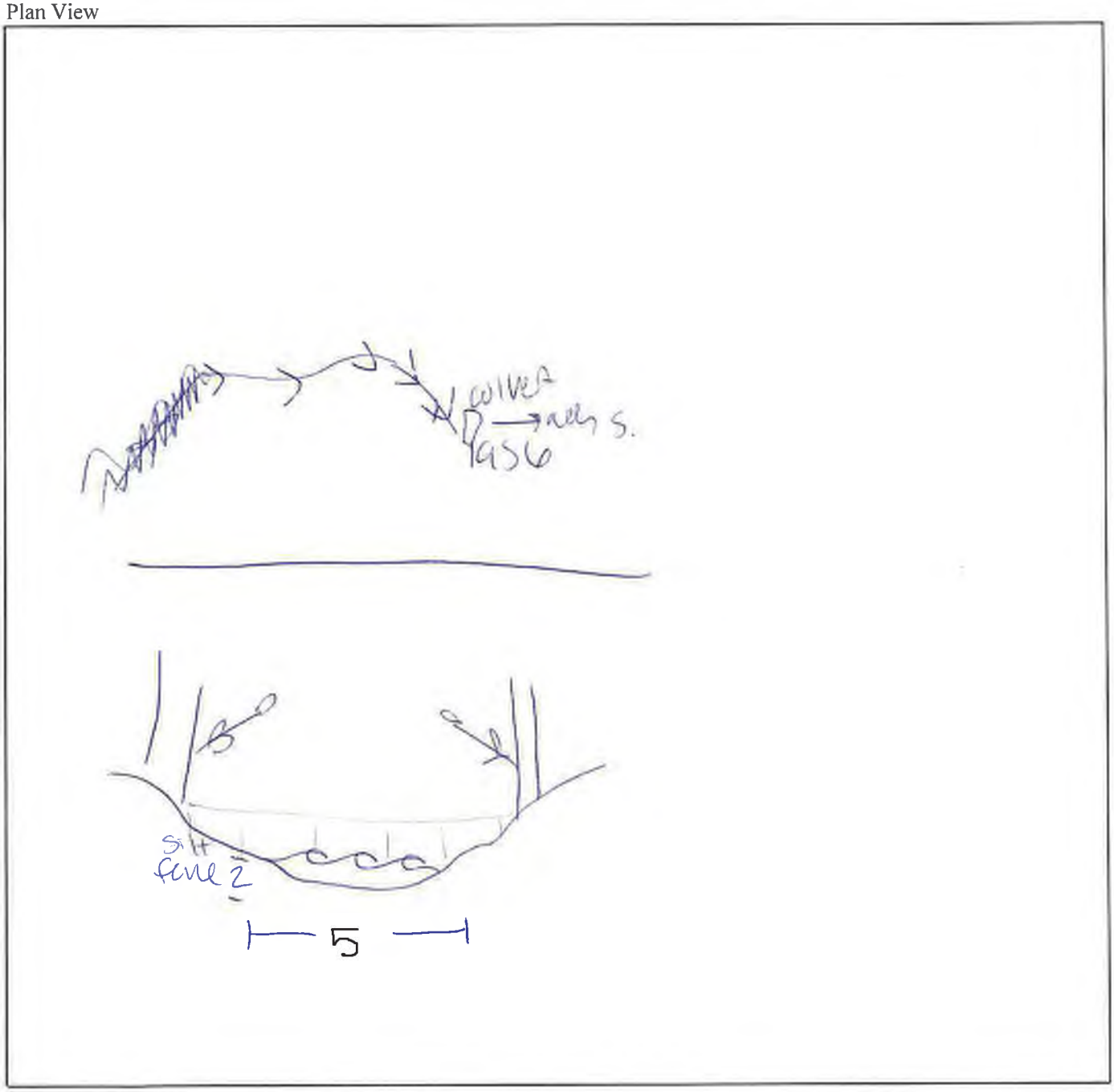
None

Stream Data Form #: Water Feature 6
Project Name: US 380
CSJ: 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 7
Project Name: US 380
CSJ: 0135-02-065

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Mike Keenan
Date of Field Work: January 19, 2021
USGS Stream Name: N/A
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 7
Associated Wetland(s): None
Coordinates: 33.218079 -96.762245

Stream Type: Ephemeral
Characteristics: Receives overflow from adjacent stream.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Vegetated banks
Stream Flow Direction: South
OHWM Width (ft): 4
OHWM Height (in): 6

Stream Bottom composition:

- ☑ Silts
- ☐ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☑ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

fringed green brier (Smilax bona-nox), southern dewberry (Rubus trivialis), eastern red cedar (Juniperus virginiana)

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

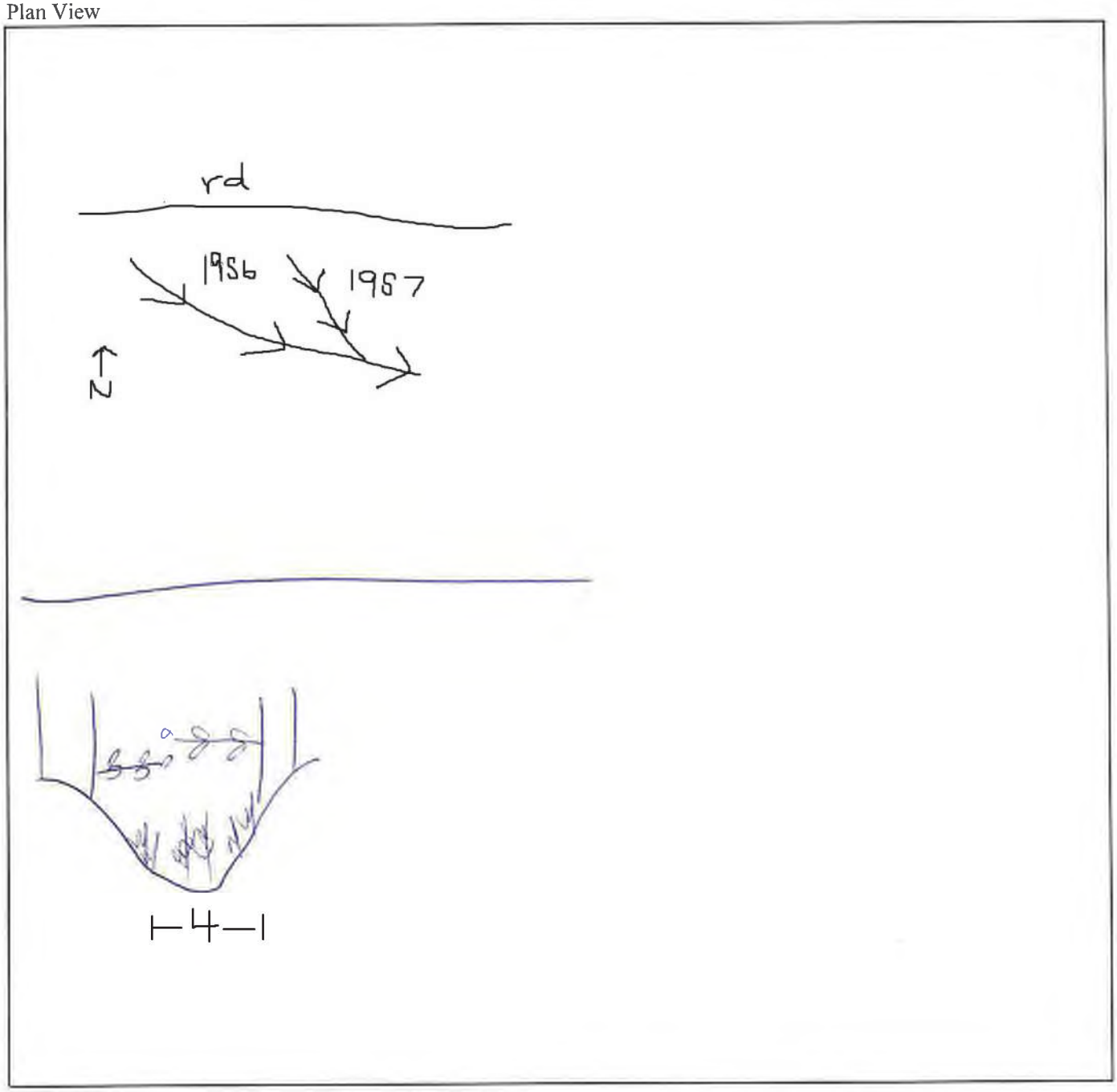
None

Stream Data Form #: Water Feature 7
Project Name: US 380
CSJ: 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 8
Project Name: US 380
CSJ: 013502-065

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: December 1, 2020
USGS Stream Name: Rutherford Branch tributary
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 8
Associated Wetland(s): None
Coordinates: 33.218232 -96.759806

Stream Type: Ephemeral
Characteristics: Man-made concrete bottom
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Concrete
Stream Flow Direction: East
OHWM Width (ft): 2
OHWM Height (in): 2

Stream Bottom composition:

- ☐ Silts ☐ Cobbles ☑ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☐ Overhanging trees/shrubs ☐ Deep pool/ hole/ channel ☑ Other: None - depression?

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 ☐ 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.

Invertebrates

Riparian Vegetation: List species observed.

Spike-rush sp. (Eleocharis sp.), Bermuda grass (Cynodon dactylon)

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

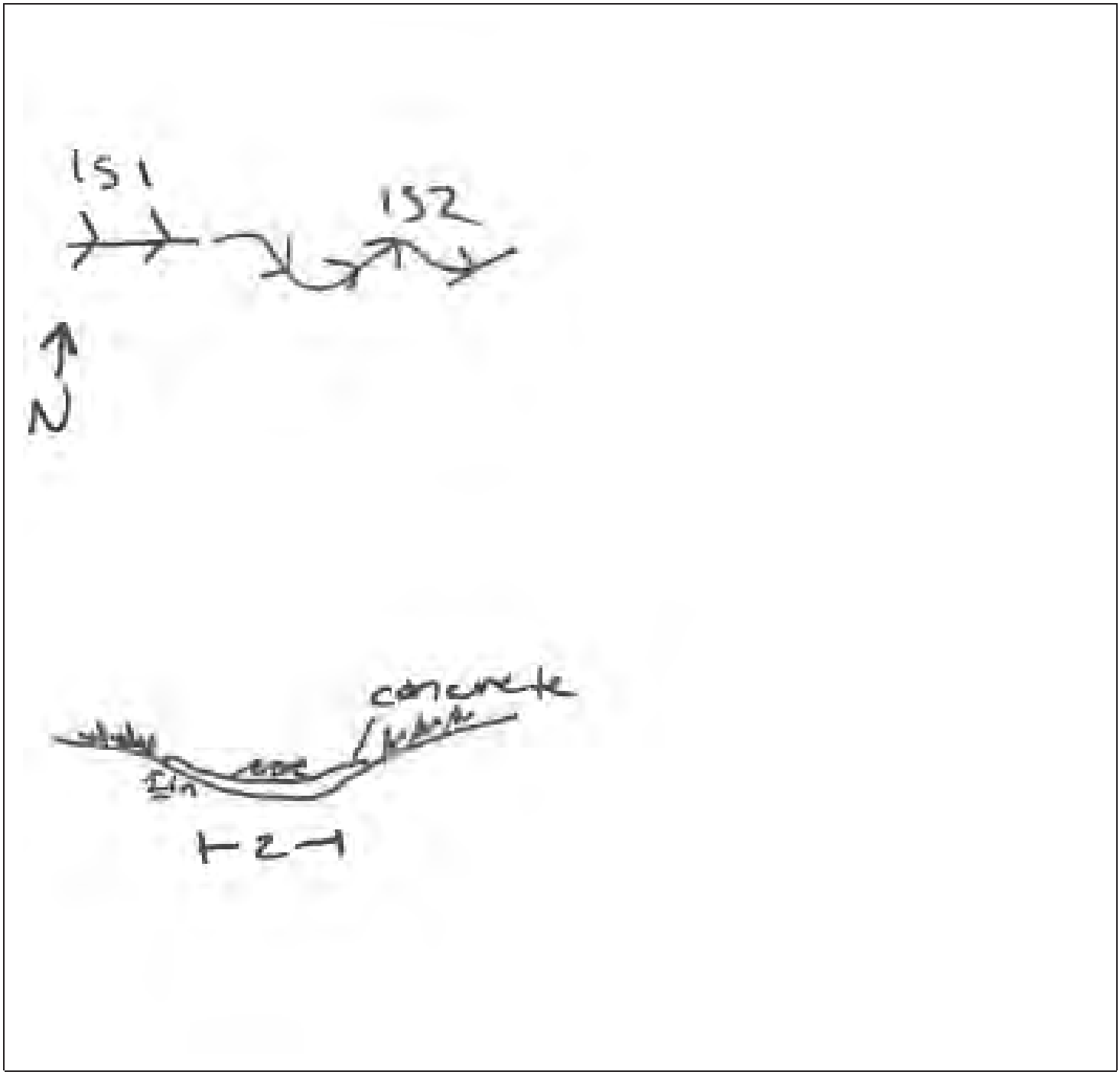
None

Stream Data Form #: Water Feature 8
Project Name: US 380
CSJ: 013502-065

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



Sectional View

Stream Data Form #: Water Feature 11
Project Name: US 380
CSJ: 0135-02-065

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: December 1, 2020
USGS Stream Name: Rutherford Branch tributary
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 11
Associated Wetland(s): Water Feature 18
Coordinates: 33.218126 -96.758142

Stream Type: Intermittent
Characteristics: Connected to concrete S-3. Incised flowing East.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Roots along edges
Stream Flow Direction: East
OHWM Width (ft): 5
OHWM Height (in): 16

Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [x] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [x] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

Black willow (Salix nigra), eastern red cedar (Juniperus virginiana), Virginia wild rye (Elymus virginicus), American elm (Ulm

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

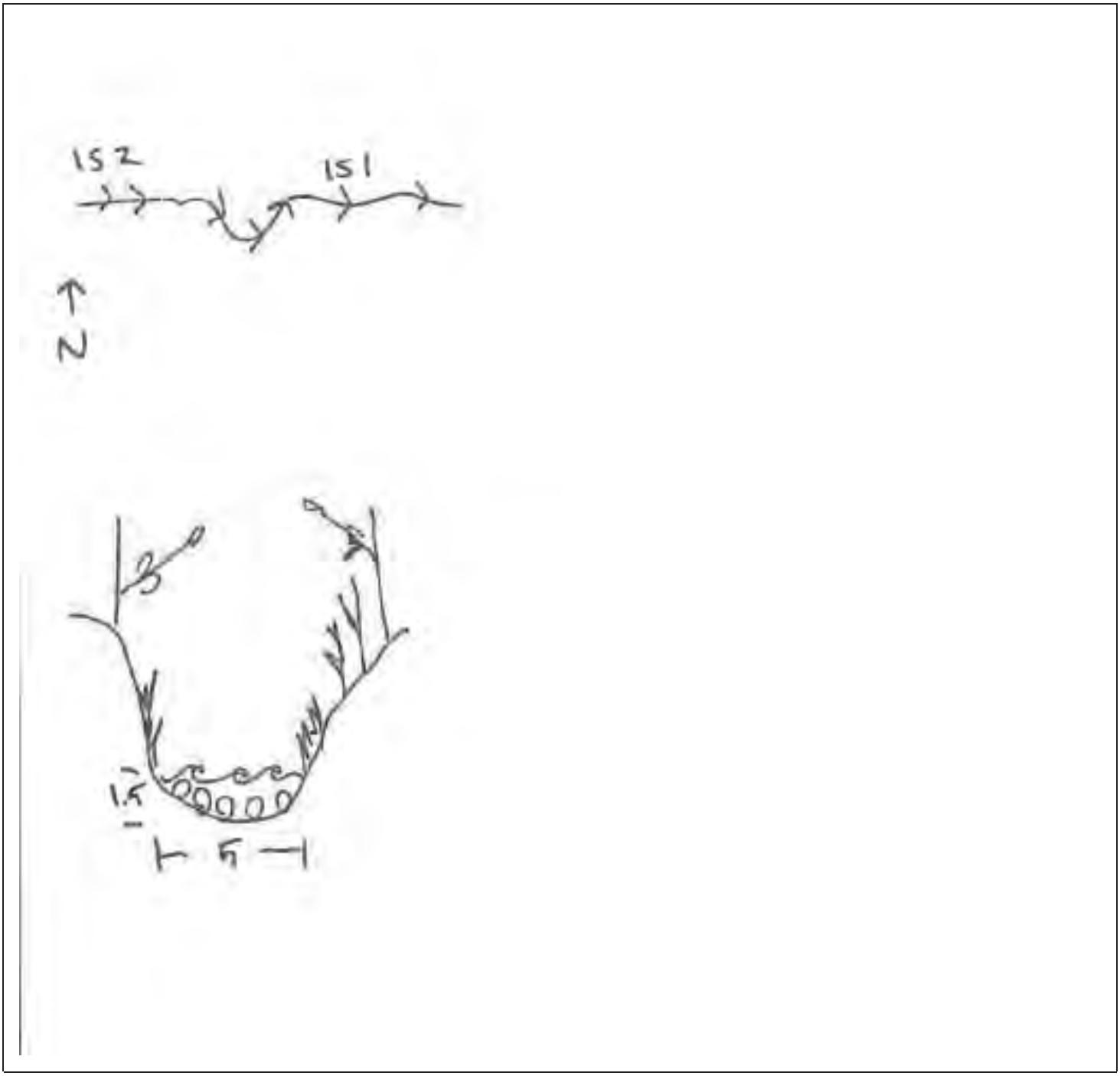
None

Stream Data Form #: Water Feature 11
Project Name: US 380
CSJ: 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 16
Project Name: US 380
CSJ: 0135-02-065

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler
Date of Field Work: August 17, 2021
USGS Stream Name: Rutherford Branch
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 16
Associated Wetland(s): Water Feature 18
Coordinates: 33.218617 -96.756070

Stream Type: Perennial
Characteristics: DEEPLY CHANNELIZED STREAM, EXPOSING BEDROCK, HIGHLY INCISED CHANNEL
Bank Stability (e.g. highly eroding, sloughing banks, etc.): HIGHLY ERODING INCISED CHANNEL
Stream Flow Direction: North
OHWM Width (ft): 20
OHWM Height (in): 48
Stream Bottom composition:

- ☑ Silts
- ☑ Cobbles
- ☐ Concrete
- ☐ Other:
- ☐ Sands
- ☑ Bedrock
- ☑ Muck
- ☑ Gravel
- ☑ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☑ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☑ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

Crawfish, sunfish, bluegill, minnows, invertebrates

Riparian Vegetation: List species observed.

American elm (Ulmus americana), Cedar elm (Ulmus crassifolia), Osage orange (Maclura pomifera), American water-willow (Justicia americana), greenbriar (smilax bona-nox), poison ivy (Toxicodendron radicans)

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

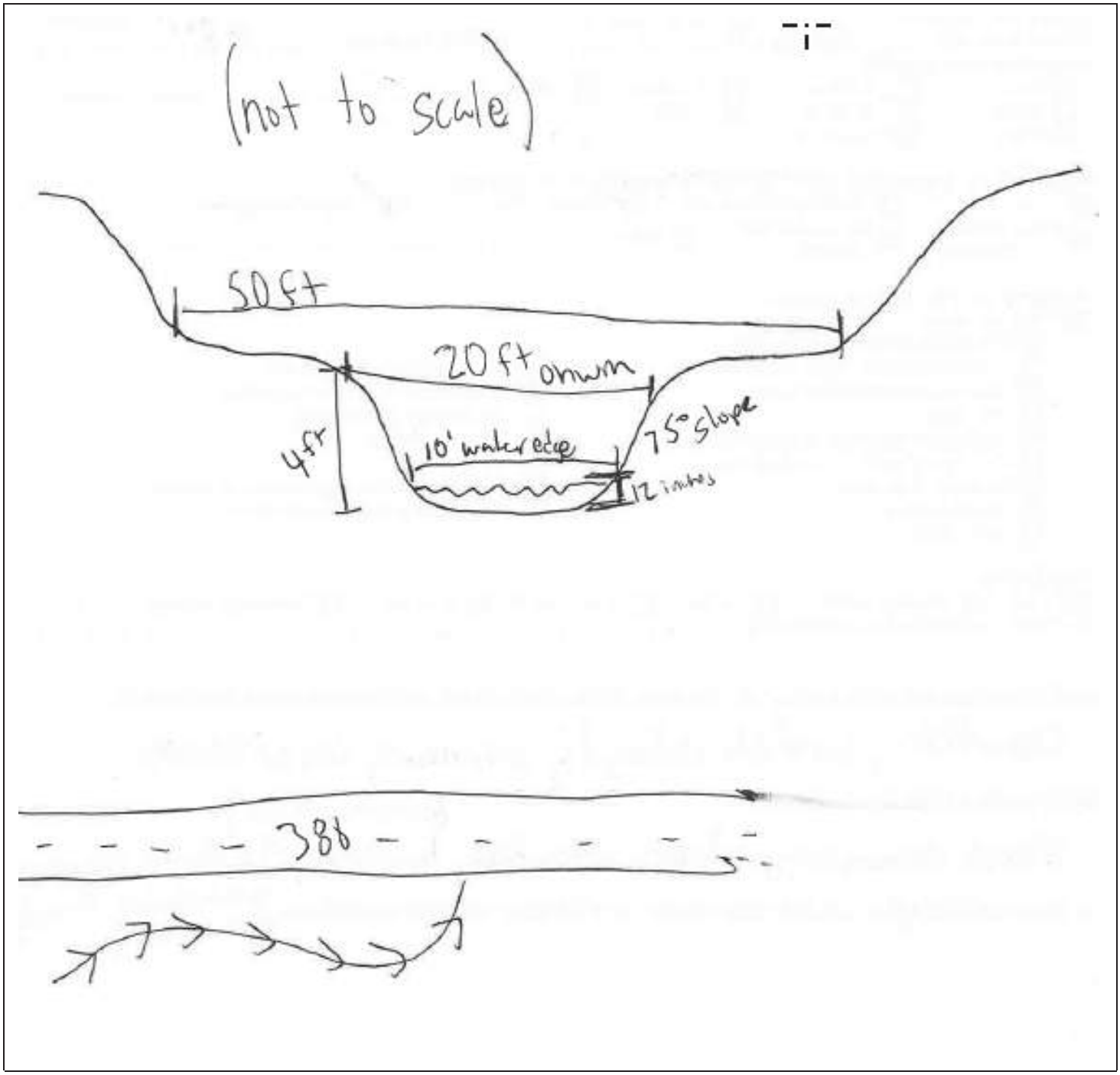
NA

Stream Data Form #: Water Feature 16
Project Name: US 380
CSJ: 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 25
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler
Date of Field Work: August 17, 2021
USGS Stream Name: Unnamed tributary to Rutherford Bran
County/State: Collin County, Texas
USGS Topo Quad Name: Frisco
Stream Number: 25
Associated Wetland(s): None
Coordinates: 33.218622 -96.751921

Stream Type: Ephemeral Characteristics: Small incised ephemeral drainage
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Eroding
Stream Flow Direction: North
OHWM Width (ft): 3 OHWM Height (in): 12"
Stream Bottom composition:

- [x] Silts
- [x] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [x] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [ ] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [ ] Other characteristics (pollutants, etc.) No water

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Cynodon dactylon

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

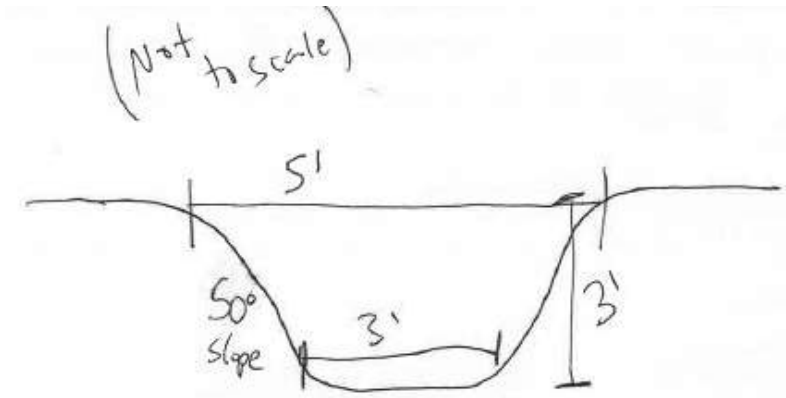
None

Stream Data Form #: Water Feature 25
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 31
Project Name: US 380
CSJ: 01335-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert
Date of Field Work: December 22, 2020
USGS Stream Name: Unnamed Tributary to Rutherford Bra
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 31
Associated Wetland(s): Water Feature 32, Water Feature 3
Coordinates: 33.218759 -96.748414

Stream Type: Perennial
Characteristics: Water from pond pools into stream channel, adjacent to right of way.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: N
OHWM Width (ft): 15'
OHWM Height (in): 17"
Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [x] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] 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
- [x] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [ ] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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, ducks, snakes.

Riparian Vegetation: List species observed.
Maclura pomifera, Ulmus crassifolia, and Smilax bona-nox.

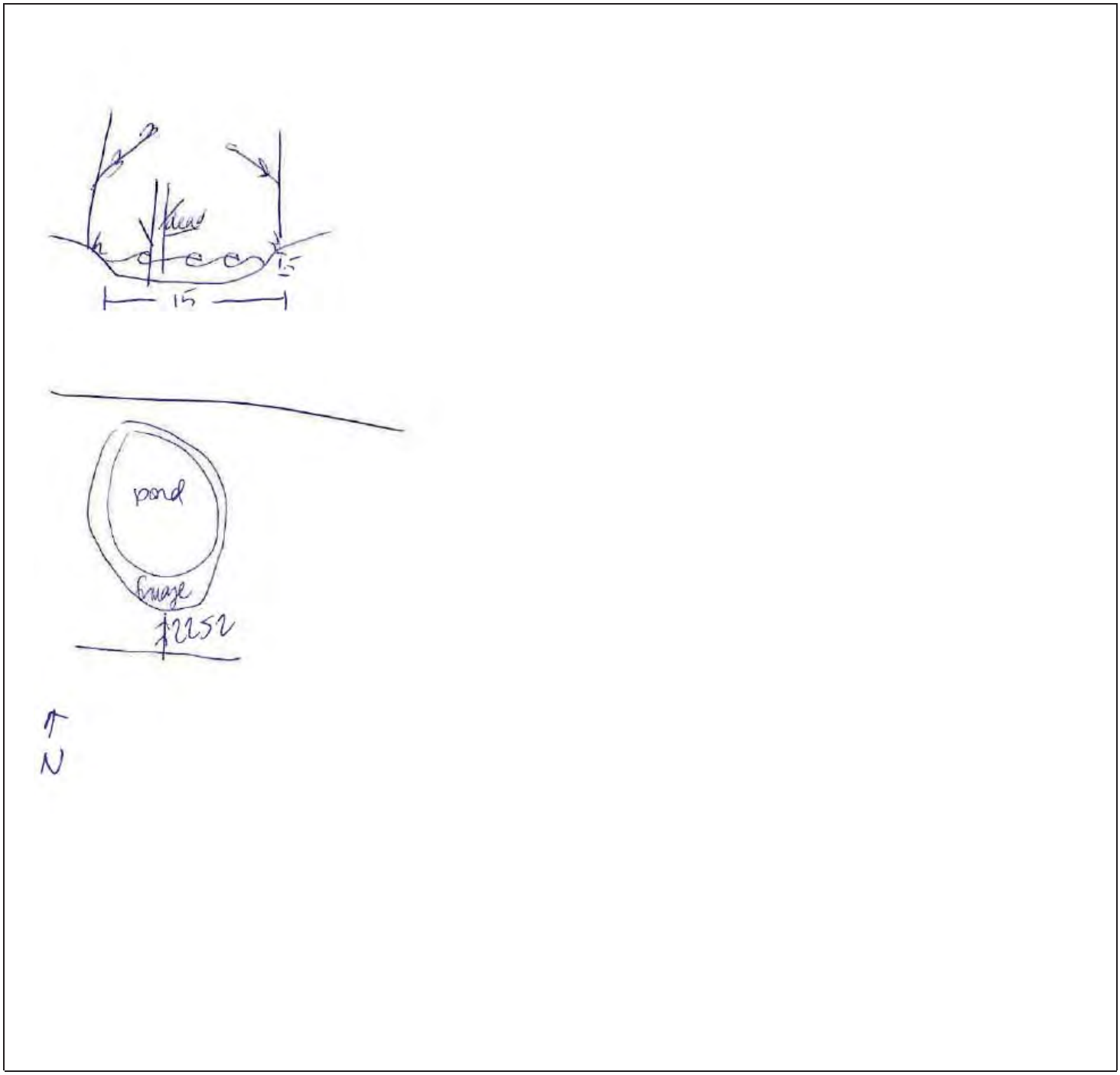
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.
none

Stream Data Form #: Water Feature 31
Project Name: US 380
CSJ: 01335-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 37
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan
Date of Field Work: December 22, 2020
USGS Stream Name: Unnamed Tributary to Rutherford Bra
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 37
Associated Wetland(s): Water Feature 33 and 125
Coordinates: 33.219339 -96.746994

Stream Type: Perennial
Characteristics: Incised with trees lining banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Northwest to Pond
OHWM Width (ft): 10'
OHWM Height (in): 36"
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [x] Gravel
- [ ] Cobbles
- [x] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [x] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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, ducks, snakes, fish

Riparian Vegetation: List species observed.

Smilax bona-nox, Ulmus crassifolia, Salix nigra, and Juniperus virginiana.

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

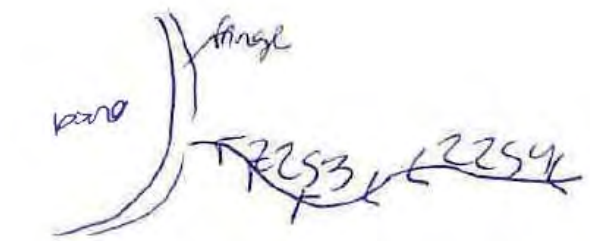
none

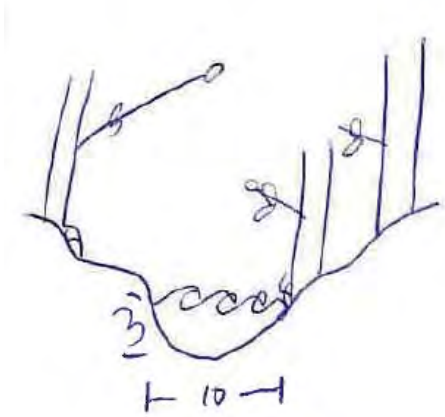
Stream Data Form #: Water Feature 37
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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





Sectional View

Stream Data Form #: Water Feature 45
Project Name: US 380
CSJ: 035-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: August 18, 021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 45
Associated Wetland(s): None
Coordinates: 33.218775 -96.740663

Stream Type: Ephemeral Characteristics: Receives flow from 380 runoff.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 4 OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☑ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) Flowing due to current precipitation

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Great ragweed (Ambrosia trifida), bermudagrass (Cynodon dactylon), green ash (Fraxinus pennsylvanica), johnsongrass (Sorghum halepense)

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

None

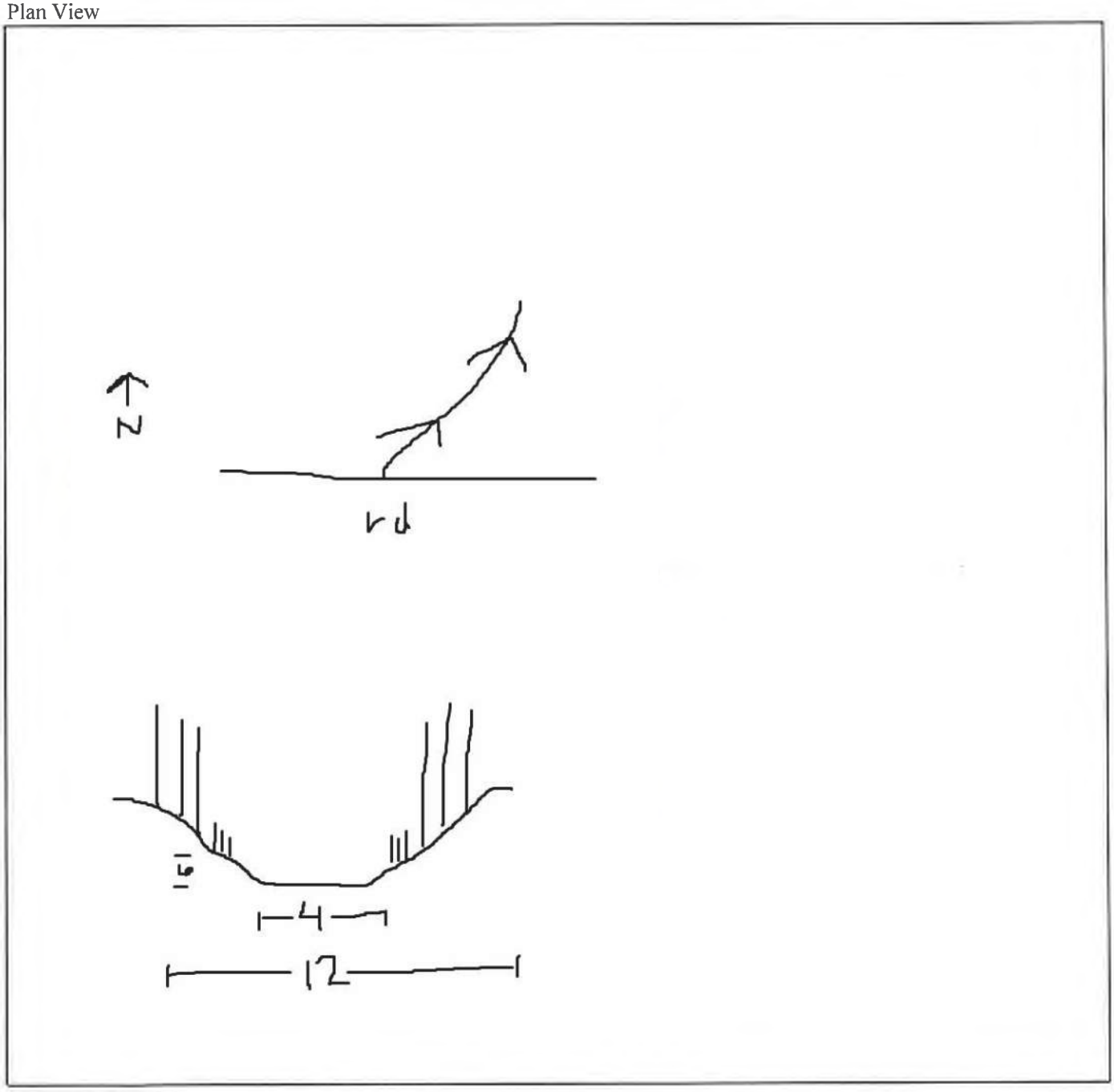
Water Feature 45

Stream Data Form #:
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 51
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 51
Associated Wetland(s): Water Feature 53
Coordinates: 33.218758 -96.737992

Stream Type: Intermittent
Characteristics: Slightly incised stream within floodplain. Recent precipitation.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Stabilized by vegetation
Stream Flow Direction: North
OHWM Width (ft): 5
OHWM Height (in): 7

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☑ Cobbles
- ☐ Bedrock
- ☑ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☑ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☐ Other characteristics (pollutants, etc.) Flowing due to current precipitation

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Small fish

Riparian Vegetation: List species observed.

Great ragweed (Ambrosia trifida), johnsongrass (Sorghum halepense), black willow (Salix nigra), American elm (Ulmus americana), and tall goldenrod (Solidago altissima)

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

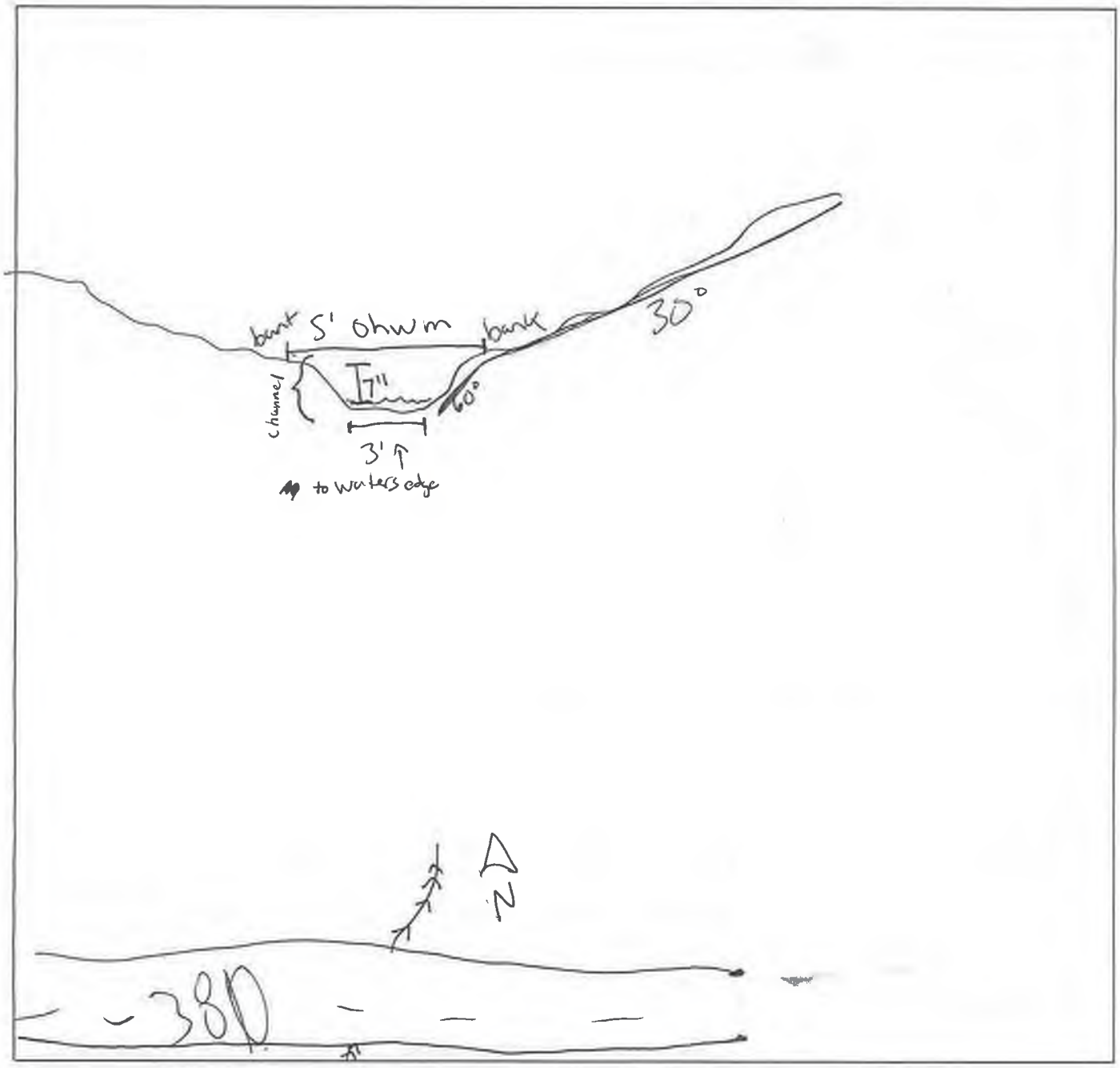
None

Stream Data Form #: Water Feature 51
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 58
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 58
Associated Wetland(s): None
Coordinates: 33.218955 -96.727926

Stream Type: Ephemeral Characteristics: Shallow channel north of the roadway
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 3 OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts ☑ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☑ Aquatic vegetation
- ☐ Overhanging trees/shrubs ☐ Deep pool/ hole/ channel ☑ Other: None

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 ☐ Oily film ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) No water

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
None

Riparian Vegetation: List species observed.
johnsongrass (Sorghum halepense), bermudagrass (Cynodon dactylon), common sunflower (Helianthus annuus)

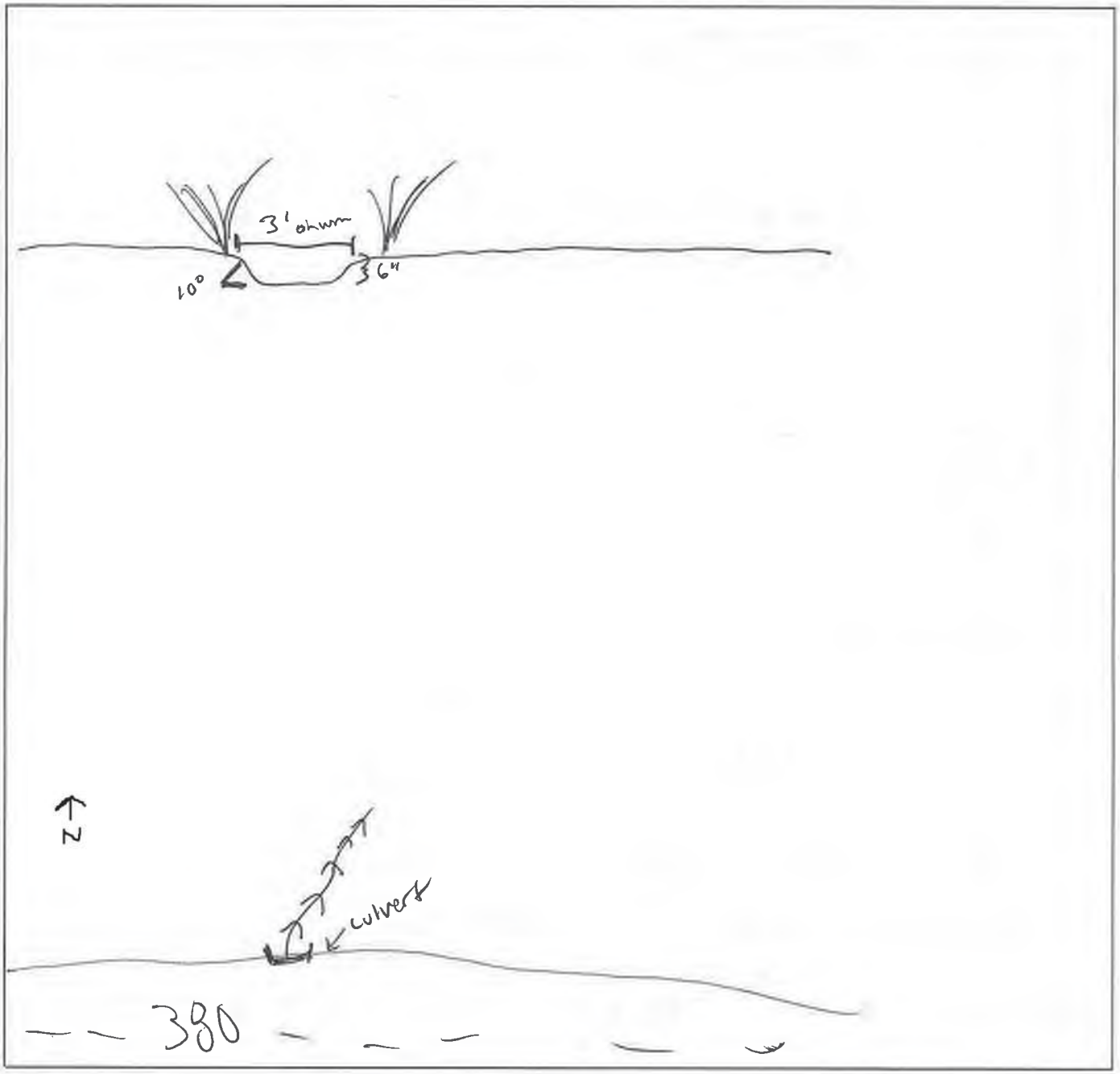
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.
None

Stream Data Form #: Water Feature 58
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 62
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Mike Keenan
Date of Field Work: January 19, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 62
Associated Wetland(s): Water Feature 61 and 63
Coordinates: 33.219331 -96.722549

Stream Type: Perennial
Characteristics: Receiving groundwater flow and runoff from the south
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Insized
Stream Flow Direction: North
OHWM Width (ft): 6
OHWM Height (in): 24

Stream Bottom composition:
- ☐ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☑ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.
- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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, snakes, small fish, muscles

Riparian Vegetation: List species observed.

White oak (Quercus alba), black willow (Salix nigra), shumard oak (Quercus shumardii), english ivy (Hedera helix)

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

None

Water Feature 62

Stream Data Form #:
Project Name: US 380
CSJ 0135-02-065 0135-15-002

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

1951
rd (380 or university?)

Sectional View

Stream Data Form #: Water Feature 65
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Mike Keenan
Date of Field Work: January 19, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 65
Associated Wetland(s): Water Feature 63
Coordinates: 33.220223 -96.722593

Stream Type: Perennial
Characteristics: Receiving groundwater flow and runoff from the south
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Insized
Stream Flow Direction: North
OHWM Width (ft): 6
OHWM Height (in): 24
Stream Bottom composition:

- ☐ Silts
- ☐ Cobbles
- ☐ Concrete
- ☐ Other:
- ☐ Sands
- ☑ Bedrock
- ☐ Muck
- ☑ Gravel
- ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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, snakes, small fish, muscles

Riparian Vegetation: List species observed.

White oak (Quercus alba), black willow (Salix nigra), shumard oak (Quercus shumardii), english ivy (Hedera helix)

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

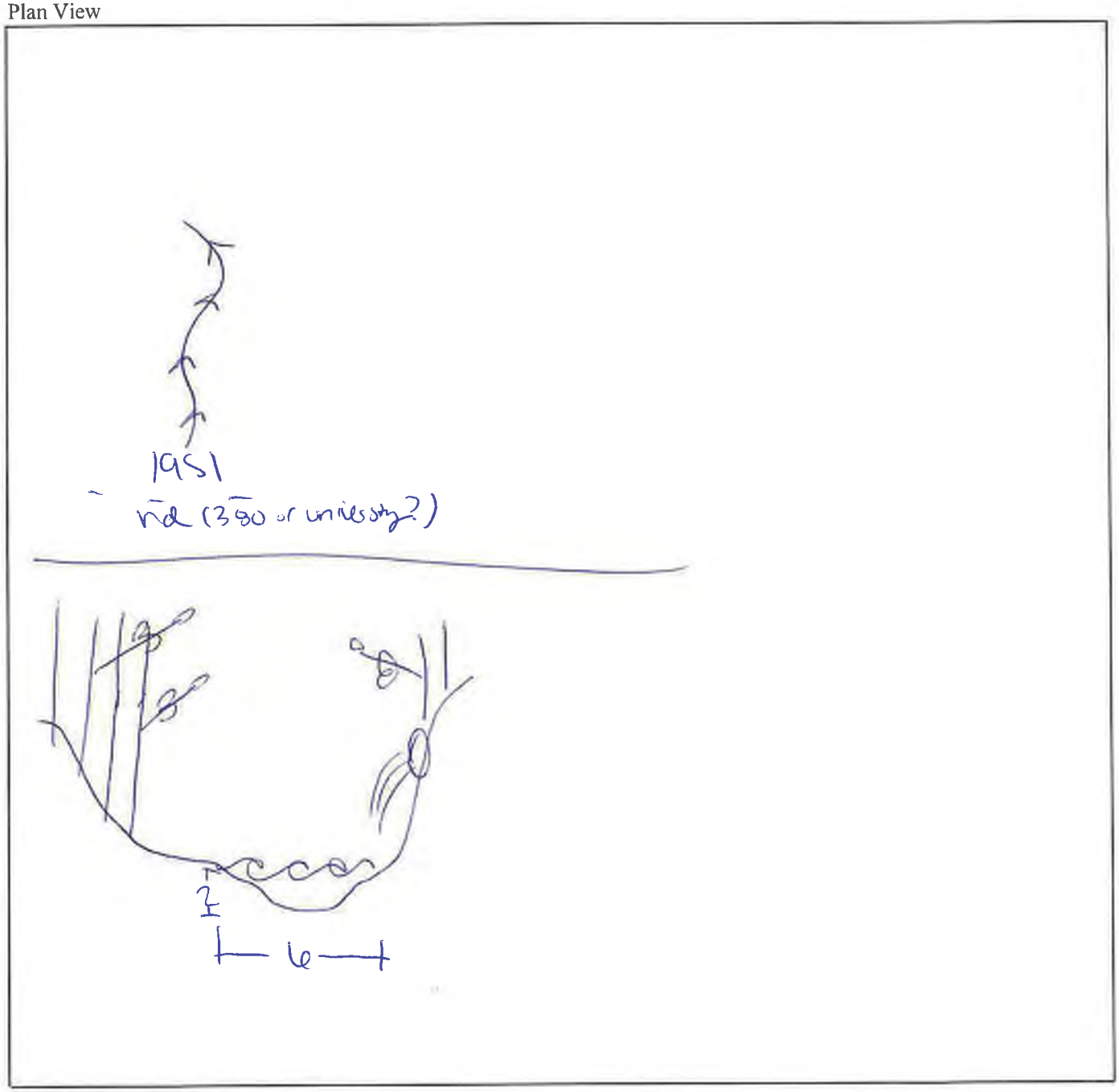
None

Stream Data Form #: Water Feature 65
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 66
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Mike Keenan
Date of Field Work: January 19, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 66
Associated Wetland(s): None
Coordinates: 33.220298 -96.723073

Stream Type: Ephemeral Characteristics: Receives flow from runoff and adjacent swale
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 4 OHWM Height (in): 12
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [x] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] 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):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Eastern red cedar (Juniperus virginiana), Buroak (Quercus macrocarpa), shumard oak (Quercus shumardii), water oak (Quercus nigra), chinquapin oak (Quercus muehlenbergii)

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

None

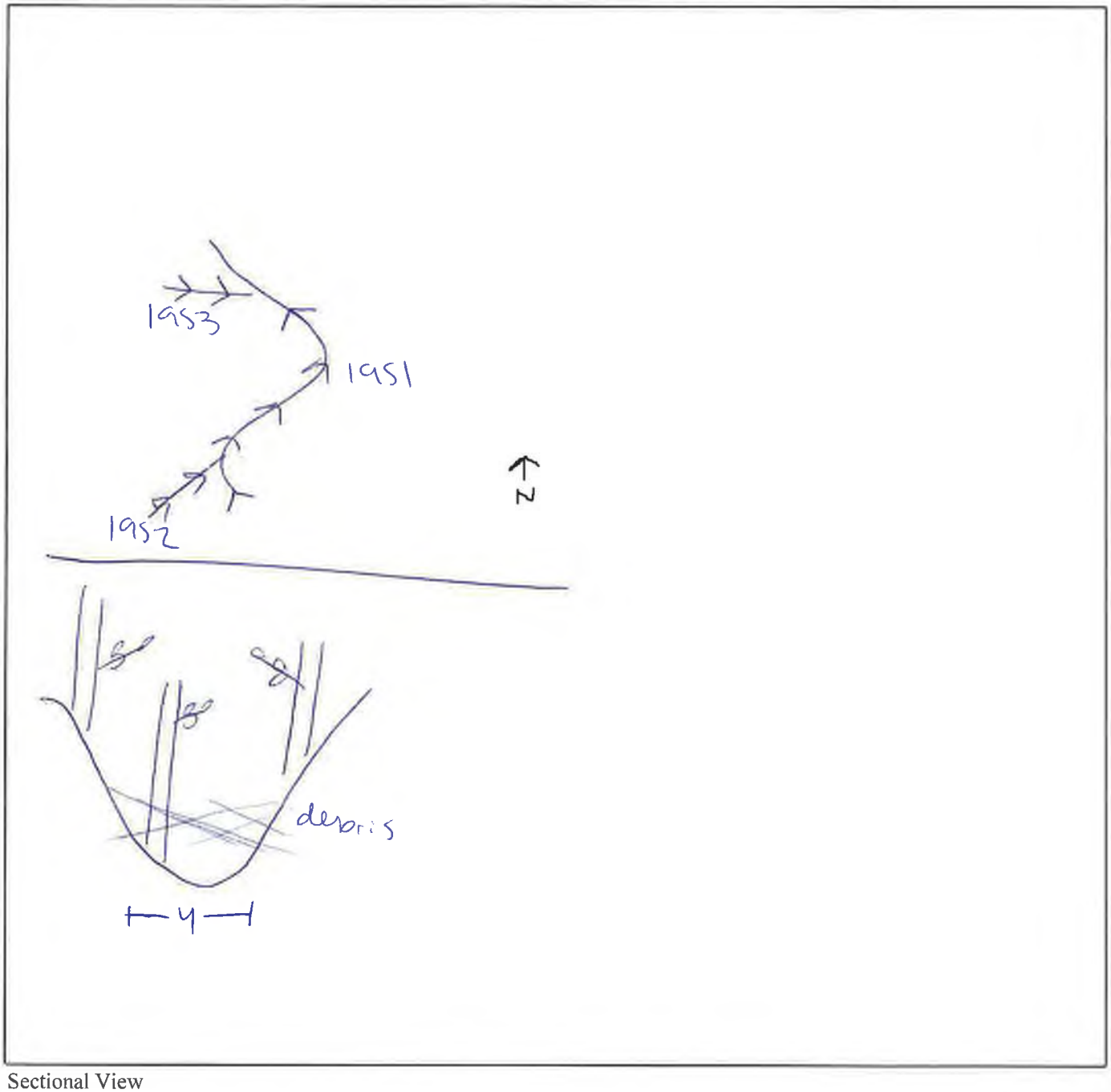
Water Feature 66

Stream Data Form #:
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 70
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Mike Keenan
Date of Field Work: November 11, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 70
Associated Wetland(s): Water Feature 69
Coordinates: 33.219704 -96.720286

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Vegetated along banks
Stream Flow Direction: North
OHWM Width (ft): 6 OHWM Height (in): 4
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Frogs and snakes

Riparian Vegetation: List species observed.

American elm (Ulmus americana), chinquapin oak (Quercus muehlenbergii), black willow (Salix nigra), virginia wildrye (Elymus virginicus)

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

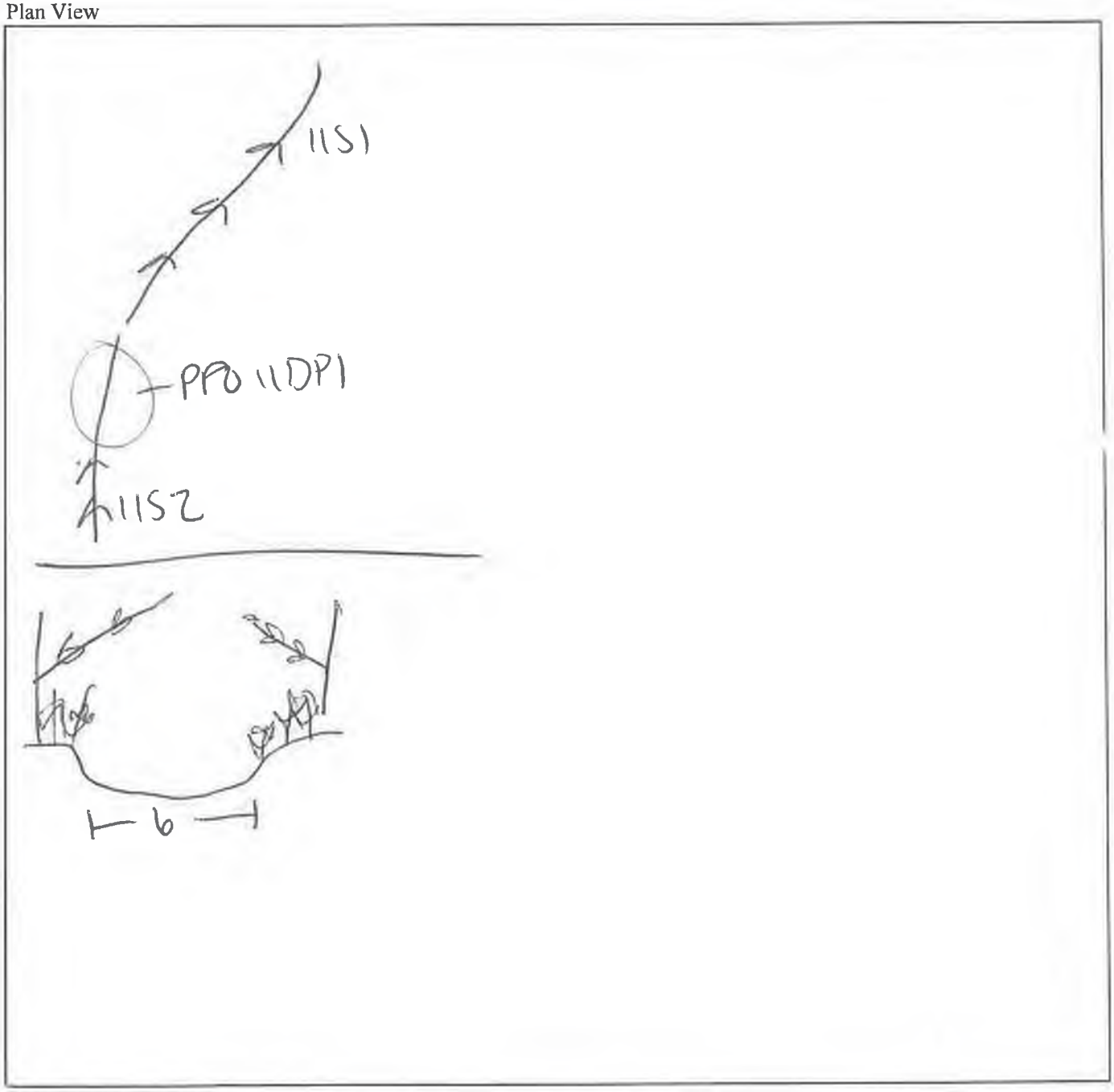
None

Stream Data Form #: Water Feature 70
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 79
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 79
Associated Wetland(s): Water Feature 80
Coordinates: 33.218511 -96.715132

Stream Type: Ephemeral
Characteristics: Drainage from culvert to W-6
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Shallow channel with root bound banks
Stream Flow Direction: Northeast
OHWM Width (ft): 2
OHWM Height (in): 1

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☑ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) Flowing due to current precipitation

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

American elm (Ulmus americana), pecan (Carya illinoinensis), and eastern red cedar (Toxicodendron radicans), chinese privet (Ligustrum inense), green ash (Fraxinus pennsylvanica), common persimmon (Diospyros virginiana), sugarberry (Celtis laevigata), eastern cottonwood (Populus deltoides), osage orange (Maclura pomifera)

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

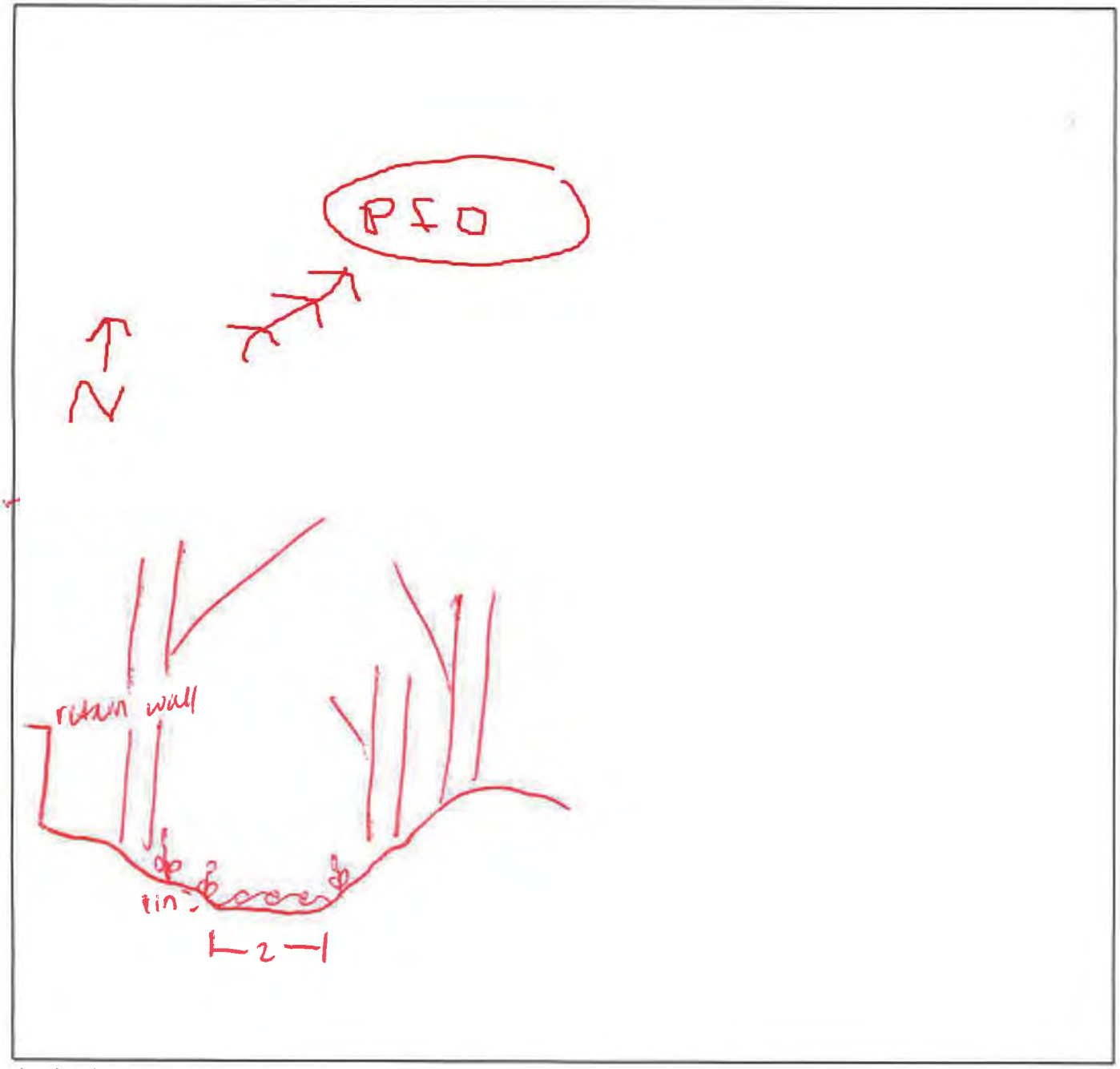
None

Stream Data Form #: Water Feature 79
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 82
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 82
Associated Wetland(s): Water Feature 80
Coordinates: 33.218142 -96.714180

Stream Type: Ephemeral Characteristics: Shallow channel
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 2 OHWM Height (in): 1
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

American elm (Ulmus americana), pecan (Carya illinoinensis), and eastern red cedar (Toxicodendron radicans), chinese privet (Ligustrum inense), green ash (Fraxinus pennsylvanica), common persimmon (Diospyros virginiana), sugarberry (Celtis laevigata), eastern cottonwood (Populus deltoides), osage orange (Maclura pomifera)

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

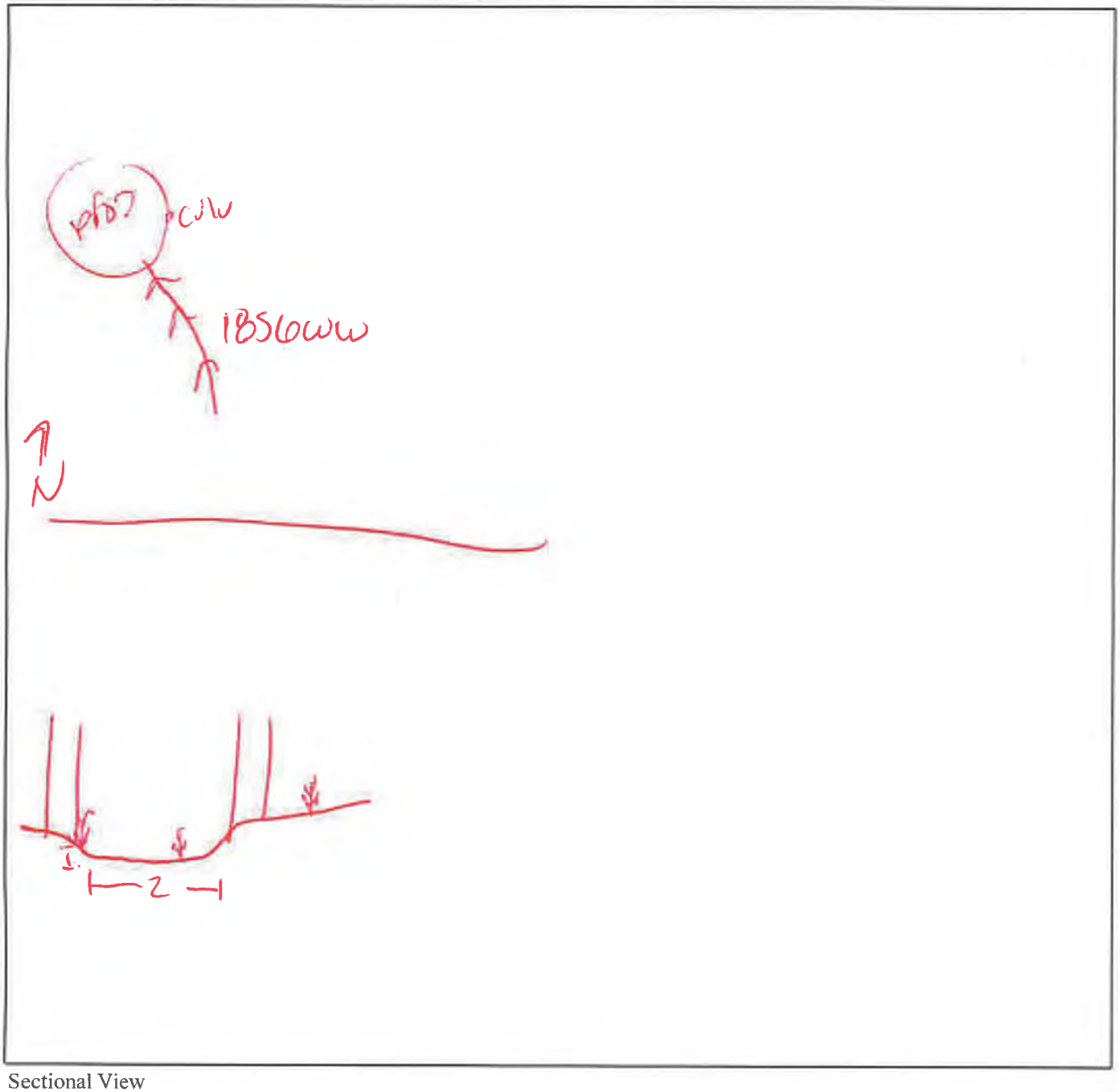
None

Stream Data Form #: Water Feature 82
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 84
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 84
Associated Wetland(s): Water Feature 80
Coordinates: 33.218770 -96.714366

Stream Type: Ephemeral Characteristics: Highly modified stream channel.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Riprap lines banks.
Stream Flow Direction: North
OHWM Width (ft): 10 OHWM Height (in): 12
Stream Bottom composition:

- ☐ Silts ☑ Cobbles ☑ Concrete ☑ Other: rip rap
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☐ Overhanging trees/shrubs ☐ Deep pool/ hole/ channel ☑ Other: None

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 ☐ Oily film ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Frogs and snakes

Riparian Vegetation: List species observed.

American elm (Ulmus americana), pecan (Carya illinoinensis), cedar elm (Ulmus crassifolia), great ragweed (Ambrosia trifida), fringed green brier (Smilax bona-nox), eastern poison ivy (Toxicodendron radicans)

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

None

Water Feature 84

Stream Data Form #:
Project Name: US 380
CSJ 0135-02-065 0135-15-002

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

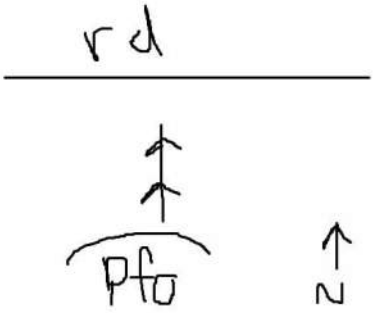
* Observed after extremely heavy local rainfall event.
* human modified stream bed lining

1 ft

25° slope

cobble, rip rap

ewid - ft



Sectional View

Stream Data Form #: Water Feature 85
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert, Mike Keenan
Date of Field Work: June 28, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 85
Associated Wetland(s): Water Feature 80
Coordinates: 33.219863 -96.713211

Stream Type: Ephemeral Characteristics: Highly eroded and steep banks
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Northeast
OHWM Width (ft): 4 OHWM Height (in): 24
Stream Bottom composition:

- ☑ Silts ☑ Cobbles ☑ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☑ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

bermudagrass (Cynodon dactylon), American elm (Ulmus americana), shumard oak (Quercus shumardii), eastern red cedar (Juniperus virginiana), sugarberry (Celtis laevigata), pecan (Carya illinoinensis), tall false rye grass (Schedonorus arundinaceus) fringed green brier (Smilax bona-nox), eastern poison ivy (Toxicodendron radicans)

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

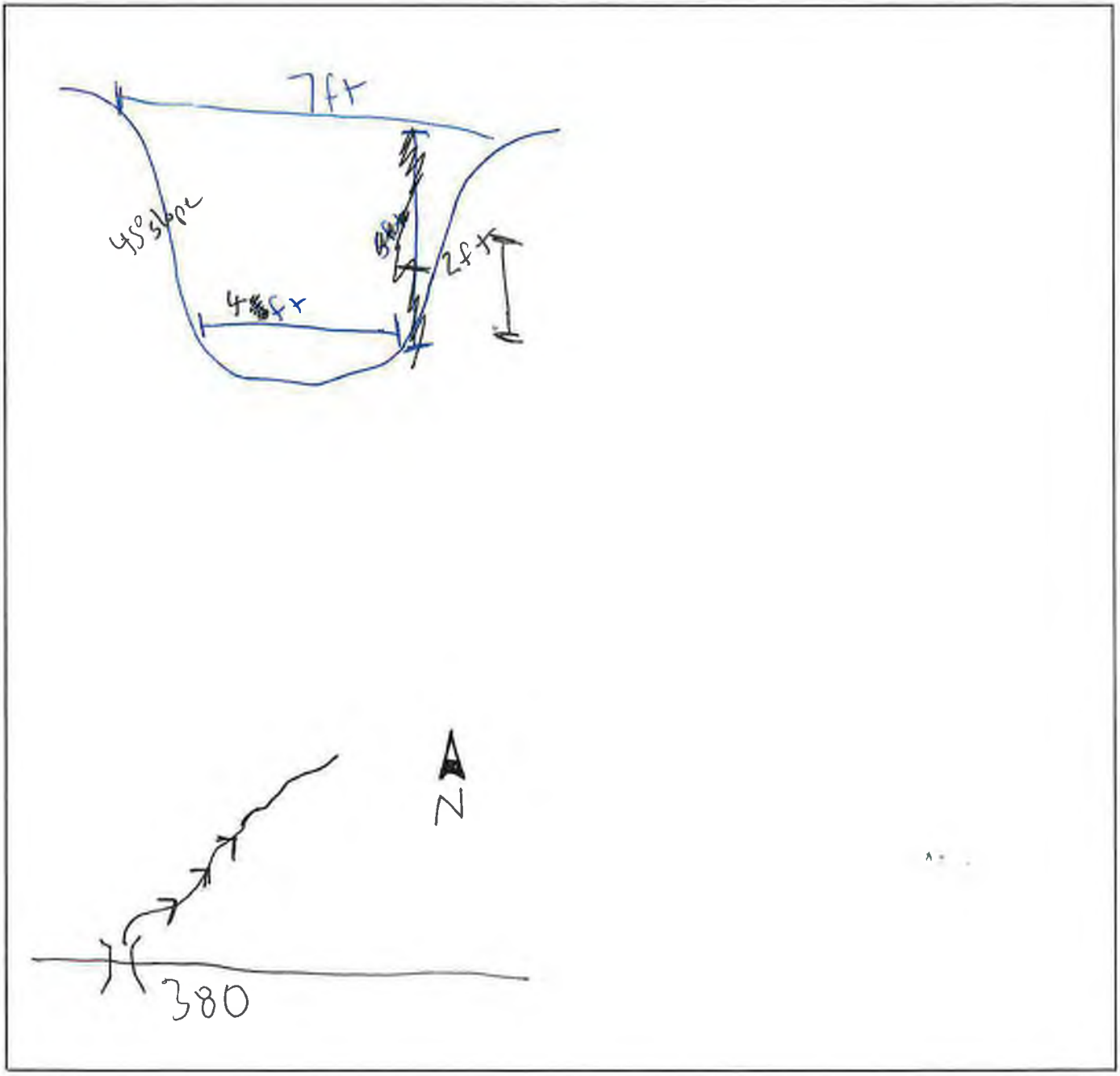
None

Stream Data Form #: Water Feature 85
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 87
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert, Mike Keenan
Date of Field Work: June 28, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 87
Associated Wetland(s): None
Coordinates: 33.219904 -96.712183

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Banks stabilized with sod forming grasses
Stream Flow Direction: North
OHWM Width (ft): 3 OHWM Height (in): 17
Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [x] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [x] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] 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:

- [x] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

None

Riparian Vegetation: List species observed.

bermudagrass (Cynodon dactylon), American elm (Ulmus americana), shumard oak (Quercus shumardii), eastern red cedar (Juniperus virginiana), sugarberry (Celtis laevigata), pecan (Carya illinoinensis), tall false rye grass (Schedonorus arundinaceus) fringed green brier (Smilax bona-nox), eastern poison ivy (Toxicodendron radicans)

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

None

Water Feature 87

Stream Data Form #:

Project Name: US 380

CSJ: 0135-02-065 0135-15-002

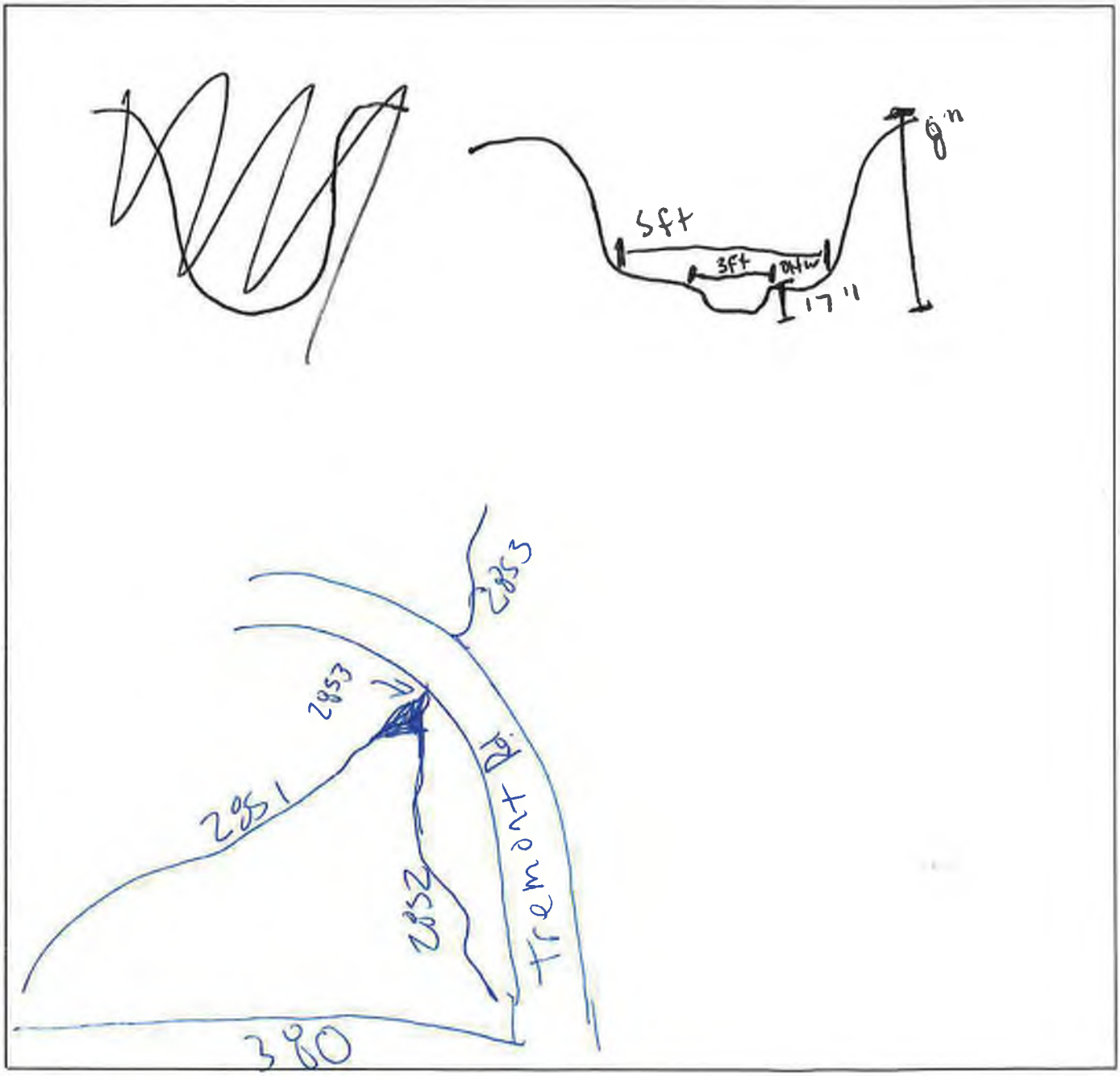
Stream Data Form (continued)

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



Sectional View

Stream Data Form #: Water Feature 88
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert, Mike Keenan
Date of Field Work: June 28, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 88
Associated Wetland(s): None
Coordinates: 33.219525 -96.711963

Stream Type: Ephemeral
Characteristics: Erosion is sections and concert debris within stream channel
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Steep banks
Stream Flow Direction: North
OHWM Width (ft): 2
OHWM Height (in): 11
Stream Bottom composition:

- ☑ Silts
- ☑ Cobbles
- ☑ Concrete
- ☐ Other:
- ☐ Sands
- ☐ Bedrock
- ☐ Muck
- ☑ Gravel
- ☑ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Crayfish, frogs, little fish

Riparian Vegetation: List species observed.

bermudagrass (Cynodon dactylon), American elm (Ulmus americana), shumard oak (Quercus shumardii), eastern red cedar (Juniperus virginiana), sugarberry (Celtis laevigata), pecan (Carya illinoinensis), tall false rye grass (Schedonorus arundinaceus) fringed green brier (Smilax bona-nox), eastern poison ivy (Toxicodendron radicans)

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

None

Water Feature 88

Stream Data Form #:
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

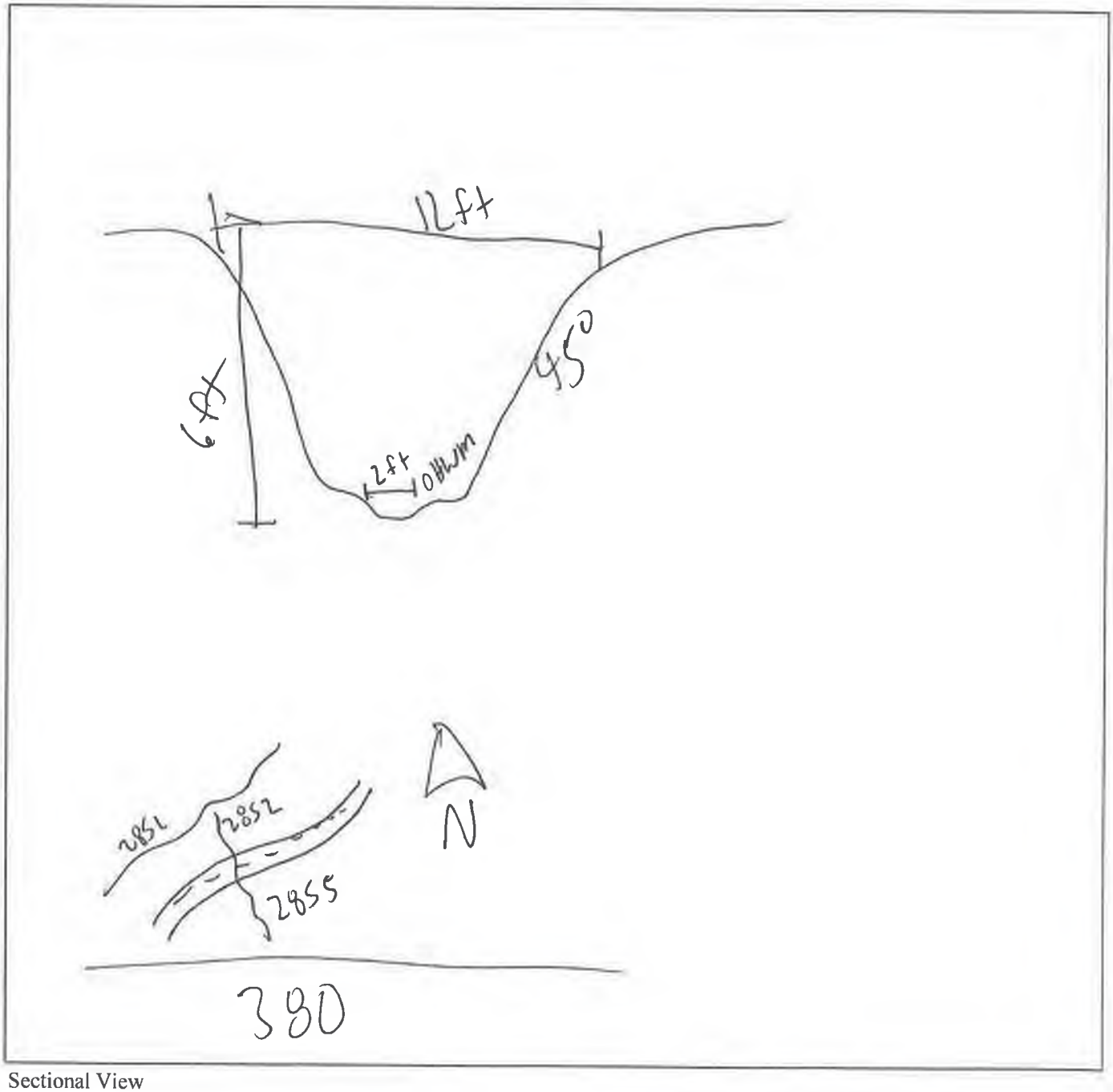
US 380

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



Sectional View

Stream Data Form #: Water Feature 89
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler
Date of Field Work: August 18, 021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 89
Associated Wetland(s): Water Feature 91
Coordinates: 33.218792 -96.711595

Stream Type: Ephemeral
Characteristics: Current precipitation during delineation.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Banks stabilized by vegetation and man made structures
Stream Flow Direction: North
OHWM Width (ft): 3
OHWM Height (in): 12

Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [x] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [x] Gravel
- [x] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [ ] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

None

Riparian Vegetation: List species observed.

American elm (Ulmus americana), cedar elm (Ulmus crassifolia), fringed green brier (Smilax bona-nox), black willow (Salix nigra)

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

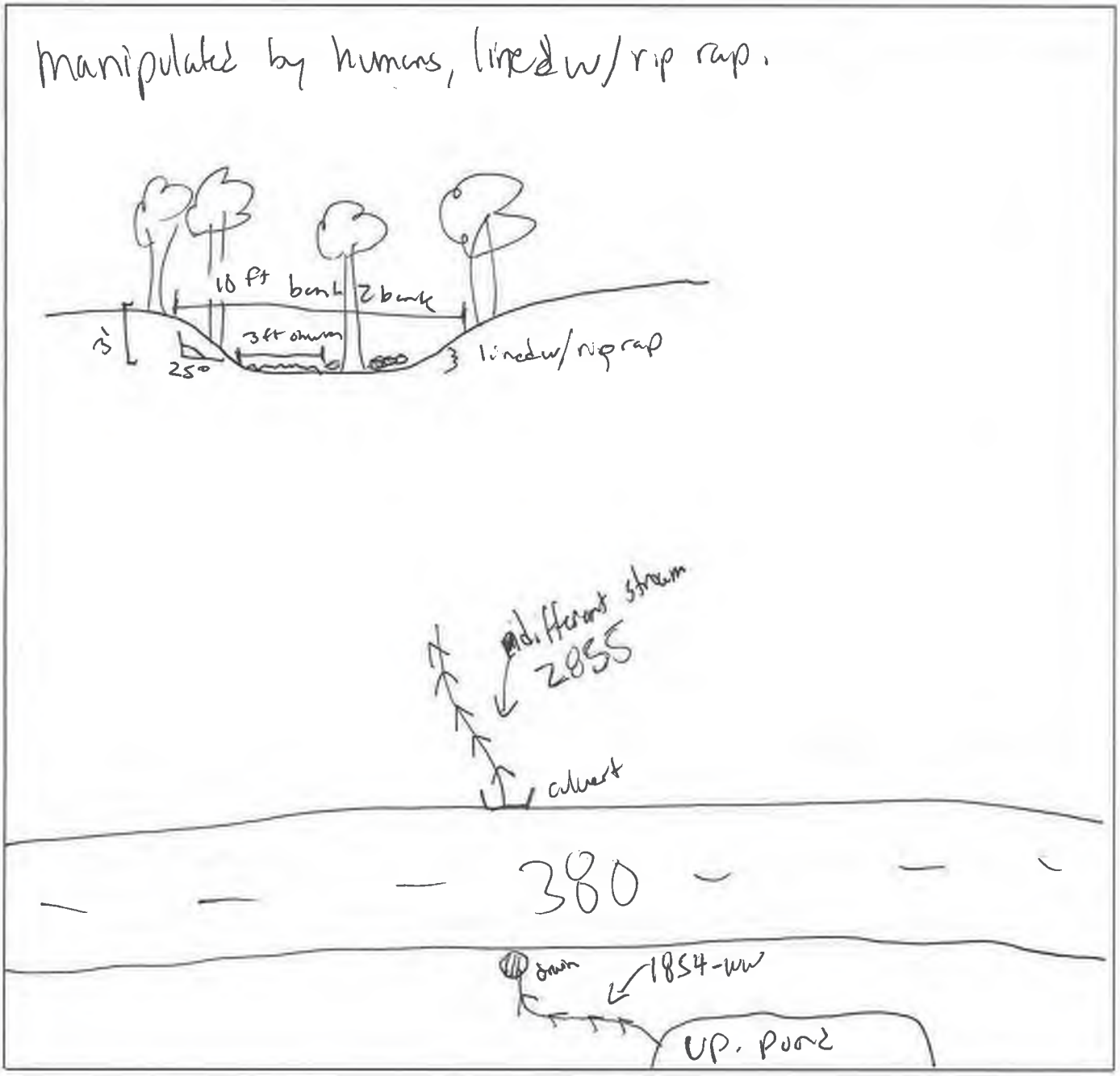
None

Stream Data Form #: Water Feature 89
Project Name: US 380
CSJ: 0135-15-002 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 92
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert, Mike Keenan
Date of Field Work: June 28, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 92
Associated Wetland(s): None
Coordinates: 33.221653 -96.710545

Stream Type: Intermittent
Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Banks stabilized with sod forming grasses
Stream Flow Direction: East
OHWM Width (ft): 5
OHWM Height (in): 17
Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [x] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [x] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [x] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [x] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] 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:

- [x] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

Crayfish, frogs, little fish

Riparian Vegetation: List species observed.

bermudagrass (Cynodon dactylon), American elm (Ulmus americana), shumard oak (Quercus shumardii), eastern red cedar (Juniperus virginiana), sugarberry (Celtis laevigata), pecan (Carya illinoinensis), tall false rye grass (Schedonorus arundinaceus) fringed green brier (Smilax bona-nox), eastern poison ivy (Toxicodendron radicans)

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

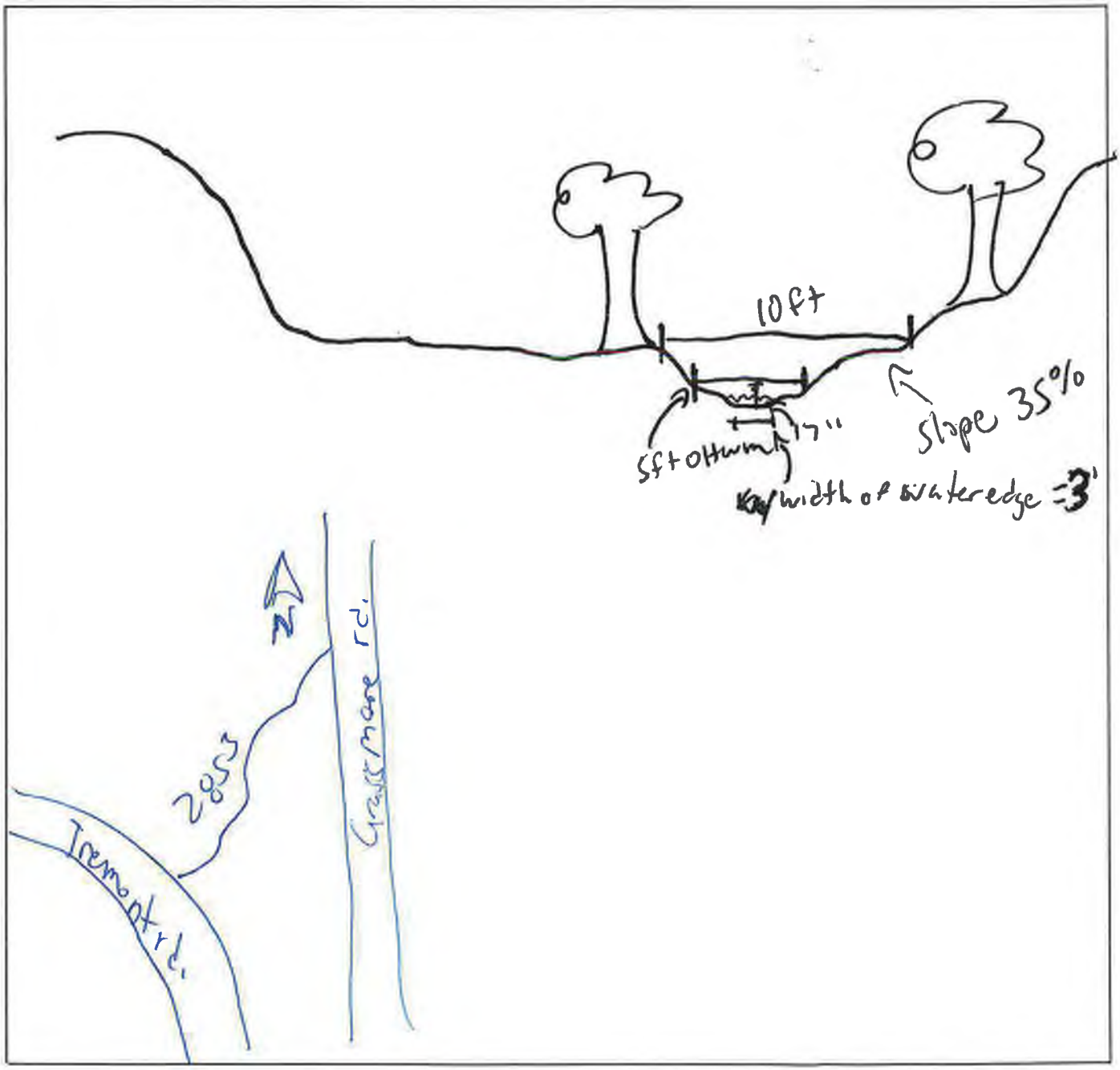
None

Stream Data Form #: Water Feature 92
Project Name: US 380
CSJ: 0135-02-065 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 94
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan
Date of Field Work: January 19, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 94
Associated Wetland(s): None
Coordinates: 33.218160 -96.704640

Stream Type: Intermittent
Characteristics: Appears banks are influenced by surrounding development
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 8
OHWM Height (in): 12
Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [x] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [x] Turbid
- [ ] Very Turbid
- [ ] 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.

Black willow (Salix nigra), eastern red cedar (Juniperus virginiana), greenbriar (Smilax bona-nox), giant ragweed (Ambrosia

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

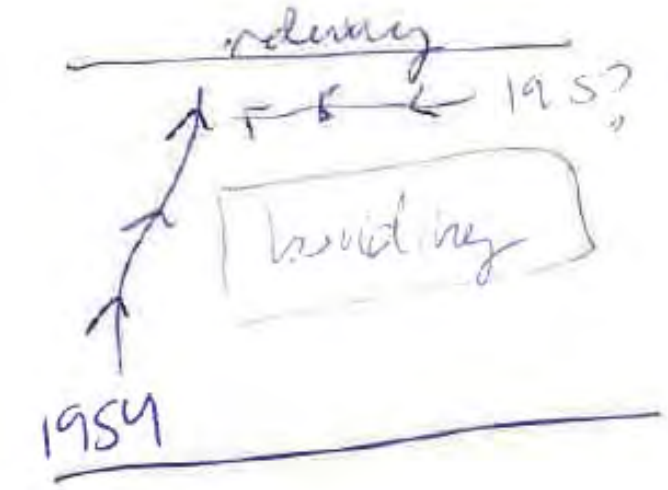
None

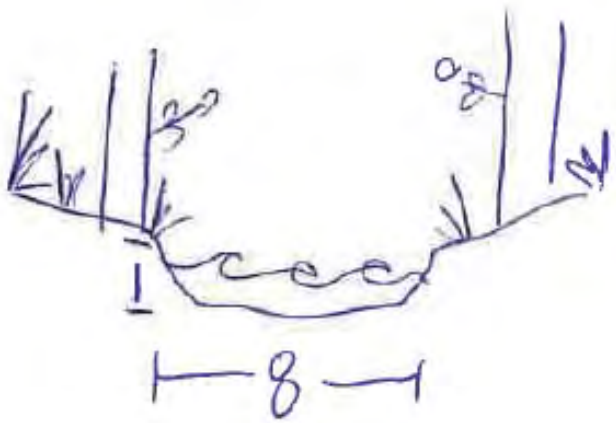
Stream Data Form #: Water Feature 94
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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





Sectional View

Stream Data Form #: Water Feature 100
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Mike Keenan and Ethan Eichler
Date of Field Work: September 16, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 100
Associated Wetland(s): Water Feature 99
Coordinates: 33.223528 -96.705798

Stream Type: Intermittent
Characteristics: Anthropologically created drainage
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Minimal bank erosion
Stream Flow Direction: Northeast
OHWM Width (ft): 5
OHWM Height (in): 6

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None

Riparian Vegetation: List species observed.

greenbriar (Smilax bona-nox), cedar elm (Ulmus crassifolia), american elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans)

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

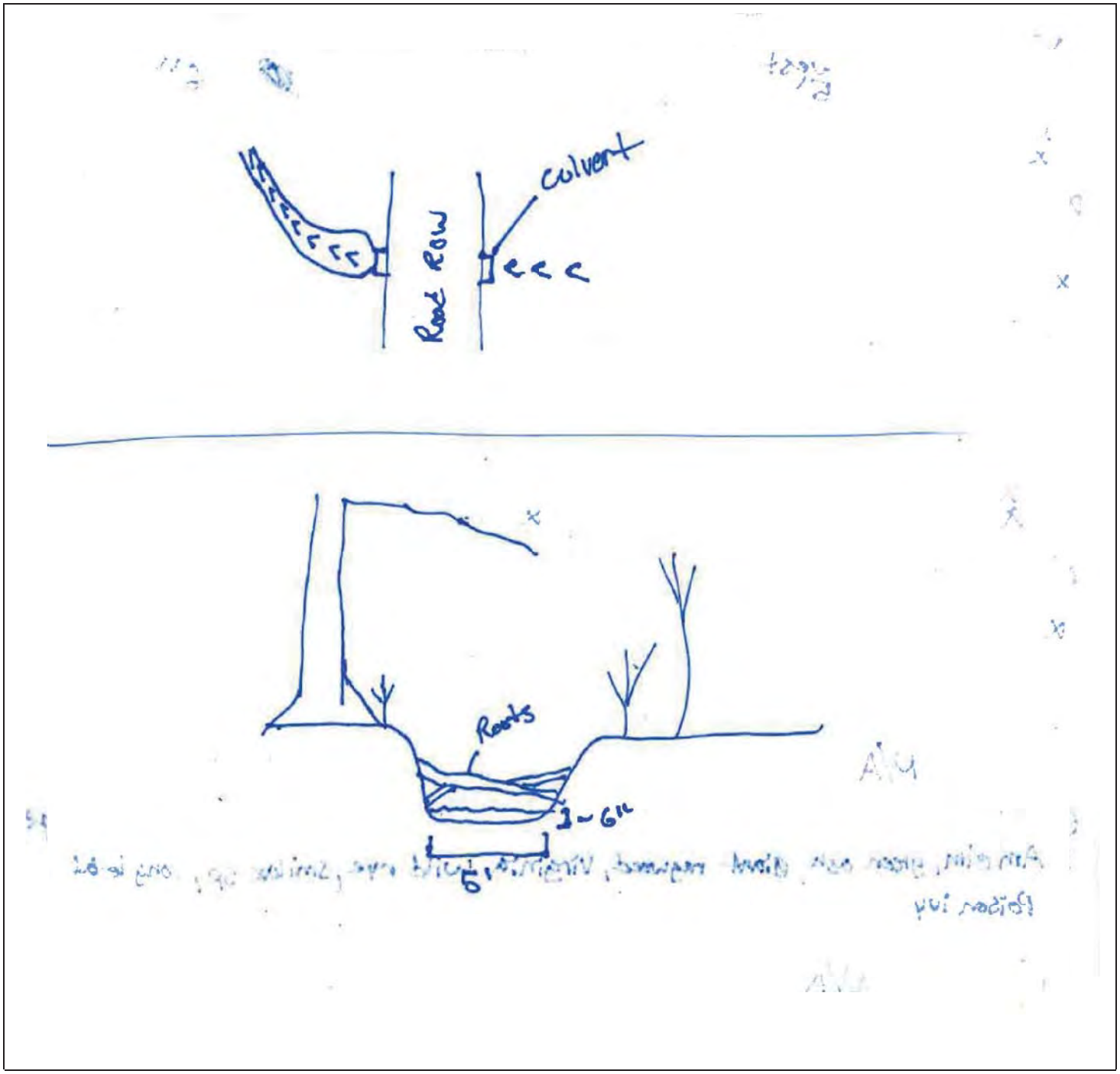
None

Stream Data Form #: Water Feature 100
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 101
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Mike Keenan and Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 101
Associated Wetland(s): None
Coordinates: 33.223483 -96.705110

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Minimal bank erosion
Stream Flow Direction: East
OHWM Width (ft): 7 OHWM Height (in): 4
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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.

None

Riparian Vegetation: List species observed.

greenbriar (Smilax bona-nox), cedar elm (Ulmus crassifolia), american elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans)

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

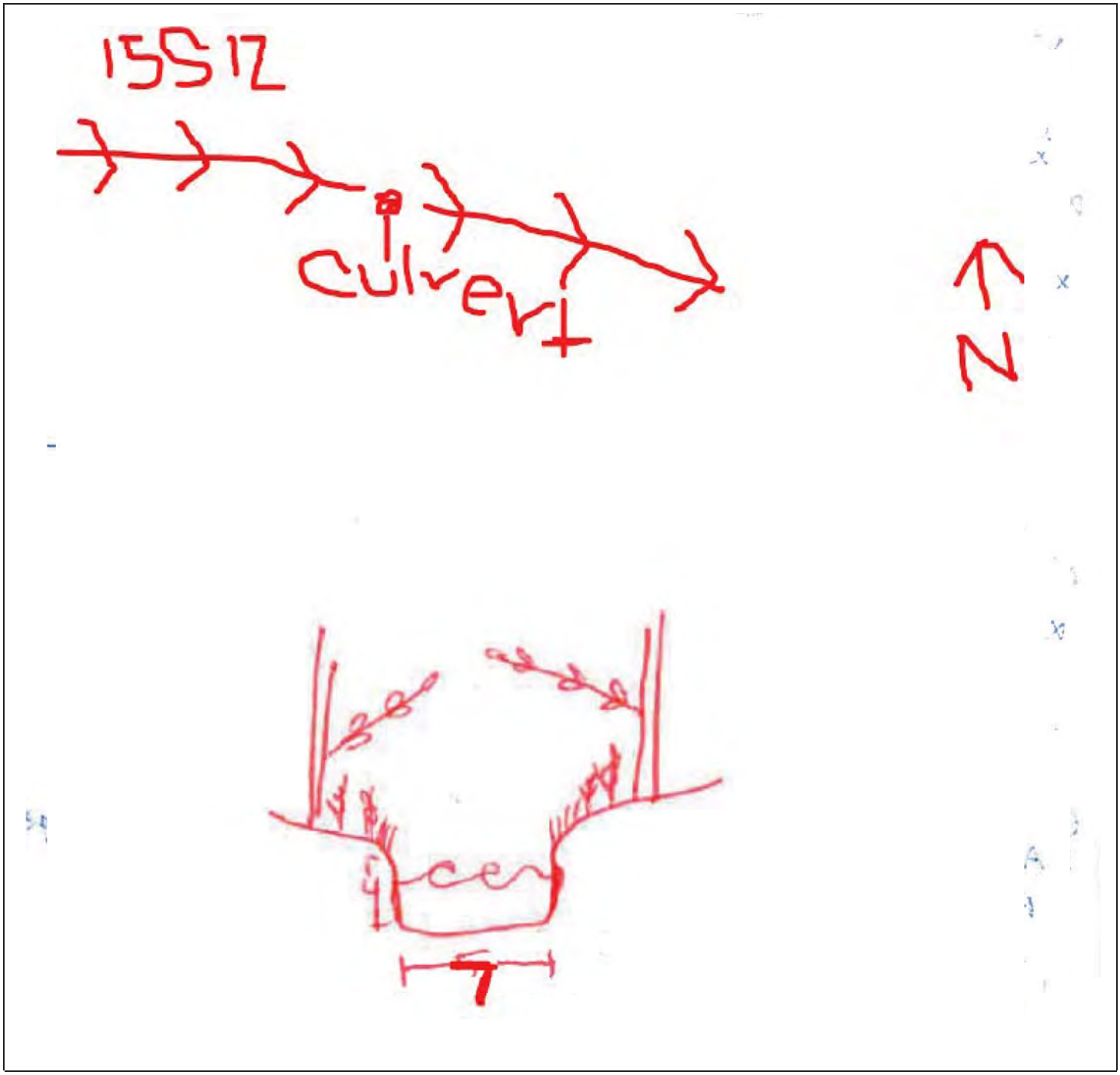
None

Stream Data Form #: Water Feature 101
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 102
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Mike Keenan and Ethan Eichler
Date of Field Work: September 16, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 102
Associated Wetland(s): None
Coordinates: 33.223098 -96.706252

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 2 OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) Water flow likely from recent precipitation

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

greenbriar (Smilax bona-nox), cedar elm (Ulmus crassifolia), american elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans)

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

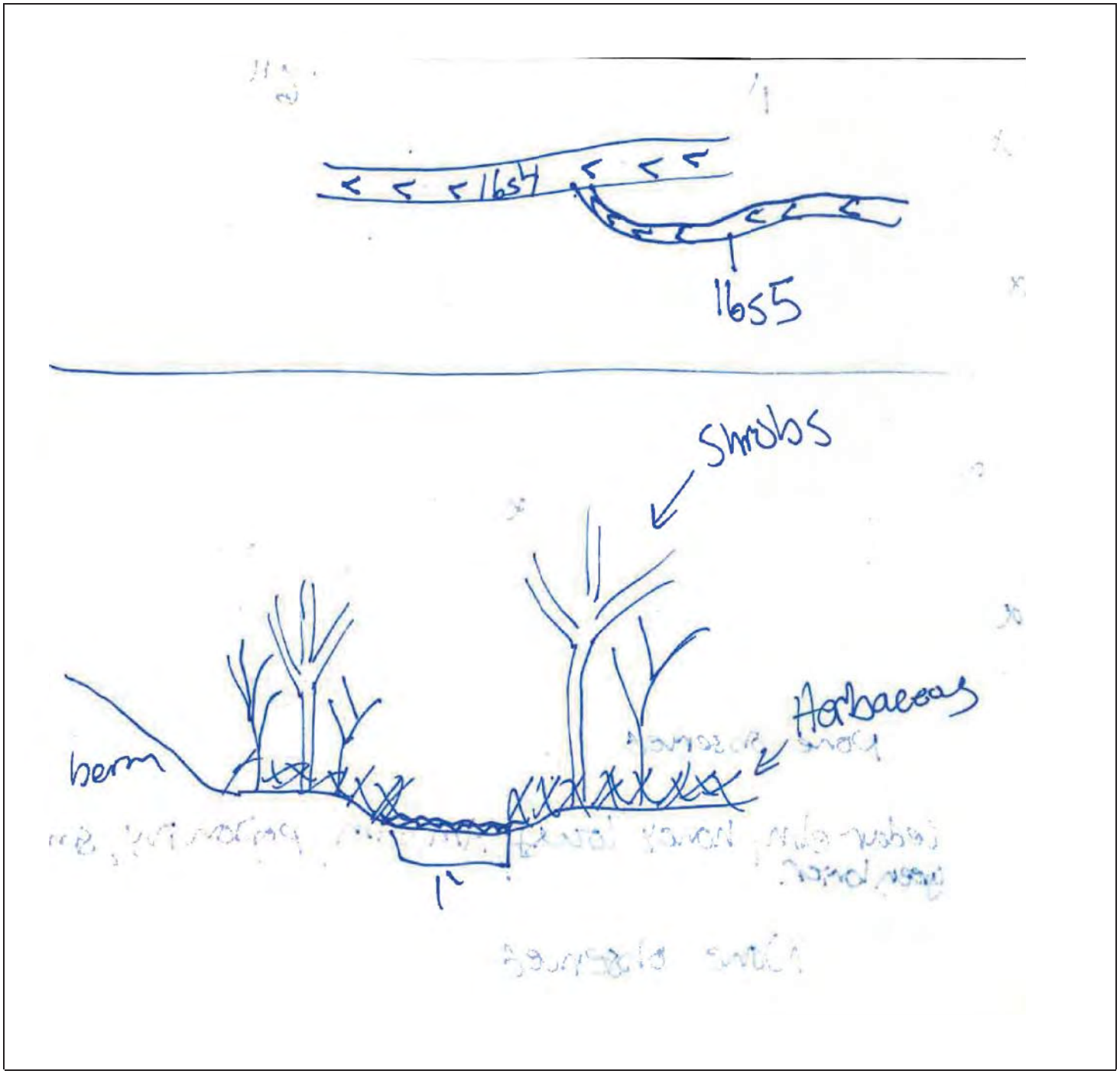
None

Stream Data Form #: Water Feature 102
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 104
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Mike Keenan and Ethan Eichler
Date of Field Work: September 16, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 104
Associated Wetland(s): None
Coordinates: 33.222946 -96.705536

Stream Type: Intermittent
Characteristics: Receives flow from adjacent ephemeral streams
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Shallow banks
Stream Flow Direction: Northeast
OHWM Width (ft): 2
OHWM Height (in): 8

Stream Bottom composition:

- ☑ Silts
- ☐ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None

Riparian Vegetation: List species observed.

greenbriar (Smilax bona-nox), cedar elm (Ulmus crassifolia), american elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans)

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

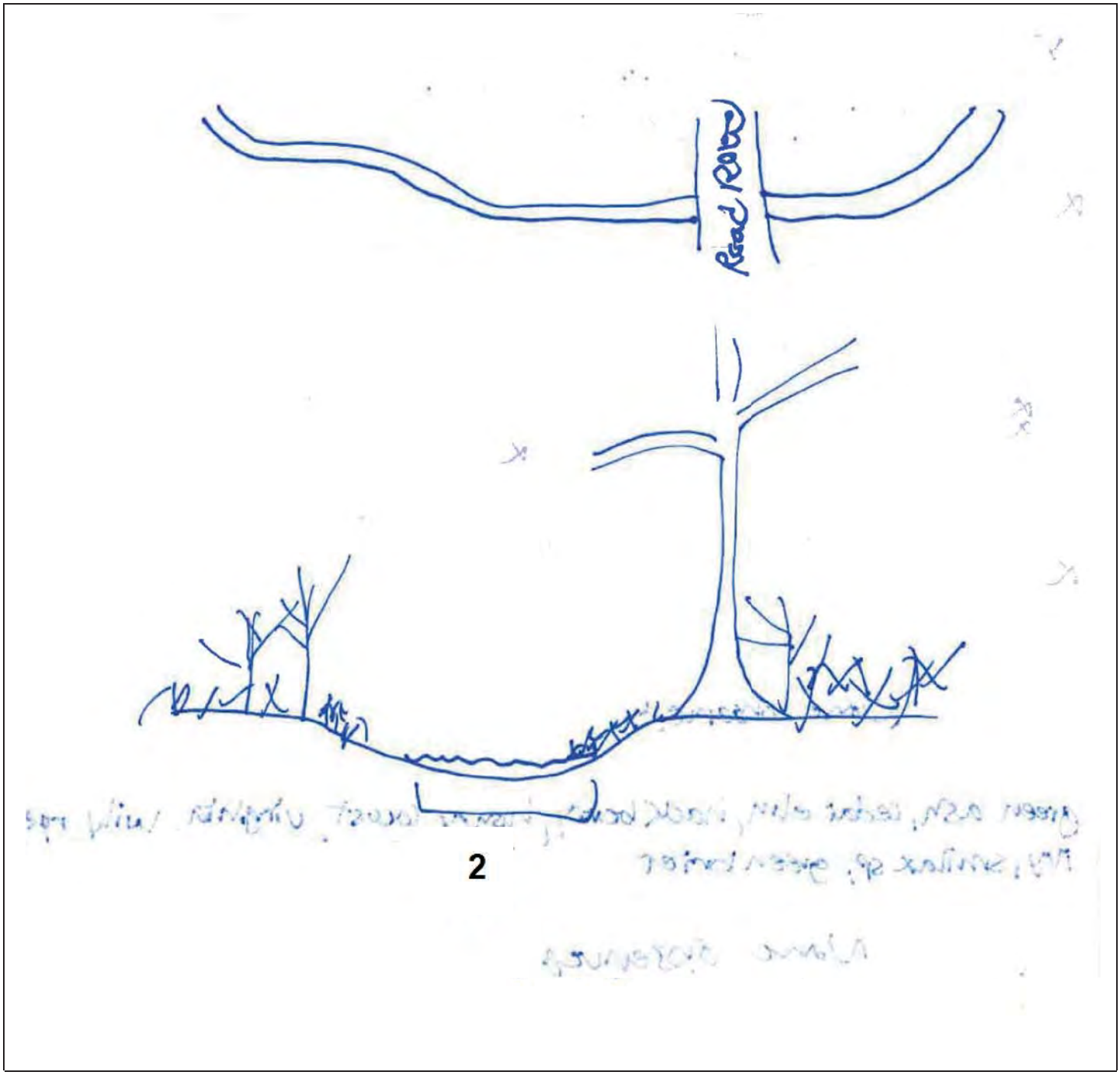
None

Stream Data Form #: Water Feature 104
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 105
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 105
Associated Wetland(s): Water Feature 99
Coordinates: 33.222974 -96.703370

Stream Type: Intermittent
Characteristics: Undercut banks
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 5
OHWM Height (in): 48
Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] 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
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [x] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [x] Turbid
- [ ] Very Turbid
- [ ] 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.

Snakes and frogs

Riparian Vegetation: List species observed.

Poison Ivy (Toxicodendron radicans), hackberry (Celtis laevigata), cedar elm (Ulmus crassifolia), pecan (Carya illinoinensis), Indian wood oats (Chasmanthium latifolium), and giant ragweed (Ambrosia trifida)

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

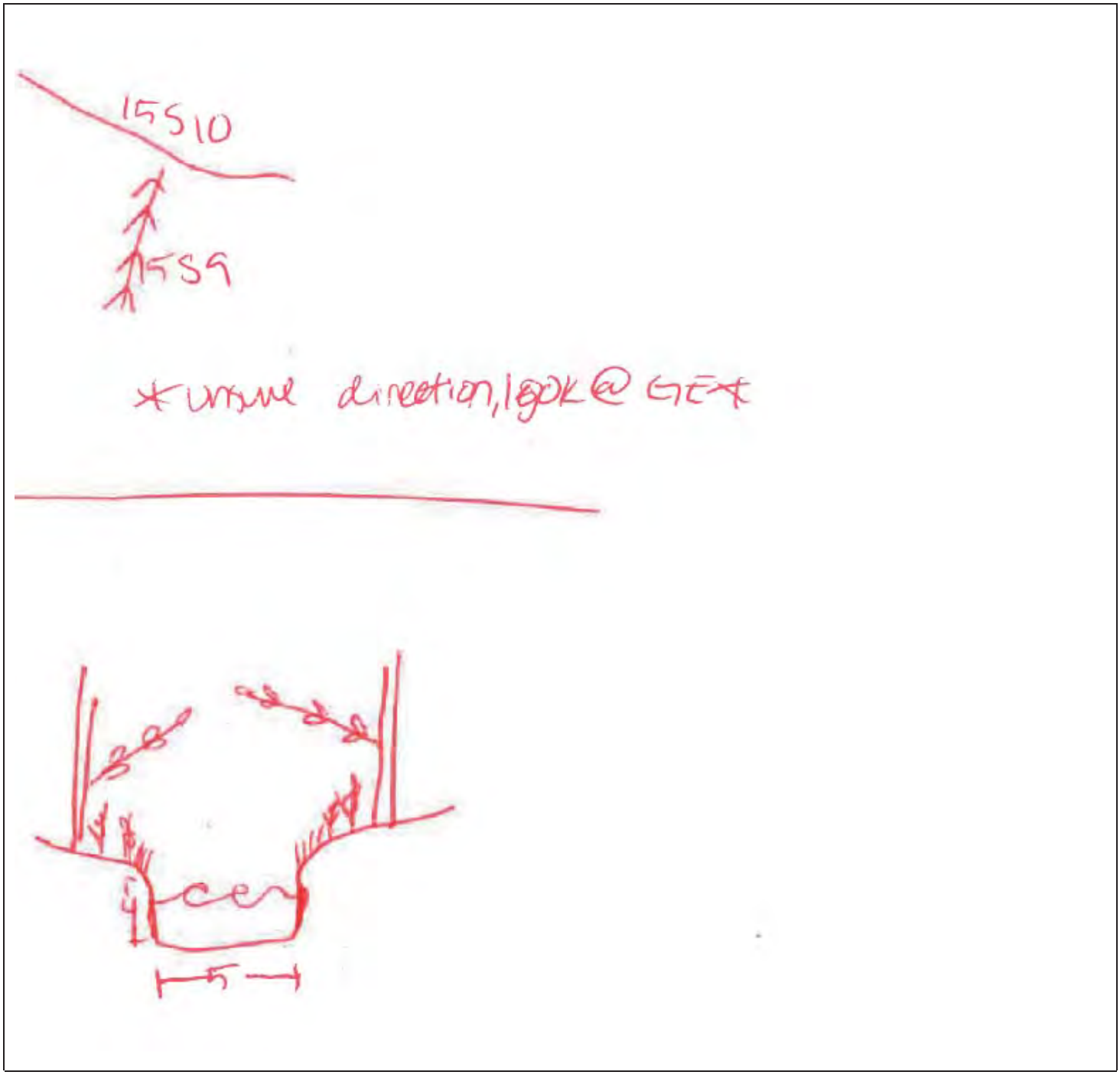
None

Stream Data Form #: Water Feature 105
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 107
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 107
Associated Wetland(s): None
Coordinates: 33.222551 -96.702711

Stream Type: Ephemeral Characteristics: Shallow seasonal stream
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 1 OHWM Height (in): 2
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Poison ivy (Toxicodendron radicans), trumpet creeper (Campsis radicans), hackberry (Celtis laevigata), honey locust (Gleditsia triacanthos), overcup oak (Quercus lyrata), American elm (Ulmus americana)

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

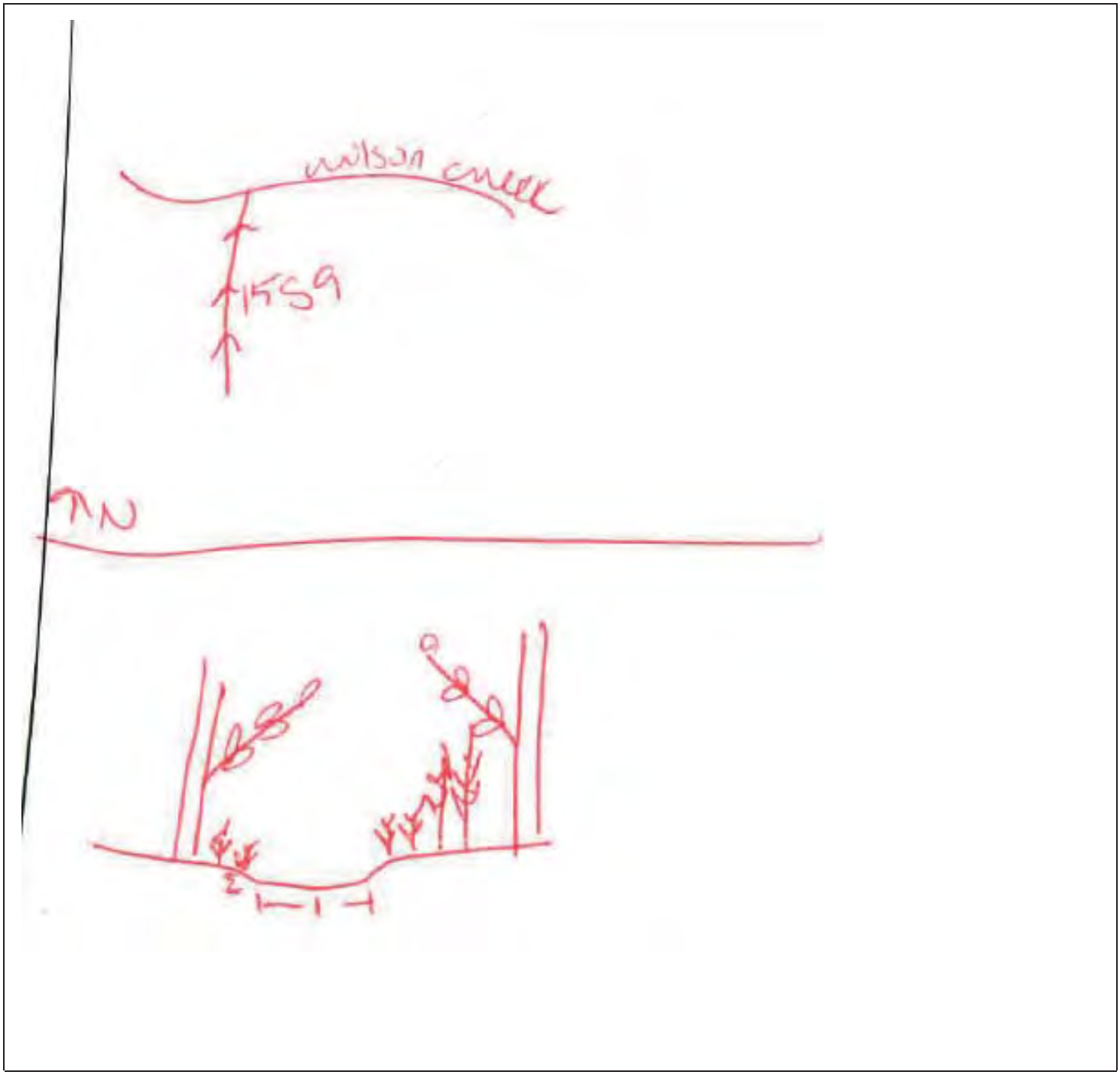
None

Stream Data Form #: Water Feature 107
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 110
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Wilson Creek
County/State: Collin County, TX
USGS Topo Quad Name: McKinney West
Stream Number: 110
Associated Wetland(s): Water Feature 109
Coordinates: 33.227634 -96.707633

Stream Type: Perennial
Characteristics: Steep with scour
Bank Stability (e.g. highly eroding, sloughing banks, etc.): High erosion, macrophytes, pebble beaches
Stream Flow Direction: East
OHWM Width (ft): 15
OHWM Height (in): 4

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☑ Cobbles
- ☑ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☑ 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.

Fish, frogs, snakes, aquatic insects

Riparian Vegetation: List species observed.

Poison ivy (Toxicodendron radicans), ash leaf maple (Acer negundo), American elm (Ulmus americana), green ash (Fraxinus pennsylvanica), hackberry (Celtis laevigata), Shumard oak (Quercus shumardii, pecan (Carya illinoinensis), mustang grape (Vitis mustangensis), greenbriar (Smilax bona-nox), in-stream algae

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

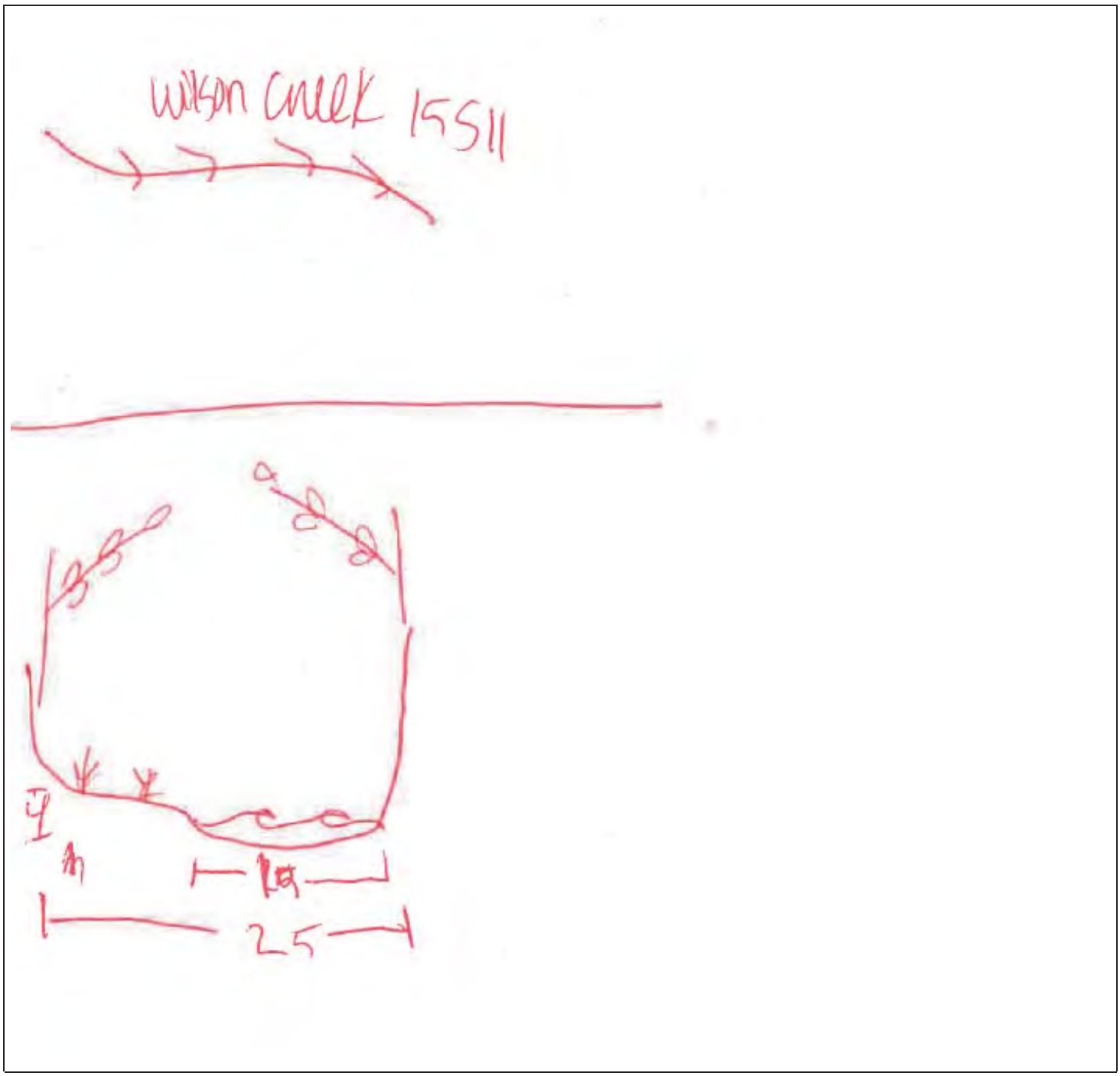
None

Stream Data Form #: Water Feature 110
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 113
Project Name: US 380
CSJ: 0135-15-002, 0135-02-065

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: September 16, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 113
Associated Wetland(s): None
Coordinates: 33.225064 -96.702941

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Established banks with silty substrate bottom
Stream Flow Direction: South
OHWM Width (ft): 6 OHWM Height (in): 3
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) Existing ponds of water are very turbid

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), Osage orange (Maclura pomifera), greenbriar (Smilax bona-nox), hackberry (Celtis laevigata)

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

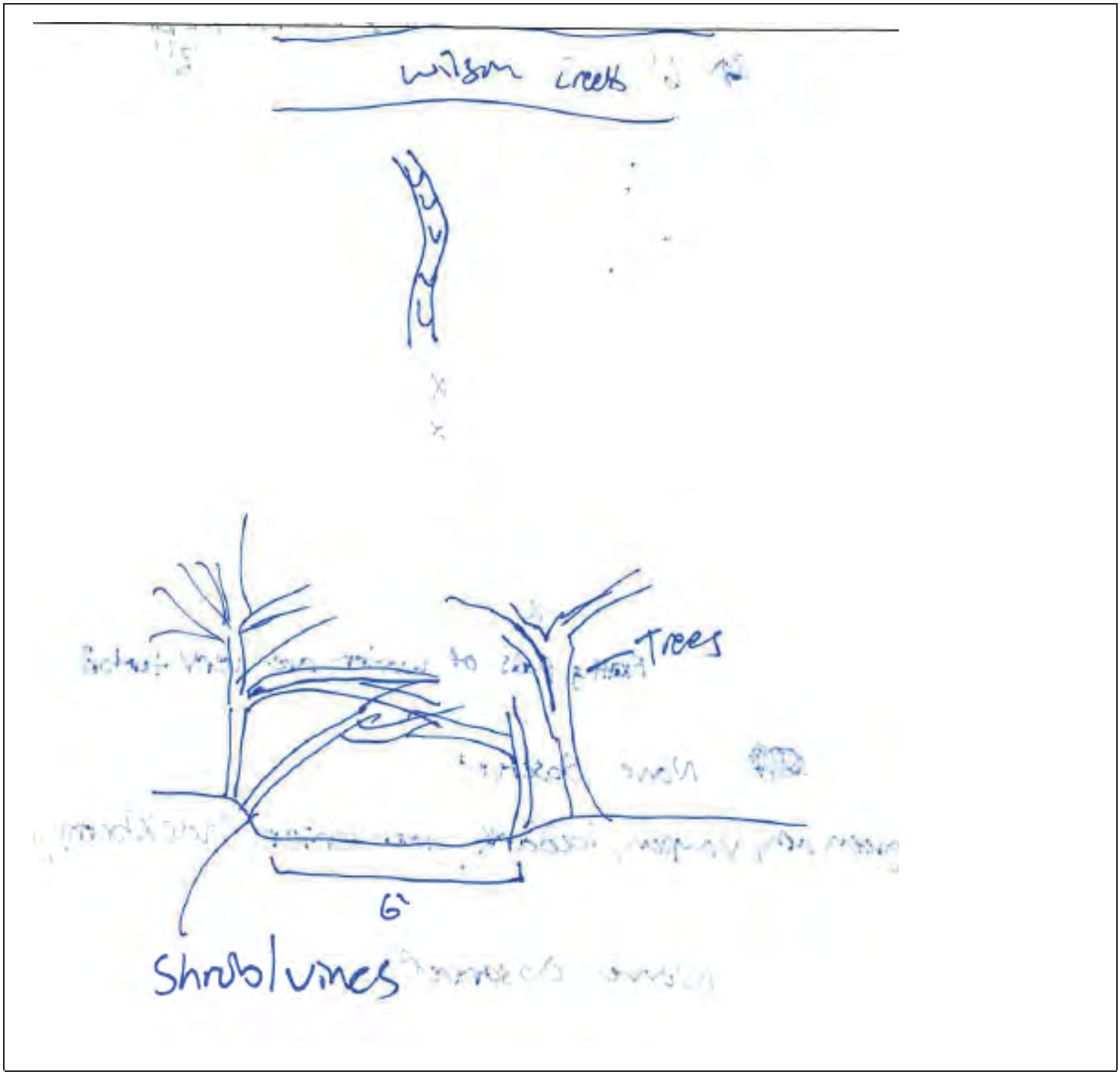
None

Stream Data Form #: Water Feature 113
Project Name: US 380
CSJ: 0135-15-002, 0135-02-065

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



Sectional View

Stream Data Form #: Water Feature 114
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: September 16, 2020
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 114
Associated Wetland(s): None
Coordinates: 33.225183 -96.703507

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Little to no incision
Stream Flow Direction: North
OHWM Width (ft): 6 OHWM Height (in): 3
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) Existing ponds of water are very turbid

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), Osage orange (Maclura pomifera), greenbriar (Smilax bona-nox), hackberry (Celtis laevigata)

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

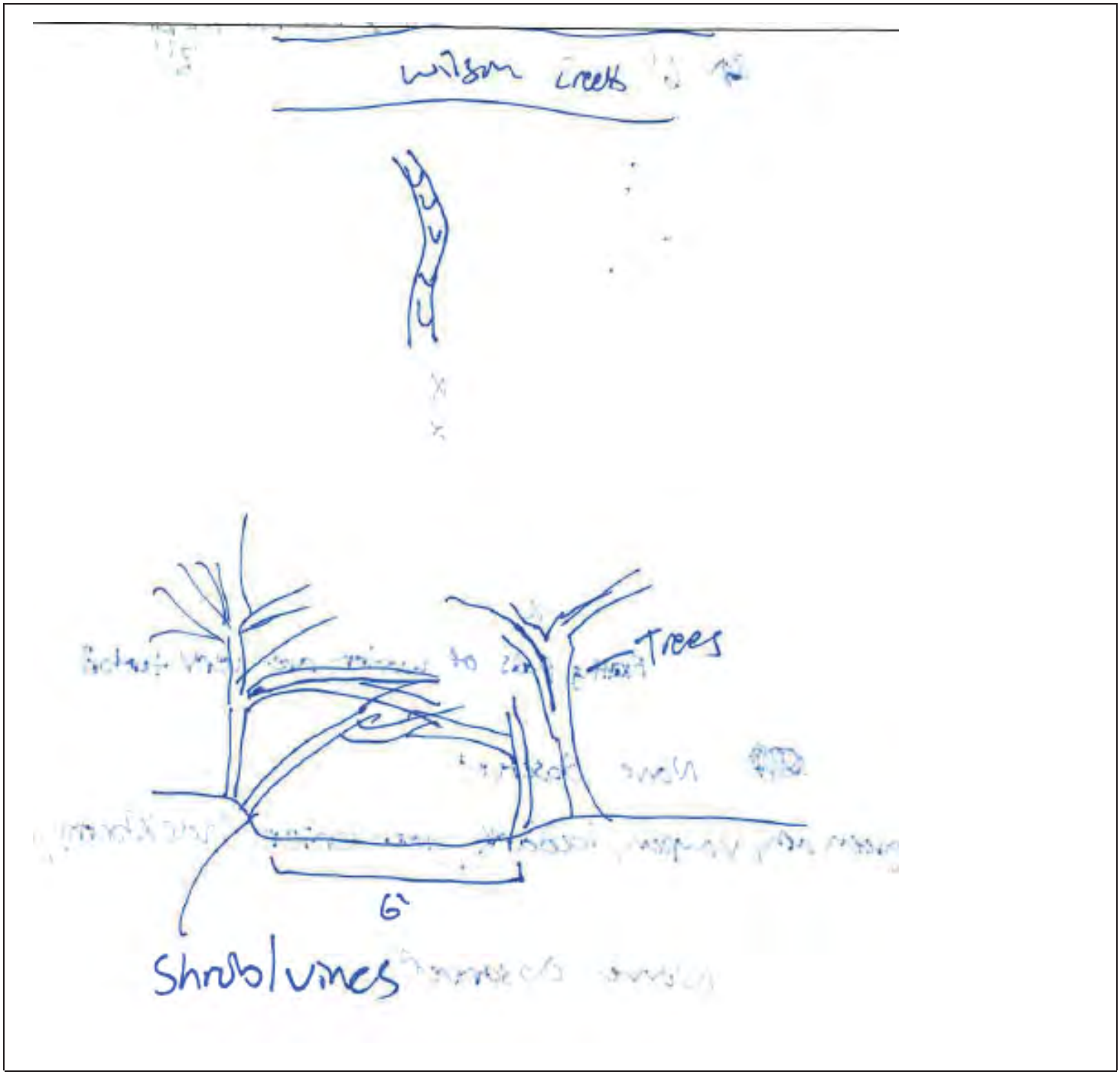
None

Stream Data Form #: Water Feature 114
Project Name: US 380
CSJ: 0135-02-065, 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 115
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Kathryn Burton
Date of Field Work: August 18, 2021
USGS Stream Name: Unnamed Tributary to Wilson Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 115
Associated Wetland(s): None
Coordinates: 33.226845 -96.702997

Stream Type: Ephemeral Characteristics: RIPARIAN IS UPL, FLOWS INTO WILSON CREEK
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 5 OHWM Height (in): 24
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☑ Other: Vegetation has been destroyed
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☑ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☐ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) Flowing from current precipitation

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Invertebrates, frogs

Riparian Vegetation: List species observed.

Japanese privet (Ligustrum japonicum), Carolina buckthorn (Frangula caroliniana), American elm (Ulmus americana), Cedar elm (Ulmus crassifolia), Chinquapin oak (Quercus muehlenbergii), hackberry (Celtis laevigata), yaupon (Ilex vomitoria), knotting wild rye (Elymus canadensis), green ash (Fraxinus pennsylvanica), southern red oak (Quercus falcata variation)

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

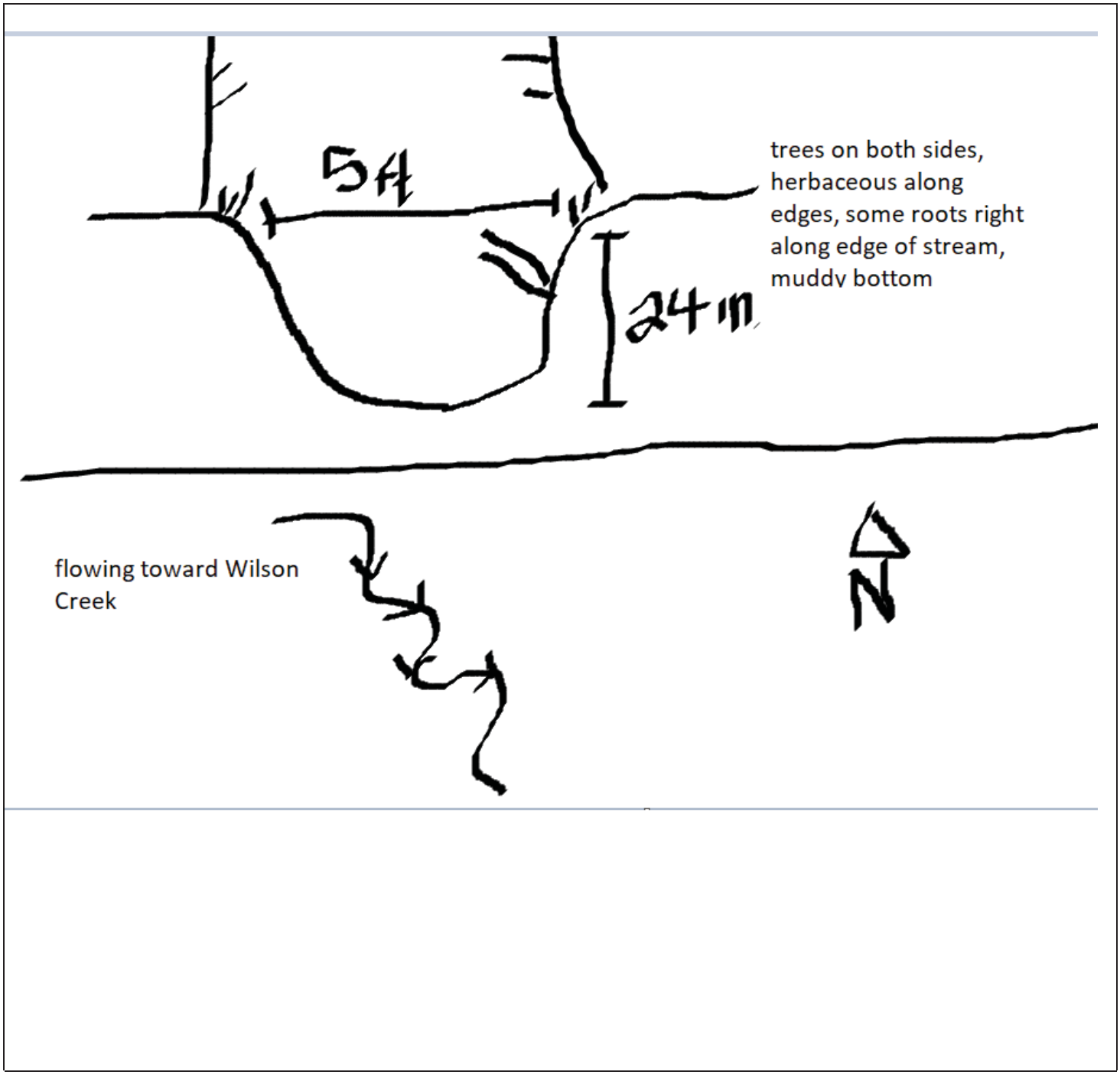
NA

Stream Data Form #: Water Feature 115
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 119
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Unnamed Tributary to Stover Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 119
Associated Wetland(s): Water Feature 118
Coordinates: 33.234522 -96.703800
Hydrology flows into pond to the east.

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 2 OHWM Height (in): 6
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) Dry

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None.

Riparian Vegetation: List species observed.

False daisy (Eclipta prostrata), love-in-a-puff (Cardiospermum halicacabum), American elm (Ulmus americana), pecan (Carya illinoinensis)

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

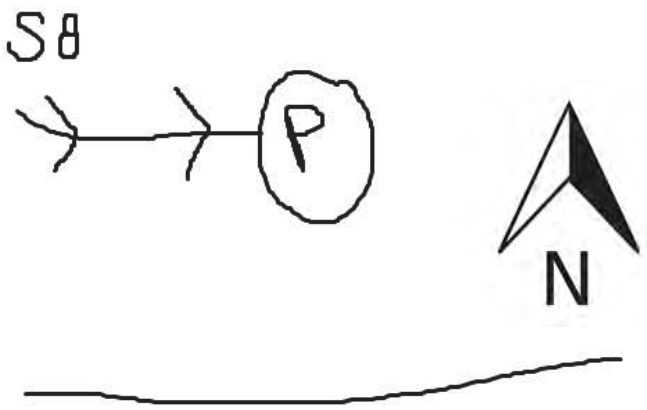
None.

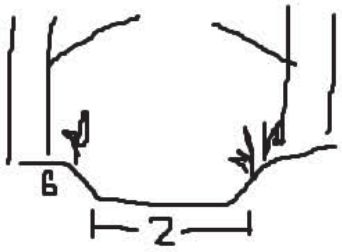
Stream Data Form #: Water Feature 119
Project Name: US 380
CSJ: 0135-15-002

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





Sectional View

Stream Data Form #: Water Feature 127
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan
Date of Field Work: December 22, 2020
USGS Stream Name: Unnamed Tributary to Rutherford Bra
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 127
Associated Wetland(s): Water Feature 126
Coordinates: 33.225258 -96.743963

Stream Type: Intermittent Characteristics: Varying widths
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 6 OHWM Height (in): 12
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [x] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] 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
- [x] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

Gren ash (Fraxinus pennsylvanica), Eastern red cedar (Juniperus virginiana), cedar elm (Ulmus crassifolia), Chinese privet (Lonicera japonica)

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

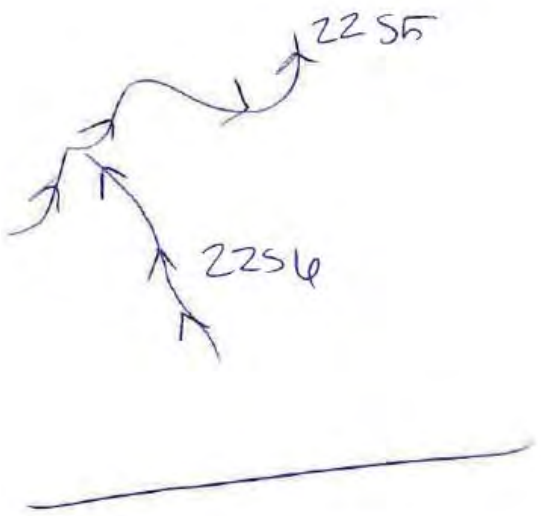
none

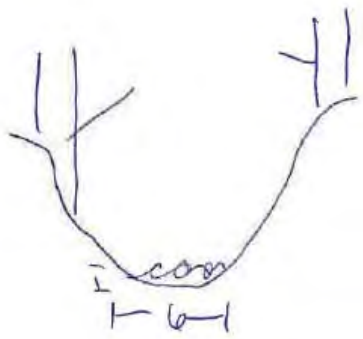
Stream Data Form #: Water Feature 127
Project Name: US 380
CSJ: 0135-15-002

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





Sectional View

Stream Data Form #: Water Features 136, 138, 142
Project Name: US 380
CSJ: 0315-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: July 19, 2021
USGS Stream Name: Rutheford Branch
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 136, 138, 142
Associated Wetland(s): Water Feature 137
Coordinates: 33.231957 -96.732417

Stream Type: Perennial
Characteristics: Limestone bedrock banks with water marks and current flow
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Slight scour
Stream Flow Direction: Northeast
OHWM Width (ft): 25
OHWM Height (in): 60
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☑ Cobbles
- ☑ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

Bivalves and other inverts, fish, snakes, frogs

Riparian Vegetation: List species observed.

Pecan (Carya illinoinensis), green ask (Fraxinus pennsylvanica), eastern poison ivy (Toxicodendron radicans), cedar elm (Ulmus crassifolia), eastern cottonwood (Populus deltoides), american elm (Ulmus americana)

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

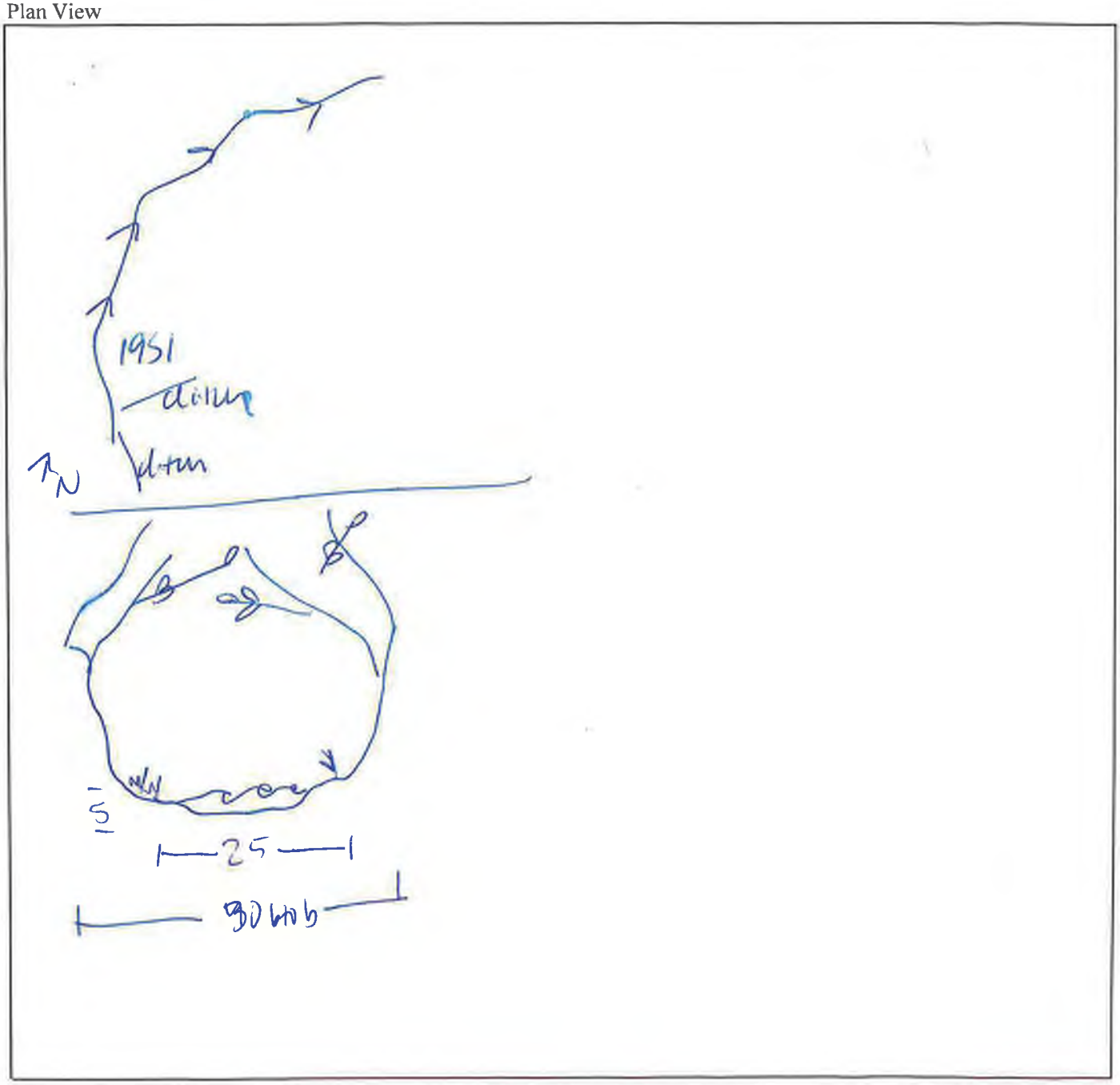
None

Stream Data Form #: Water Features 136, 138, 142
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 139
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Wyatt Wolfenkoehler
Date of Field Work: July 19, 2021
USGS Stream Name: Unnamed Tributary to Rutherford Bra
County/State: Collin County,TX
USGS Topo Quad Name: McKinney West
Stream Number: 139
Associated Wetland(s): Water Features 140 and 141
Coordinates: 33.234056 -96.732209

Stream Type: Ephemeral
Characteristics: Drains from culvert near roadway to the west.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Northeast
OHWM Width (ft): 4
OHWM Height (in): 6
Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [x] Concrete
- [x] Other: riprap dam for stability within stream
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [x] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

snakes, frogs

Riparian Vegetation: List species observed.

Pecan (Carya illinoinensis), bermudagrass (Cynodon dactylon), johnsongrass (Sorghum halepense), chinese privet (Ligustrum sinense), riverbank grape (Vitis riparia), peppervine (Ampelopsis arborea)

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

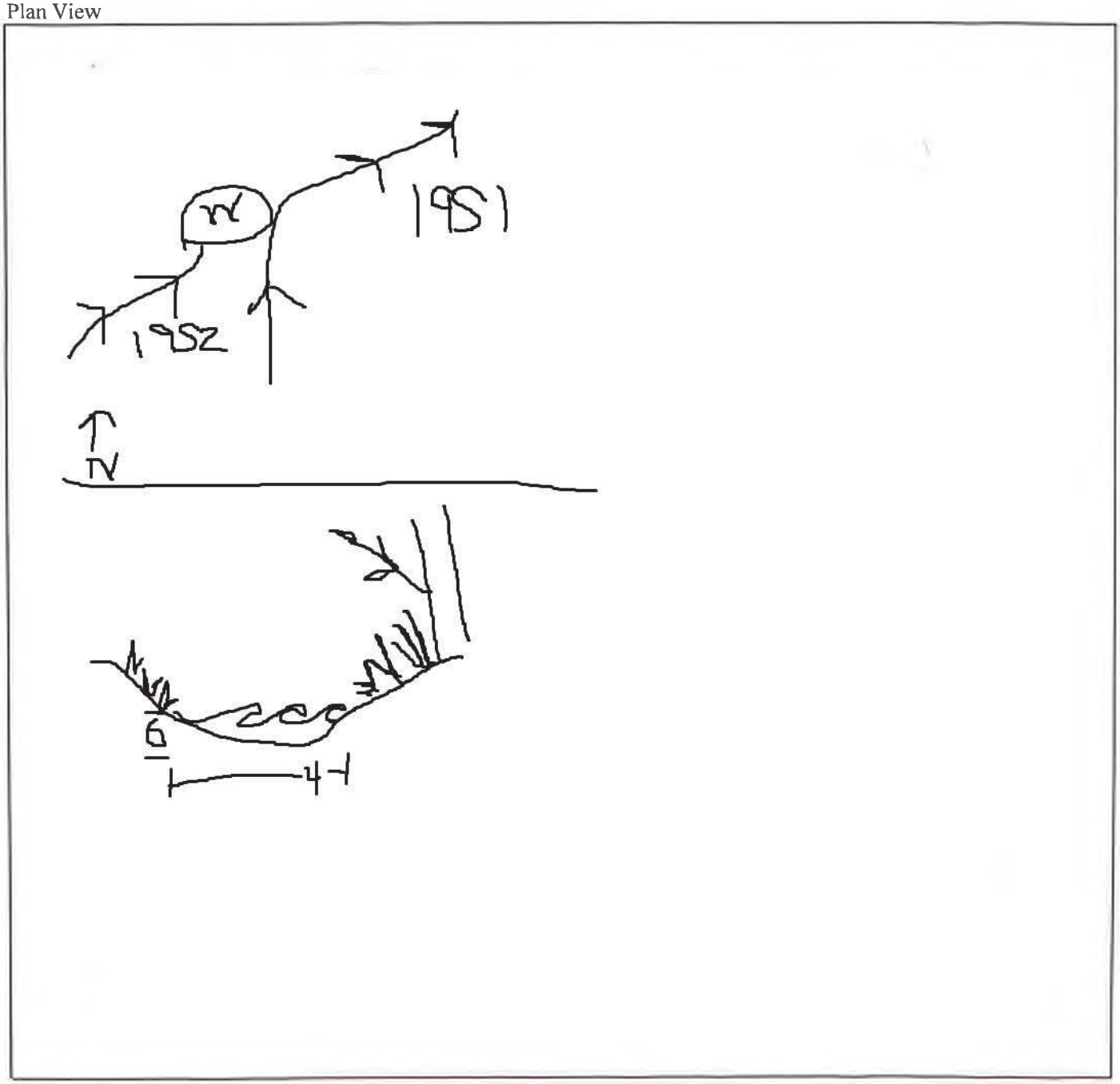
None

Stream Data Form #: Water Feature 139
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 148
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Unnamed Tributary to Stover Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 148
Associated Wetland(s): Water Feature 147
Coordinates: 33.246262 -96.700240
Incised stream within the east reach

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: West
OHWM Width (ft): 3 OHWM Height (in): 4
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☑ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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

Riparian Vegetation: List species observed.

green ash (Fraxinus pennsylvanica), chinese privet (Ligustrum inense), sweetscent (Pluchea odorata), cedar elm (Ulmus crassifolia), perennial ragweed (Ambrosia psilostachya), Indian wood-oats (Chasmanthium latifolium), sugarberry (Celtis laevigata) poison ivy (Toxicodendron radicans), Virginia creeper (Parthenocissus quinquefolia)

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

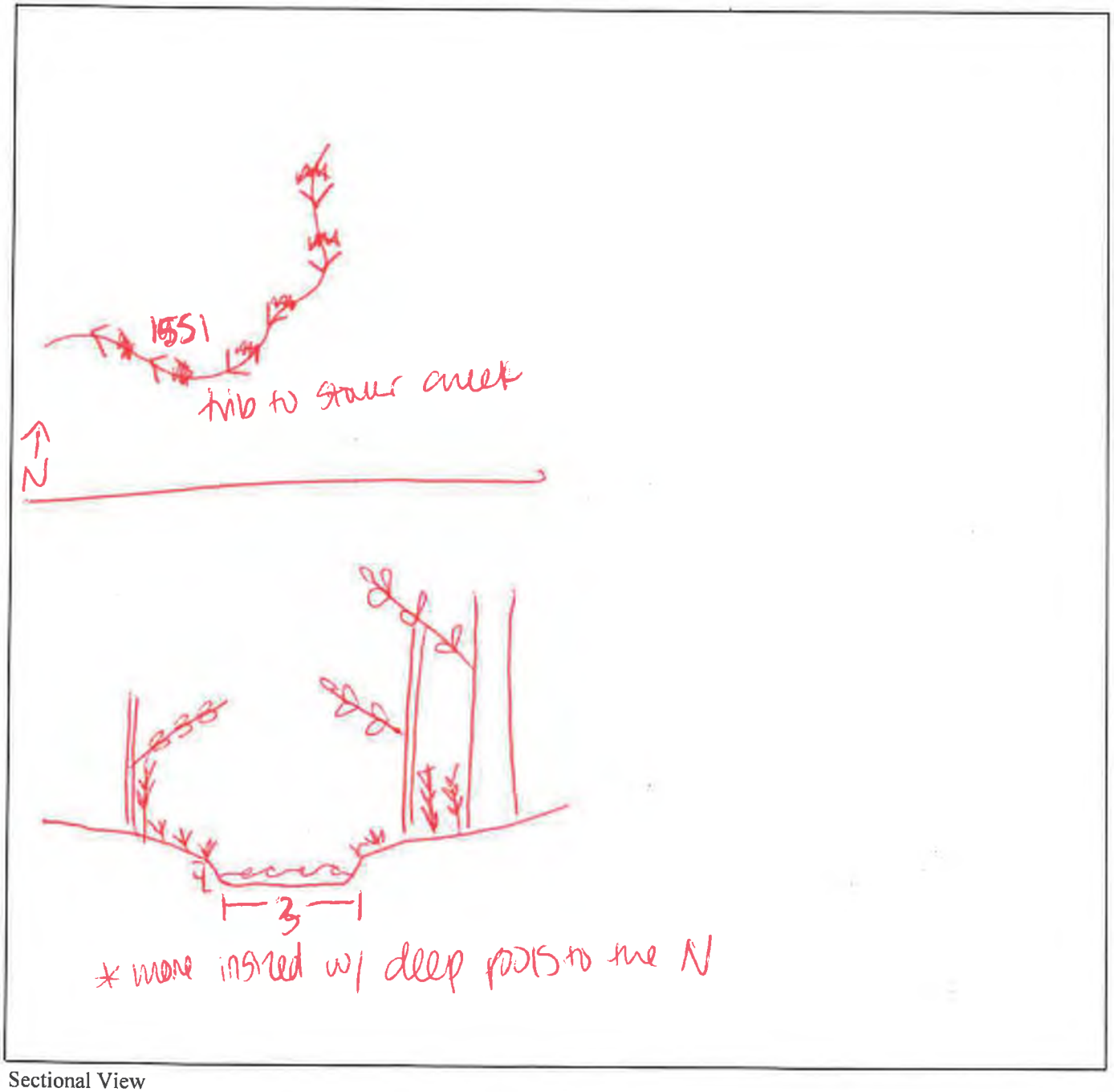
None.

Stream Data Form #: Water Feature 148
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 158
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Ethan Eichler
Date of Field Work: September 15, 2020
USGS Stream Name: Franklin Branch
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 158
Associated Wetland(s): Water Feature 160
Coordinates: 33.247412 -96.679924
Vegetated banks and reinforced concrete adjacent to bridge

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 15 OHWM Height (in): 36
Stream Bottom composition:

- ☑ Silts ☑ Cobbles ☑ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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, insects, snakes, fish

Riparian Vegetation: List species observed.

Ash leaf maple (Acer negundo), American elm (Ulmus americana), pecan (Carya illinoinensis), green ash (Fraxinus pennsylvanica), cedar elm (Ulmus crassifolia), sugarberry (Celtis laevigata) poison ivy (Toxicodendron radicans), yaupon (Ilex vomitoria), fringed green brier (Smilax bona-nox)

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

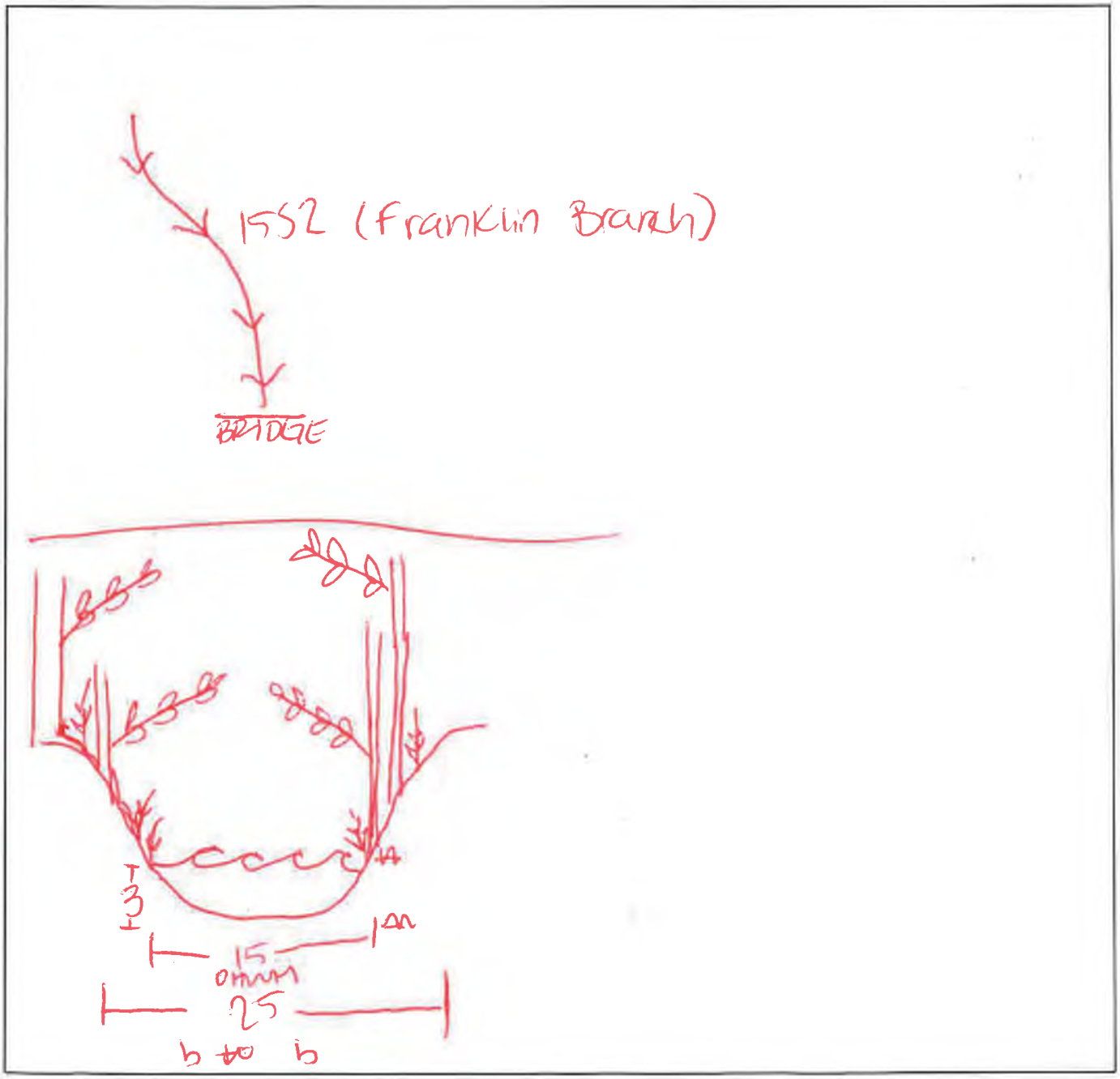
None.

Stream Data Form #: Water Feature 158
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 172
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: September 22, 2021
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Weston
Stream Number: 172
Associated Wetland(s): Water Feature 171
Coordinates: 33.251255 -96.640169

Stream Type: Ephemeral
Characteristics: Deeply incised
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Highly eroding
Stream Flow Direction: East
OHWM Width (ft): 8
OHWM Height (in): 42

Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [x] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [x] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [ ] Other characteristics (pollutants, etc.) No water observed

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

none

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), eastern red cedar (Juniperus virginiana), texas red oak (Quercus texana), pecan (Carya illinoinensis), American elm (Ulmus americana), cedar elm (Ulmus crassifolia), yaupon (Ilex vomitoria), fringed green brier (Smilax bona-nox), and eastern poison ivy (Toxicodendron radicans)

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

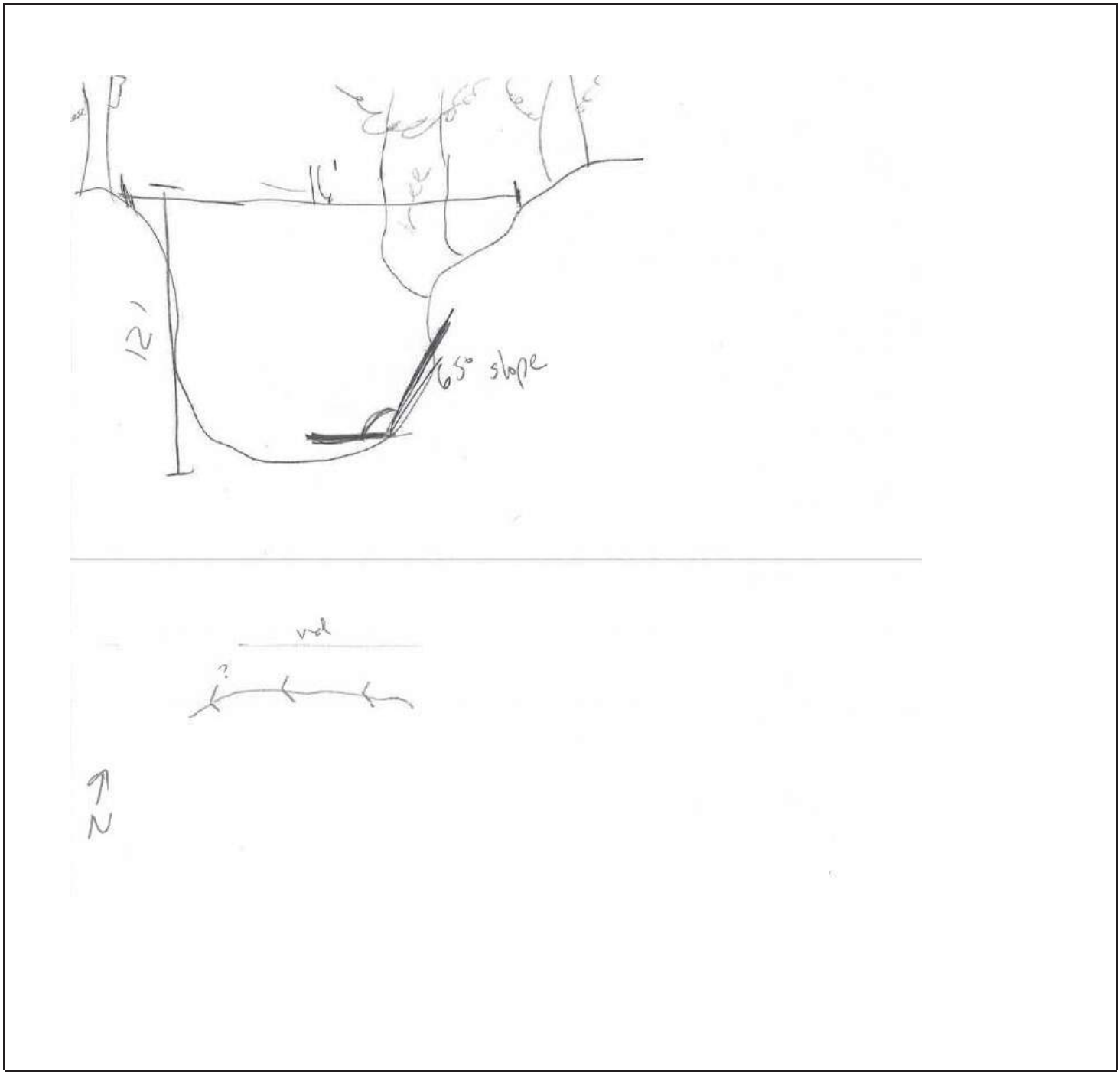
None

Stream Data Form #: Water Feature 172
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 173
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: September 22, 2021
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Weston
Stream Number: 173
Associated Wetland(s): None
Coordinates: 33.251402 -96.639296

Stream Type: Ephemeral Characteristics: Deeply incised.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Highly eroding
Stream Flow Direction: South
OHWM Width (ft): 3 OHWM Height (in): 12
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
- ☐ Other characteristics (pollutants, etc.) no water observed

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

none

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), eastern red cedar (Juniperus virginiana), texas red oak (Quercus texana), pecan (Carya illinoinensis), American elm (Ulmus americana), cedar elm (Ulmus crassifolia), yaupon (Ilex vomitoria), fringed green brier (Smilax bona-nox), and eastern poison ivy (Toxicodendron radicans)

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

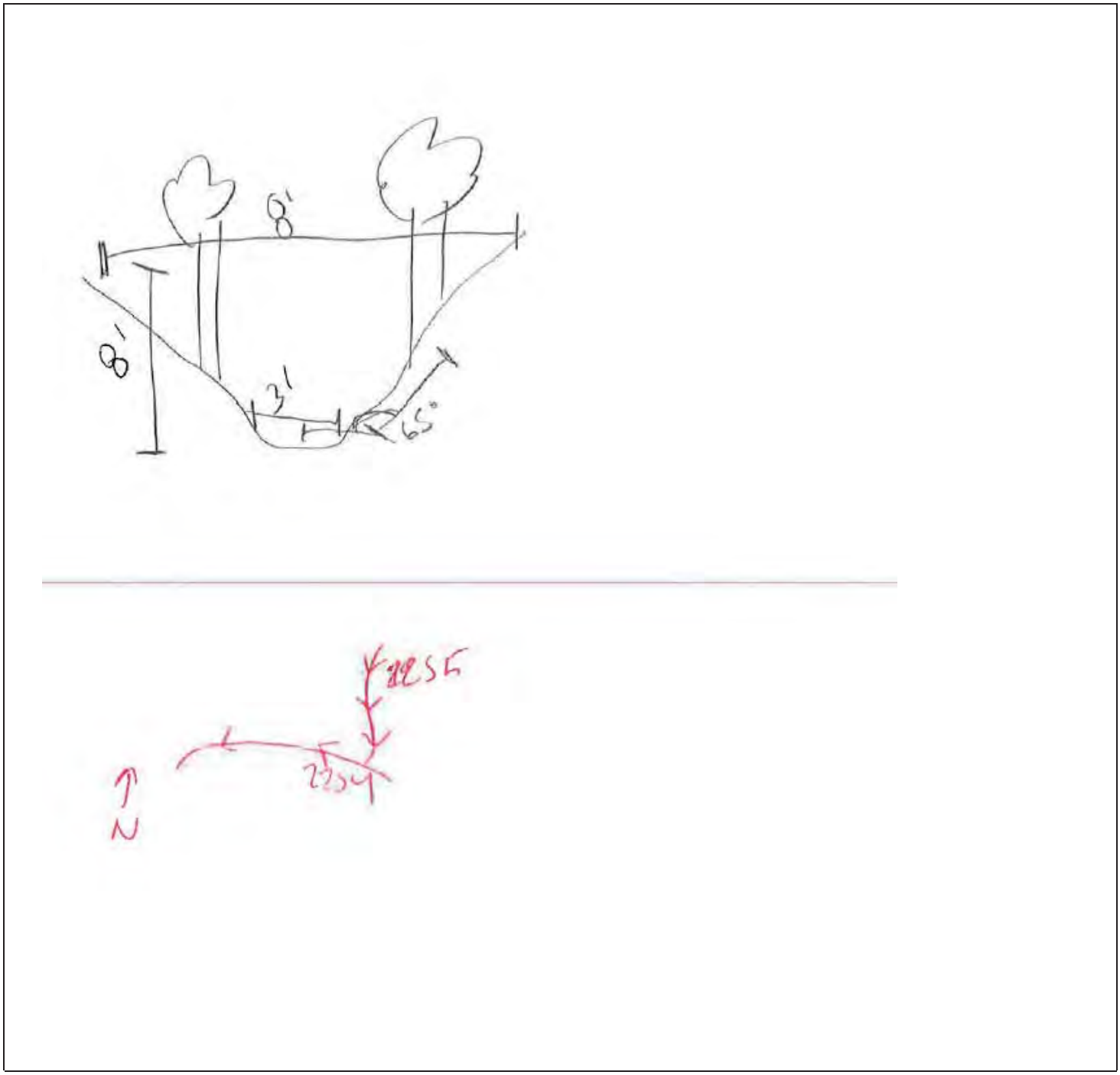
None

Stream Data Form #: Water Feature 173
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 175
Project Name: US 380
CSJ: 0135-05-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Kathryn Burton
Date of Field Work: August 17, 2021
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Weston / McKinney West
Stream Number: 175
Associated Wetland(s): None
Coordinates: 33.250696 -96.634888

Stream Type: Intermittent
Characteristics: FLOWING FROM RECENT RAIN, BEAVER DAM SOUTH
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 7
OHWM Height (in): 18
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☑ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☑ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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, snakes, fish

Riparian Vegetation: List species observed.

American elm (Ulmus americana), poison ivy (Toxicodendron radicans), box elder (Acer negundo), green ash (Fraxinus pennsylvanica), Cedar elm (Ulmus crassifolia), Indian wood oats (Chasmanthium latifolium)

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

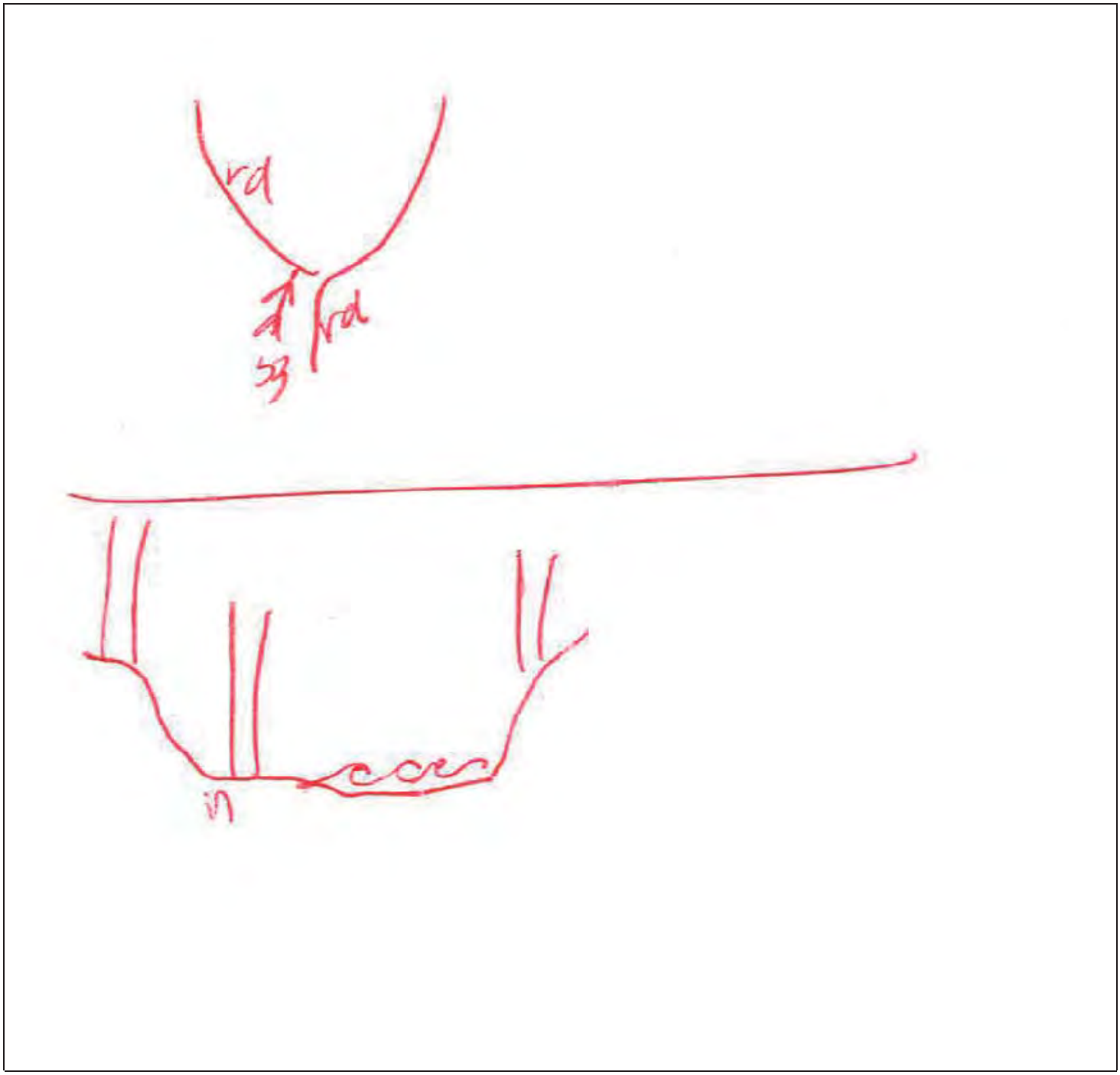
NA

Stream Data Form #: Water Feature 175
Project Name: US 380
CSJ: 0135-05-002

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



Sectional View

Stream Data Form #: Water Feature 176
Project Name: US 380
CSJ: 0135-05-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler
Date of Field Work: August 24, 2020
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Weston / McKinney West
Stream Number: 176
Associated Wetland(s): None
Coordinates: 33.252068 -96.634514

Stream Type: Perennial
Characteristics: Scattered large DBH and Specimen trees along banks. Dense understory.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Active erosion and currently moderately eroded
Stream Flow Direction: North
OHWM Width (ft): 8
OHWM Height (in): 36

Stream Bottom composition:
- ☑ Silts
- ☑ Cobbles
- ☐ Concrete
- ☐ Other:
- ☐ Sands
- ☐ Bedrock
- ☐ Muck
- ☑ Gravel
- ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.
- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

Fish, insects, snakes, and frogs.

Riparian Vegetation: List species observed.

Black willow (Salix nigra), American elm (Ulmus americana), Osage-orange (Maclura pomifera), green ash (Fraxinus pennsylvanica), eastern red cedar (Juniperus virginiana), poison ivy (Toxidendron radicans), virginia creeper (Parthenocissus quinquefolia), Chinese privet (Ligustrum sinense), Virginia wild rye (Elymus virginicus), Nuttall oak (Quercus texana), Pecan (Carya illinoinensis), ash leaf maple (Acer negundo), yaupon (Ilex vomitoria), fringed green brier (Smilax bona-nox), Johnsongrass (Sorghum halepense), sweetscent (Pluchea odorata), cedar elm (Ulmus crassifolia), and inland sea oats (Chasmanthium latifolium).

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

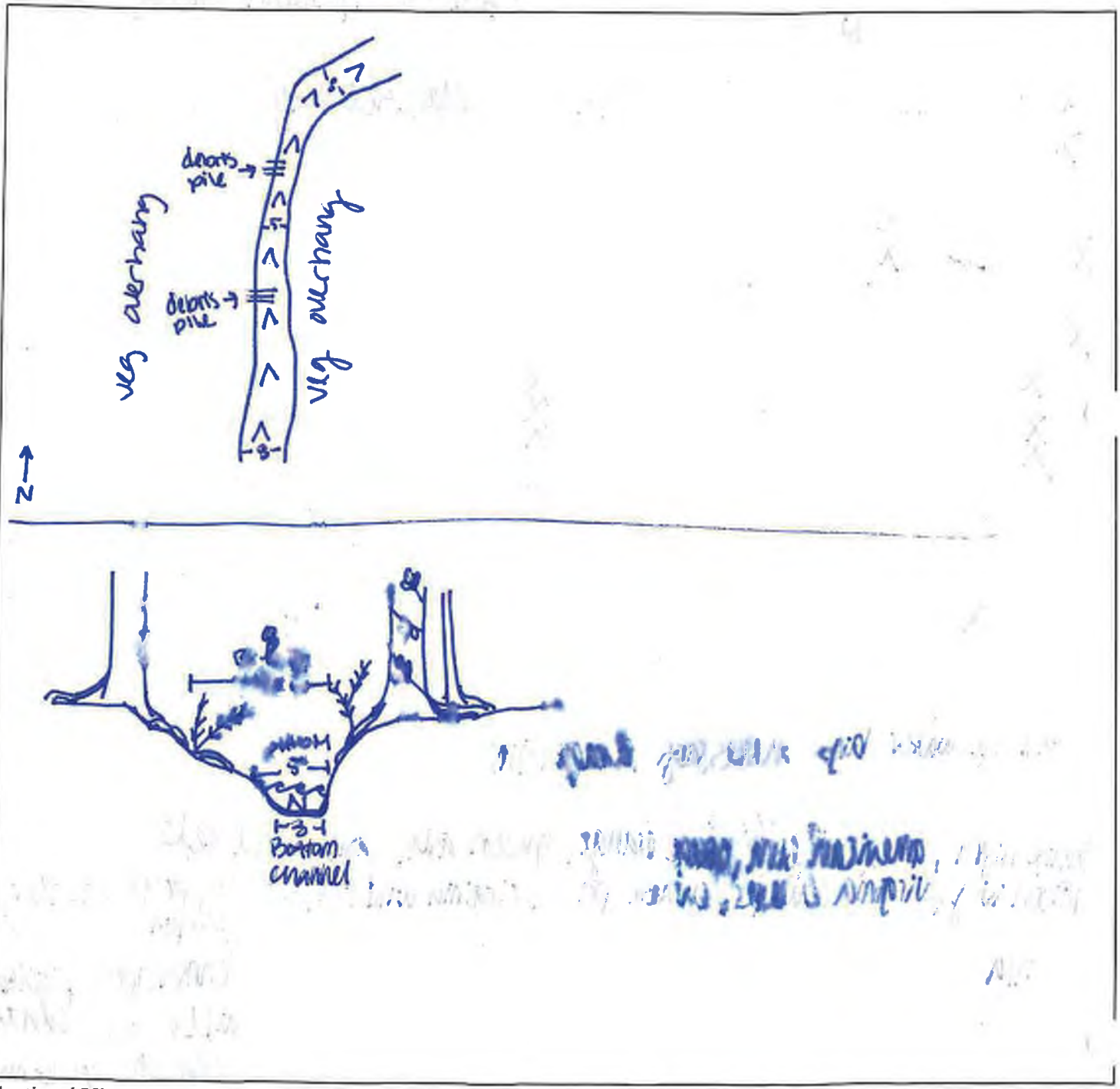
None.

Stream Data Form #: Water Feature 176
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Features 182, 192, 227
Project Name: US 380
CSJ: 0135-05-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler
Date of Field Work: August 24, 2020
USGS Stream Name: Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Weston / McKinney West & East
Stream Number: 182, 192, 227
Associated Wetland(s): Water Features 178, 179, 185
Coordinates: 33.246280 -96.623698

Stream Type: Perennial
Characteristics: Moderately high erosion along banks. Steep banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Steep banks.
Stream Flow Direction: South
OHWM Width (ft): 25
OHWM Height (in): 120

Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [x] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [x] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [x] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [x] Turbid
- [ ] Very Turbid
- [ ] 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, fish, snakes, Great Blue Heron.

Riparian Vegetation: List species observed.

Virginia wild rye (Elymus virginicus), poison ivy (Toxidendron radicans), Chinese privet (Ligustrum sinense), green ash (Fraxinus pennsylvanica), American elm (Ulmus americana), and Pecan (Carya illinoinensis).

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

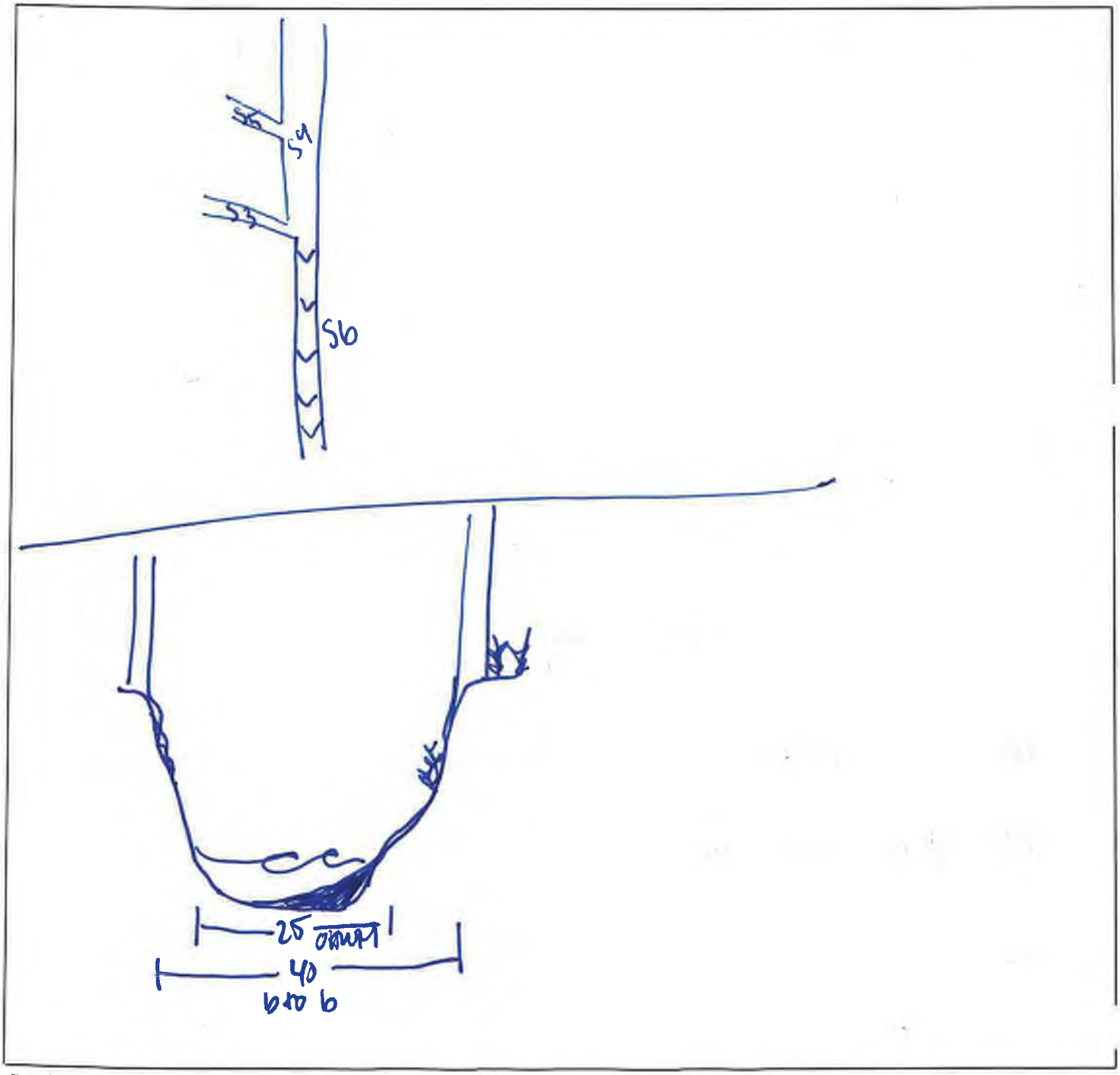
None.

Stream Data Form #: Water Features 182, 192, 227
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 187
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler
Date of Field Work: August 25, 2020
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 187
Associated Wetland(s): None
Coordinates: 33.249408 -96.624136

Stream Type: Ephemeral Characteristics: Drainage from the adjacent agricultural field.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Manmade banks
Stream Flow Direction: Southwest
OHWM Width (ft): 4 OHWM Height (in): 12
Stream Bottom composition:

- ☐ Silts ☑ Cobbles ☐ Concrete ☑ Other: Dug out and rock/pebble placed in the stream bed for ag drainage
- ☐ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ Overhanging trees/shrubs ☐ Deep pool/ hole/ channel ☑ Other: Manmade

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 ☐ Oily film ☐ High organic content
☑ Other characteristics (pollutants, etc.) Dry

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None.

Riparian Vegetation: List species observed.

Giant ragweed (Ambrosia trifida), Virginia wild rye (Elymus virginicus), ash leaf maple (Acer negundo), Chinese privet (Ligustrum sinense), and burr oak (Quercus macrocarpa).

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

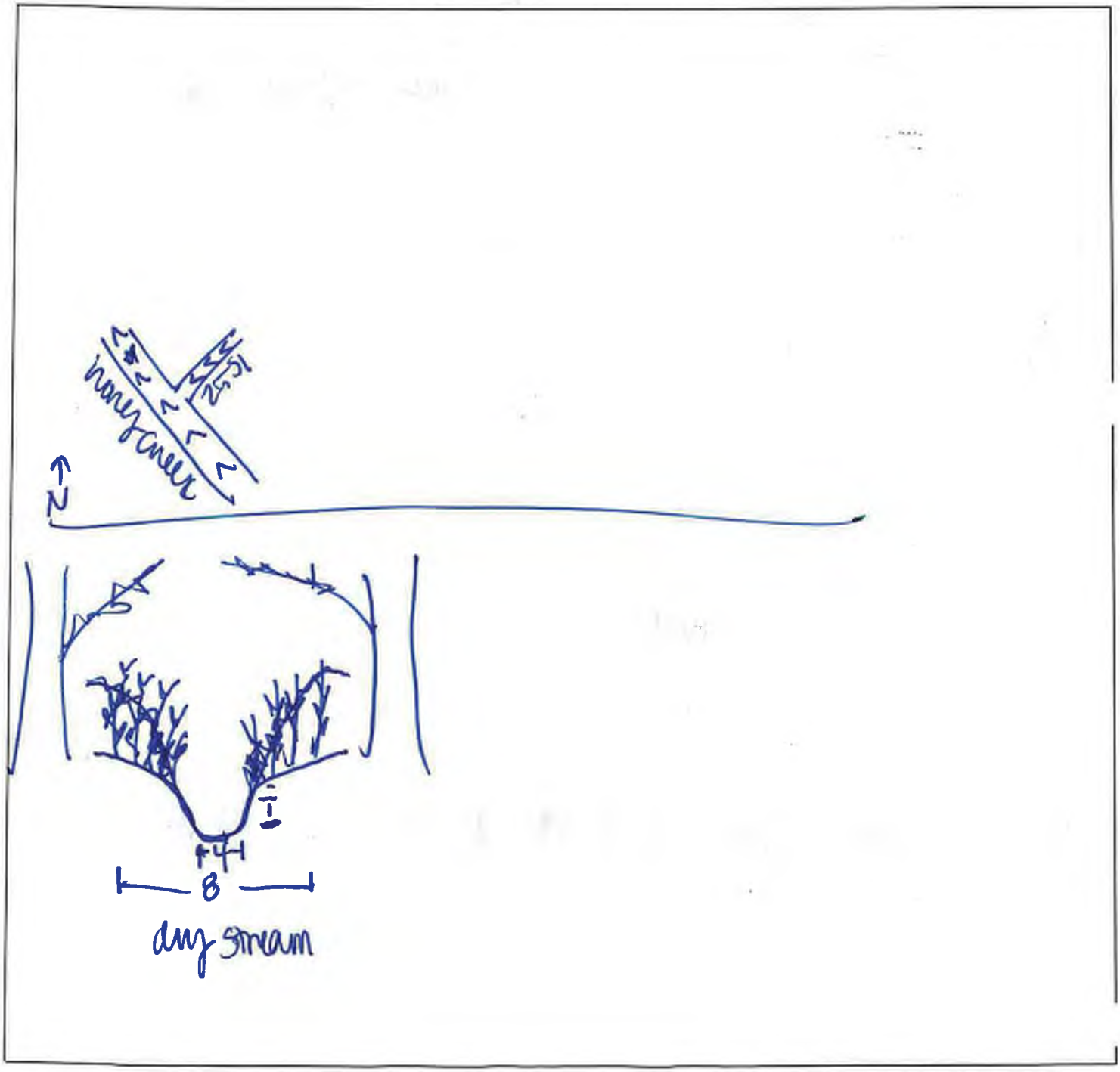
None.

Stream Data Form #: Water Feature 187
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 189
Project Name: US 380
CSJ: 0135-05-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: December 1, 2020
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney West
Stream Number: 189
Associated Wetland(s): None
Coordinates: 33.235952 -96.628867

Stream Type: Ephemeral Characteristics: Root bound and incised
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 3 OHWM Height (in): 12
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [x] Other: Trash

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [x] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) None

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Snakes and frogs

Riparian Vegetation: List species observed.

Black locust (Robinia pseudoacacia), barnyard grass (Echinochloa crus-galli), johnsongrass (Sorghum halepense), giant ragweed (Ambrosia trifida), Rubus sp., summer farewell (Dalea pinnata)

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

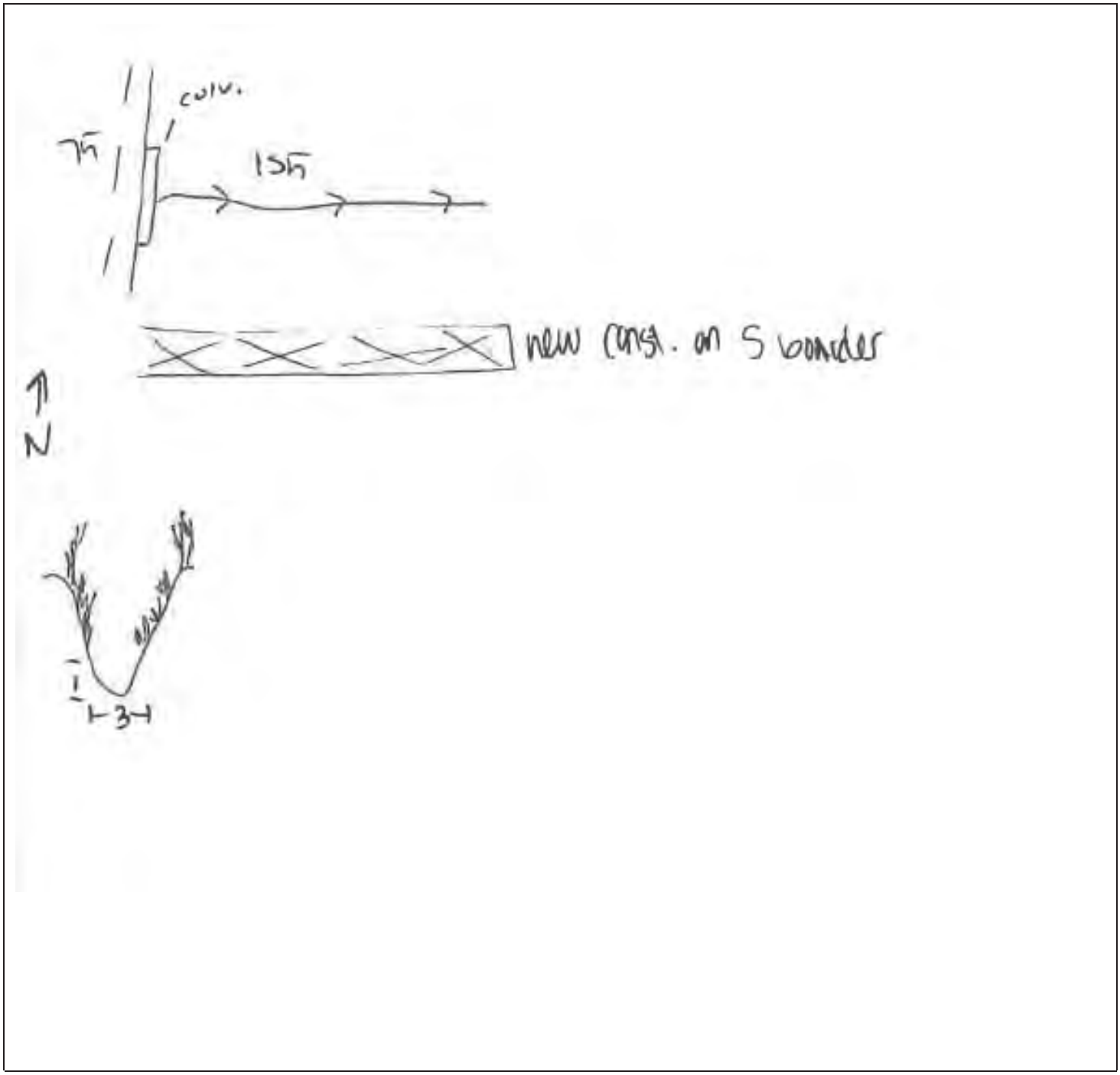
None

Stream Data Form #: Water Feature 189
Project Name: US 380
CSJ: 0135-05-002

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



Sectional View

Stream Data Form #: Water Feature 196
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Kathryn Burton
Date of Field Work: August 17, 2021
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 196
Associated Wetland(s): None
Coordinates: 33.218359 -96.751950

Stream Type: Intermittent
Characteristics: CONTINUES PARALLEL NORTH ADJACENT TO ROAD
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 7
OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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, snakes

Riparian Vegetation: List species observed.

Broadleaf cattail (Typha latifolia), black willow (Salix nigra), Eastern cottonwood (Populus deltoides), common spike-rush (Eleocharis palustris)

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

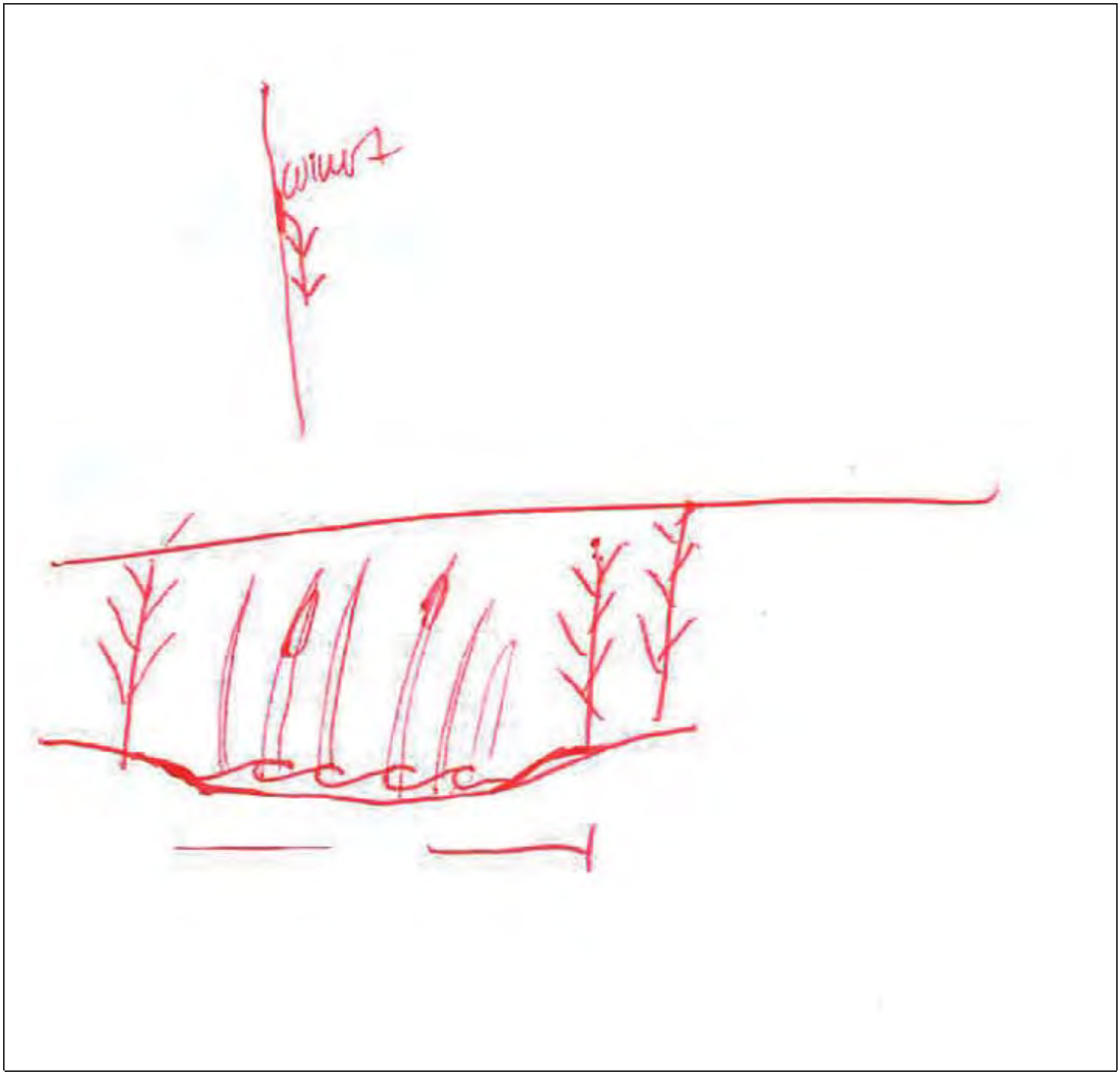
NA

Stream Data Form #: Water Feature 196
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 199
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Kathryn Burton
Date of Field Work: August 17, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 199
Associated Wetland(s): Water Feature 200
Coordinates: 33.218172 -96.756576

Stream Type: Ephemeral Characteristics: DRAINAGE TO AND FROM FIELD
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: North
OHWM Width (ft): 5 OHWM Height (in): 6
Stream Bottom composition:

- [x] Silts
- [x] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [ ] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [x] Other: None

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] 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
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [x] Very Turbid
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) Not flowing - stagnant water

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.
NA

Riparian Vegetation: List species observed.
Johnsongrass (Sorghum halepense), annual marsh-elder (Iva annua), giant ragweed (Ambrosia trifida)

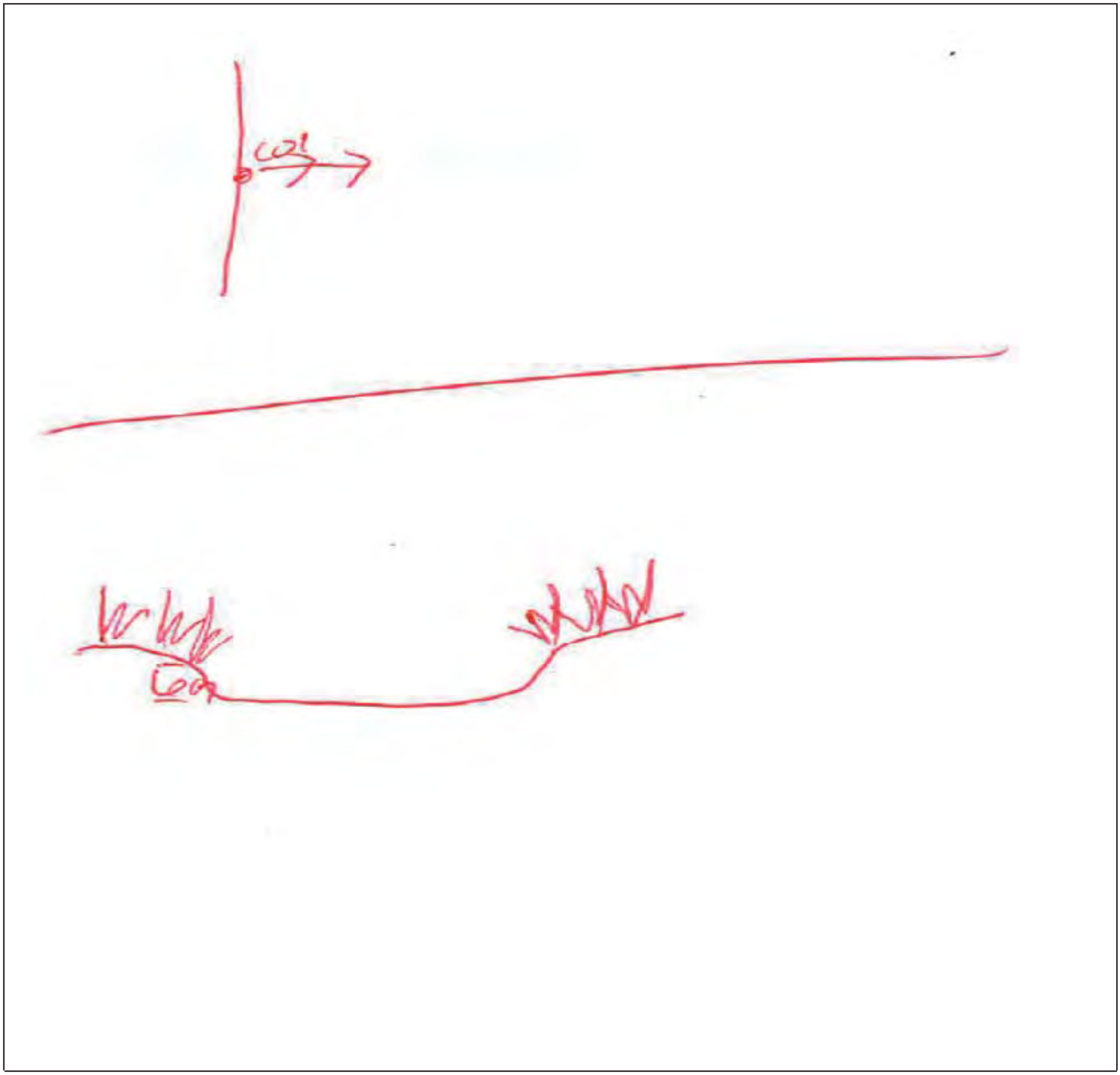
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.
NA

Stream Data Form #: Water Feature 199
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 204
Project Name: US 380
CSJ: 0135-02-002

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
USGS Stream Name: Unnamed Tributary to the East Fork T
USGS Topo Quad Name: Anna
Associated Wetland(s): Water Features 201 and 202

Date of Field Work: September 8, 2020
County/State: Collin County, Texas
Stream Number: 204
Coordinates: 33.257154 -96.610491

Stream Type: Intermittent Characteristics: Vertical banks. Man made with groundwater influence

Bank Stability (e.g. highly eroding, sloughing banks, etc.):

Stream Flow Direction: Northeast

OHWM Width (ft): 3 OHWM Height (in): 25

Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] 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):
- [x] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [x] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

None.

Riparian Vegetation: List species observed.

Giant ragweed (Ambrosia trifida), Pecan (Carya illinoinensis), green ash (Fraxinus pennsylvanica), black willow (Salix nigra), American elm (Ulmus americana), burr oak (Quercus macrocarpa), Texas red oak (Quercus texana), johnsongrass (Sorghum halepense), and bermuda grass (Cynodon dactylon)

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

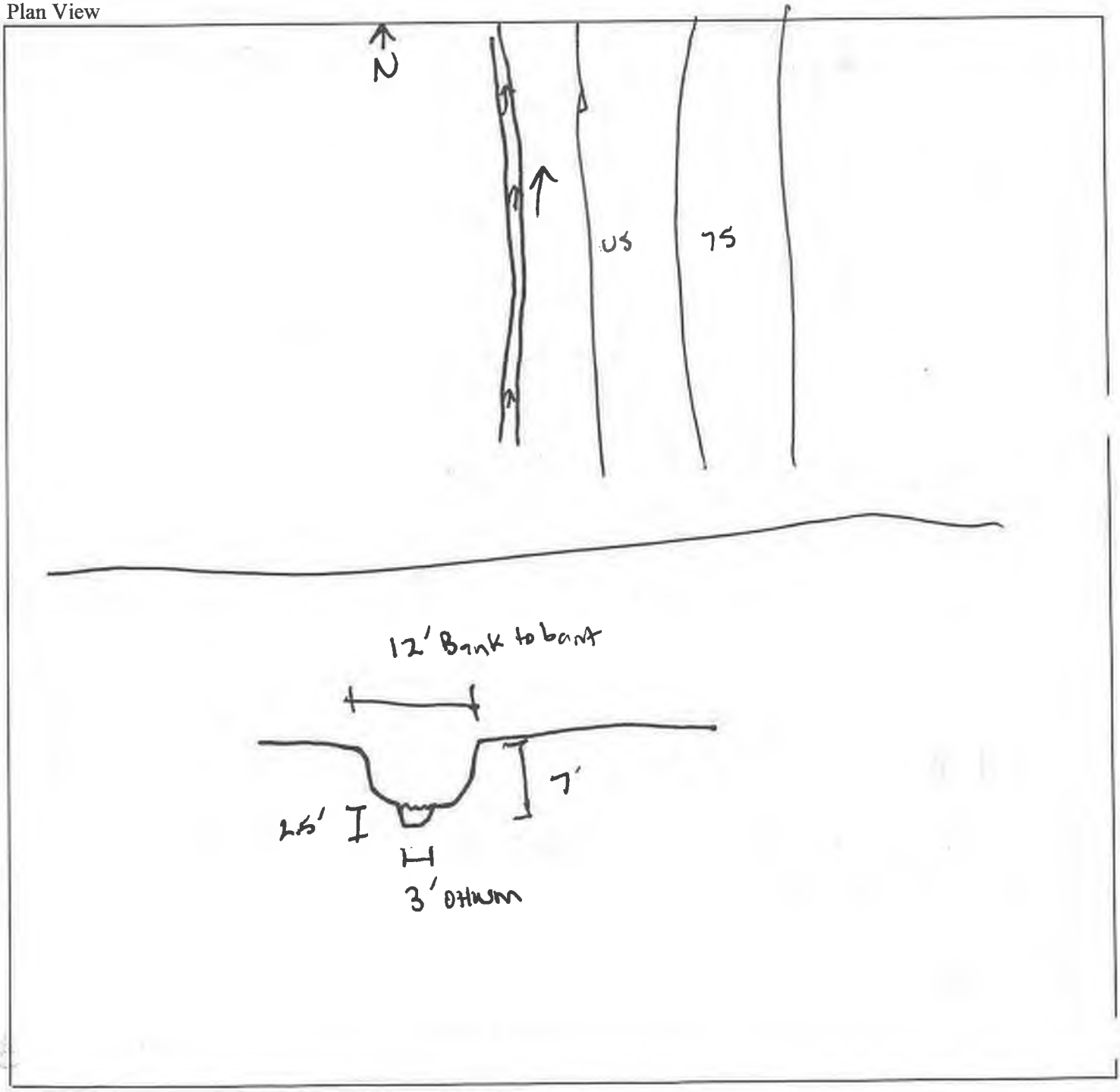
None.

Stream Data Form #: Water Feature 204
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Features 205, 231, 234, 235,236
Project Name: US 380
CSJ: 0135-15-02

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
Date of Field Work: September 8, 2020
USGS Stream Name: East Fork Trinity River
County/State: Collin County, Texas
USGS Topo Quad Name: Anna / McKinney East
Stream Number: 205, 231, 234, 235, 236
Associated Wetland(s): WFs 207, 233, 286, 288, 289, 290
Coordinates: 33.238560 -96.604195

Stream Type: Perennial
Characteristics: Incised stream banks
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 40
OHWM Height (in): 30

Stream Bottom composition:

- ☑ Silts
- ☐ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None.

Riparian Vegetation: List species observed.

Pecan (Carya illinoinensis), black walnet (Juglans nigra), green ash (Fraxinus pennsylvanica), poison ivy (Toxicodendron radicans), American elm (Ulmus americana), sugarberry (Celtis laevigata), osage-orange (Maclura pomifera), fringed green brier (Smilax bona-nox), Virginia wild rye (Elymus virginicus), river bank grape (Vitis riparia)

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

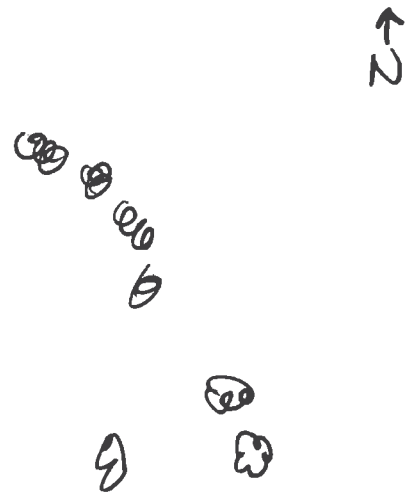
None.

Stream Data Form #: 205, 231, 234, 235, 236
Project Name: US 380
CSJ: 0135-15-002

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



60' Bank to Bank

40' OHWM

30

6'

30

Sectional View

Stream Data Form #: Water Feature 206
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: September 22, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 206
Associated Wetland(s): Water Feature 207
Coordinates: 33.257359 -96.608136

Stream Type: Intermittent
Characteristics: Flooded from beaver dam, flows into the East Fork Trinity River
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Southwest
OHWM Width (ft): 5
OHWM Height (in): 24
Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [x] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [x] shelving
- [ ] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

Beaver activity

Riparian Vegetation: List species observed.

Great ragweed (Ambrosia trifida), black willow (Salix nigra), blue mistflower (Conoclinium coelestinum), annual marsh elder (Iva annua), northern frogfruit (Phyla lanceolata)

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

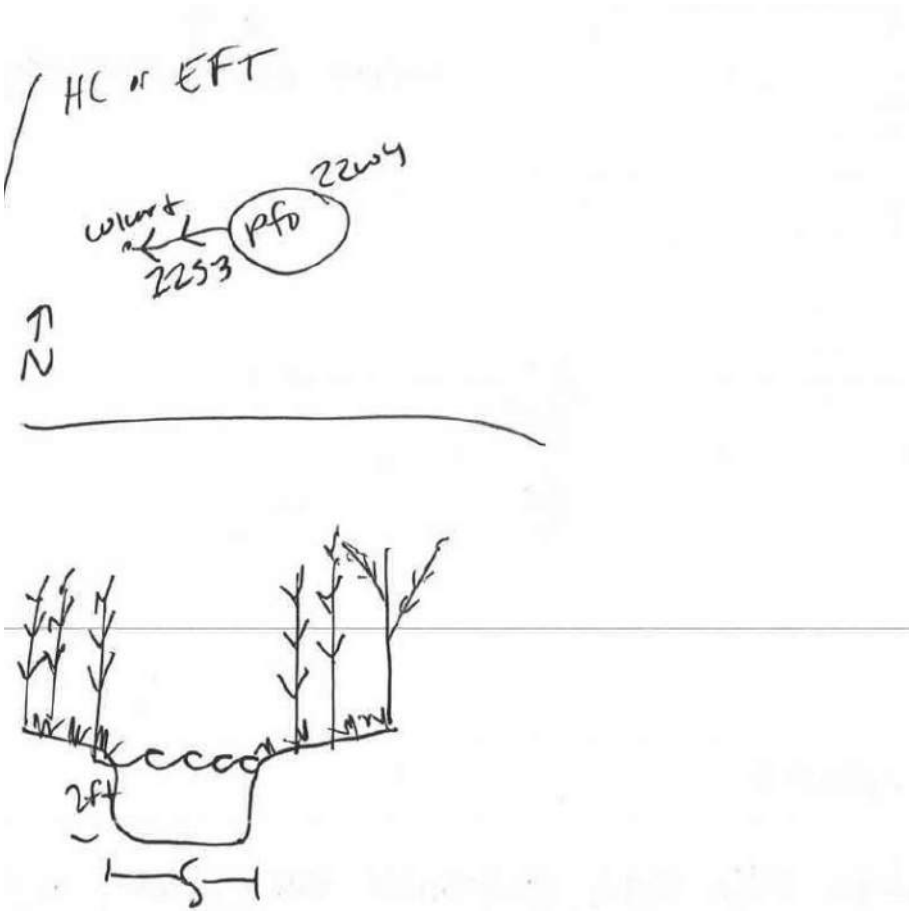
none

Stream Data Form #: Water Feature 206
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 209
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 209
Associated Wetland(s): None
Coordinates: 33.259244 -96.607923

Stream Type: Ephemeral Characteristics: POOLED WATER BY CULVERT, DRY OTHERWISE
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: West
OHWM Width (ft): 5 OHWM Height (in): 24-48
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) Dry farther West

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Invertebrates, frogs

Riparian Vegetation: List species observed.

Giant ragweed (Ambrosia trifida), johnsongrass (Sorghum halepense), Bermuda grass (Cynodon dactylon), green ash (Fraxinus pennsylvanica), yaupon (Ilex vomitoria), hackberry (Celtis laevigata), winged elm (Ulmus alata), cedar elm (Ulmus crassifolia)

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

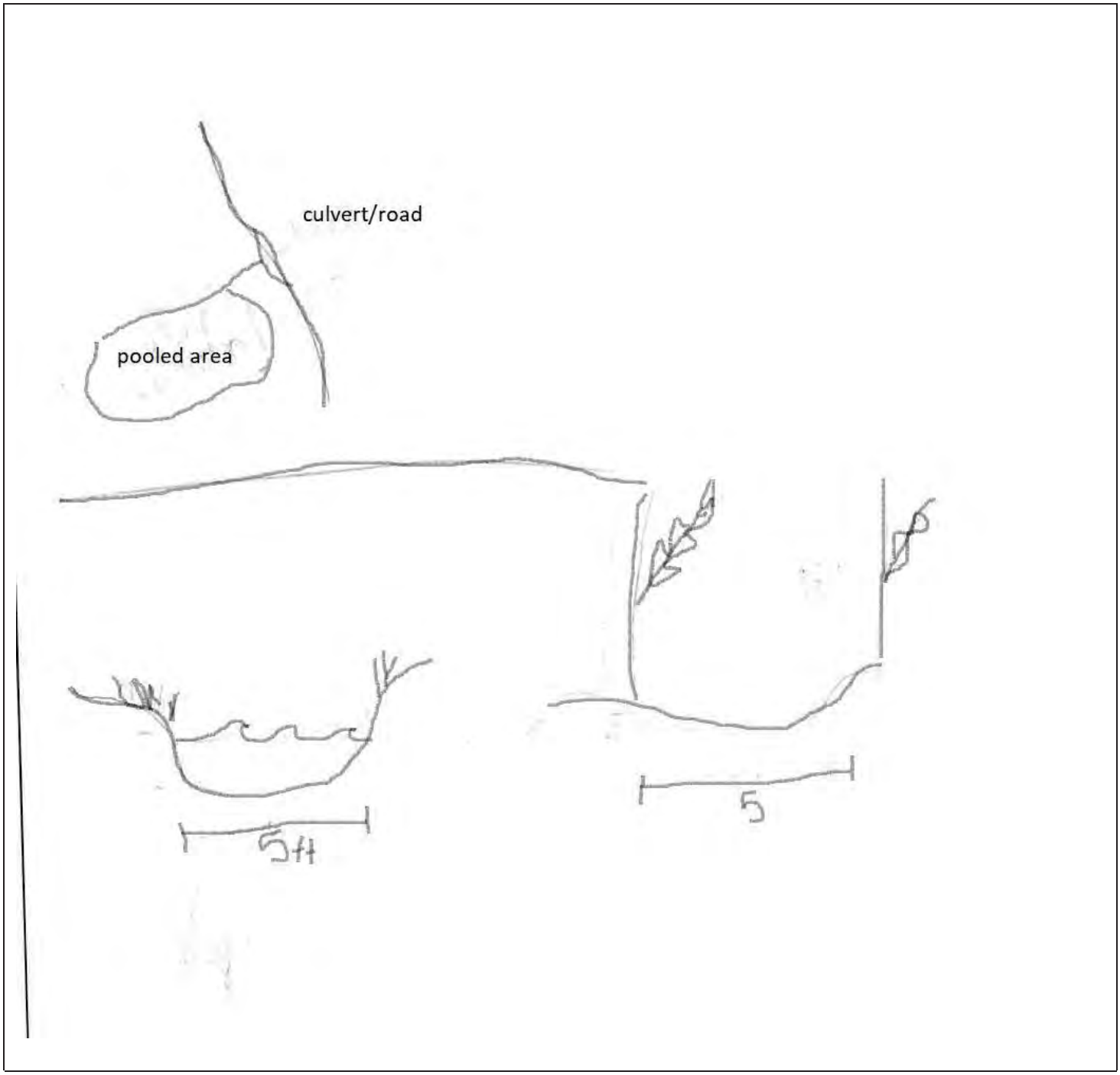
NA

Stream Data Form #: Water Feature 209
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 212
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 212
Associated Wetland(s): None
Coordinates: 33.262994 -96.603835

Stream Type: Intermittent
Characteristics: Oil Sheen seen in water, dead wetland vegetation.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: West
OHWM Width (ft): 5
OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts
- ☑ Cobbles
- ☐ Concrete
- ☐ Other:
- ☐ Sands
- ☑ Bedrock
- ☐ Muck
- ☐ Gravel
- ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☑ Other characteristics (pollutants, etc.) oil/organic sheen

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Frogs, aquatic invertebrates.

Riparian Vegetation: List species observed.

narrow-leaf cattail (Typha latifolia), lack willow (Salix nigra), common persimmon (Diospyros virginiana), ash leaf maple (Acer negundo), green ash (Fraxinus pennsylvanica), johnsongrass (Sorghum halapense), and great ragweed (Ambrosia trifida).

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

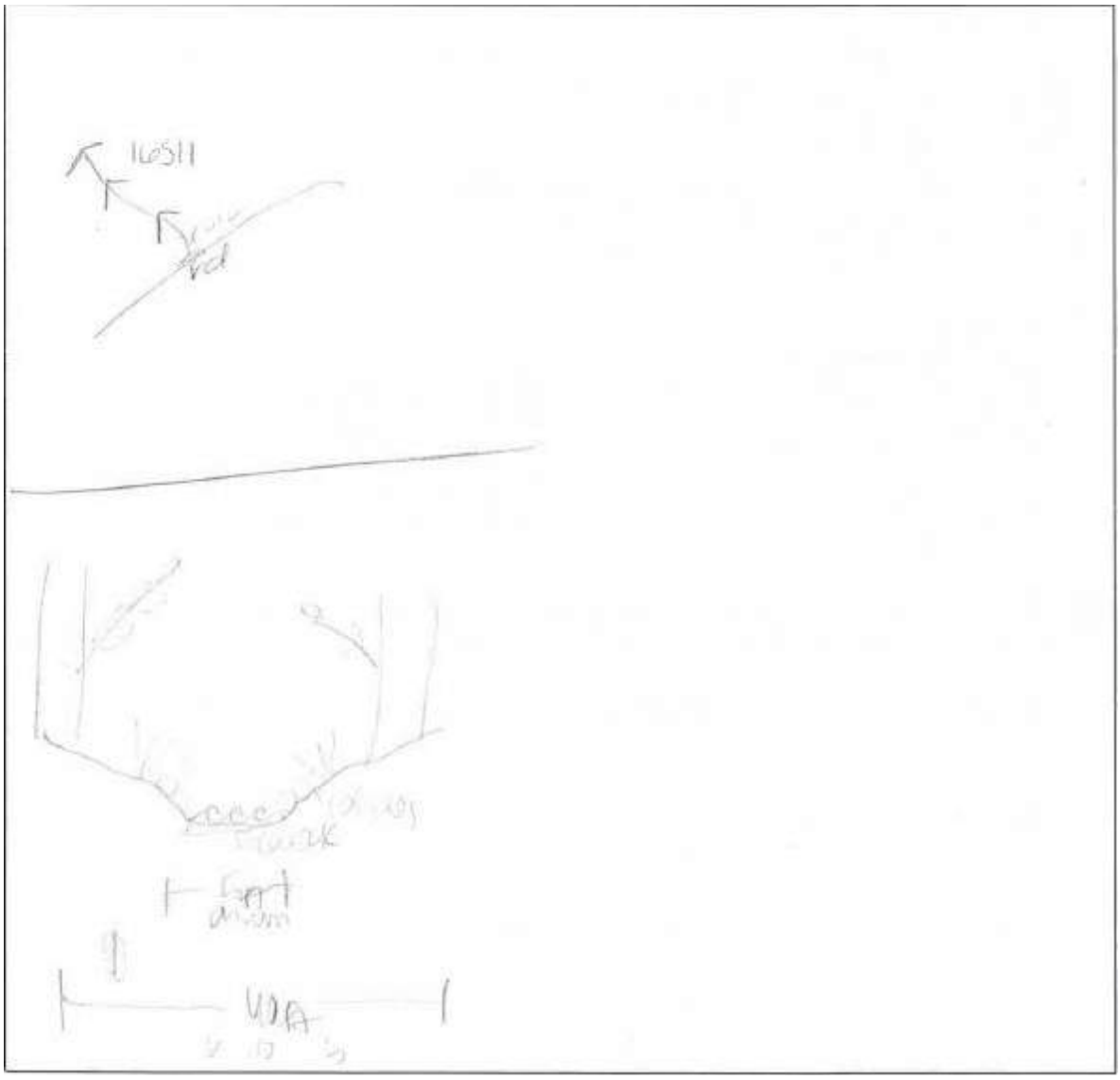
None

Stream Data Form #: Water Feature 212
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 215
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 215
Associated Wetland(s): None
Coordinates: 33.26332 -96.599625

Stream Type: Ephemeral Characteristics: Channelized flow toward road
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: West
OHWM Width (ft): 5 OHWM Height (in): 7
Stream Bottom composition:

- [x] Silts
- [x] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] 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
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [ ] Other characteristics (pollutants, etc.) none

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

none

Riparian Vegetation: List species observed.

Hackberry (Celtis laevigata), green ash (Fraxinus pennsylvanica), American elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans), and pecan (Carya illinoinensis)

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

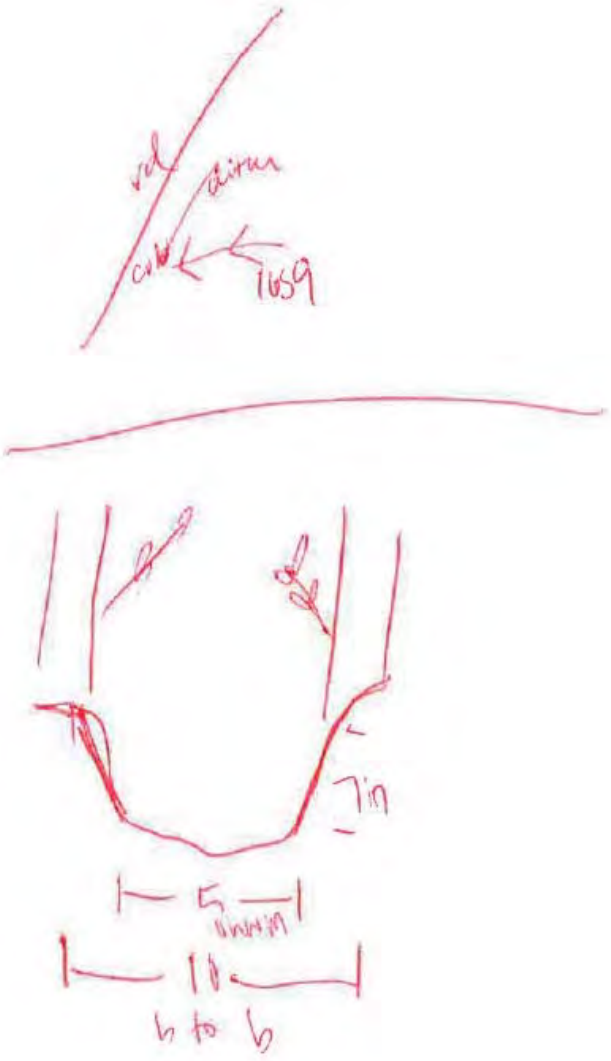
none

Stream Data Form #: Water Feature 215
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 218
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: Anna
Stream Number: 218
Associated Wetland(s): Water Feature 219
Coordinates: 33.269617 -96.596378

Stream Type: Intermittent
Characteristics: Channelized
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: West
OHWM Width (ft): 12
OHWM Height (in): 38
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☑ Cobbles
- ☑ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☑ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

Invertebrates, small fish

Riparian Vegetation: List species observed.

Eastern red cedar (Juniperus virginiana), cedar elm (Ulmus crassifolia), American elm (Ulmus americana), eastern poison ivy (Toxicodendron radicans), and bermudagrass (Cynodon dactylon).

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

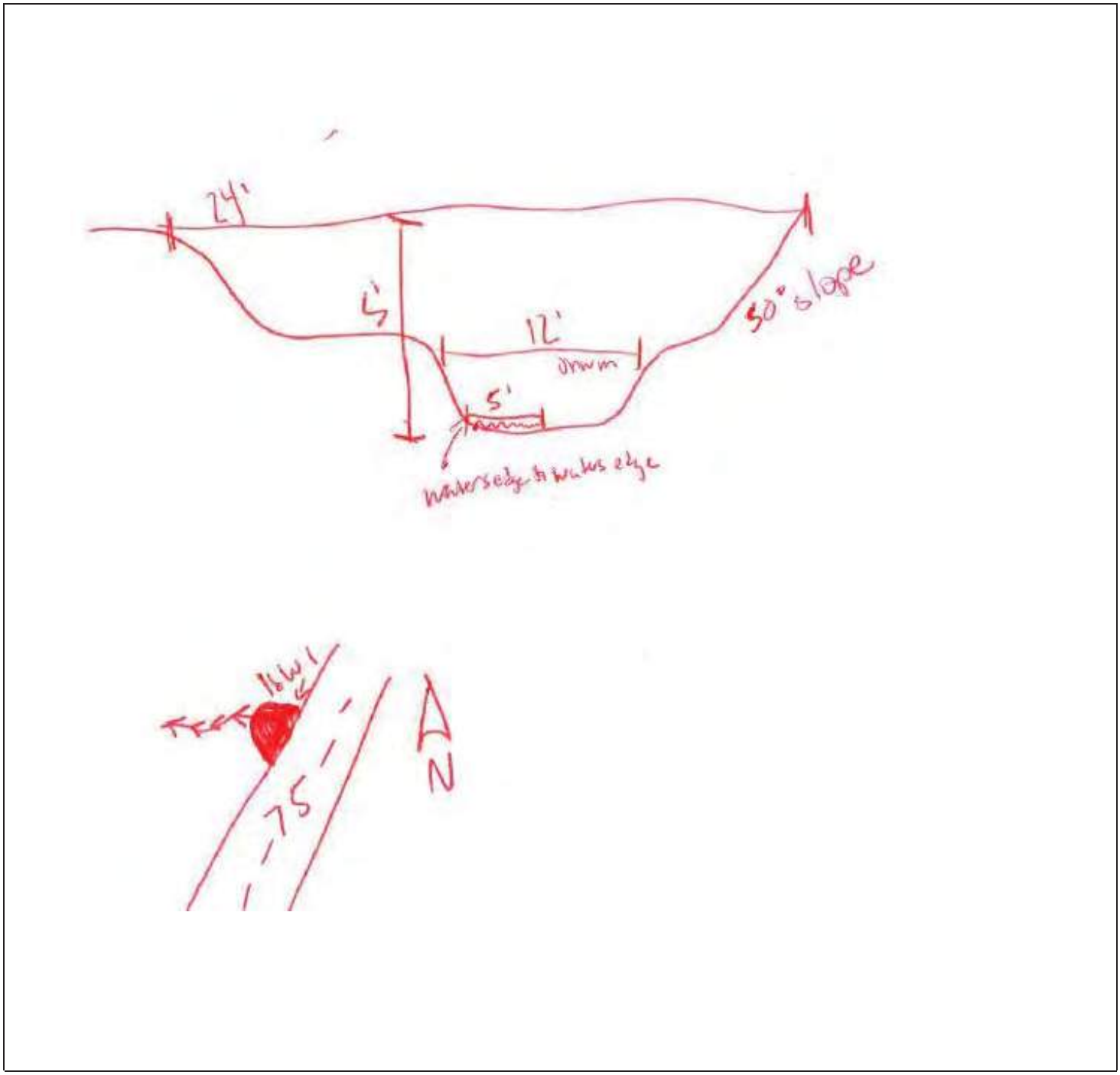
None

Stream Data Form #: Water Feature 218
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 224
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Ethan Eichler
Date of Field Work: August 25, 2020
USGS Stream Name: Unnamed Tributary to Honey Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 224
Associated Wetland(s): Water Features 222, 223
Coordinates: 33.246536 -96.618290

Stream Type: Ephemeral Characteristics: Beaver influenced channel.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 2 OHWM Height (in): 8
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [x] Other: Beaver influenced channel.

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] 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
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) Dry

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Beavers.

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), sugarberry (Celtis laevigata), black locust (Gleditsia triacanthos), American elm (Ulmus americana), poison ivy (Toxicodendron radicans), glossy privet (Ligustrum lucidum), yaupon (Ilex vomitoria), cedar elm (Ulmus crassifolia), green brier (Smilax bona-nox).

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

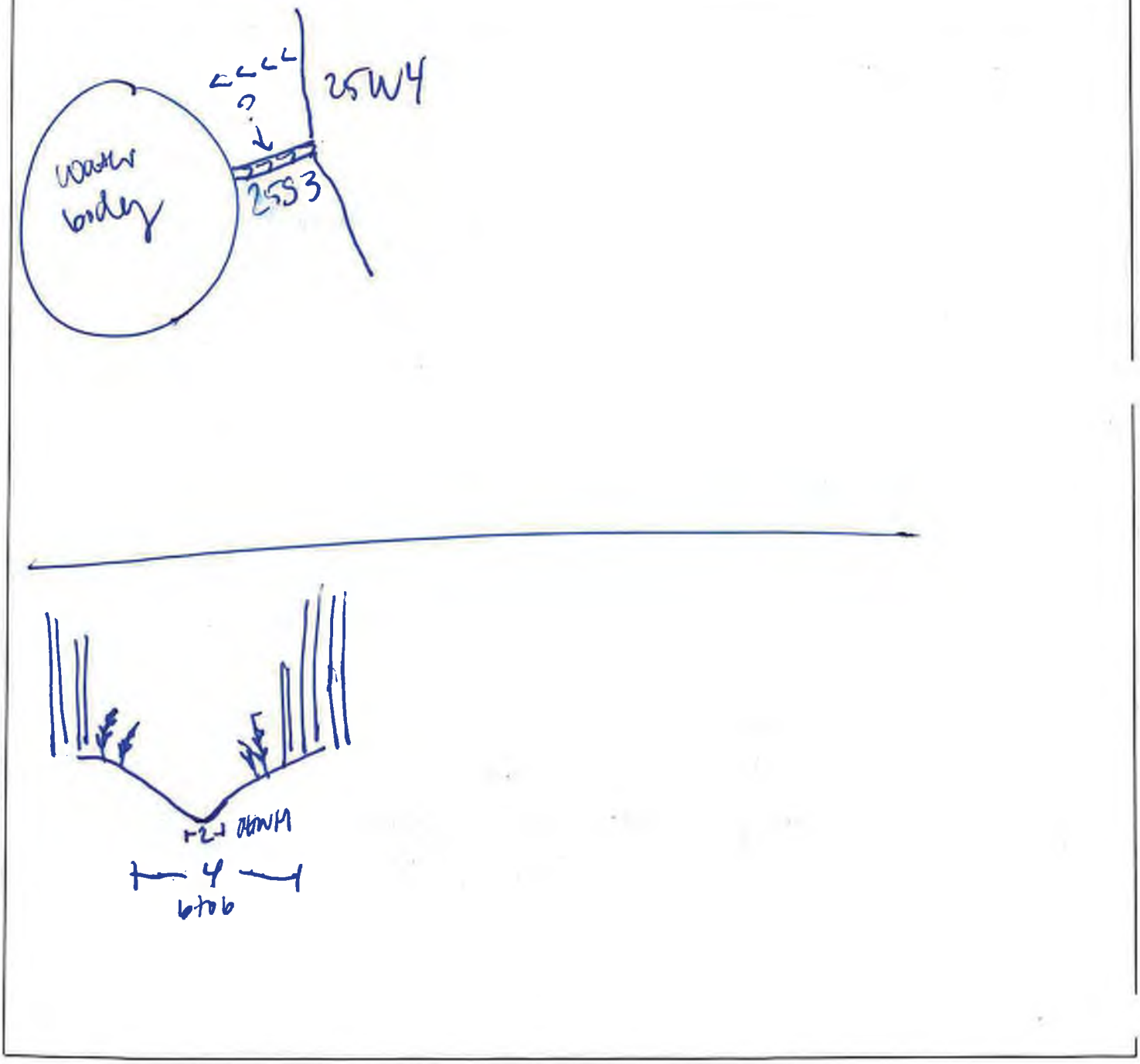
None.

Stream Data Form #: Water Feature 224
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 232
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
USGS Stream Name: Unnamed Tributary to the East Fork T
USGS Topo Quad Name: McKinney East
Associated Wetland(s): None

Date of Field Work: August 26, 2020
County/State: Collin County, Texas
Stream Number: 232
Coordinates: 33.244119 -96.608037

Slough draining into East Fork Trinity River.

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Southeast
OHWM Width (ft): 6 OHWM Height (in): 3
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☑ Other characteristics (pollutants, etc.) Dry

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None.

Riparian Vegetation: List species observed.

Sugarberry (Celtis laevigata), ash leaf maple (Acer negundo), blue mistflower (Conoclinium coelestinum), giant ragweed (Ambrosia trifida), poison ivy (Toxicodendron radicans), American elm (Ulmus americana), osage-orange (Maclura pomifera), cedar elm (Ulmus crassifolia).

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

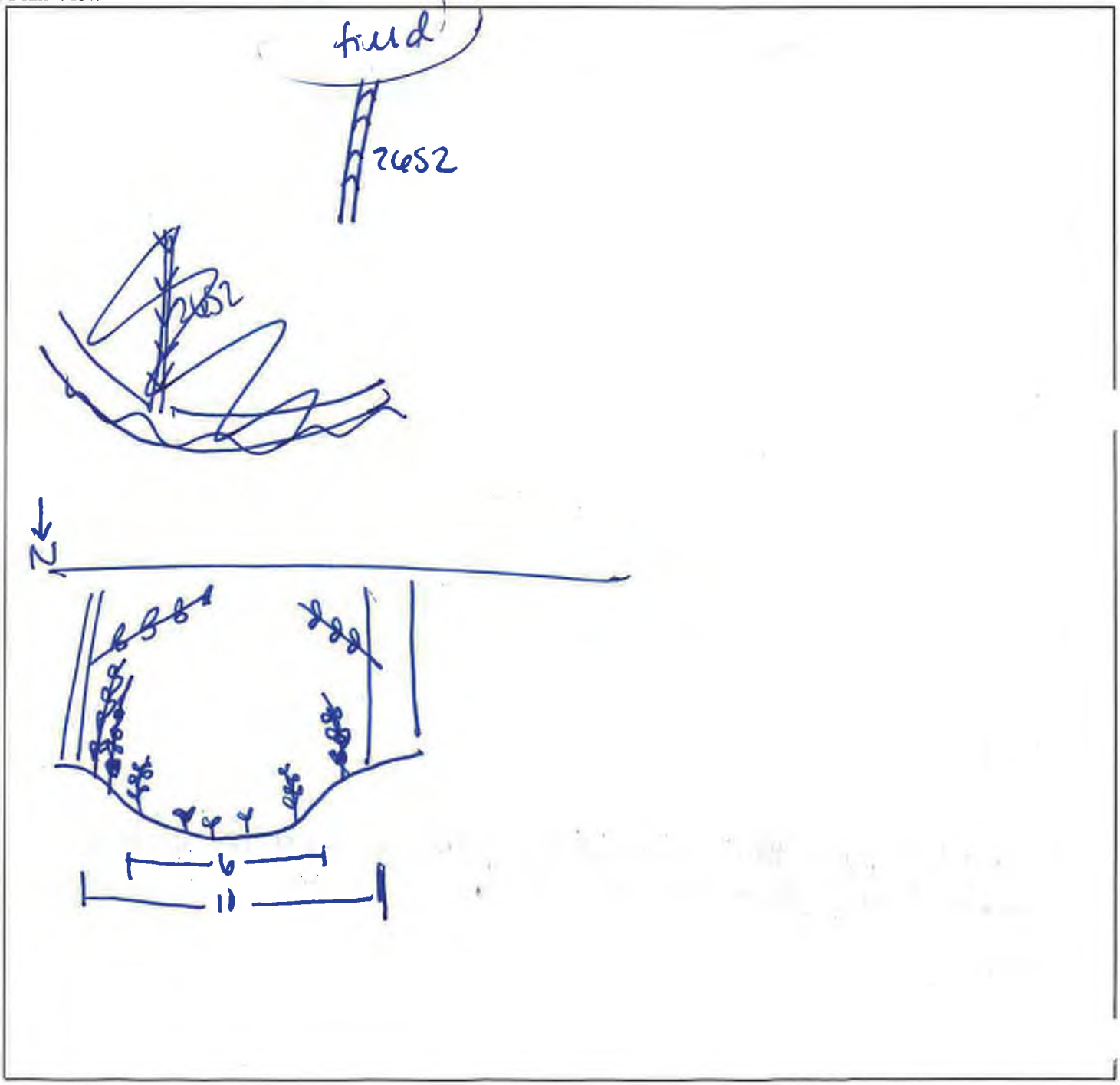
None.

Stream Data Form #: Water Feature 234
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 242
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert
Date of Field Work: August 16, 2021
USGS Stream Name: Powerhouse Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 242
Associated Wetland(s): None
Coordinates: 33.219487 -96.600146

Stream Type: Perennial
Characteristics: Channelized
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 7
OHWM Height (in): 60

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☑ Cobbles
- ☑ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☑ Aquatic vegetation
- ☐ 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 Turbid
- ☐ 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.

Bluegill, sunfish, and other small fish. Rattlesnake present.

Riparian Vegetation: List species observed.

American elm (Ulmus americana), pecan (Carya illinoinensis), and ash leaf maple (Acer negundo)

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

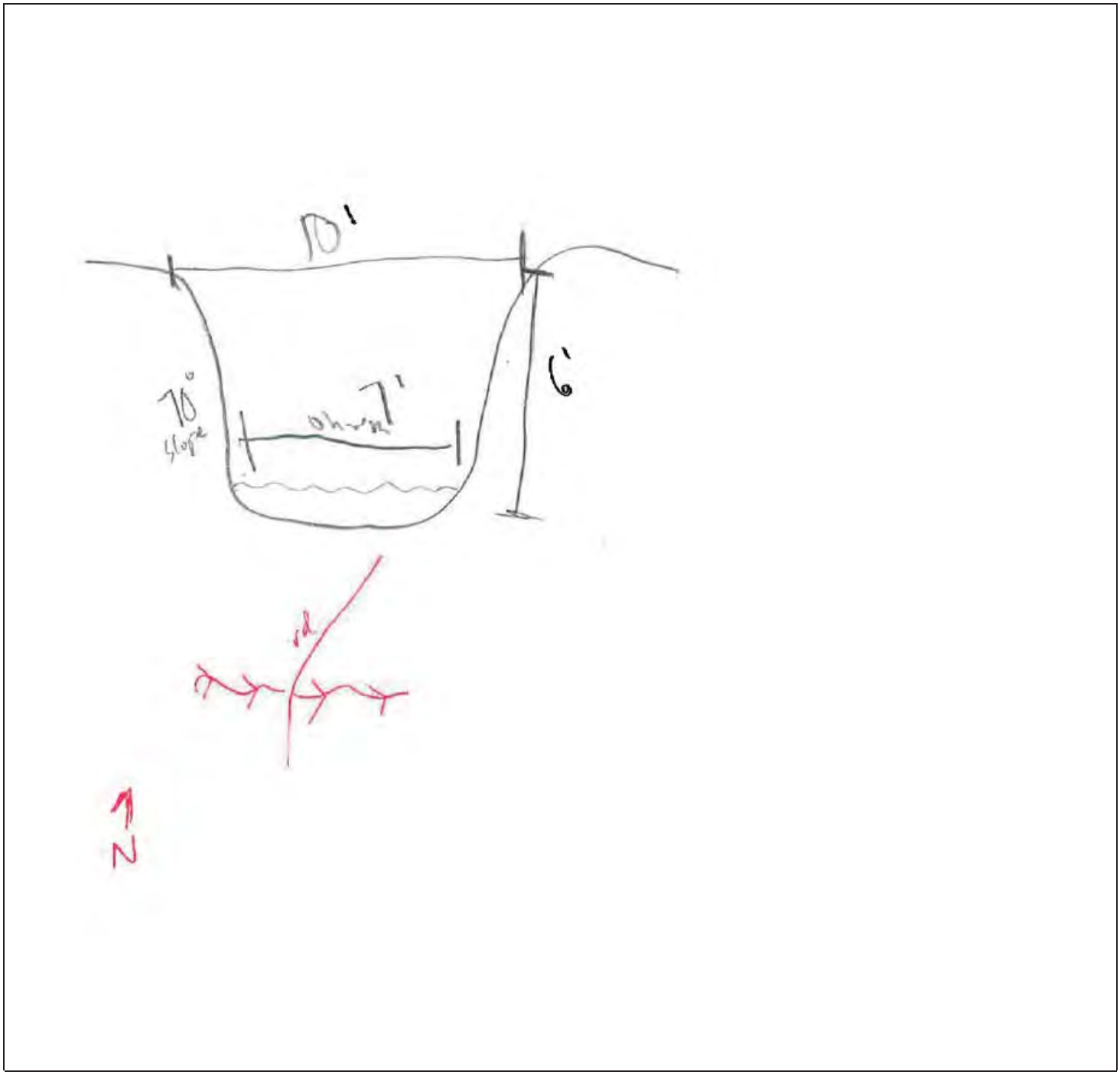
none

Stream Data Form #: Water Feature 242
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 261
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan
Date of Field Work: November 11, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 261
Associated Wetland(s): Water Feature 258
Coordinates: 33.205815 -96.600205

Stream Type: Perennial
Characteristics: Stagnant water flow
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South East
OHWM Width (ft): 10
OHWM Height (in): 48
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☑ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☑ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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, snakes, birds, beavers, fish

Riparian Vegetation: List species observed.

great ragweed (Ambrosia trifida), hackberry (Celtis laevigata), eastern poison ivy (Toxicodendron radicans), and American elm (Ulmus americana).

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

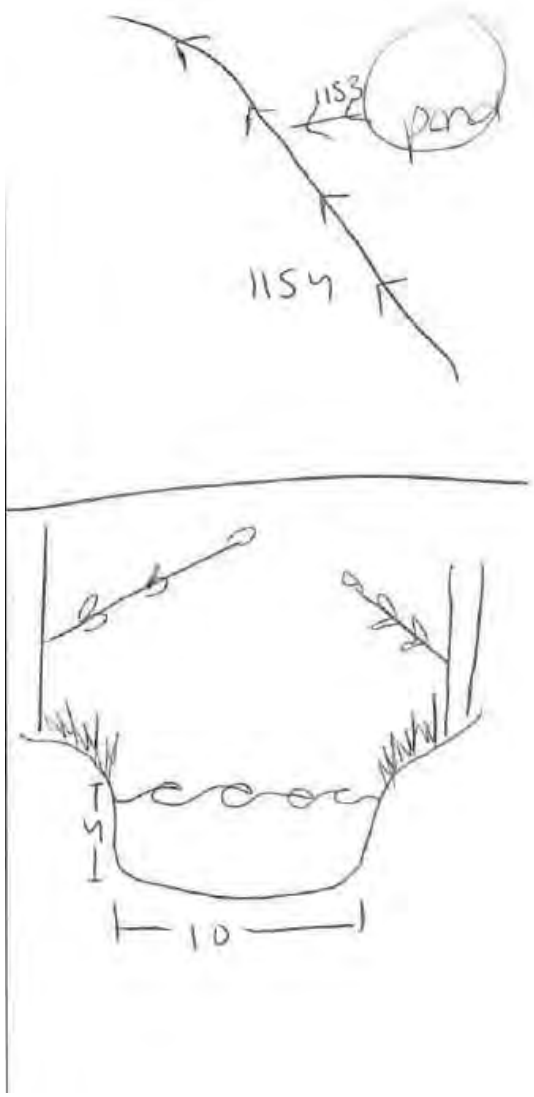
None

Stream Data Form #: Water Feature 261
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 262
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan
Date of Field Work: November 11, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 262
Associated Wetland(s): Water Feature 258
Coordinates: 33.205819 -96.600037

Stream Type: Perennial
Characteristics: Potentially excavated to connect pond to adjacent stream.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 8
OHWM Height (in): 36
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☑ Other: Bricks and other debris

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

Beavers, fish, ducks, frogs, and snakes.

Riparian Vegetation: List species observed.

marsh millet (Zizaniopsis miliacea), eastern poison ivy (Toxicodendron radicans), ash leaf maple (Acer negundo), canadian goldenrod (Solidago canadensis), cedar elm (Ulmus crassifolia), green ash (Fraxinus pennsylvanica), and american elm (Ulmus americana).

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

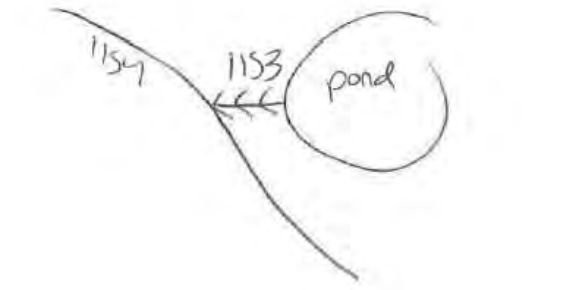
None

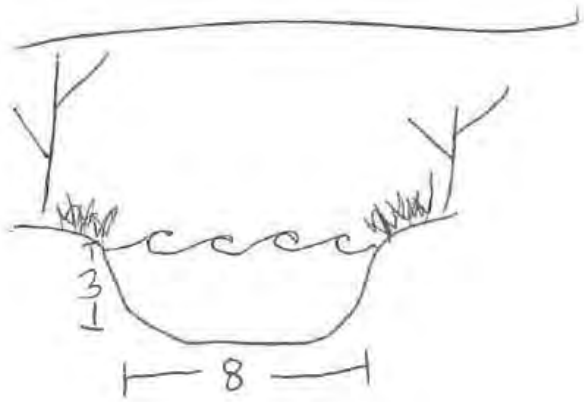
Stream Data Form #: Water Feature 262
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

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





Sectional View

Stream Data Form #: Water Feature 269
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 269
Associated Wetland(s): None
Coordinates: 33.204744 -96.598906

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Artificially Stabilized Bank
Stream Flow Direction: East
OHWM Width (ft): 6 OHWM Height (in): 17
Stream Bottom composition:

- [x] Silts
- [x] Sands
- [x] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [x] Sand bar
- [x] Sand/Gravel beach/bar
- [x] Gravel riffles
- [x] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [x] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] 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
- [x] Turbid
- [ ] Very Turbid
- [ ] 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.

Small fish, Largemouth bass fry.

Riparian Vegetation: List species observed.

johnsongrass (Sorghum halapense), great ragweed (Ambrosia trifida), black willow (Salix nigra), ash leaf maple (Acer negundo), chickasaw plum (Prunus angustifolia), bull tongue arrowhead (Sagittaria lancifolia), and floating primrose willow (Ludwigia peploides).

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

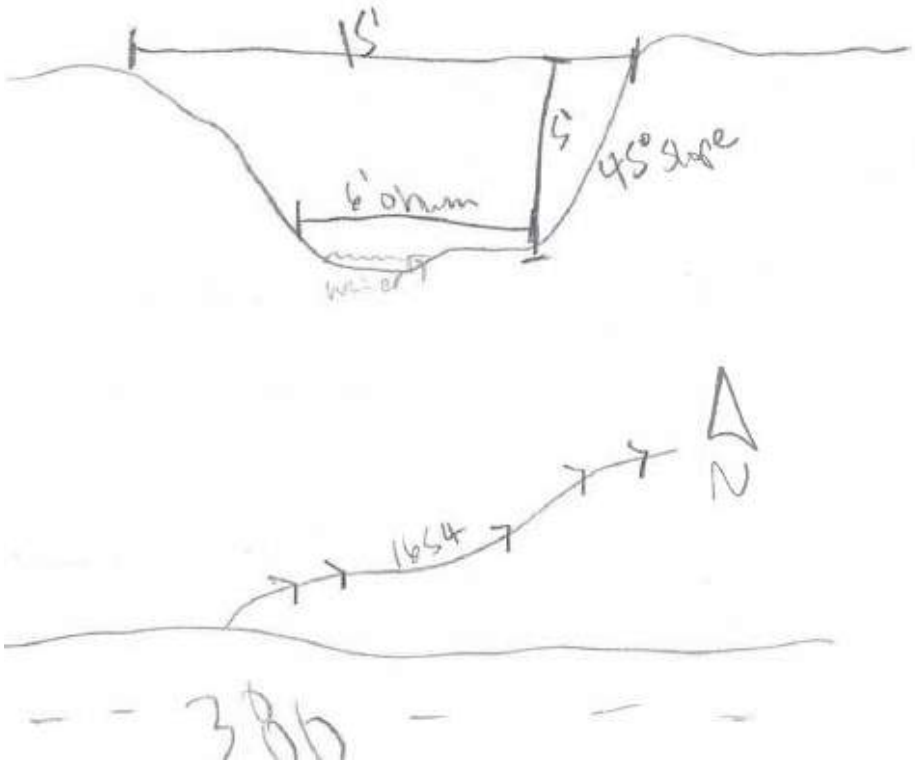
None

Stream Data Form #: Water Feature 269
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 271
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Mike Keenan and Ethan Eichler
USGS Stream Name: Unnamed Tributary to the East Fork T
USGS Topo Quad Name: McKinney East
Associated Wetland(s): None

Date of Field Work: September 24, 2020
County/State: Collin County, Texas
Stream Number: 271
Coordinates: 33.204734 -96.597356

Stream Type: Intermittent Characteristics: Seasonally inundated an flows east into the East Fork Trinity River
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 2 OHWM Height (in): 8
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☐ 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 Turbid ☐ 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.

None observed

Riparian Vegetation: List species observed.

Black willow (Salix nigra), cottonwood (Populous deltoides), narrow leaf cattail (Typha angustifolia) balloon vine (Cardiospermum halicacabum), great ragweed (Ambrosia trifida) American elm(Ulmus americana), golden rod(Solidago gigantea), greenbriear(Smilax bona-nox).

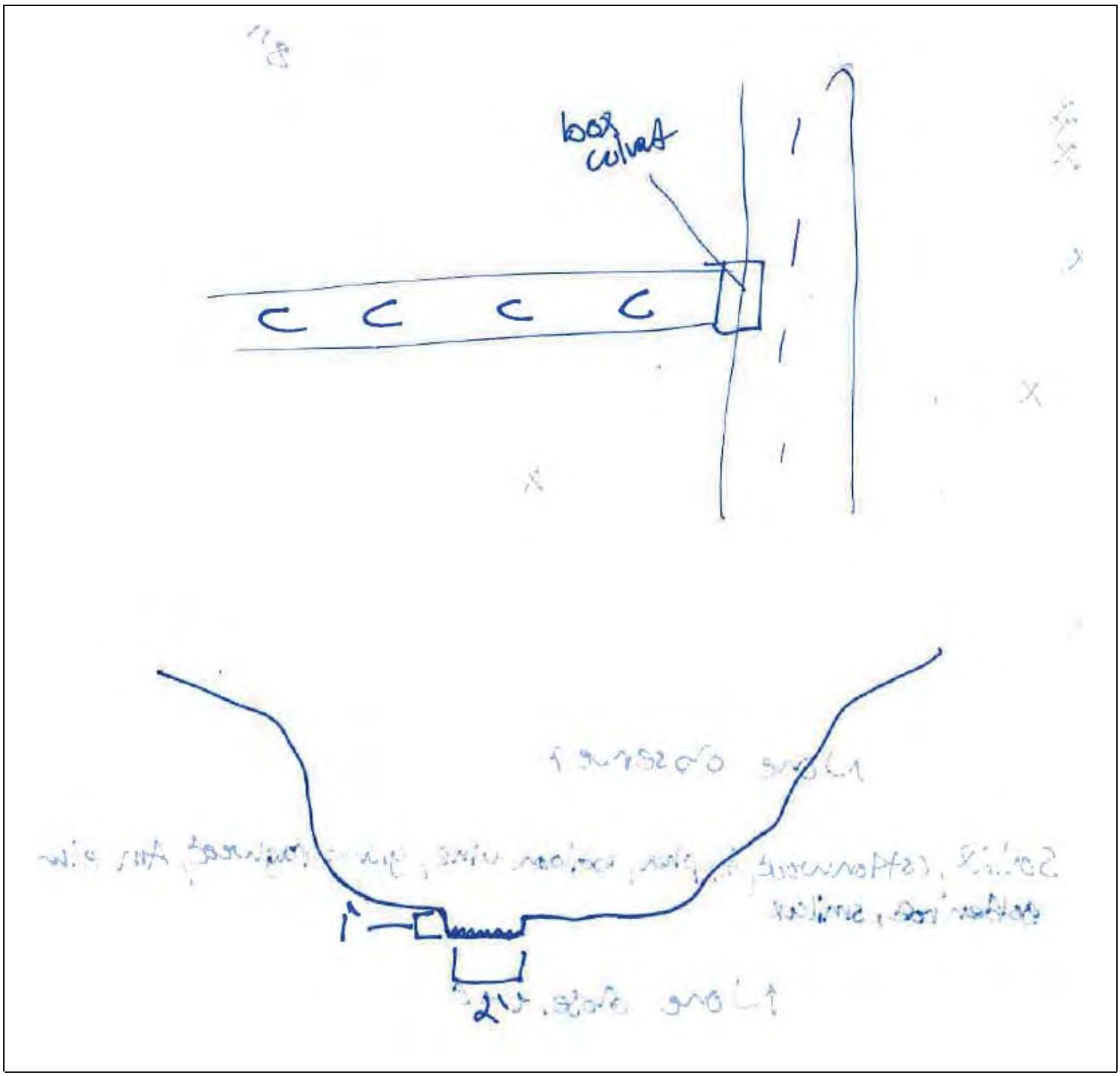
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.

Stream Data Form #: Water Feature 271
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 273
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert Ethan Eichler and Mike Keenan
Date of Field Work: October 14, 2020
USGS Stream Name: East Fork Trinity River
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 273
Associated Wetland(s): None
Coordinates: 33.203798 -96.595878

Stream Type: Perennial
Characteristics: Incised with water
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Roots from trees along banks proving stabilization. Inundated outside of ~~tree line.~~
Stream Flow Direction: South
OHWM Width (ft): 50
OHWM Height (in): 48

Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [x] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [x] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [x] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [x] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

Snakes, frogs, bugs, otters

Riparian Vegetation: List species observed.

American elm, nodding wild rye, osage-orange, sugarberry, black locust, fringed green brier, johnsongrass, cedar elm, giant ragweed.

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

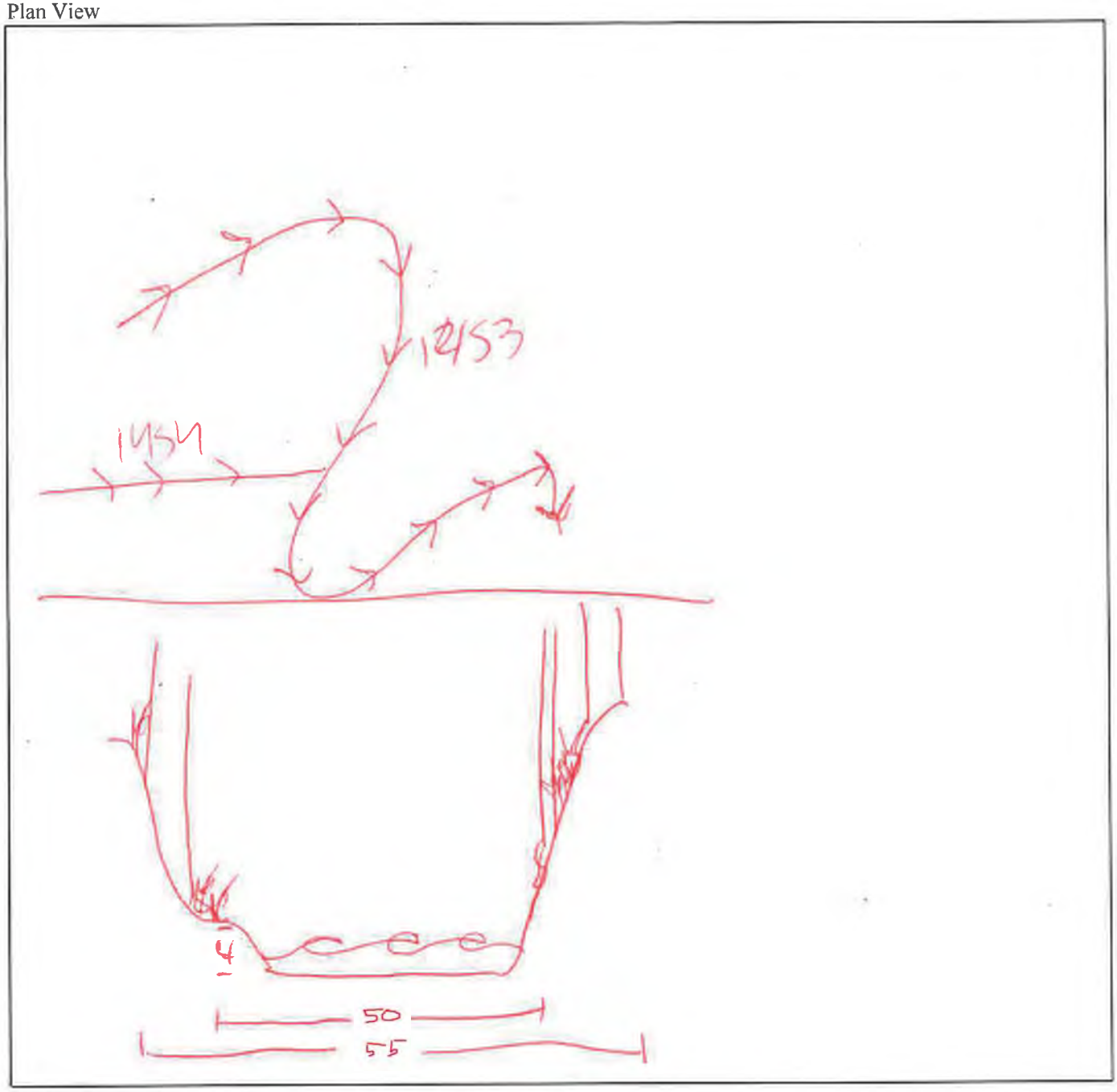
None.

Stream Data Form #: Water Feature 273
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 283
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
Date of Field Work: September 10, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 283
Associated Wetland(s): Water Features 279*, 280*, 284*
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:

- ☑ Silts
- ☑ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None

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.

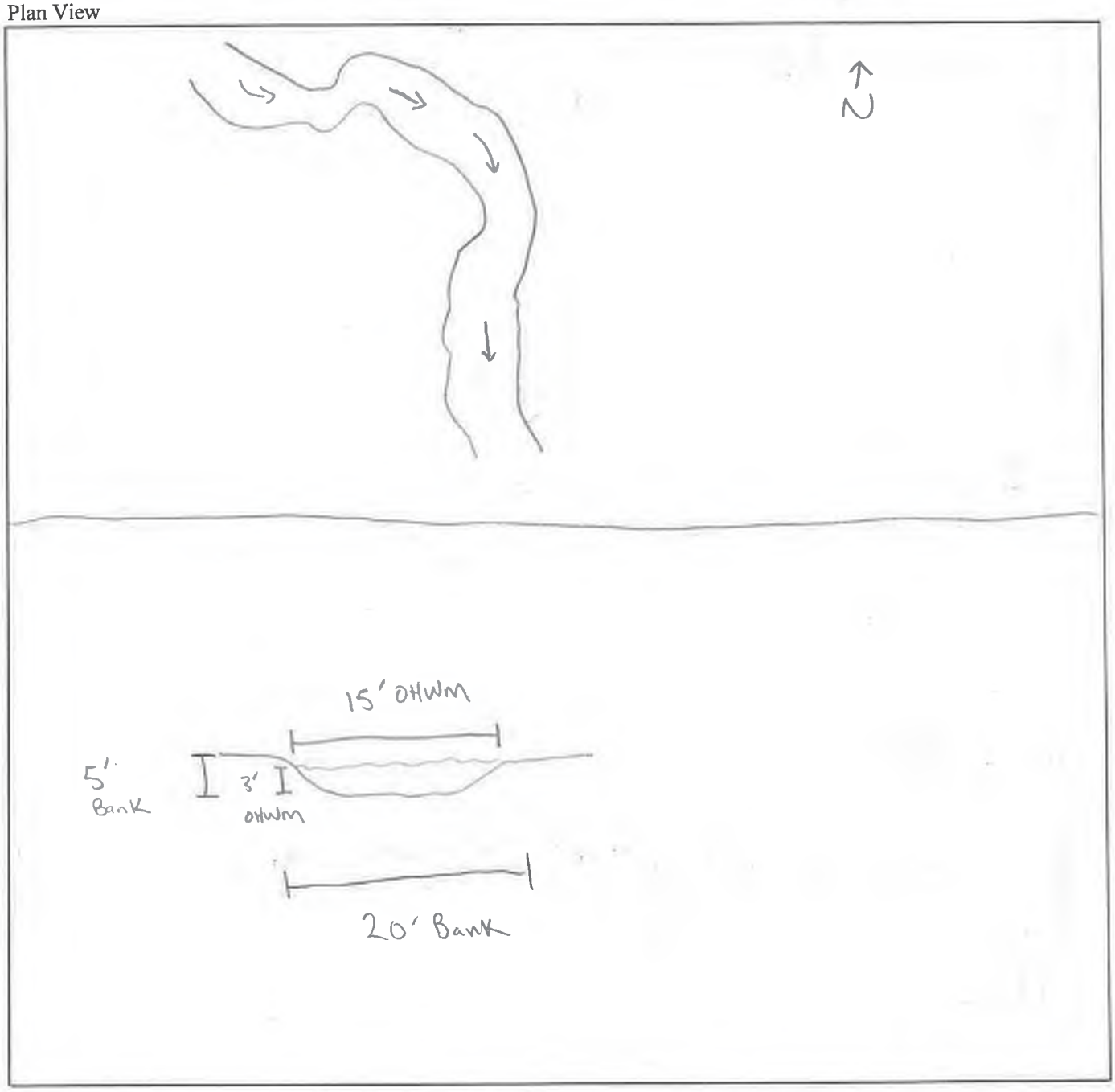
None.

Stream Data Form #: Water Feature 283
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



Sectional View

Stream Data Form #: Water Feature 285
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
USGS Stream Name: Unnamed Tributary to the East Fork T
USGS Topo Quad Name: McKinney East
Associated Wetland(s): None

Date of Field Work: September 10, 2020
County/State: Collin County, Texas
Stream Number: 285
Coordinates: 33.199630 -96.583054

Stream Type: Ephemeral Characteristics: Largely within the right-of-way. Water flow due to precent precipitation.

Bank Stability (e.g. highly eroding, sloughing banks, etc.): Heavily sedimented within stream.

Stream Flow Direction: South

OHWM Width (ft): 5 OHWM Height (in): 18

Stream Bottom composition:

- [x] Silts
- [x] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [ ] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [x] sediment deposition
- [ ] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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.

None.

Riparian Vegetation: List species observed.

Giant ragweed (Ambrosia trifida), osage-orange (Maclura pomifera), green ash (Fraxinus pennsylvanica), American elm (Ulmus americana)

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

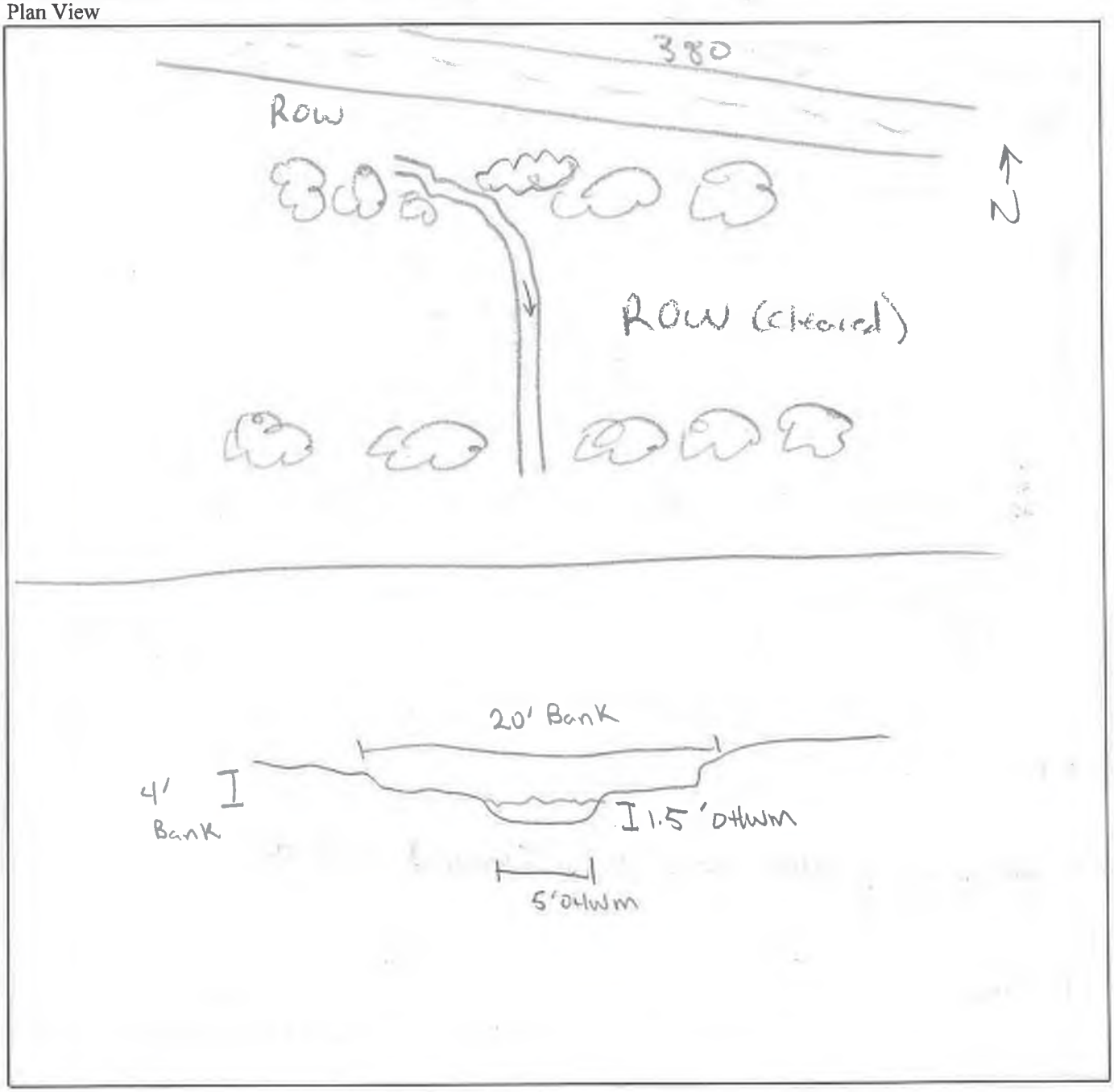
None.

Stream Data Form #: Water Feature 285
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



Sectional View

Stream Data Form #: Water Feature 287
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: August 26, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 287
Associated Wetland(s): Water Features 286, 289, 288, 290
Coordinates: 33.241048 -96.600562

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 5 OHWM Height (in): 24
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [x] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] 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
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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, fish

Riparian Vegetation: List species observed.

rice cutgrass (Leersia oryzoides), American elm (Ulmus americana), sugarberry (Celtis laevigata), osage-orange (Maclura pomifera), and giant ragweed (Ambrosia trifida).

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

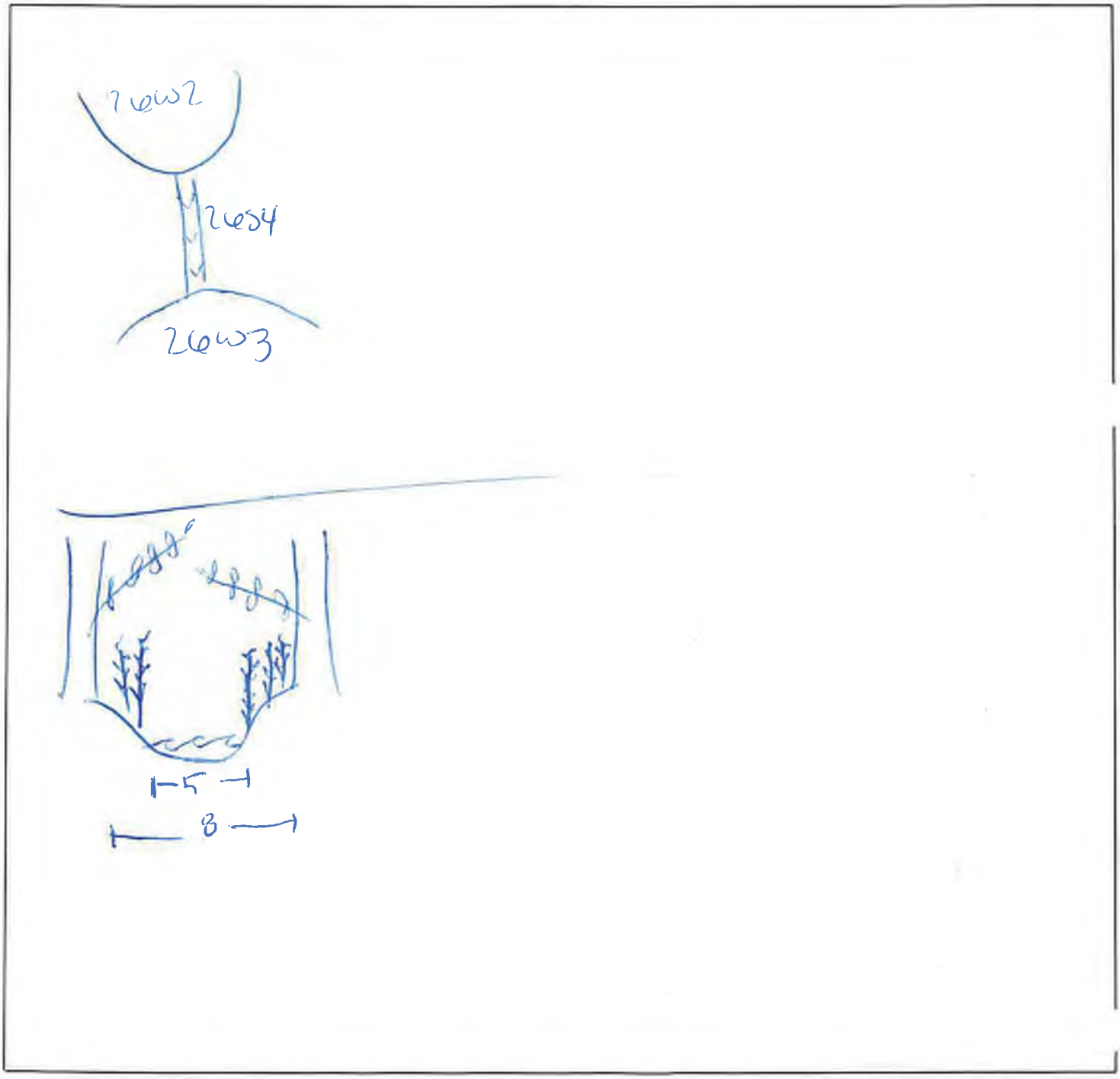
None.

Stream Data Form #: Water Feature 287
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 291
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Ethan Eichler
Date of Field Work: August 27, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 291
Associated Wetland(s): None
Coordinates: 33.239533 -96.597631

Stream Type: Perennial Characteristics: Hydrology impacted by beaver dams.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): vegetated banks
Stream Flow Direction: South
OHWM Width (ft): 15 OHWM Height (in): 30
Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [ ] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [x] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [ ] destruction of terrestrial vegetation
- [x] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [x] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] 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, snakes, insects

Riparian Vegetation: List species observed.
rice cutgrass (Leersia oryzoides), green ash (Fraxinus pennsylvanica), giant ragweed (Ambrosia trifida), ash leaf maple (Acer negundo), poison ivy (Toxicodendron radicans), pecan (Carya illinoinensis), black willow (Salix nigra), swamp smartweed (Persicaria hydropiperoides), and love-in-a-puff (Cardiospermum halicacabum).

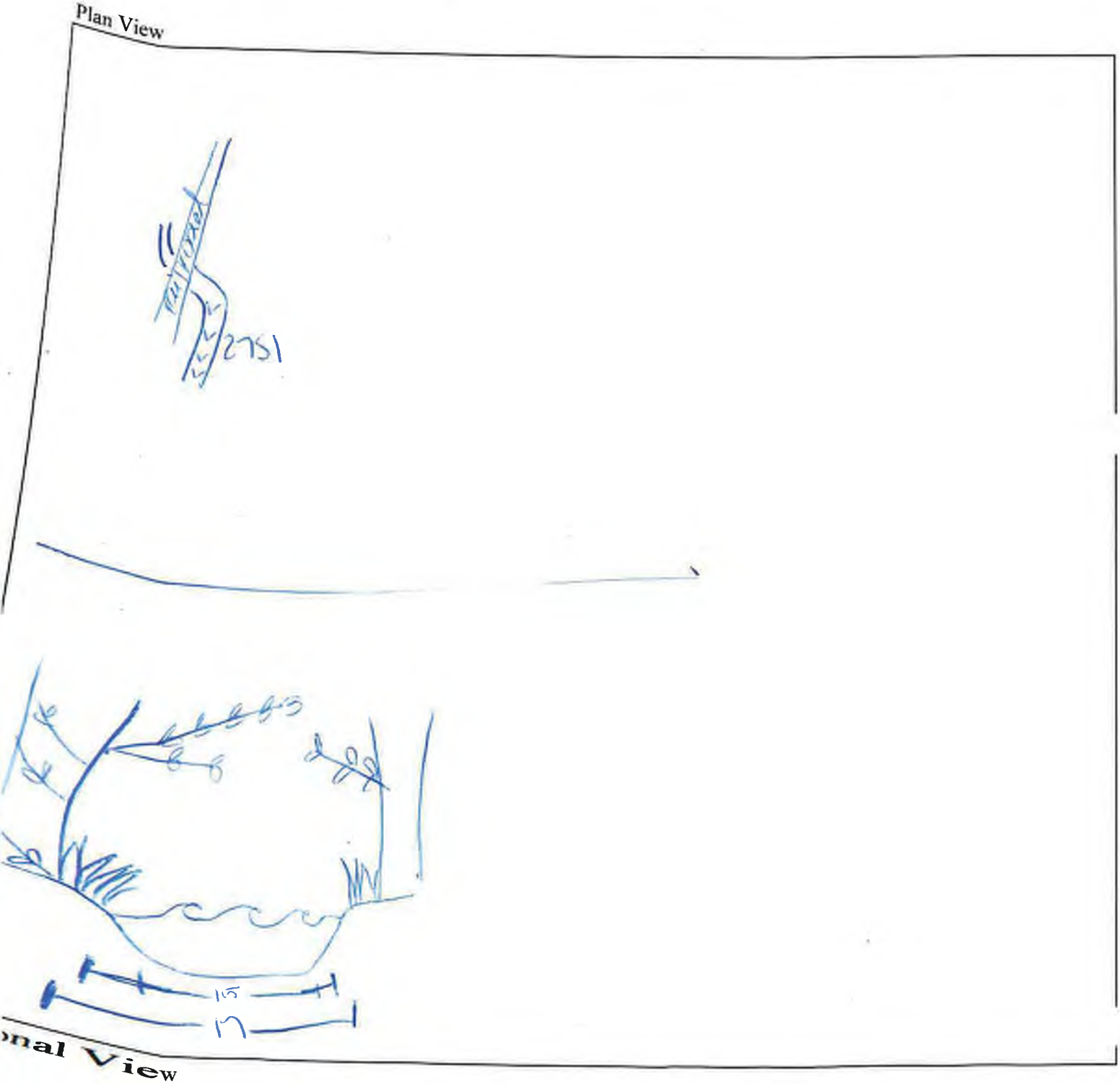
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.
None.

Stream Data Form #: Water Feature 291
Project Name: US 380
CSJ: 0135-15-002

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



nal View

Stream Data Form #: Water Feature 293
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Kathryn Burton
Date of Field Work: August 12, 2021
USGS Stream Name: Clemmons Creek
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 293
Associated Wetland(s): None
Coordinates: 33.239076 -96.595716

Stream Type: Intermittent
Characteristics: Drift deposits. Hydrology altered due to human manipulation upstream.
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Deep defined banks
Stream Flow Direction: Southeast
OHWM Width (ft): 12
OHWM Height (in): 24

Stream Bottom composition:

- [x] Silts
- [x] Sands
- [ ] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [ ] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [ ] Overhanging trees/shrubs
- [x] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [x] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [x] sediment deposition
- [x] water staining
- [ ] other (list):
- [x] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [ ] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [ ] Turbid
- [ ] Very Turbid
- [ ] Oily film
- [ ] High organic content
- [x] Other characteristics (pollutants, etc.) no surface water, soil saturated

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Frogs, insects, and snakes.

Riparian Vegetation: List species observed.

Ash leaf maple (Acer negundo), black willow (Salix nigra), American elm (Ulmus americana), swamp smartweed (Persicaria hydropiperoides), green ash (Fraxinus pennsylvanica), cedar elm (Ulmus crassifolia), oak species (Quercus sp.), pecan (Carya illinoinensis), eastern poison ivy (Toxicodendron radicans), and chinese privet (Ligustrum inense)

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

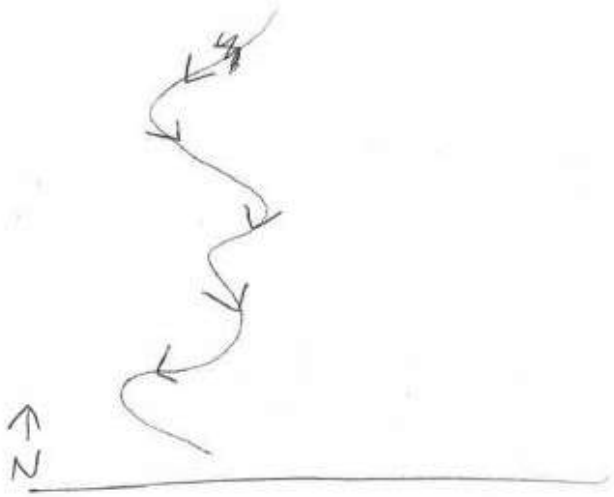
None

Stream Data Form #: Water Feature 293
Project Name: US 380
CSJ: 0135-15-002

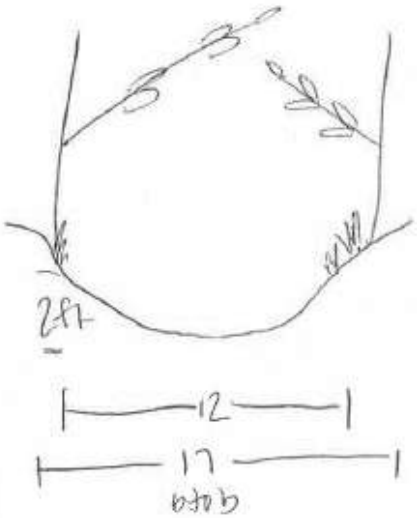
Stream Data Form (continued)
Please provide a plan and section view sketch of the stream channel.
Sketch should include:

- 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



Sectional View



Stream Data Form #: Water Feature 304
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea Hiebert, Mike Keenan, Kathryn Burton
Date of Field Work: August 12, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 304
Associated Wetland(s): Water Feature 300*
Coordinates: 33.235521 -96.587871

Stream Type: Ephemeral Characteristics: Receives flow from pond and ditch.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 5 OHWM Height (in): 18
Stream Bottom composition:

- [x] Silts
- [ ] Sands
- [x] Gravel
- [ ] Cobbles
- [ ] Bedrock
- [x] Vegetation
- [ ] Concrete
- [ ] Muck
- [ ] Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [x] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [ ] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [x] 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
- [x] destruction of terrestrial vegetation
- [x] 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
- [ ] Oily film
- [ ] High organic content
- [ ] Other characteristics (pollutants, etc.) none

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

common persimmon (Diospyros virginiana), american elm (Ulmus americana), pecan (Carya illinoinensis), hackberry (Celtis laevigata), chinkapin oak (Quercus muehlenbergii), and osage orange (Maclura pomifera)

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

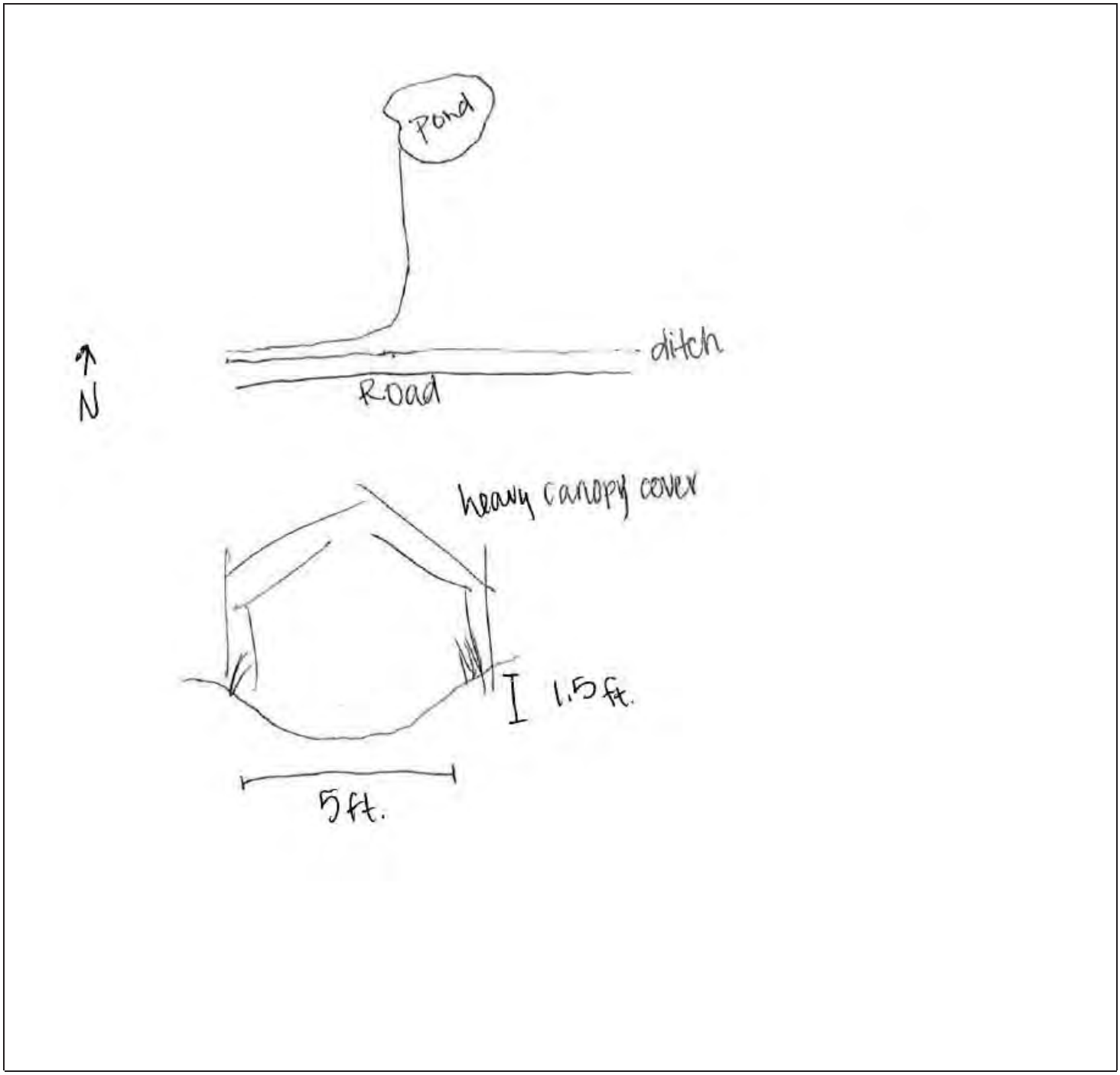
none

Stream Data Form #: Water Feature 304
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 322
Project Name: US 380
CSJ: 0135-15-002

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Ethan Eichler
Date of Field Work: September 14, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 322
Associated Wetland(s): None
Coordinates: 33.212504 -96.583098
Stream becomes less incised toward the east reach.

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): High erosion along banks
Stream Flow Direction: West
OHWM Width (ft): 8 OHWM Height (in): 36
Stream Bottom composition:

- ☑ Silts ☑ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☑ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☑ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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.

Insects.

Riparian Vegetation: List species observed.

Yaupon (Ilex vomitoria), Indian wood-oats (Chasmanthium latifolium), cedar elm (Ulmus crassifolia), American elm (Ulmus americana), pecan (Carya illinoinensis), southern catalpa (Catalpa bignonioides), poison ivy (Toxicodendron radicans), osage-orange (Maclura pomifera), eastern red cedar (Juniperus virginiana), sugarberry (Celtis laevigata), honey locust (Gleditsia triacanthos), fringed green brier (Smilax bona-nox), sawtooth oak (Quercus acutissima), rough cockleburr (Xanthium strumarium), hercules club (Zanthoxylum clava-herculis), curley dock (Rumex crispus), bermudagrass (Cynodon dactylon), and perennial ragweed (Ambrosia psilostachya).

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

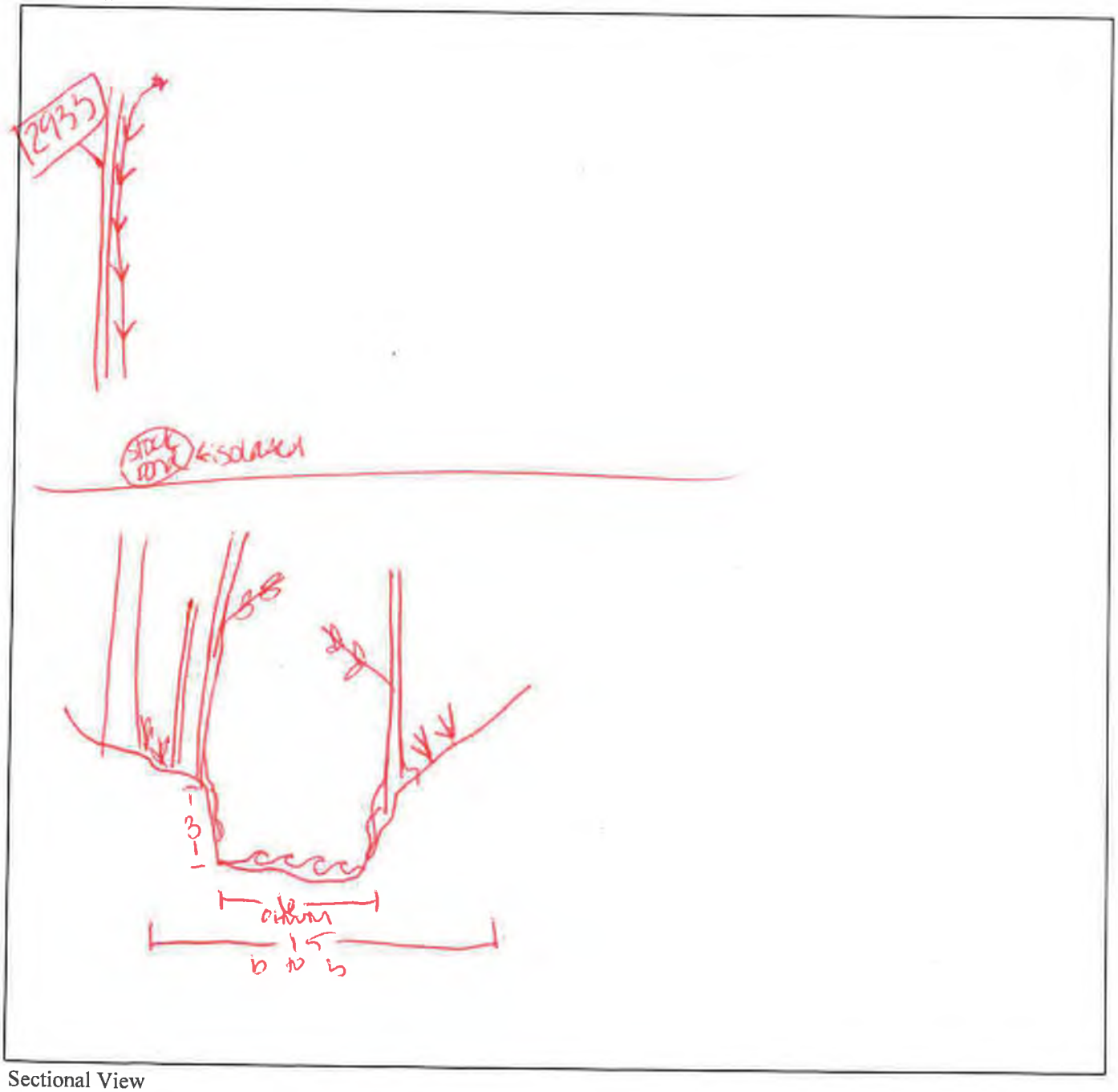
None.

Stream Data Form #: Water Feature 322
Project Name: US 380
CSJ: 0135-15-002

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



Sectional View

Stream Data Form #: Water Feature 335
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Kelsea D. Hiebert and Ethan Eichler
Date of Field Work: September 14, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 335
Associated Wetland(s): 333, 334, 276*
Coordinates: 33.204588 -96.586570

Stream Type: Intermittent Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.): Stabilized by emergent and forested wetland vegetation.
Stream Flow Direction: Southeast
OHWM Width (ft): 1 OHWM Height (in): 6
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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.
Snakes, insects

Riparian Vegetation: List species observed.
Annual marsh elder (Iva annua)

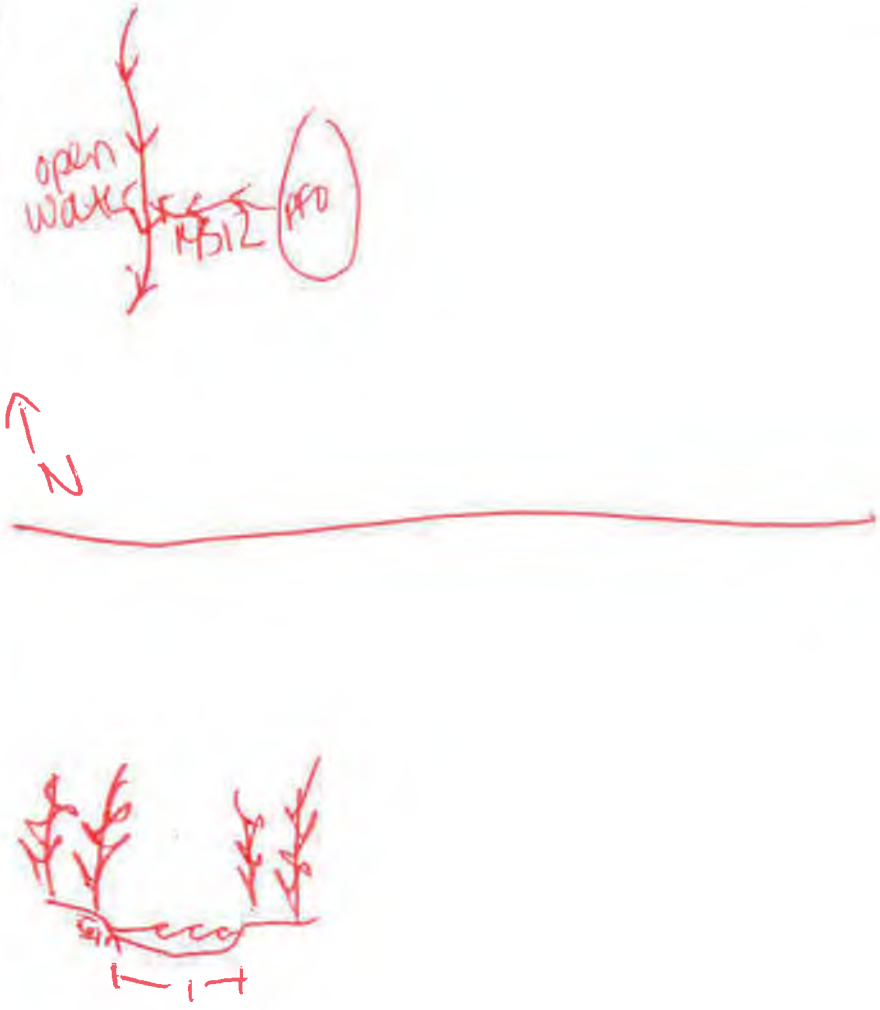
T&E Species/Suitable Habitat: List T&E species observed or which species the habitat is suitable for.
None.

Stream Data Form #: Water Feature 335
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



ctional View

Stream Data Form #: Water Feature 337
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Kelsea D. Hiebert, Mike Keenan, Ethan Eichler
Date of Field Work: October 14, 2020
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County
USGS Topo Quad Name: McKinney East
Stream Number: 337
Associated Wetland(s): None
Coordinates: 33.199328 -96.578060

Stream Type: Intermittent
Characteristics: Stream has a section of concrete banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: Southwest
OHWM Width (ft): 8
OHWM Height (in): 12

Stream Bottom composition:

- [x] Silts
- [ ] Cobbles
- [x] Concrete
- [ ] Other:
- [ ] Sands
- [ ] Bedrock
- [ ] Muck
- [ ] Gravel
- [ ] Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- [ ] Sand bar
- [ ] Sand/Gravel beach/bar
- [ ] Gravel riffles
- [ ] Aquatic vegetation
- [x] Overhanging trees/shrubs
- [ ] Deep pool/ hole/ channel
- [ ] Other:

Stream has the following characteristics:

- [x] Bed and banks

OHWM (check all indicators that apply):

- [x] clear, natural line impressed on the bank
- [ ] changes in the character of soil
- [ ] shelving
- [x] vegetation matted down, bent, or absent
- [ ] leaf litter disturbed or washed away
- [ ] sediment deposition
- [ ] water staining
- [ ] other (list):
- [ ] the presence of litter and debris
- [x] destruction of terrestrial vegetation
- [ ] the presence of wrack line
- [ ] sediment sorting
- [x] scour
- [x] multiple observed or predicted flow events
- [ ] abrupt change in plant community

Water Quality:

- [ ] Clear
- [ ] Slightly Turbid
- [x] Turbid
- [ ] Very Turbid
- [ ] 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.

Snakes and frogs

Riparian Vegetation: List species observed.

Green ash (Fraxinus pennsylvanica), American elm (Ulmus americana), sugar berry (Celtis laevigata), southern catalpa (Catalpa bignonioides), fringed green brier (Smilax bonanox), chinese privet (Ligustrum inense).

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

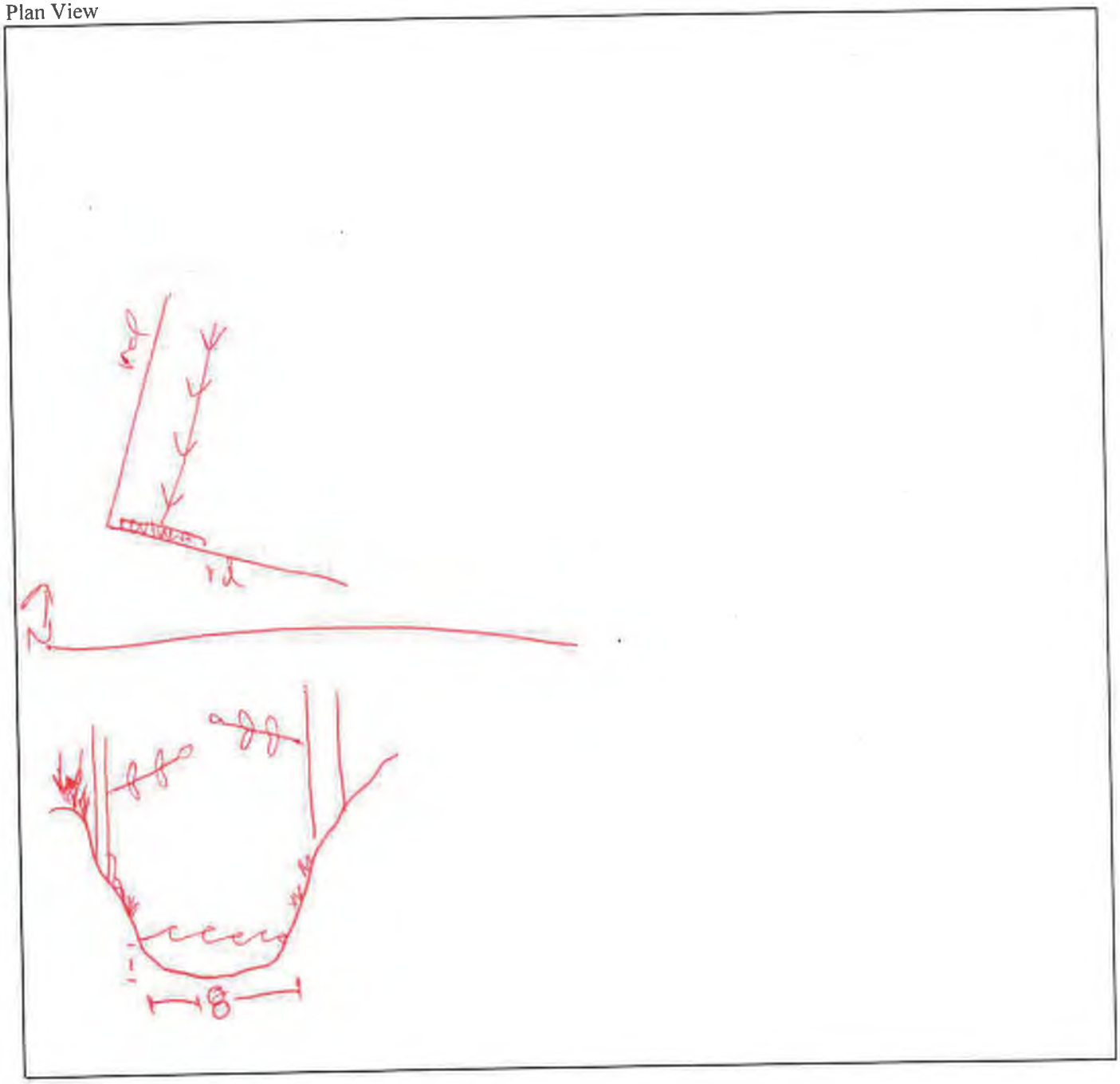
None

Stream Data Form #: Water Feature 337
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



Sectional View

Stream Data Form #: Water Feature 338
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler, Kelsea Hiebert
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 338
Associated Wetland(s): None
Coordinates: 33.200055 -96.577684

Stream Type: Ephemeral Characteristics: Deeply channelized, eroded
Bank Stability (e.g. highly eroding, sloughing banks, etc.): highly eroding
Stream Flow Direction: South East
OHWM Width (ft): 3 OHWM Height (in): 12
Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☑ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ Oily film
- ☐ High organic content
- ☐ Other characteristics (pollutants, etc.) No water

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

None

Riparian Vegetation: List species observed.

American elm (Ulmus americana),green ash (Fraxinus pennsylvanica), hackberry (Celtis laevigata), and pecan (Carya illinoinensis).

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

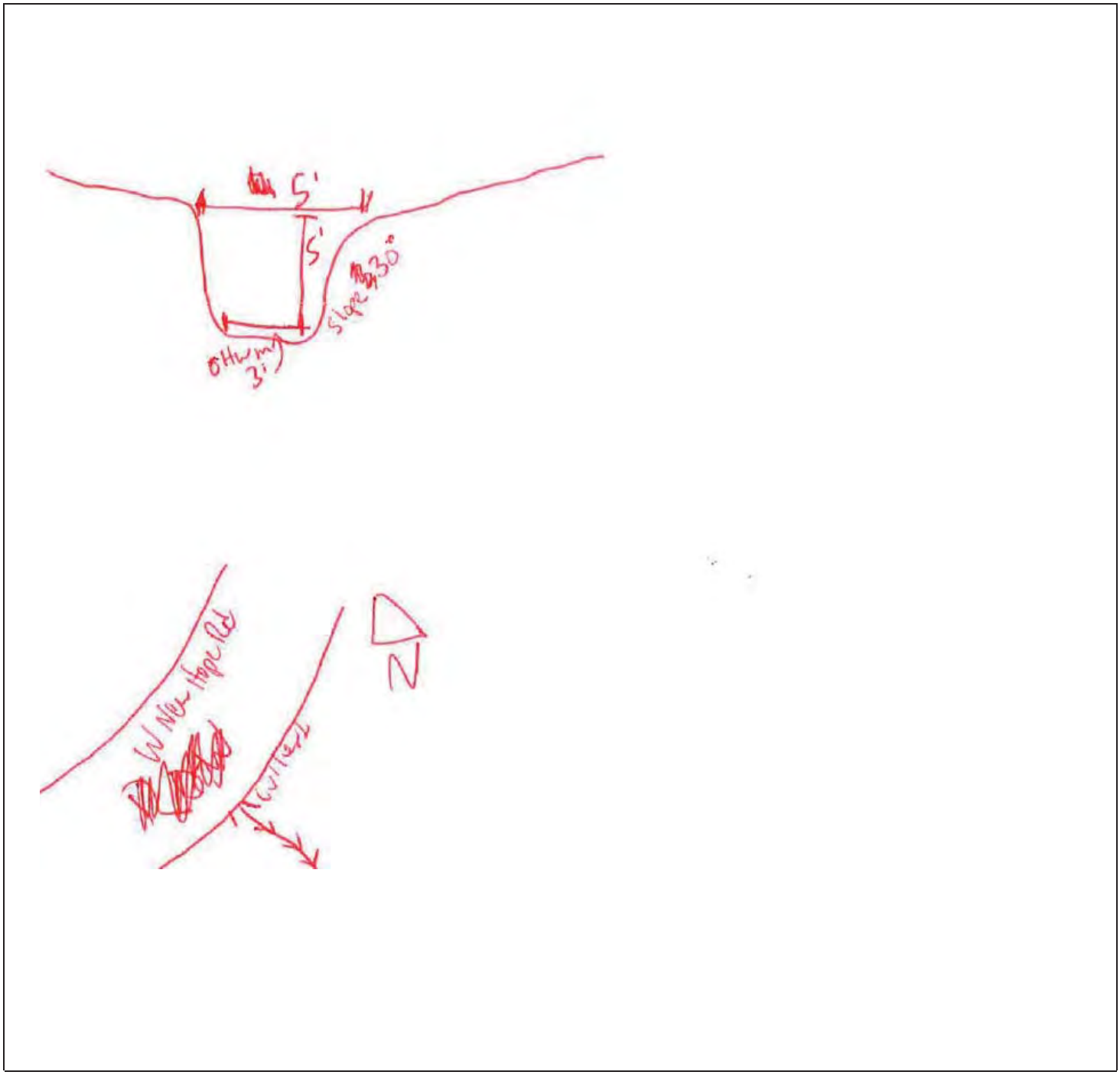
None

Stream Data Form #: Water Feature 338
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



Sectional View

Stream Data Form #: Water Feature 342
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Kelsea Hiebert, Wyatt Wolfenkoehler
Date of Field Work: August 16, 2021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 342
Associated Wetland(s): None
Coordinates: 33.197015 -96.573861

Stream Type: Ephemeral Characteristics: Hydrology from US 380 drainage.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 3 OHWM Height (in): 12
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☑ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ Oily film ☐ High organic content
☐ Other characteristics (pollutants, etc.) none

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

Frogs

Riparian Vegetation: List species observed.

American elm (Ulmus americana), hackberry (Celtis laevigata), pecan (Carya illinoinensis), eastern poison ivy (Toxicodendron radicans), fringed green brier (Smilax bona-nox), and johnsongrass (Sorghum halapense).

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

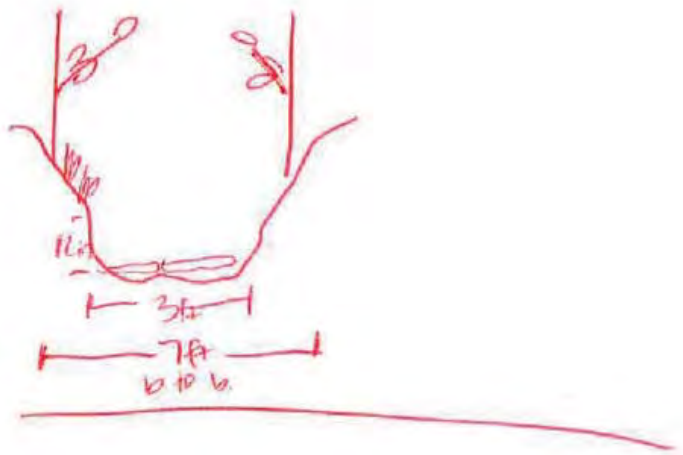
None

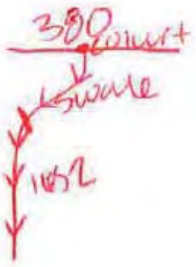
Stream Data Form #: Water Feature 342
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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





Sectional View

Stream Data Form #: Water Feature 351
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

Stream Data Form

Surveyor(s): Wyatt Wolfenkoehler and Kelsea Hiebert
Date of Field Work: August 16, 021
USGS Stream Name: Unnamed Tributary to the East Fork T
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 351
Associated Wetland(s): None
Coordinates: 33.195442 -96.567532

Stream Type: Ephemeral Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South East
OHWM Width (ft): 2 OHWM Height (in): 10
Stream Bottom composition:

- ☐ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☐ Sands ☐ Bedrock ☐ Muck
- ☐ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☐ Overhanging trees/shrubs ☐ Deep pool/ hole/ channel ☐ Other: none

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 ☐ Oily film ☐ High organic content
- ☐ Other characteristics (pollutants, etc.) no water

Aquatic Organisms: List all species observed. This would include waterfowl, fish, snakes, turtles, frogs, invertebrates, etc.

none

Riparian Vegetation: List species observed.

cedar elm (Ulmus crassifolia), johnsongrass (Sorghum halapense), and tall false rye grass (Schedonorus arundinaceus)

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

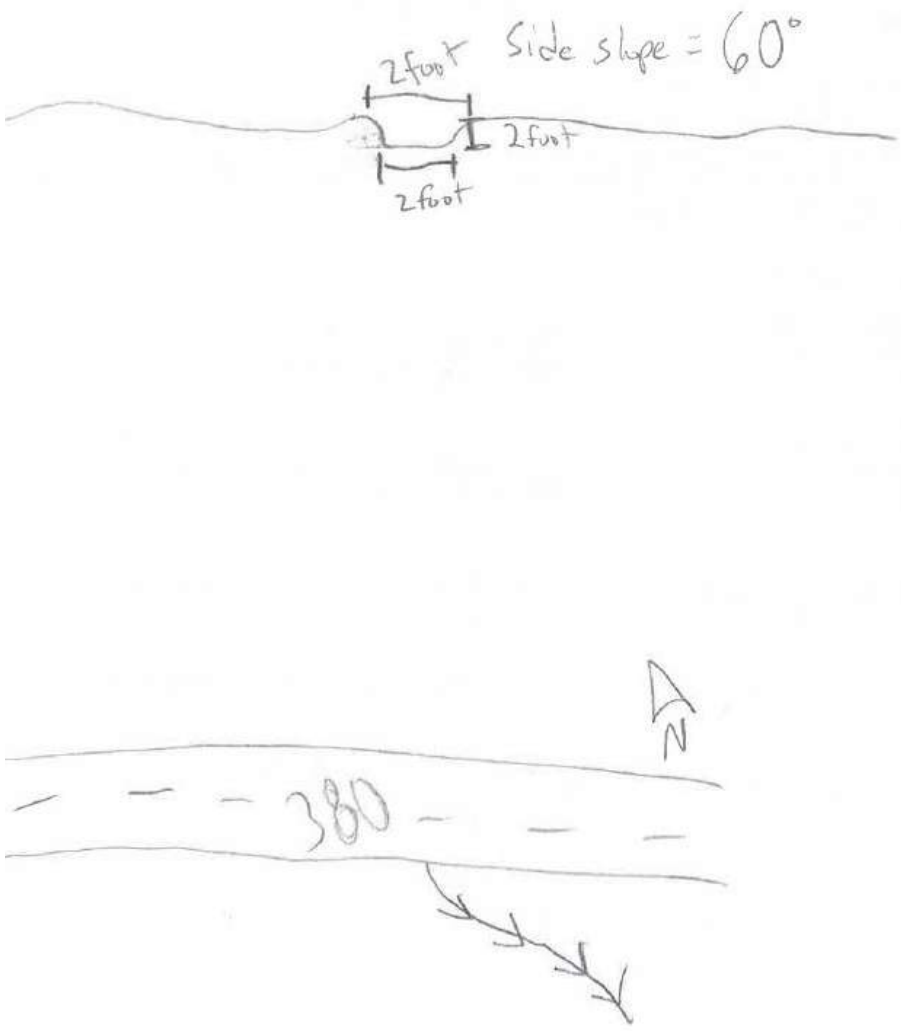
none

Stream Data Form #: Water Feature 351
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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



Sectional View

Stream Data Form #: Water Features 354
Project Name: US 380
CSJ: 0135-03-053

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
Date of Field Work: September 10, 2020
USGS Stream Name: Unnamed Tributary to the East Fork Trinity River
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 353, 354
Associated Wetland(s): None
Coordinates: 33.198545, -96.598042

Stream Type: Intermittent
Characteristics: Heavy flow due to rain in recent days. Moderate flow predicted from 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:

- ☐ Silts
- ☐ Cobbles
- ☐ Concrete
- ☑ Other: Significant broken glass within stream bed
- ☑ Sands
- ☐ Bedrock
- ☐ Muck
- ☑ Gravel
- ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☑ Sand bar
- ☑ Sand/Gravel beach/bar
- ☑ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None.

Riparian Vegetation: List species observed.

Sugarberry (Celtis laevigata), giant ragweed (Ambrosia trifida), osage-orange (Maclura pomifera), ash leaf maple (Acer negundo), fringed green brier (Smilax bona-nox), and poison ivy (Toxicodendron radicans).

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

None.

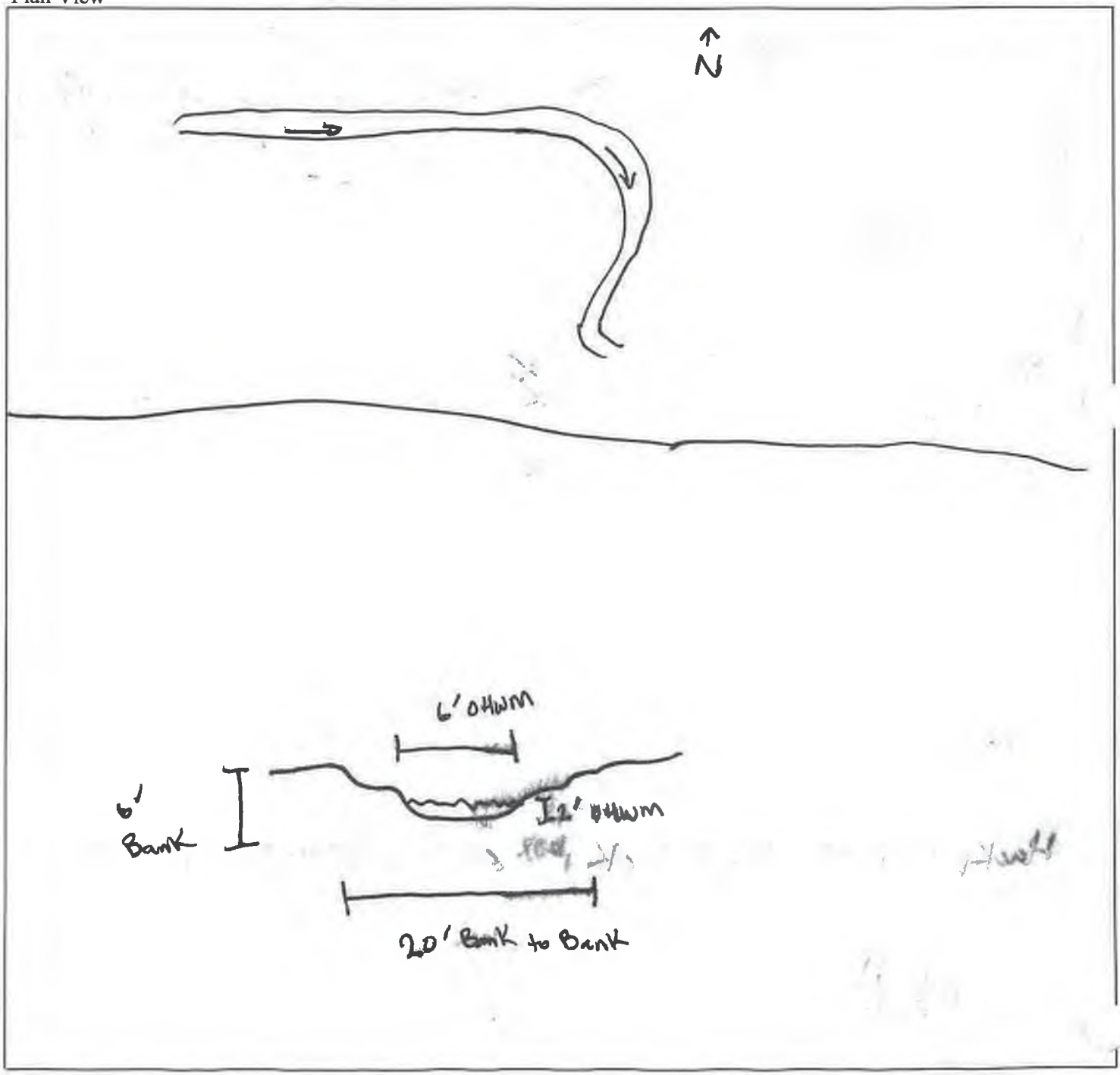
Stream Data Form #: Water Features 353 and 354
Project Name: US 380
CSJ: _____

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.

Plan View



Sectional View

Stream Data Form #: Water Features 356
Project Name: US 380
CSJ: 0135-03-053 0135-15-002

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
USGS Stream Name: Unnamed Tributary to the East Fork T
USGS Topo Quad Name: McKinney East
Associated Wetland(s): None

Date of Field Work: September 10, 2020
County/State: Collin County, Texas
Stream Number: 355, 356
Coordinates: 33.203268 -96.597500

Flows east into the East Fork Trinity River

Stream Type: Perennial Characteristics:
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: East
OHWM Width (ft): 22 OHWM Height (in): 72
Stream Bottom composition:

- ☑ Silts ☐ Cobbles ☐ Concrete ☐ Other:
- ☑ Sands ☐ Bedrock ☐ Muck
- ☑ Gravel ☐ Vegetation

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar ☐ Sand/Gravel beach/bar ☐ Gravel riffles ☐ Aquatic vegetation
- ☑ 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 Turbid ☐ 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.

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 illinoinensis), green ash (Fraxinus pennsylvanica)

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

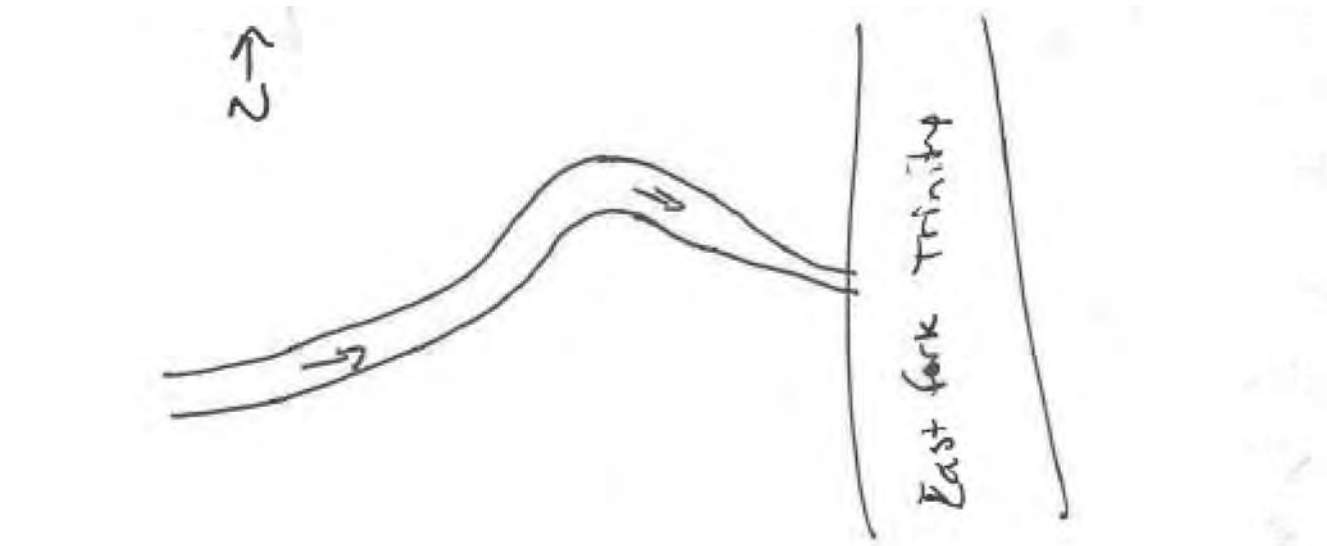
None.

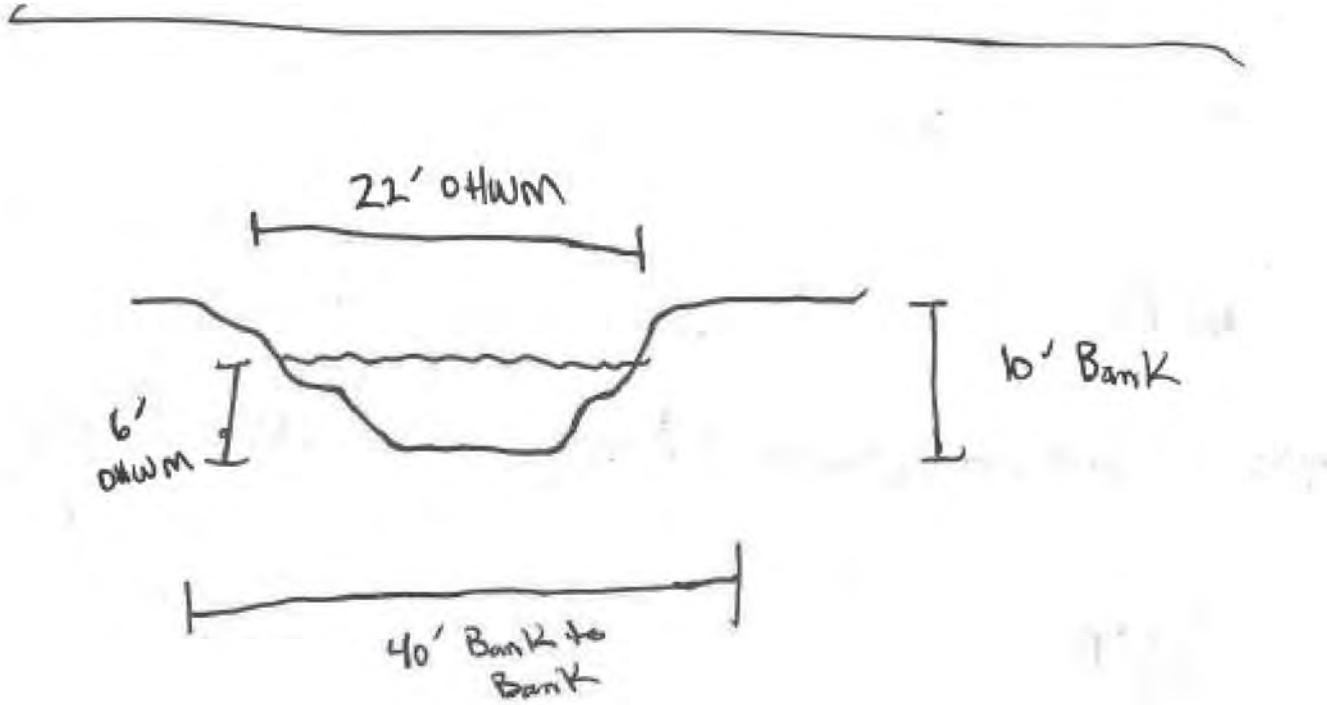
Stream Data Form # Water Features 355/ 356
Project Name: US 380
CSJ: 0135-15-002 0135-03-053

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





Sectional View

Stream Data Form #: Water Feature 358
Project Name: US 380
CSJ: 0135-03-053

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
Date of Field Work: September 8, 2020
USGS Stream Name: East Fork Trinity River
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 358
Associated Wetland(s): 367, 370, 368, 366, 364, 362
Coordinates: 33.190381, -96.577237

Stream Type: Perennial
Characteristics: Incised stream banks.
Bank Stability (e.g. highly eroding, sloughing banks, etc.):
Stream Flow Direction: South
OHWM Width (ft): 40
OHWM Height (in): 30

Stream Bottom composition:

- ☑ Silts
- ☐ Sands
- ☐ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None.

Riparian Vegetation: List species observed.

Pecan (Carya illinoinensis), black walnut (Juglans nigra), green ash (Fraxinus pennsylvanica), poison ivy (Toxicodendron radicans), American elm (Ulmus americana), sugarberry (Celtis laevigata), osage-orange (Maclura pomifera), fringed green brier (Smilax bona-nox), Virginia wild rye (Elymus virginicus), river bank grape (Vitis riparia)

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

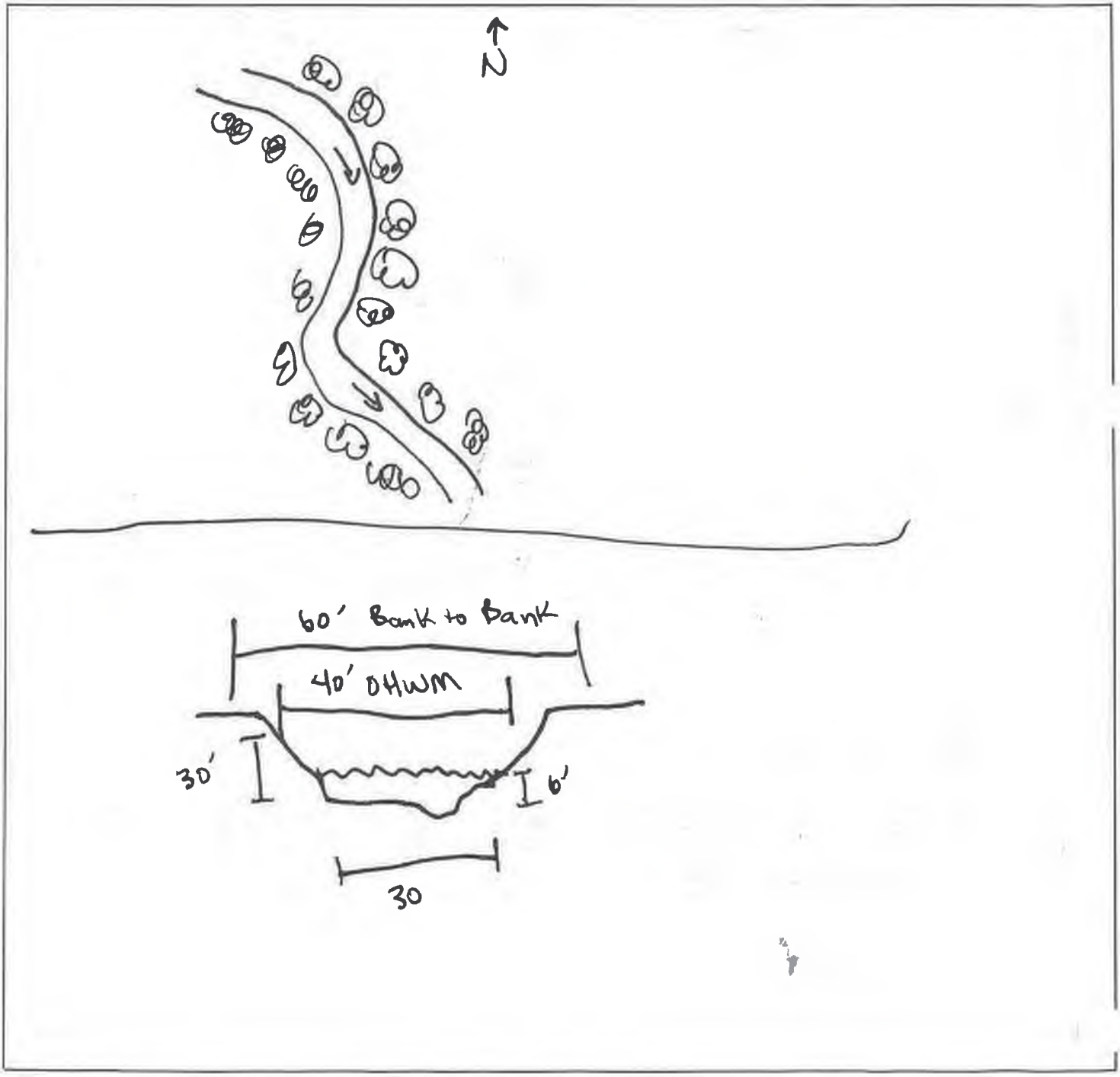
None.

Stream Data Form #: Water Feature 358
Project Name: US 380
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.

Plan View



Sectional View

Stream Data Form #: Water Feature 359
Project Name: US 380
CSJ: 0135-03-053

Stream Data Form

Surveyor(s): Ethan Eichler and Mike Keenan
Date of Field Work: September 10, 2020
USGS Stream Name: Unnamed Tributary to the East Fork Trinity River
County/State: Collin County, Texas
USGS Topo Quad Name: McKinney East
Stream Number: 359
Associated Wetland(s): 364, 362
Coordinates: 33.190661, -96.576704

Upper portion of stream historically mowed for agricultural field.

Stream Type: Intermittent
Characteristics:

Bank Stability (e.g. highly eroding, sloughing banks, etc.): Highly eroded banks.

Stream Flow Direction: South
OHWM Width (ft): 8
OHWM Height (in): 12

Stream Bottom composition:

- ☑ Silts
- ☑ Sands
- ☑ Gravel
- ☐ Cobbles
- ☐ Bedrock
- ☐ Vegetation
- ☐ Concrete
- ☐ Muck
- ☐ Other:

Aquatic Habitat: Indicate all types present within proposed ROW/project limits.

- ☐ Sand bar
- ☐ Sand/Gravel beach/bar
- ☐ Gravel riffles
- ☐ Aquatic vegetation
- ☑ 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 Turbid
- ☐ 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.

None.

Riparian Vegetation: List species observed.

pecan (Carya illinoinensis), osage-orange (Maclura pomifera), green ash (Fraxinus pennsylvanica), American elm (Ulmus americana)

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

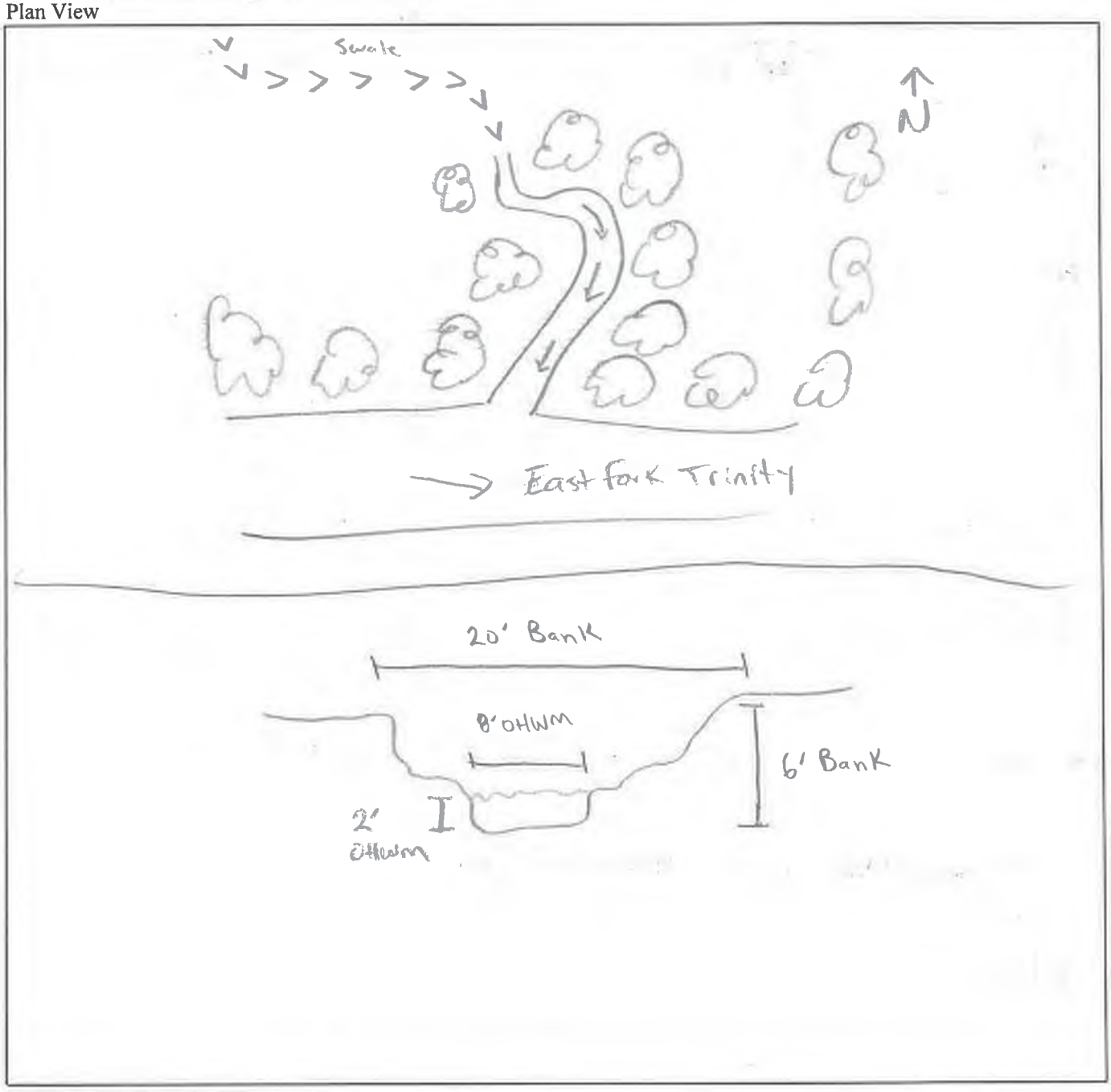
None.

Stream Data Form #: Water Feature 359
Project Name: US 380
CSJ: 0135-03-053

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.

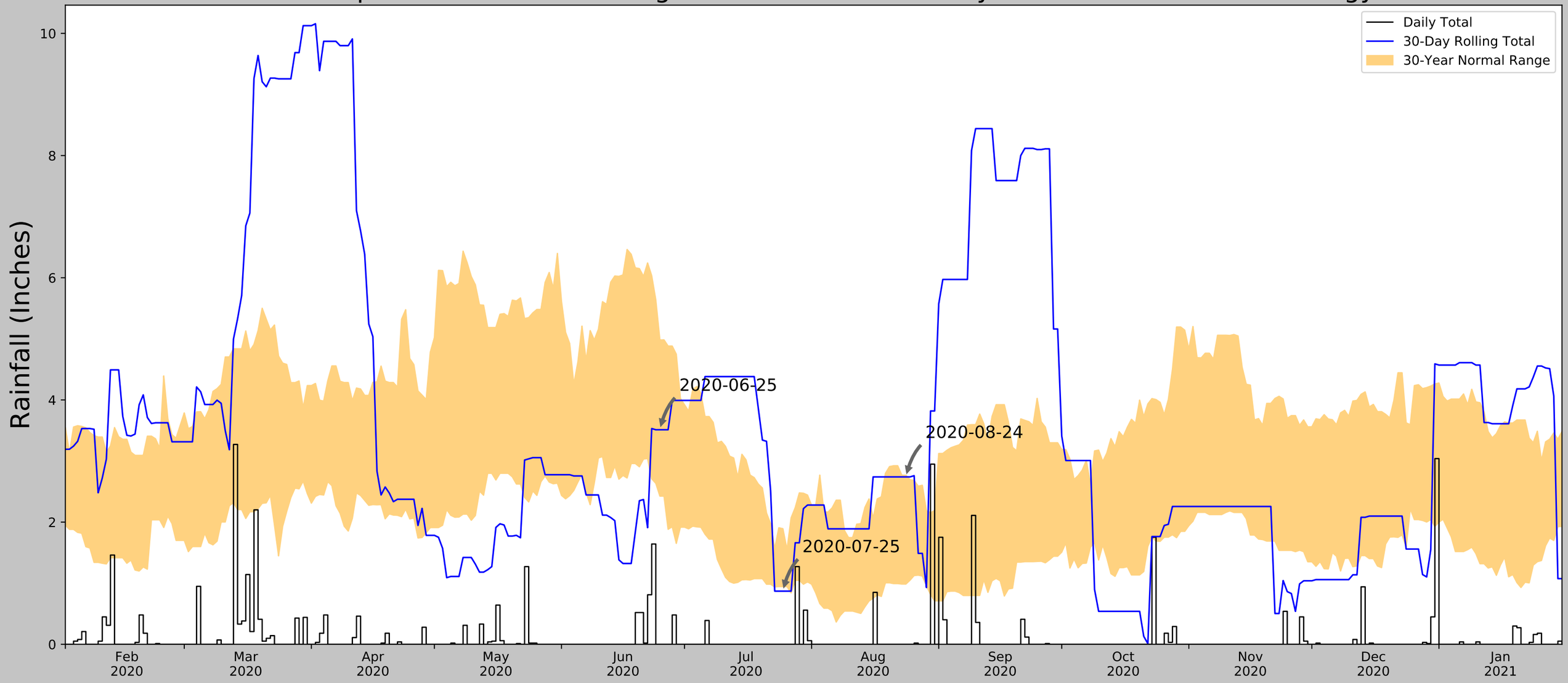
Plan View



Sectional View

Attachment 3 – Antecedent Precipitation Tool for McKinney, Texas

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



Coordinates	33.250326, -96.618486
Observation Date	2020-08-24
Elevation (ft)	550.01
Drought Index (PDSI)	Mild wetness
WebWIMP H_2O Balance	Dry Season

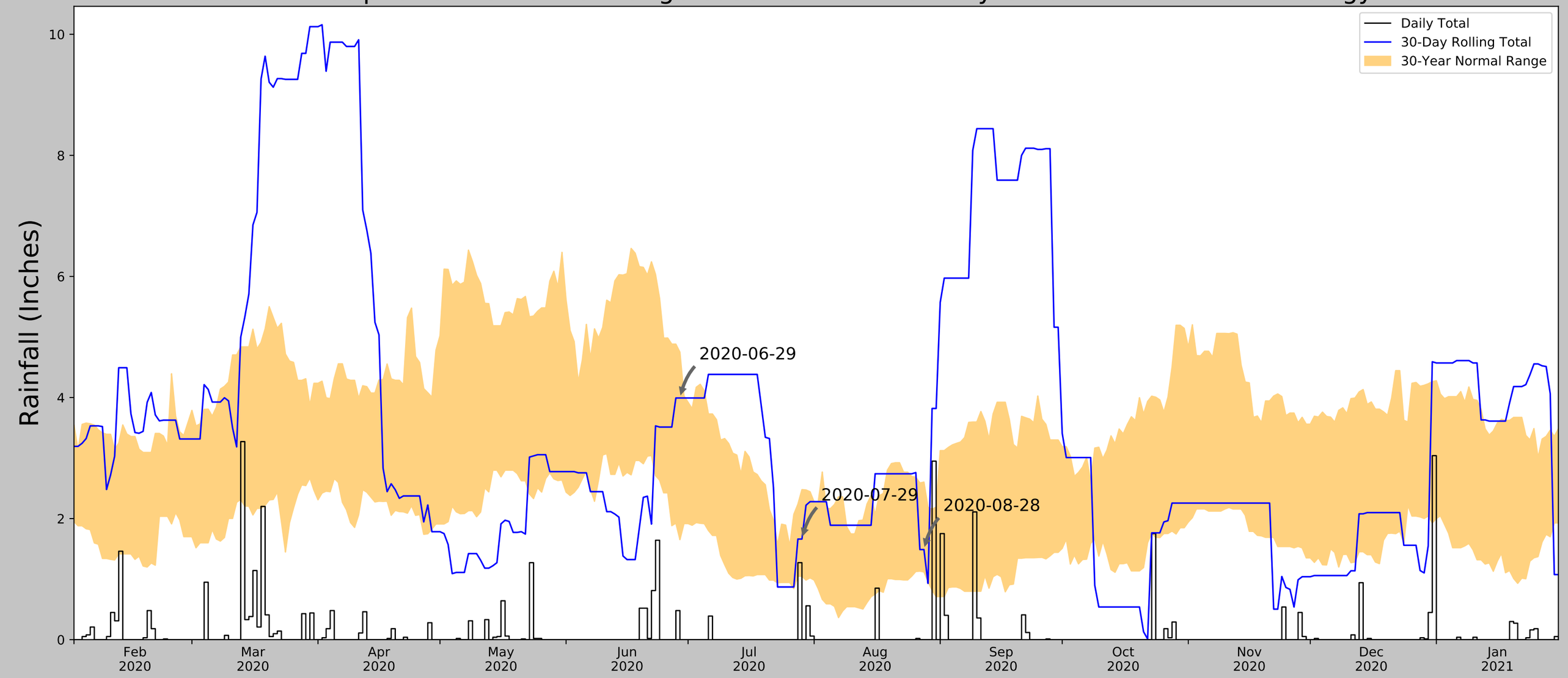
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-08-24	0.986221	2.766929	2.740158	Normal	2	3	6
2020-07-25	0.944882	1.892126	0.870079	Dry	1	2	2
2020-06-25	2.425197	4.980709	3.511811	Normal	2	1	2
Result							Normal Conditions - 10

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-08-28
Elevation (ft)	550.01
Drought Index (PDSI)	Mild wetness
WebWIMP H_2O Balance	Dry Season

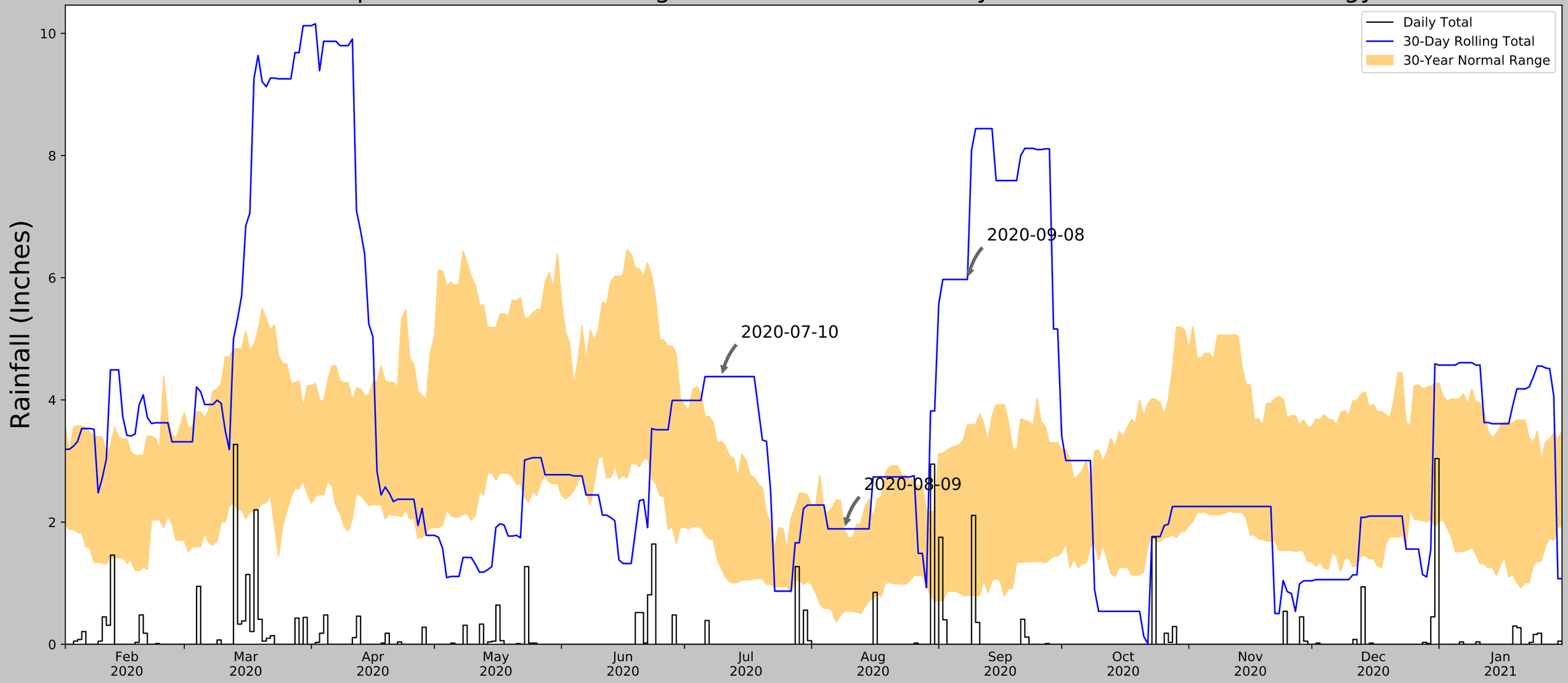
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-08-28	1.118504	2.60315	1.488189	Normal	2	3	6
2020-07-29	1.04685	2.47874	1.661417	Normal	2	2	4
2020-06-29	1.651575	4.748425	3.992126	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-08
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

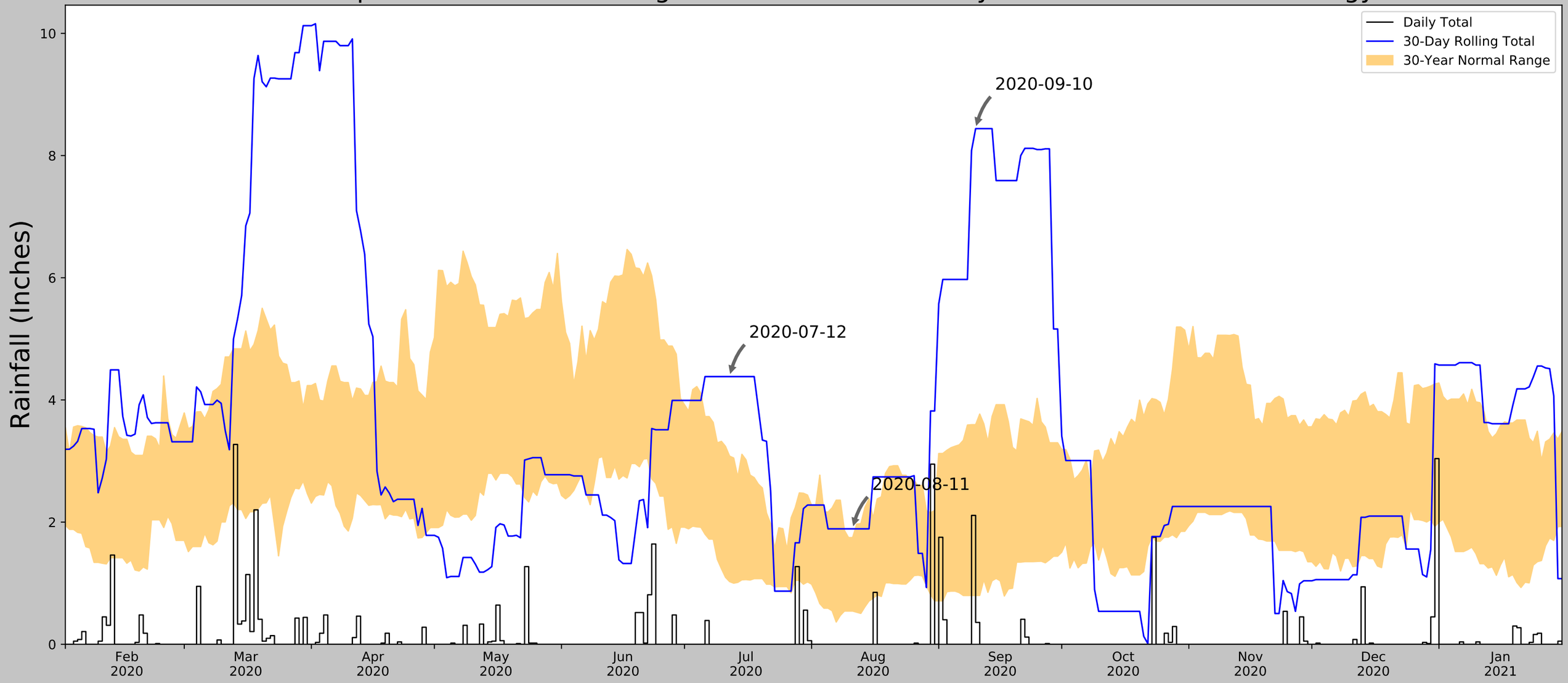
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-08	0.798425	3.58937	5.972441	Wet	3	3	9
2020-08-09	0.543701	1.864567	1.889764	Wet	3	2	6
2020-07-10	1.237402	3.322441	4.38189	Wet	3	1	3
Result							Wetter than Normal - 18

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-10
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

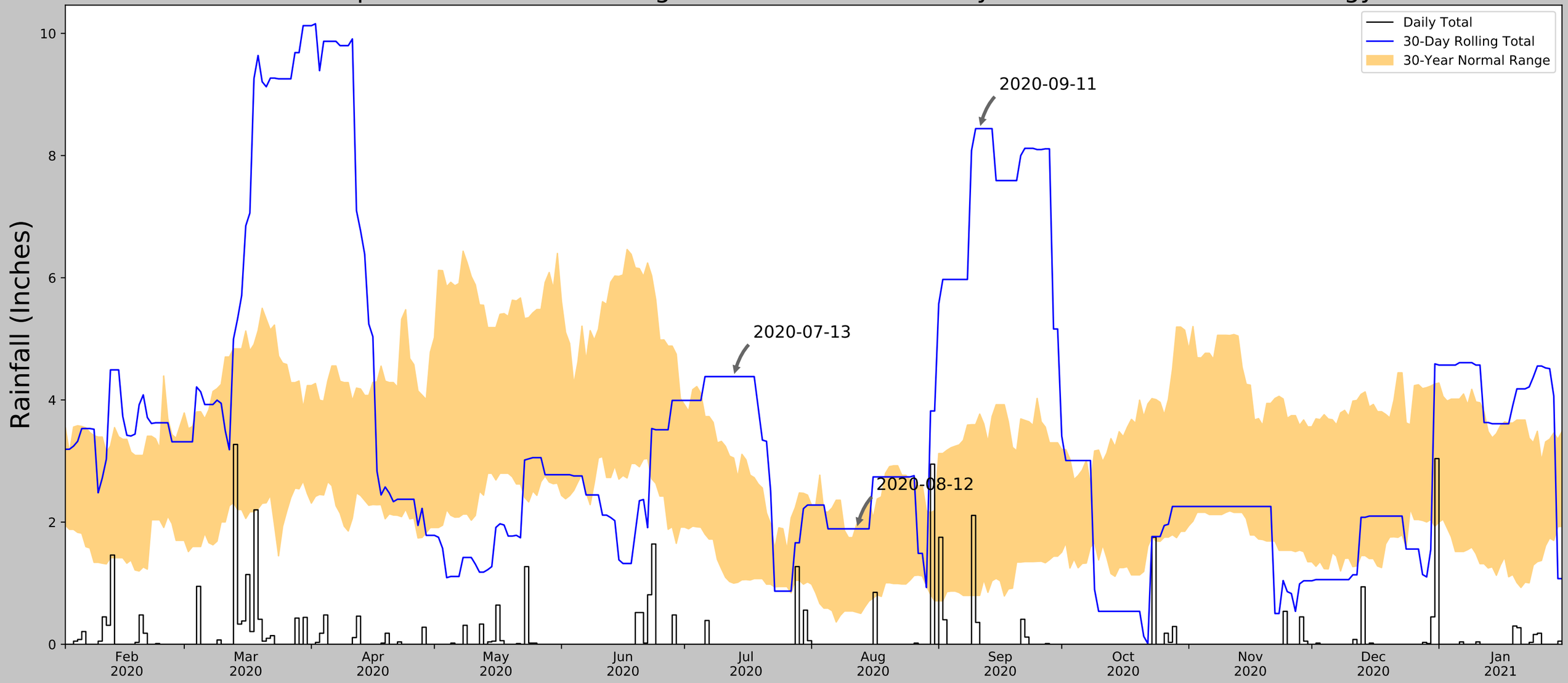
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-10	0.798425	3.595276	8.440945	Wet	3	3	9
2020-08-11	0.543701	1.74685	1.889764	Wet	3	2	6
2020-07-12	1.025984	3.079528	4.38189	Wet	3	1	3
Result							Wetter than Normal - 18

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-11
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

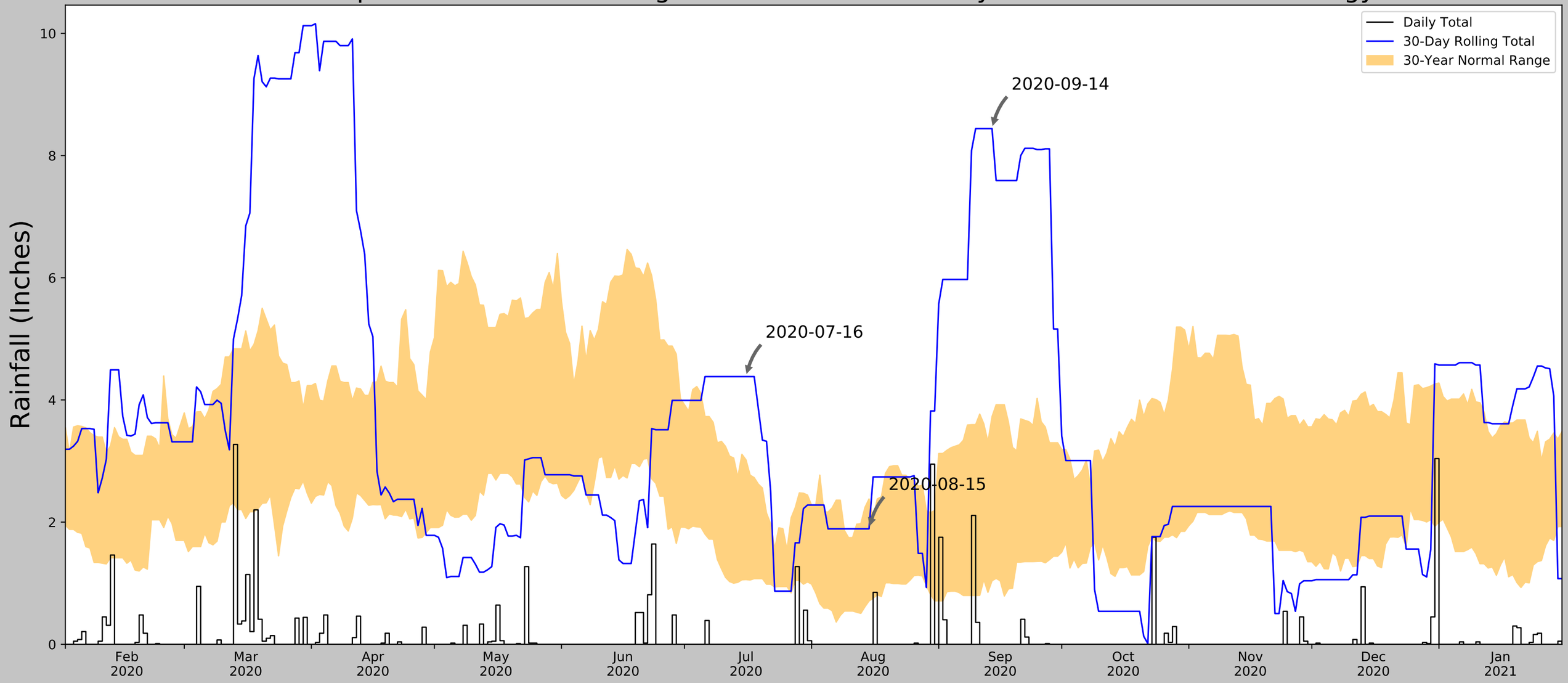
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-11	0.799606	3.769685	8.440945	Wet	3	3	9
2020-08-12	0.524803	1.966535	1.889764	Normal	2	2	4
2020-07-13	1.0	3.05	4.38189	Wet	3	1	3
Result							Wetter than Normal - 16

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-14
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

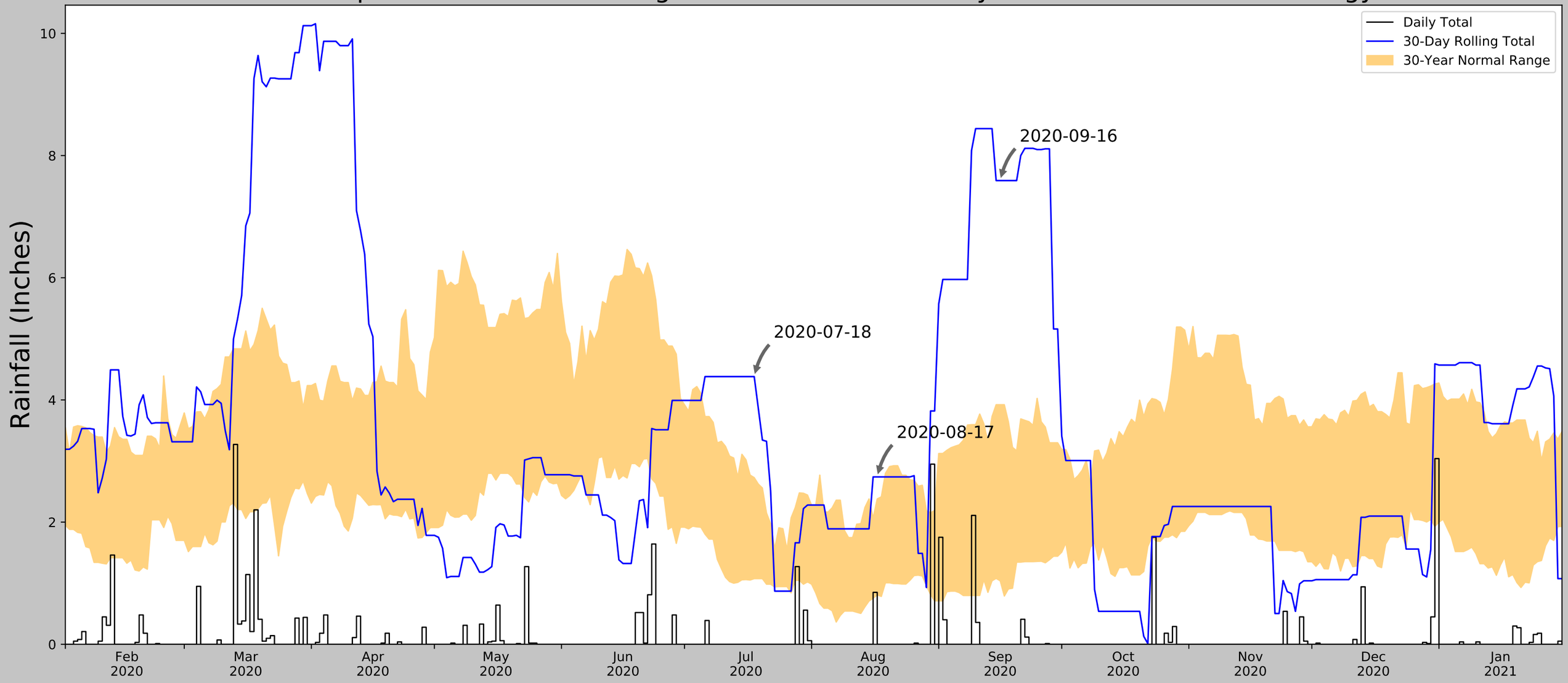
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-14	1.039764	3.728347	8.440945	Wet	3	3	9
2020-08-15	0.708661	2.379921	1.889764	Normal	2	2	4
2020-07-16	1.059055	3.019685	4.38189	Wet	3	1	3
Result							Wetter than Normal - 16

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-16
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

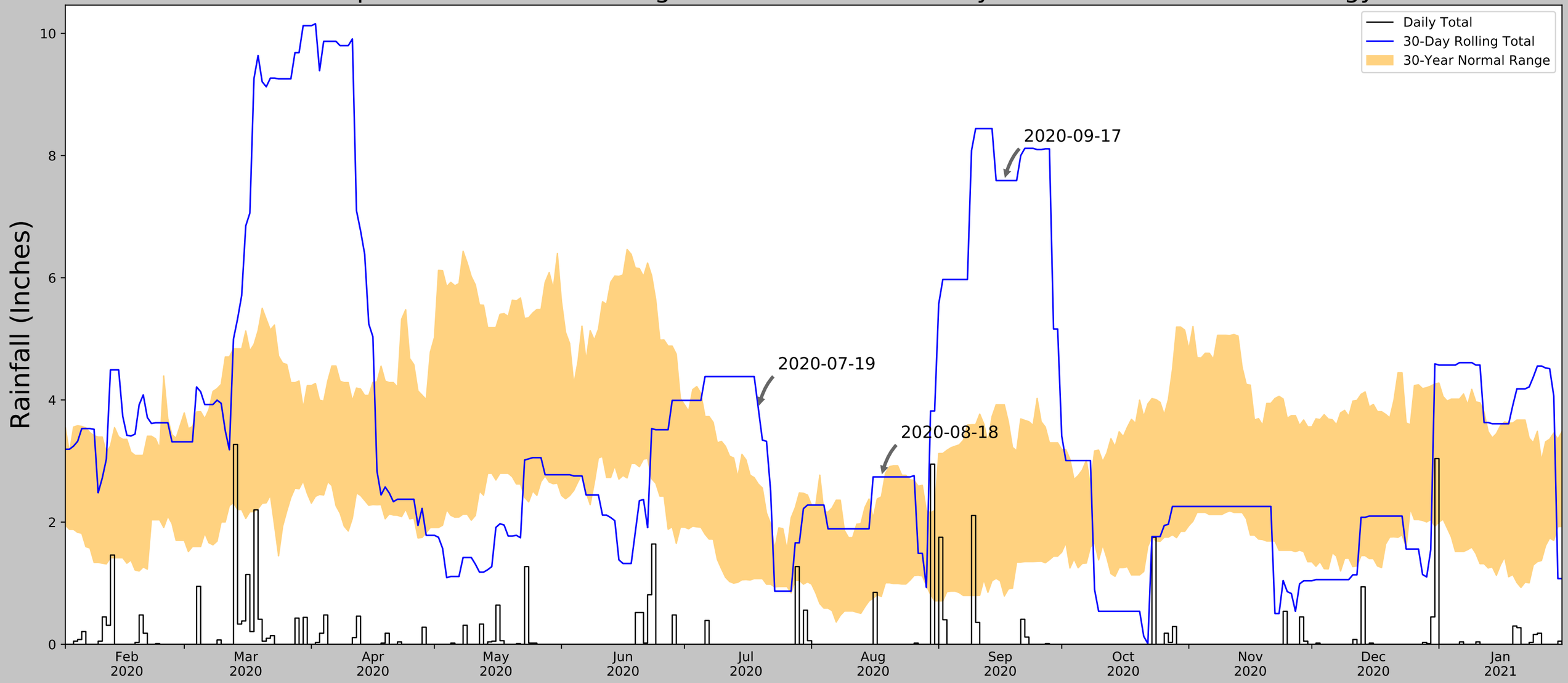
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-16	1.038976	3.922047	7.590551	Wet	3	3	9
2020-08-17	0.809843	2.379921	2.740158	Wet	3	2	6
2020-07-18	1.074409	2.728347	4.38189	Wet	3	1	3
Result							Wetter than Normal - 18

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-17
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

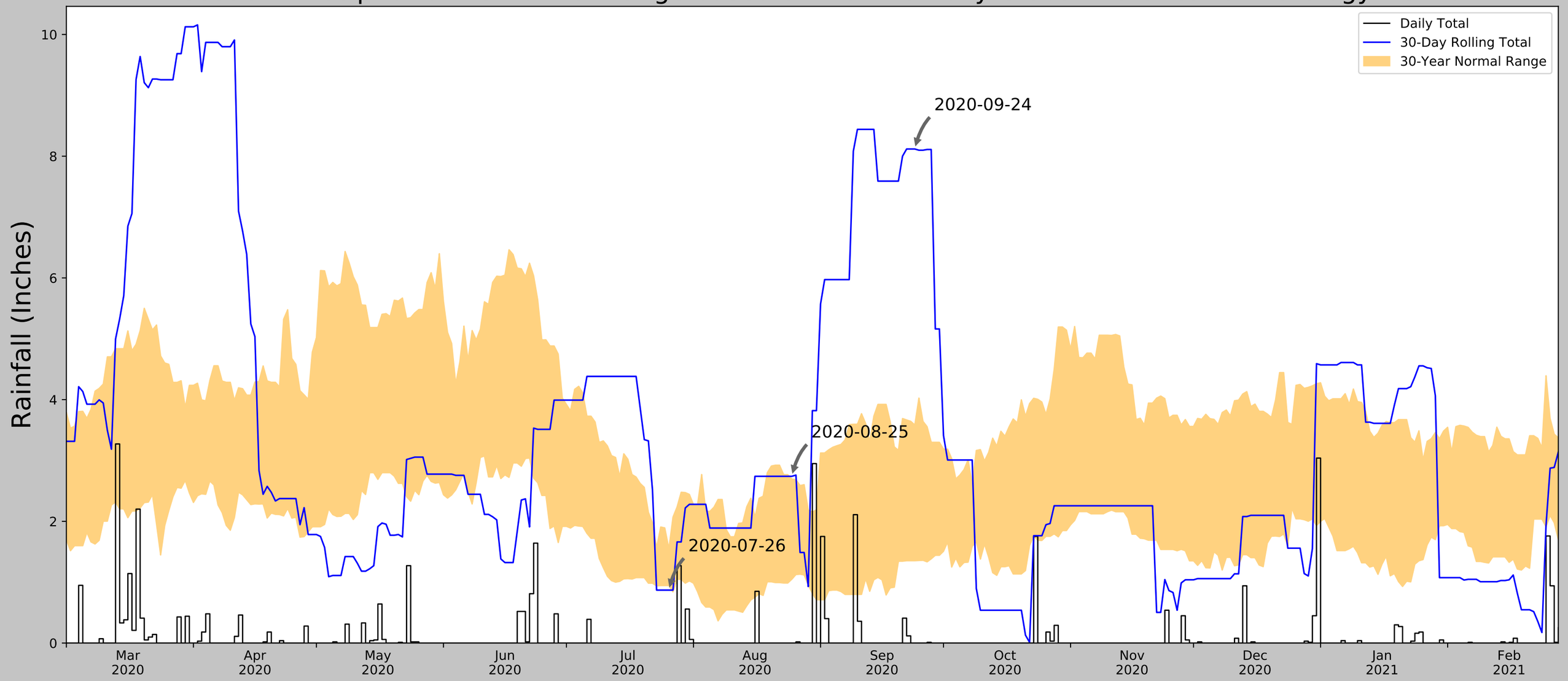
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-17	0.78937	3.922047	7.590551	Wet	3	3	9
2020-08-18	0.783071	2.412992	2.740158	Wet	3	2	6
2020-07-19	1.074409	2.622441	3.862205	Wet	3	1	3
Result							Wetter than Normal - 18

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	89
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	1
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-24
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

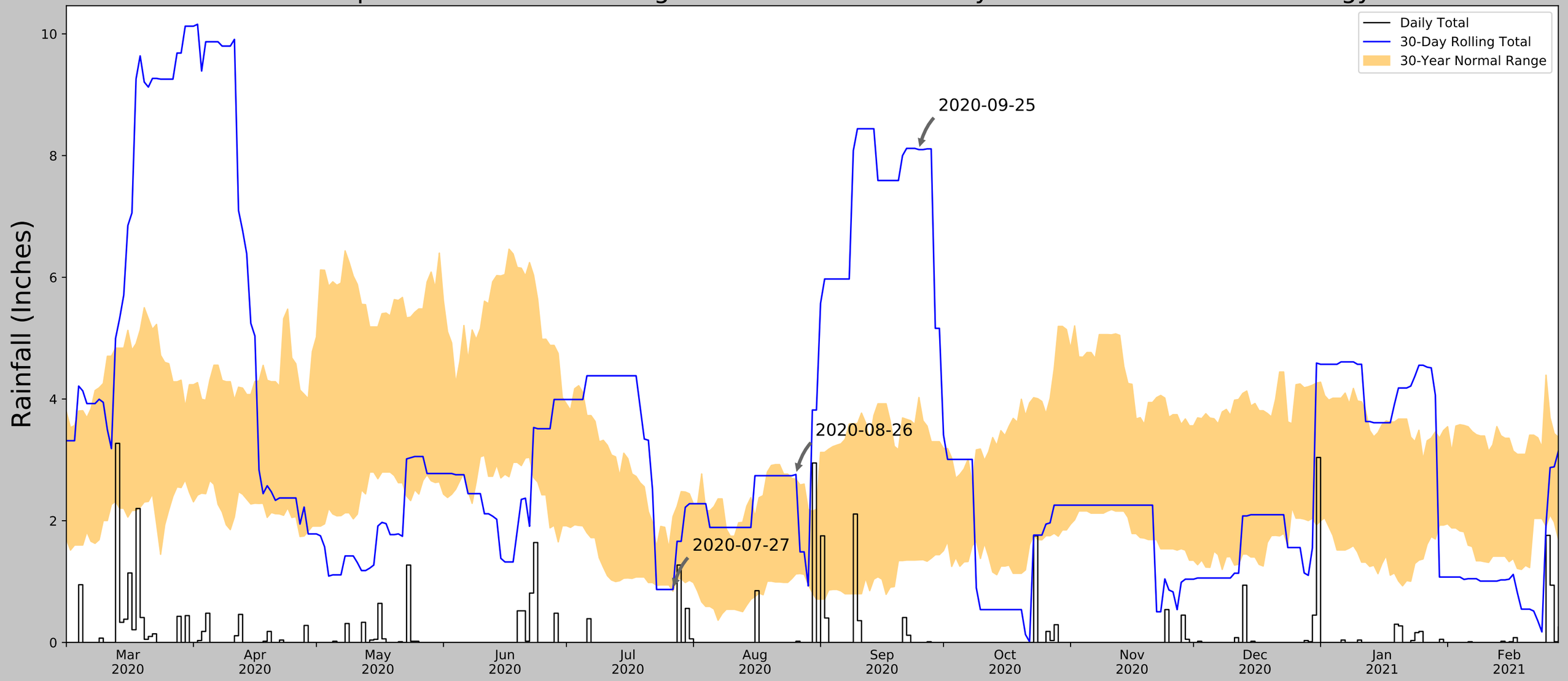
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-24	1.352756	3.583858	8.11811	Wet	3	3	9
2020-08-25	1.048819	2.694882	2.740158	Wet	3	2	6
2020-07-26	0.944882	1.548819	0.870079	Dry	1	1	1
Result							Wetter than Normal - 16

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-09-25
Elevation (ft)	550.01
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

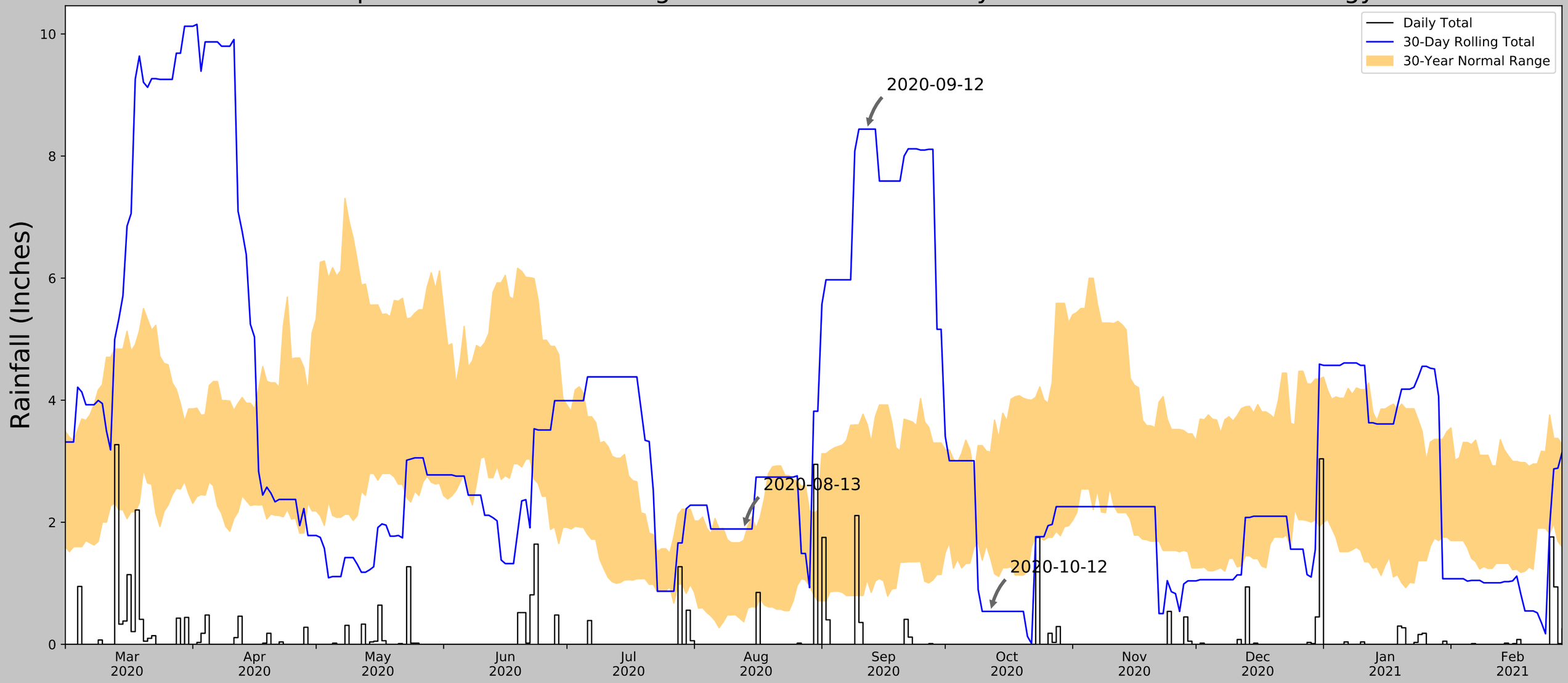
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-09-25	1.356299	4.025984	8.098425	Wet	3	3	9
2020-08-26	1.125591	2.683465	2.759843	Wet	3	2	6
2020-07-27	0.840945	2.070079	0.870079	Normal	2	1	2
Result							Wetter than Normal - 17

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	7820	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	7	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3493	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	26	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-10-12
Elevation (ft)	550.01
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

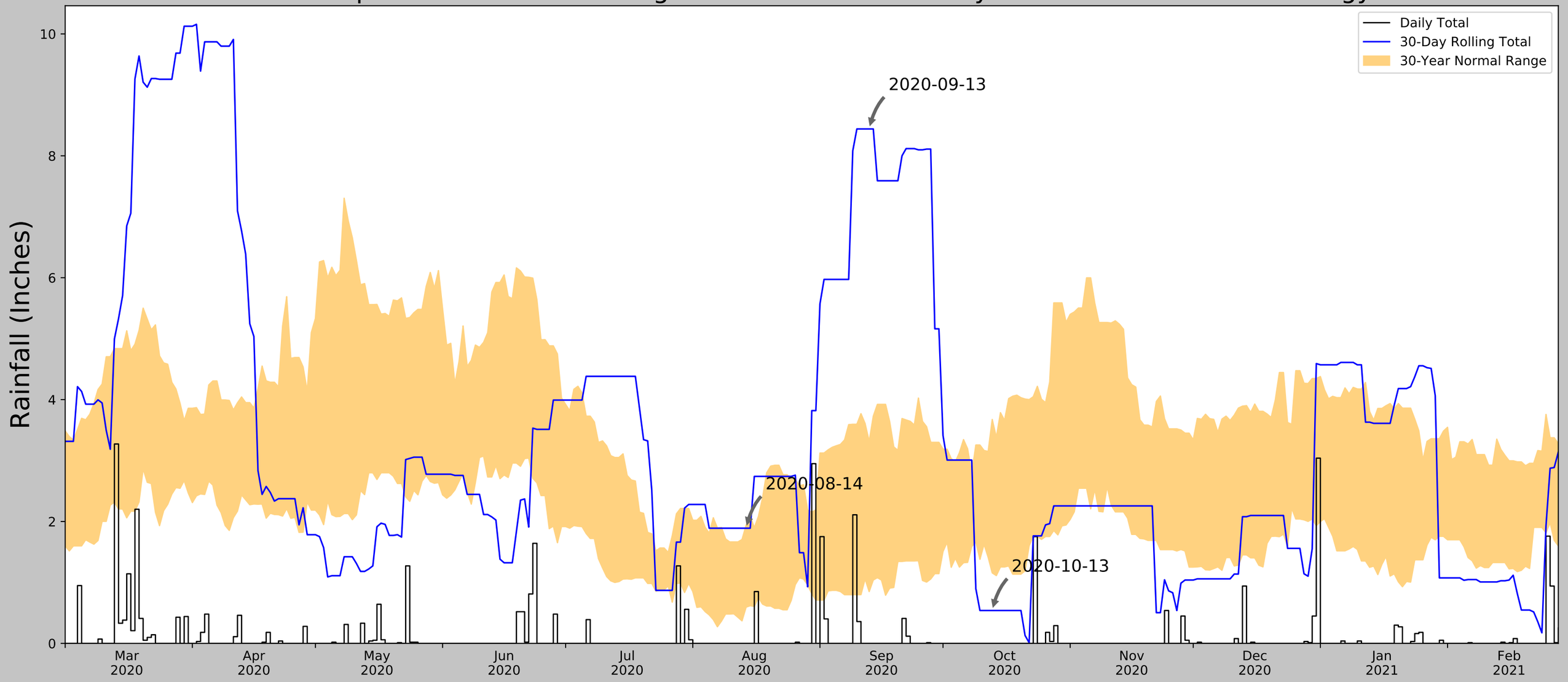
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-10-12	1.413386	3.149213	0.53937	Dry	1	3	3
2020-09-12	1.05748	3.609055	8.440945	Wet	3	2	6
2020-08-13	0.369685	1.704331	1.889764	Wet	3	1	3
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-10-13
Elevation (ft)	550.01
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-10-13	1.156299	3.67441	0.53937	Dry	1	3	3
2020-09-13	0.849606	3.31378	8.440945	Wet	3	2	6
2020-08-14	0.594882	1.940158	1.889764	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

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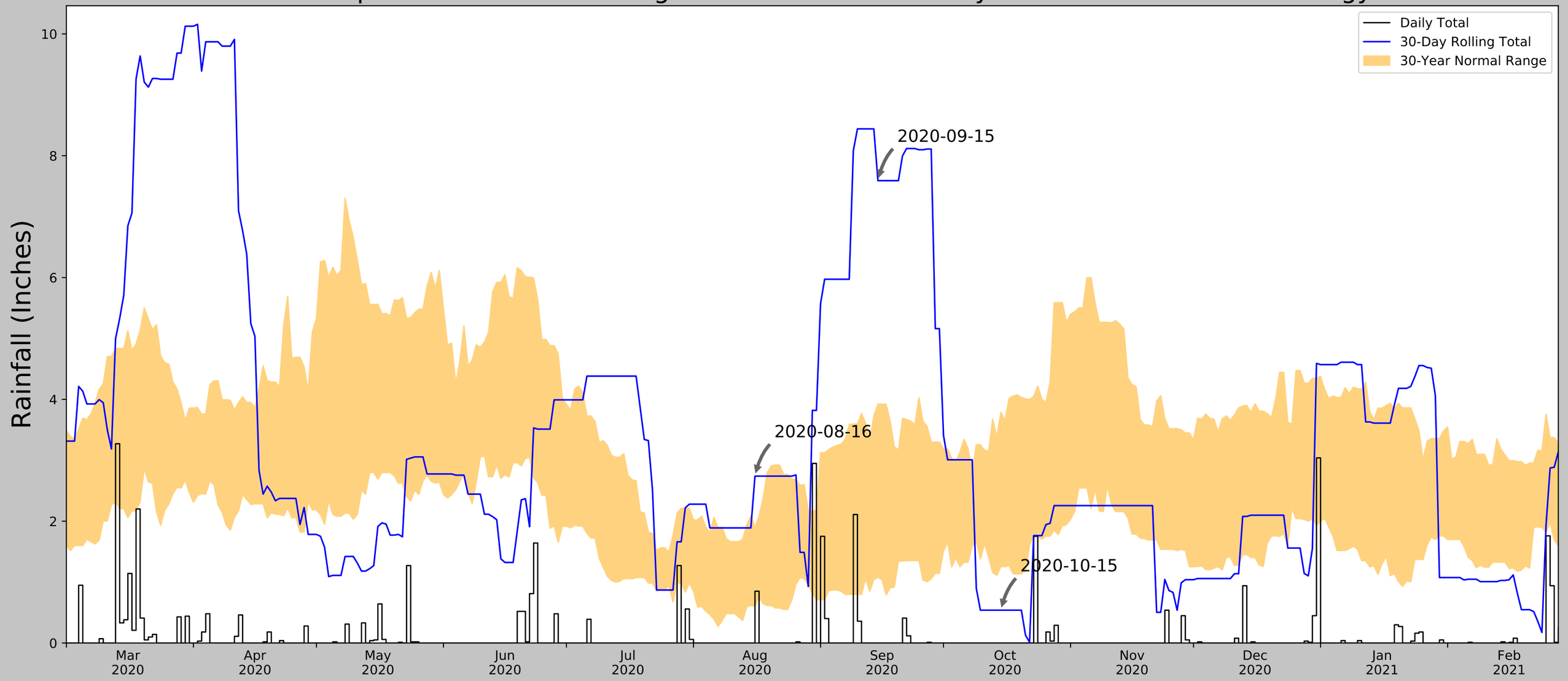
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-10-15
Elevation (ft)	550.01
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-10-15	1.253937	3.786614	0.53937	Dry	1	3	3
2020-09-15	1.07874	3.922047	7.590551	Wet	3	2	6
2020-08-16	0.605906	1.899606	2.740158	Wet	3	1	3
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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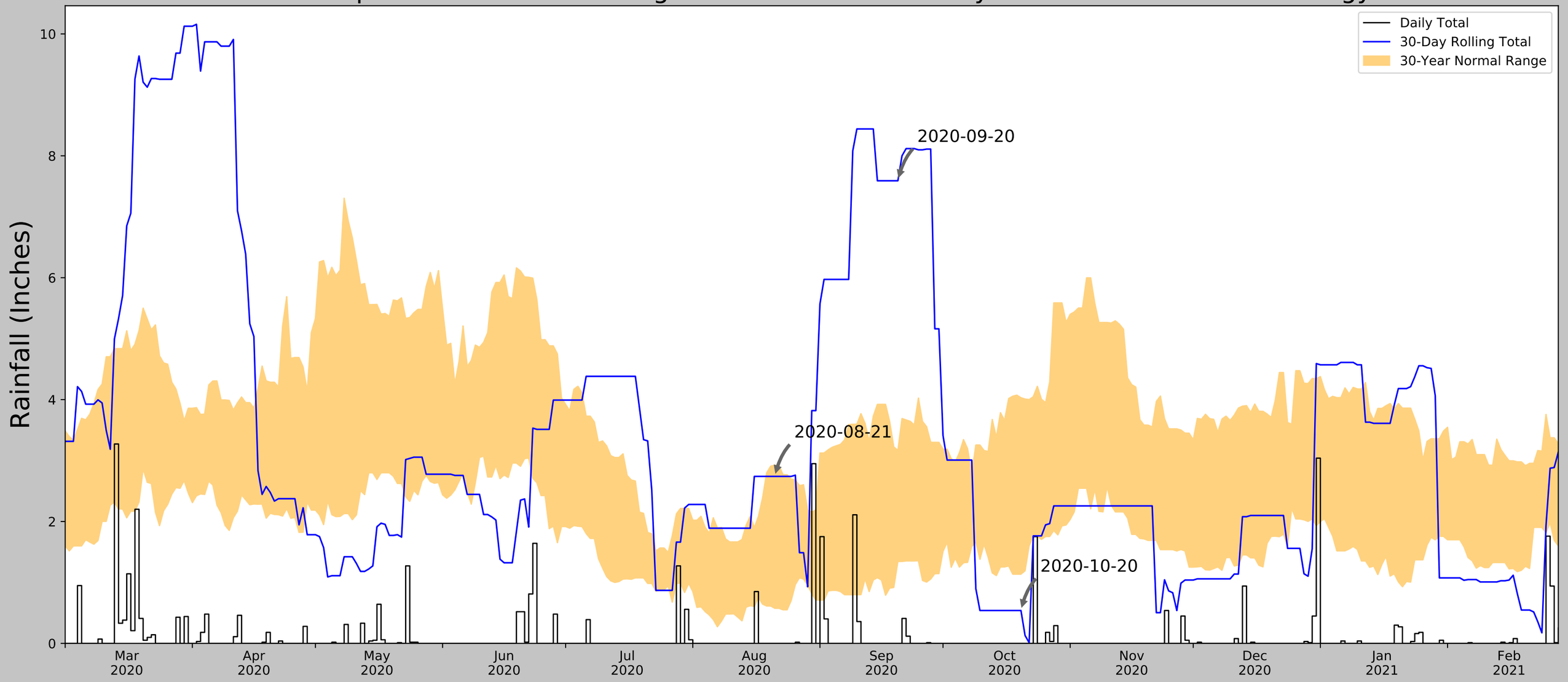
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-10-20
Elevation (ft)	550.01
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-10-20	1.135827	4.031496	0.53937	Dry	1	3	3
2020-09-20	1.344488	3.16811	7.590551	Wet	3	2	6
2020-08-21	0.575591	2.922835	2.740158	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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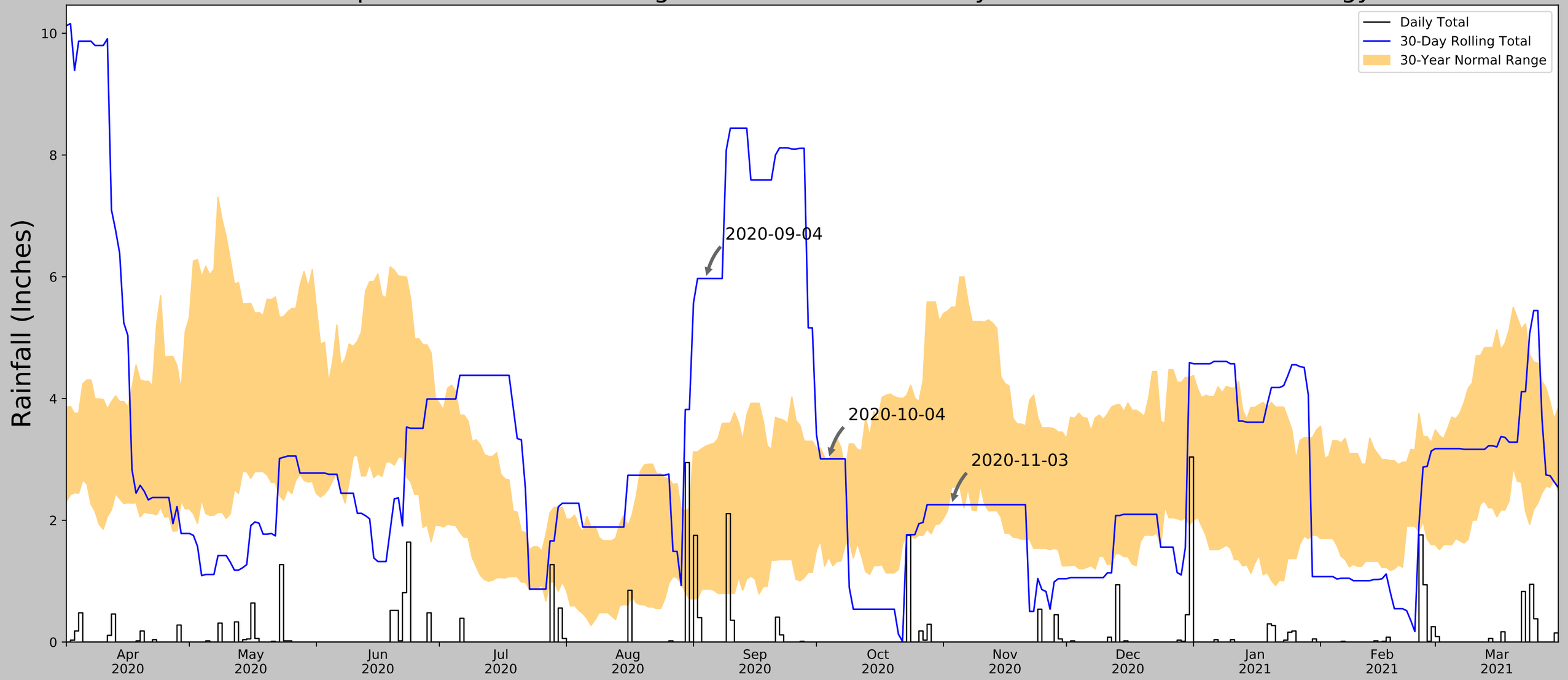
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-11-03
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-11-03	2.545276	5.50315	2.255906	Dry	1	3	3
2020-10-04	1.397638	2.980315	3.007874	Wet	3	2	6
2020-09-04	0.869685	3.21811	5.972441	Wet	3	1	3
Result							Normal Conditions - 12

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

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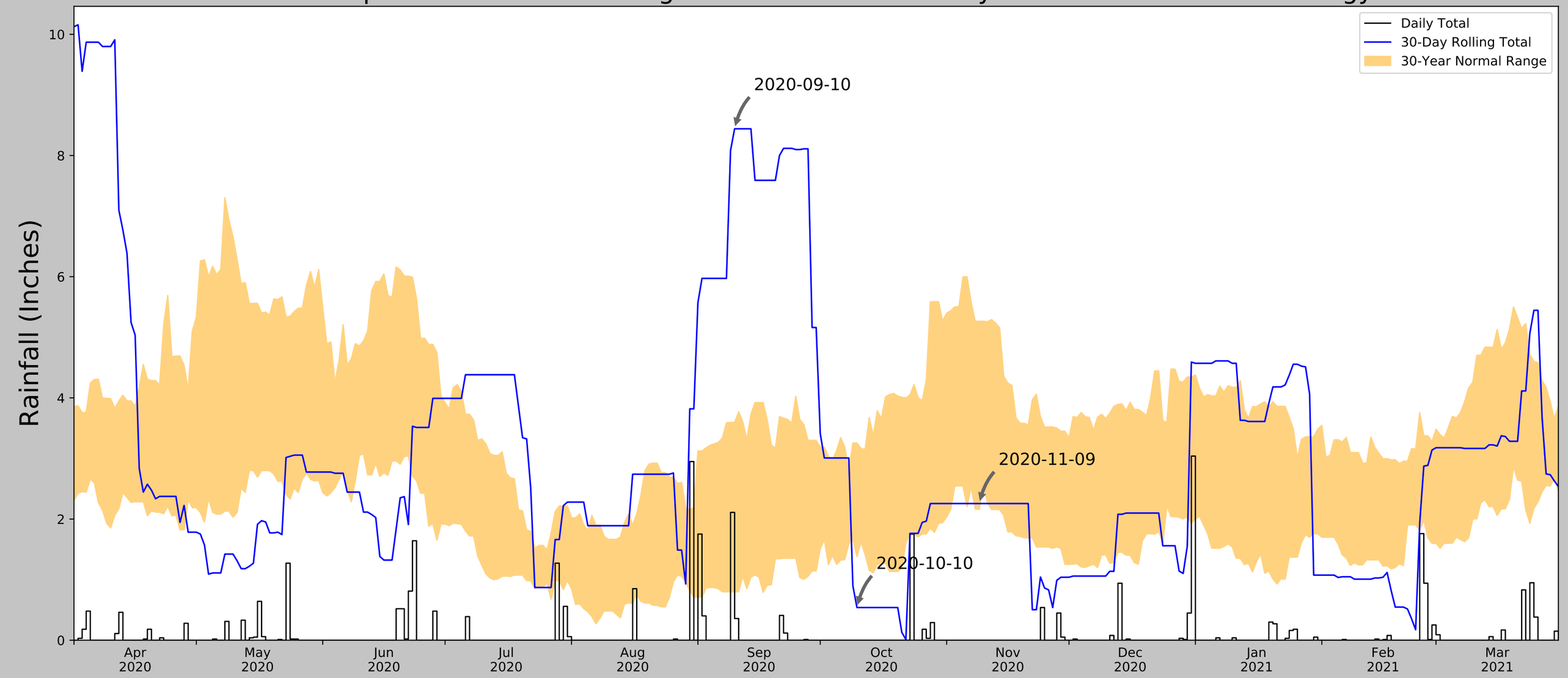
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-11-09
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-11-09	2.157874	5.264961	2.255906	Normal	2	3	6
2020-10-10	1.379134	3.255118	0.53937	Dry	1	2	2
2020-09-10	0.798425	3.595276	8.440945	Wet	3	1	3
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

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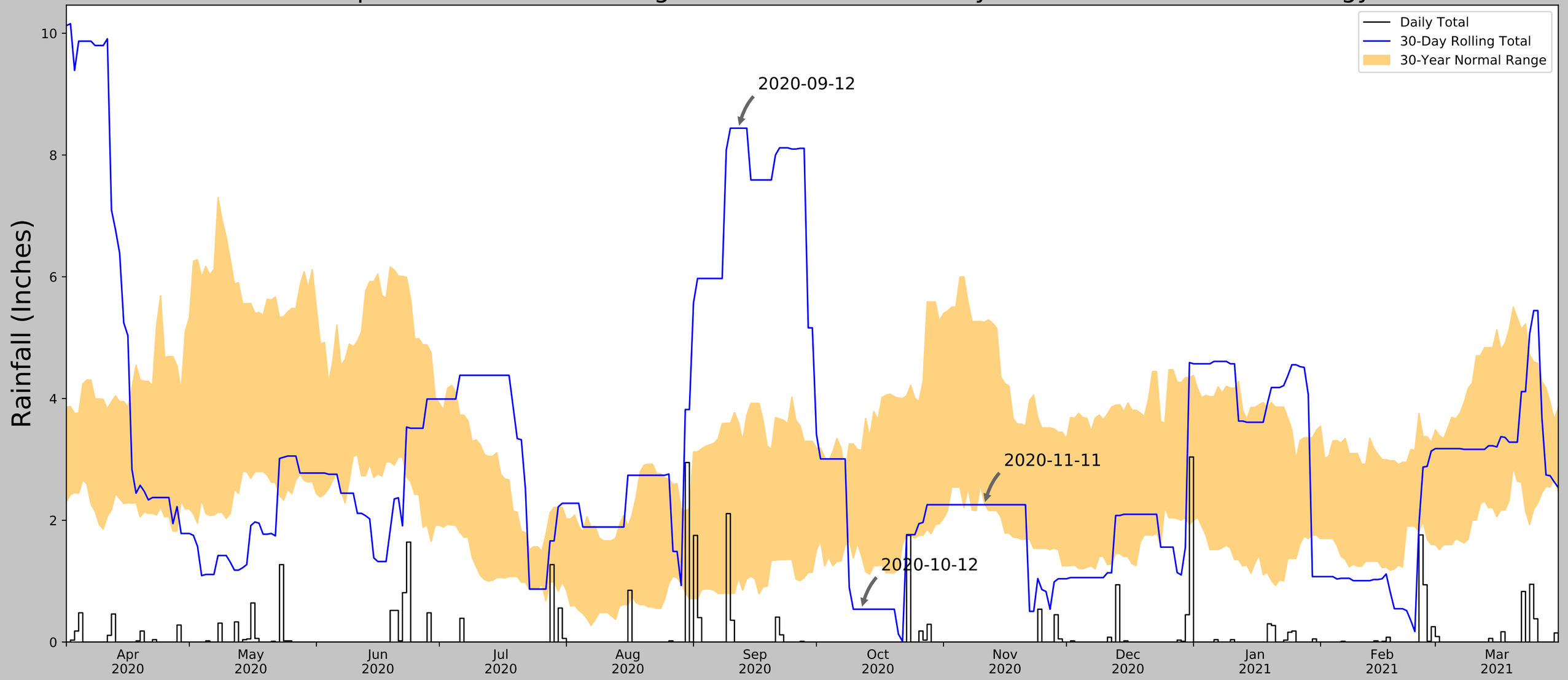
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-11-11
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-11-11	2.270079	5.256693	2.255906	Dry	1	3	3
2020-10-12	1.413386	3.149213	0.53937	Dry	1	2	2
2020-09-12	1.05748	3.609055	8.440945	Wet	3	1	3
Result							Drier than Normal - 8

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

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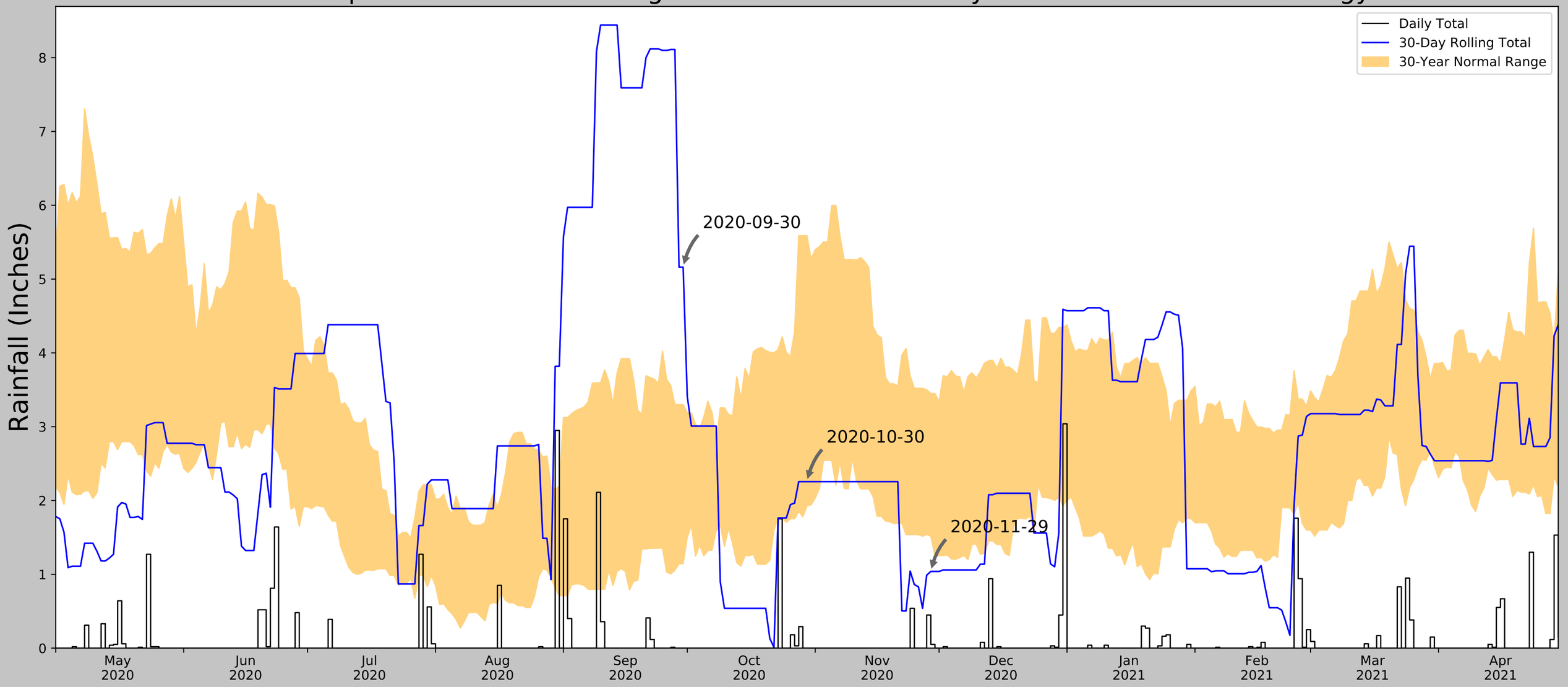
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-11-29
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-11-29	1.516535	3.449606	1.03937	Dry	1	3	3
2020-10-30	1.928347	5.587008	2.255906	Normal	2	2	4
2020-09-30	1.144095	3.299213	5.161417	Wet	3	1	3
Result							Normal Conditions - 10

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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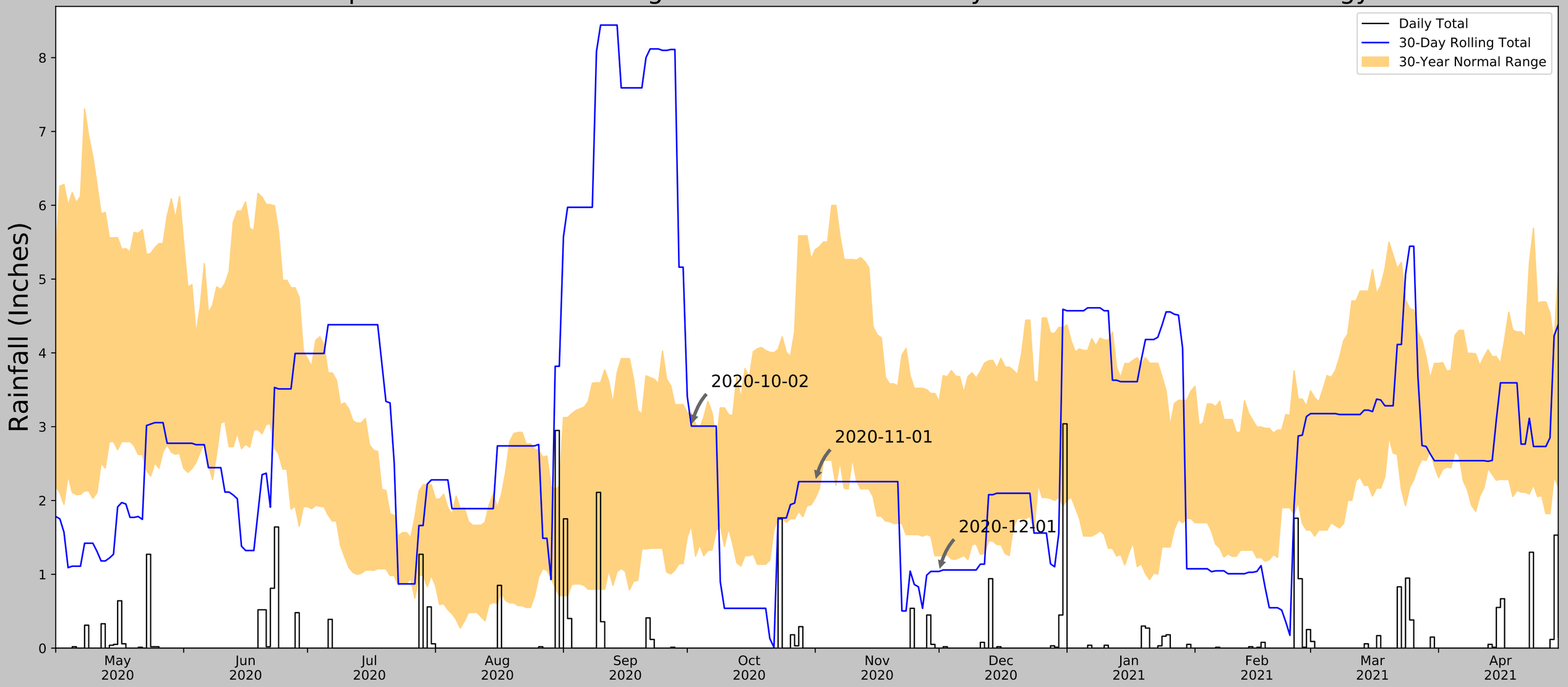
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-12-01
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-12-01	1.251575	3.33937	1.03937	Dry	1	3	3
2020-11-01	2.033465	5.399213	2.255906	Normal	2	2	4
2020-10-02	1.660236	3.187008	3.007874	Normal	2	1	2
Result							Drier than Normal - 9

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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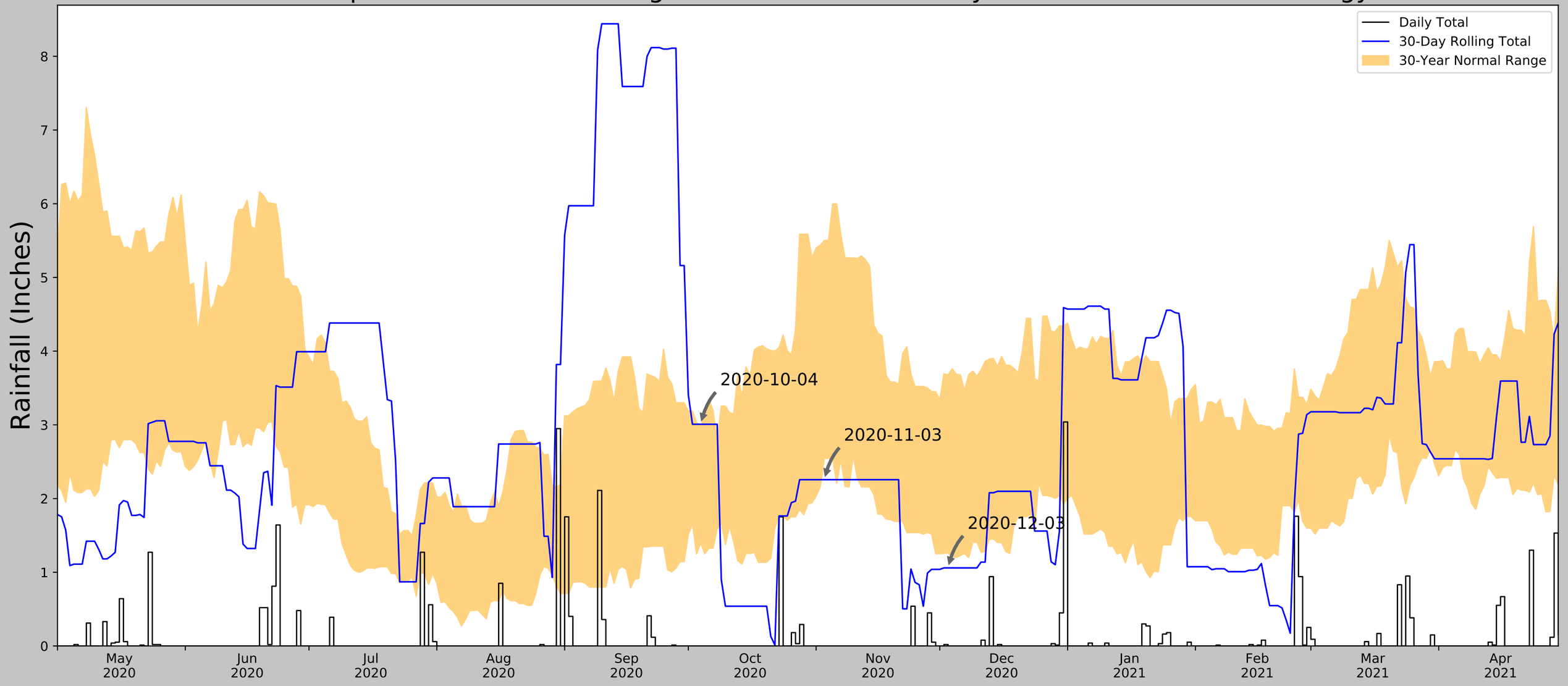
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-12-03
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-12-03	1.263386	3.678347	1.059055	Dry	1	3	3
2020-11-03	2.545276	5.50315	2.255906	Dry	1	2	2
2020-10-04	1.397638	2.980315	3.007874	Wet	3	1	3
Result							Drier than Normal - 8

Figure and tables made by the
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Version 1.0

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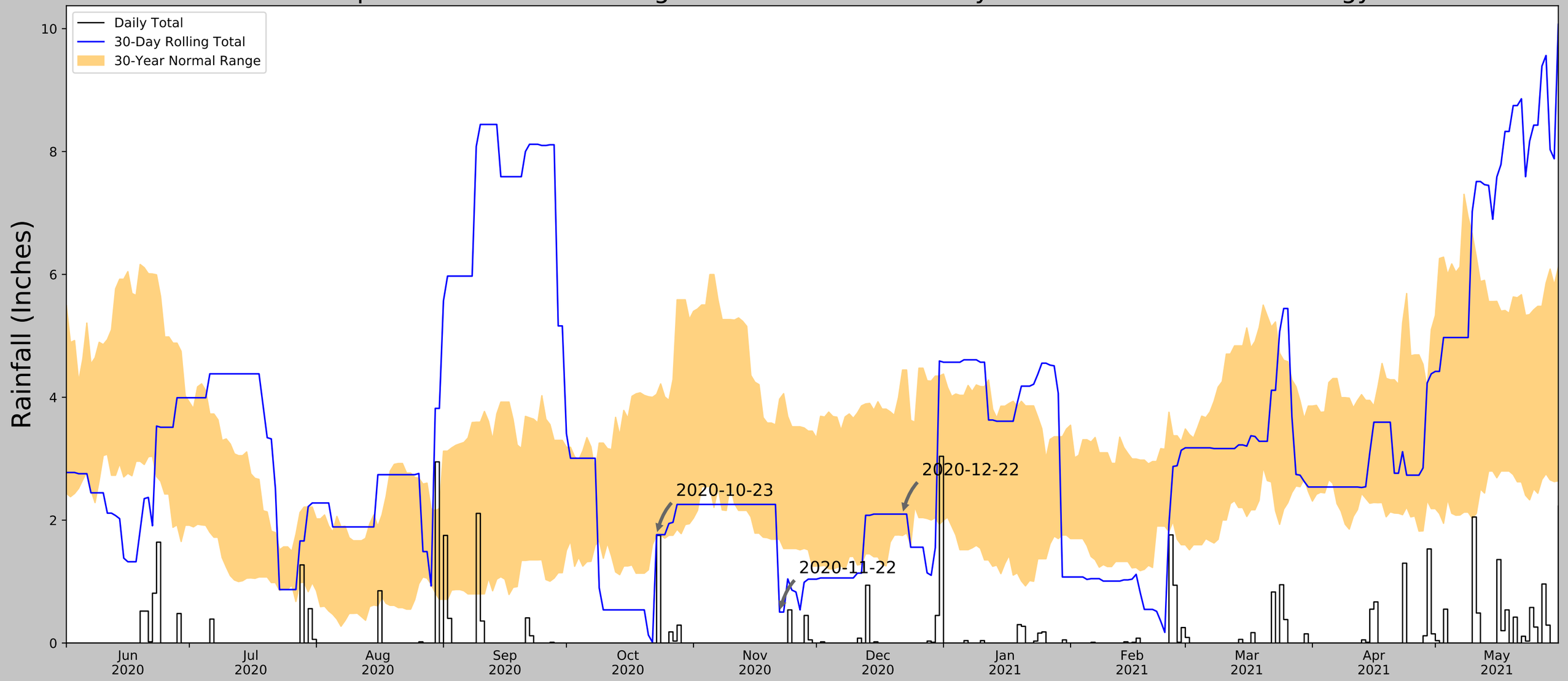
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2020-12-22
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-12-22	1.750394	4.444488	2.098425	Normal	2	3	6
2020-11-22	1.68937	3.969685	0.503937	Dry	1	2	2
2020-10-23	1.757874	4.047244	1.76378	Normal	2	1	2
Result							Normal Conditions - 10

Figure and tables made by the
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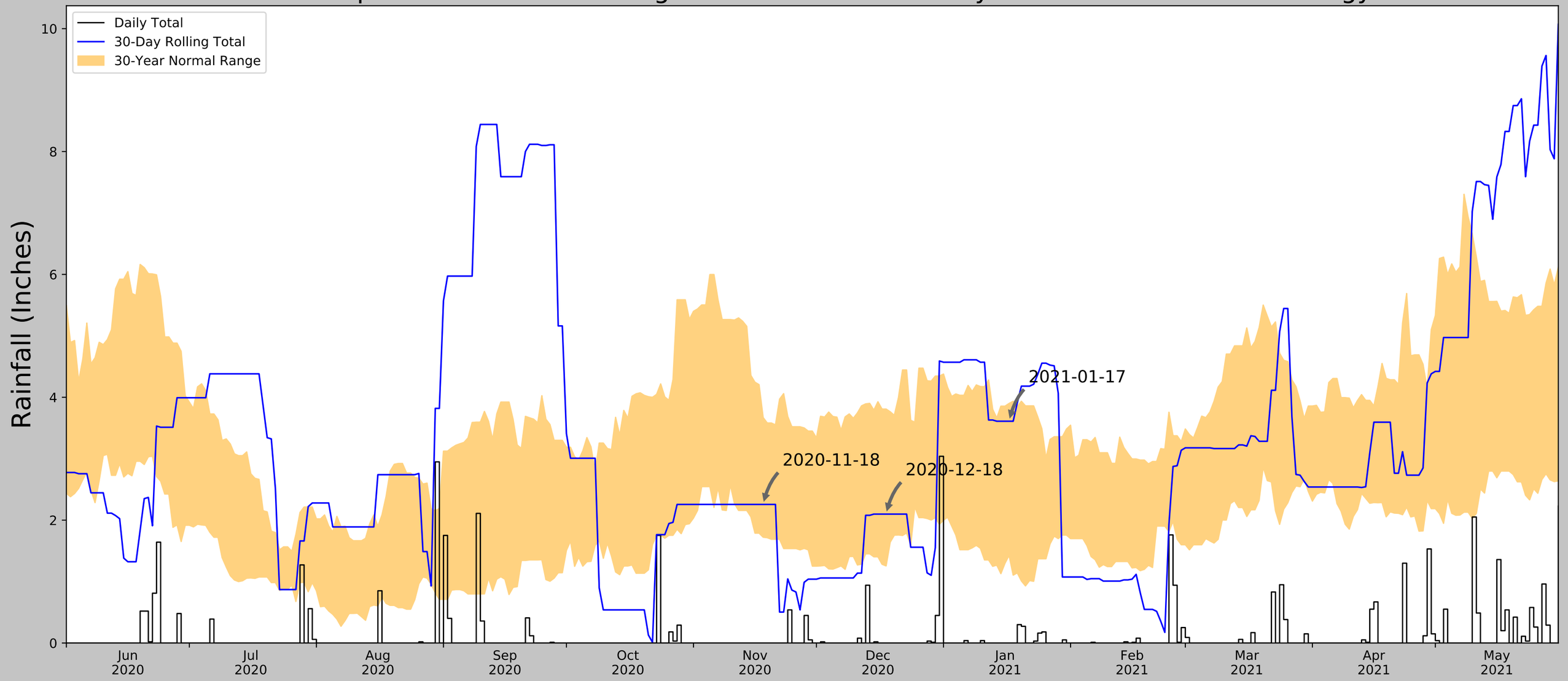
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-01-17
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-01-17	1.426378	3.9	3.610236	Normal	2	3	6
2020-12-18	1.255118	3.808268	2.098425	Normal	2	2	4
2020-11-18	1.722441	3.670079	2.255906	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
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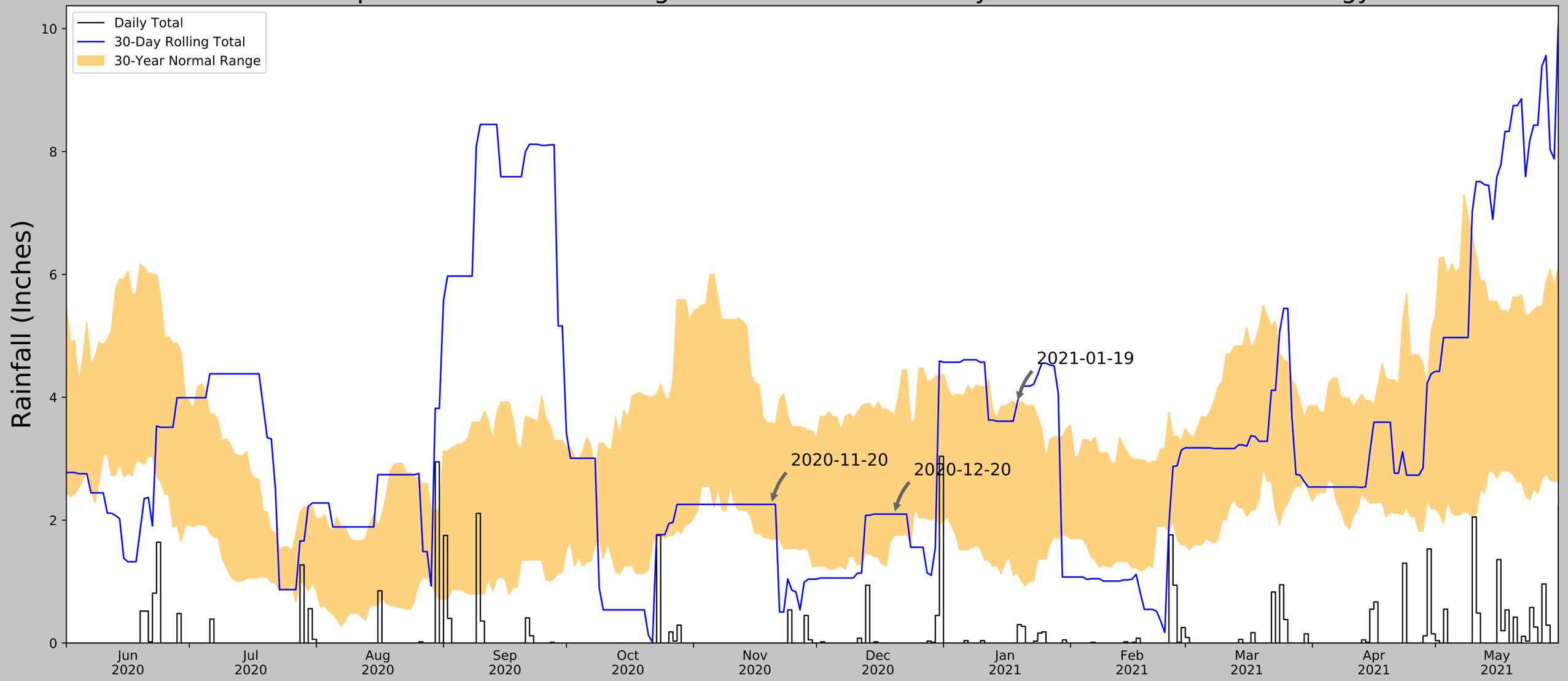
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-01-19
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

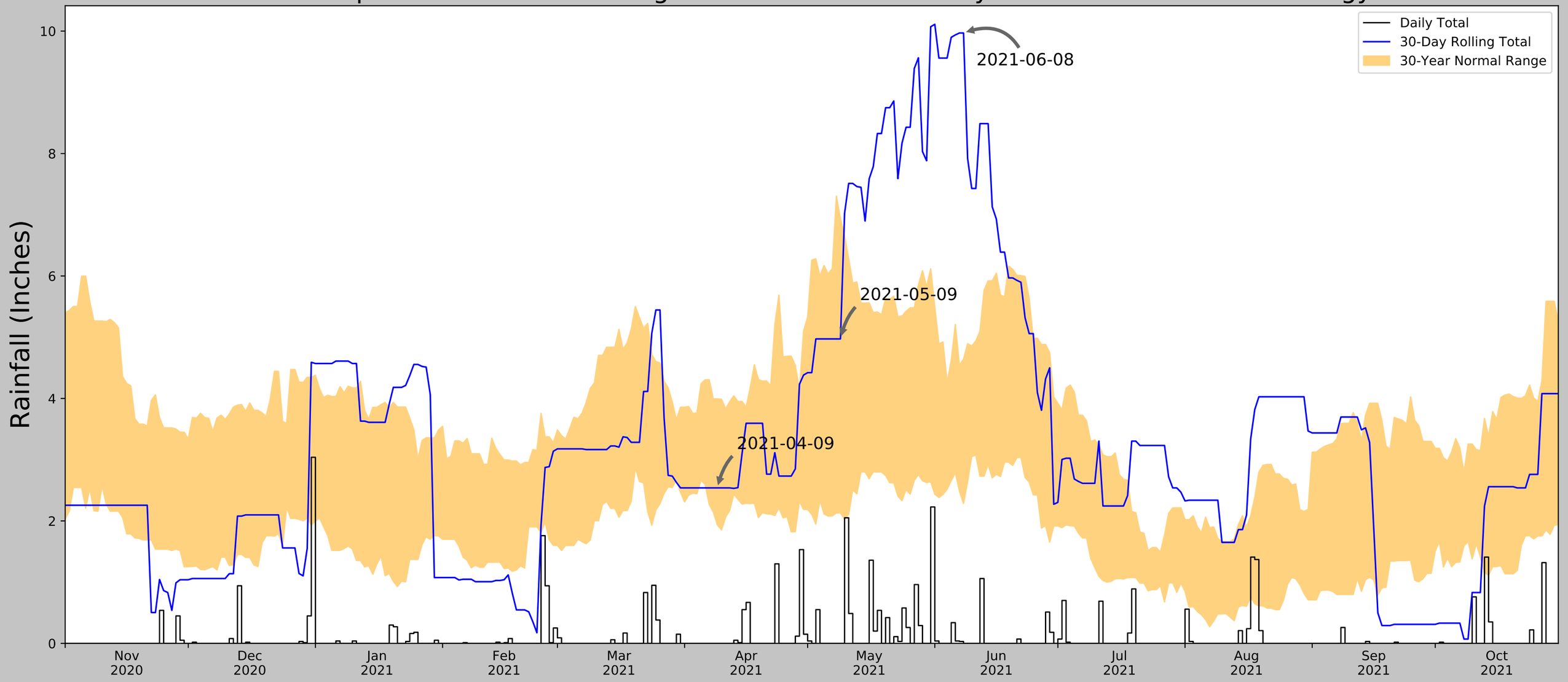
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-01-19	1.142126	3.849213	3.909449	Wet	3	3	9
2020-12-20	1.755118	3.706299	2.098425	Normal	2	2	4
2020-11-20	1.68937	3.581496	2.255906	Normal	2	1	2
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-06-08
Elevation (ft)	550.01
Drought Index (PDSI)	Mild wetness
WebWIMP H_2O Balance	Dry Season

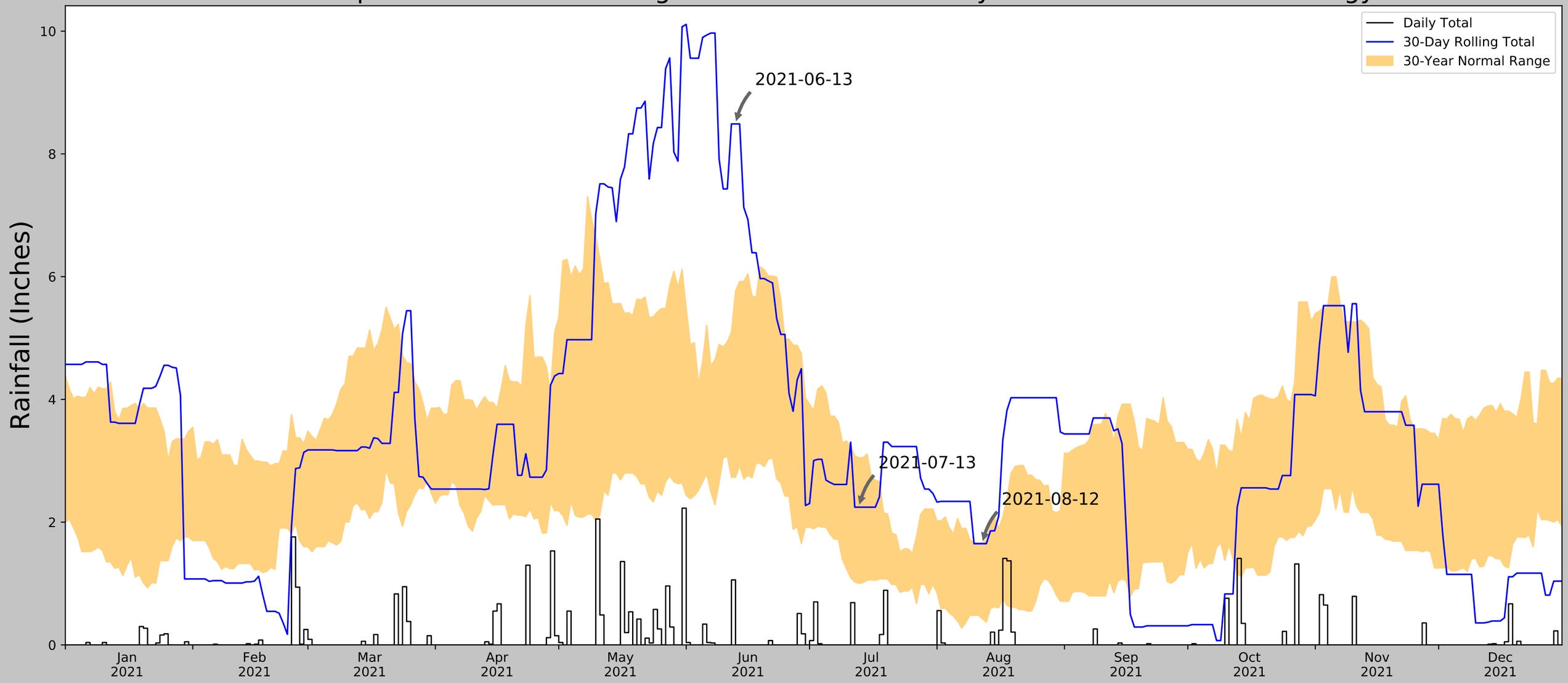
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-06-08	2.284646	4.643307	9.968504	Wet	3	3	9
2021-05-09	2.130315	6.93504	4.972441	Normal	2	2	4
2021-04-09	1.933465	3.994488	2.53937	Normal	2	1	2
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-08-12
Elevation (ft)	550.01
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

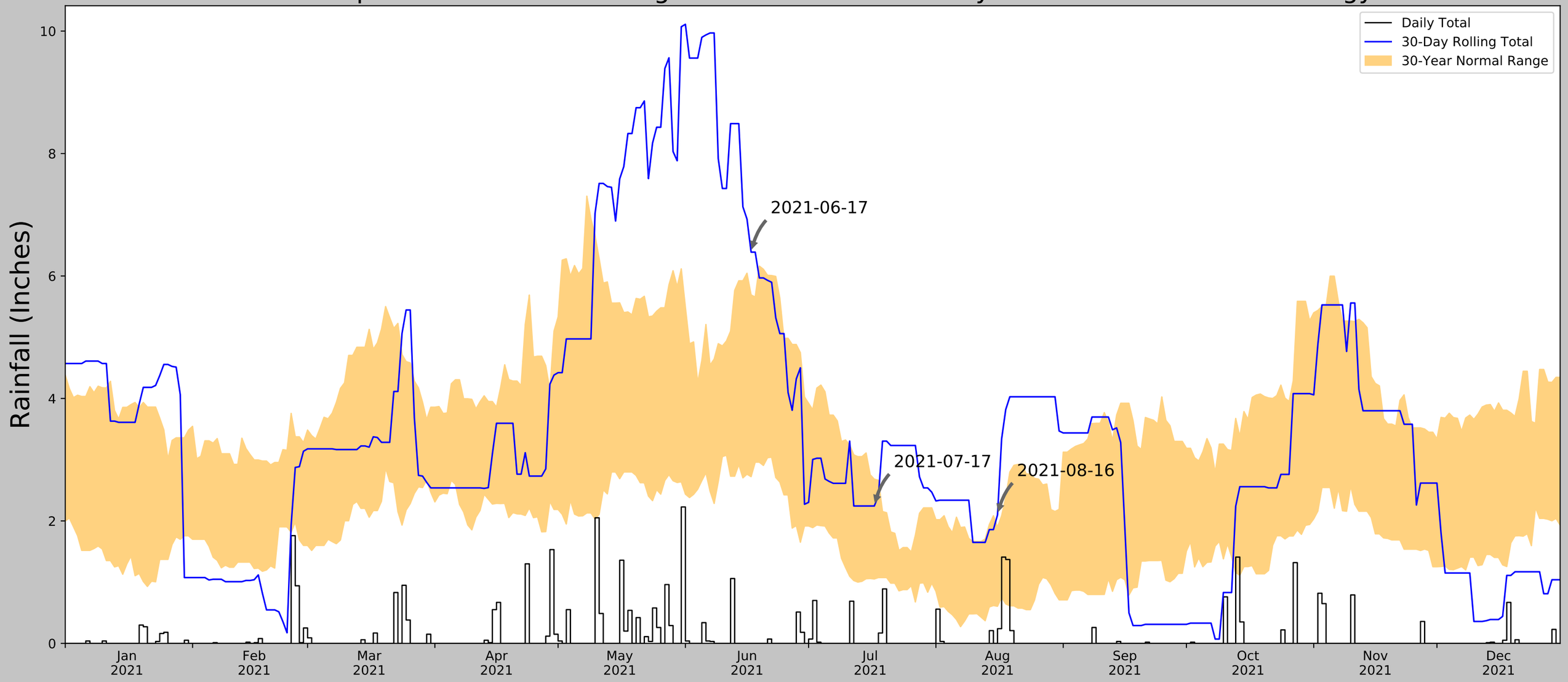
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-12	0.428346	1.664961	1.649606	Normal	2	3	6
2021-07-13	1.0	3.05	2.244095	Normal	2	2	4
2021-06-13	2.730315	5.765748	8.488189	Wet	3	1	3
Result							Normal Conditions - 13

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-08-16
Elevation (ft)	550.01
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

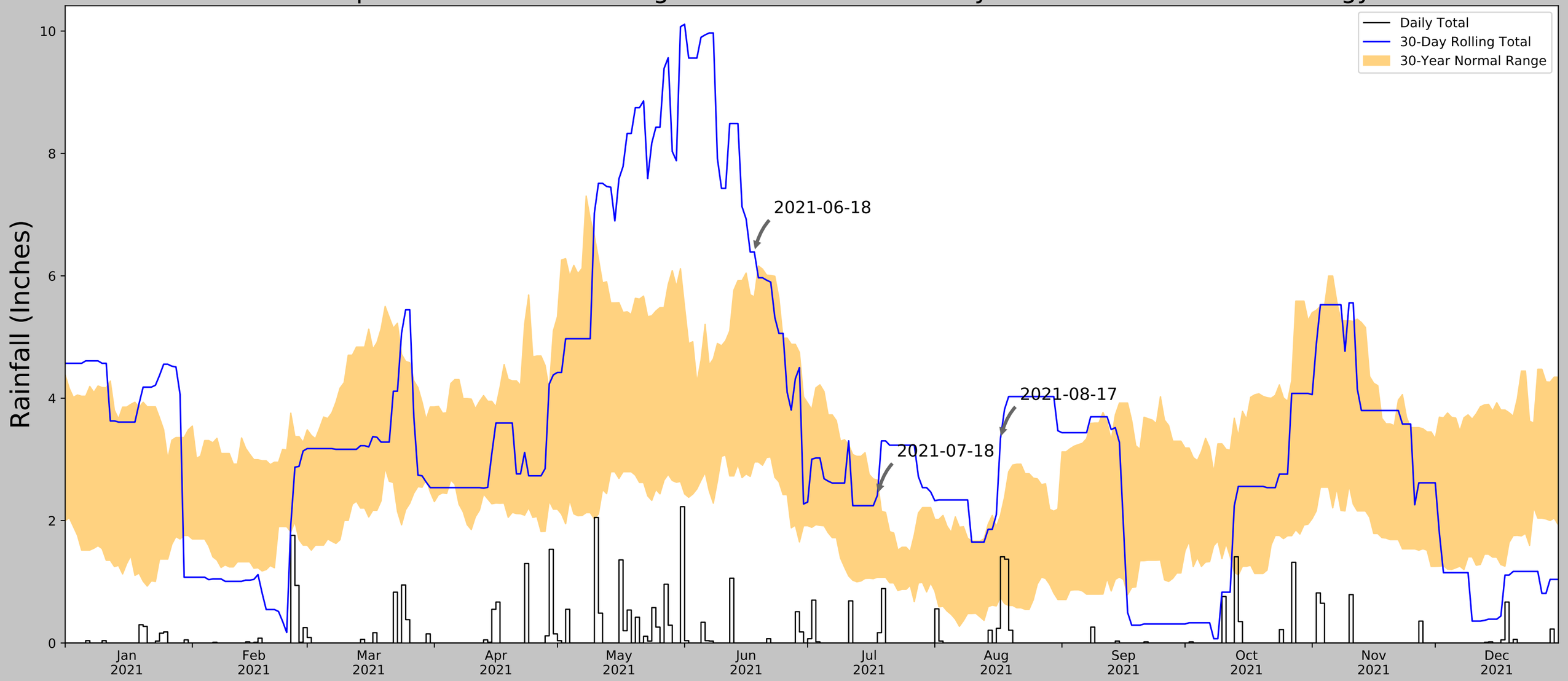
30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-16	0.605906	1.899606	2.098425	Wet	3	3	9
2021-07-17	1.051969	2.681496	2.244095	Normal	2	2	4
2021-06-17	2.722047	5.690551	6.389764	Wet	3	1	3
Result							Wetter than Normal - 16

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-08-17
Elevation (ft)	550.01
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

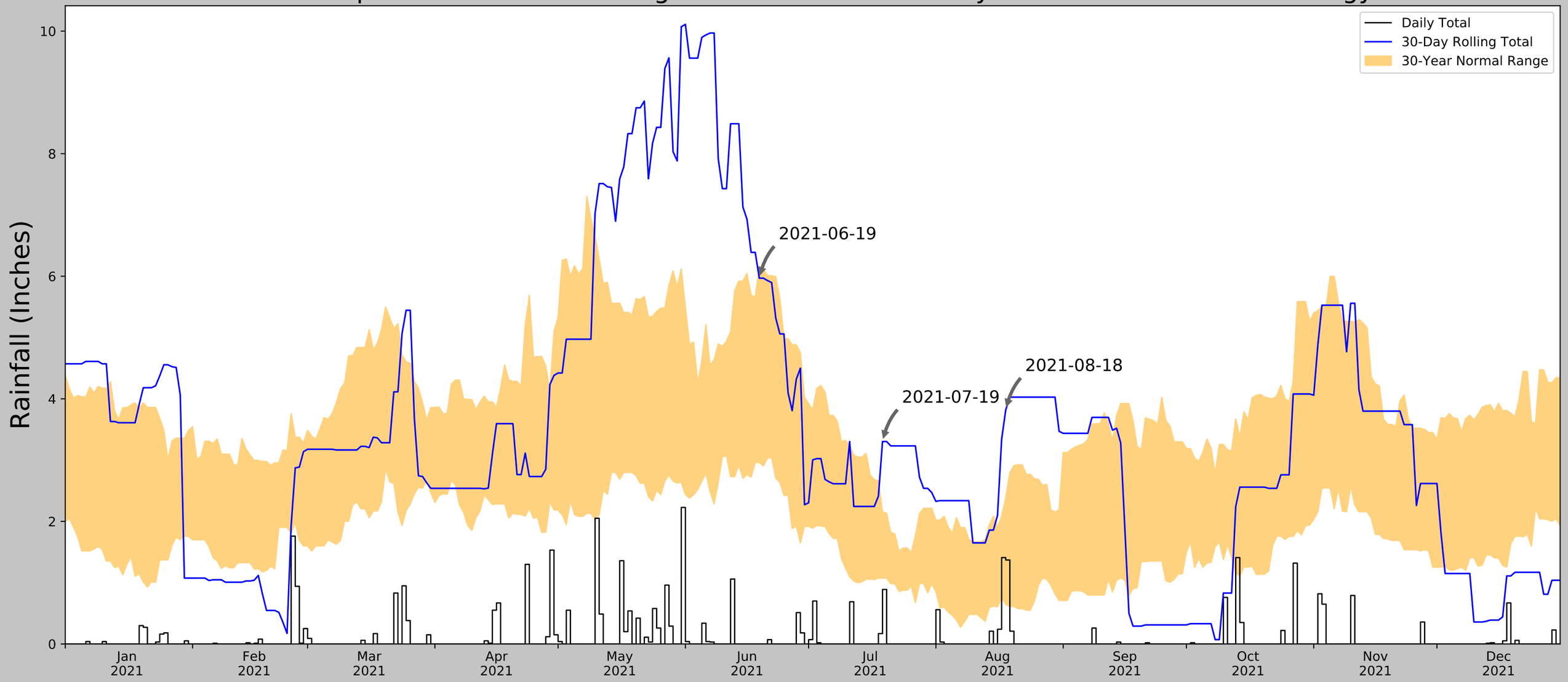
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-17	0.752756	2.085039	3.338583	Wet	3	3	9
2021-07-18	1.074409	2.66378	2.413386	Normal	2	2	4
2021-06-18	2.959055	5.657874	6.389764	Wet	3	1	3
Result							Wetter than Normal - 16

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-08-18
Elevation (ft)	550.01
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-18	0.645276	2.385433	3.818898	Wet	3	3	9
2021-07-19	1.074409	2.15315	3.30315	Wet	3	2	6
2021-06-19	2.959055	6.162205	5.968504	Normal	2	1	2
Result							Wetter than Normal - 17

Figure and tables made by the
Antecedent Precipitation Tool
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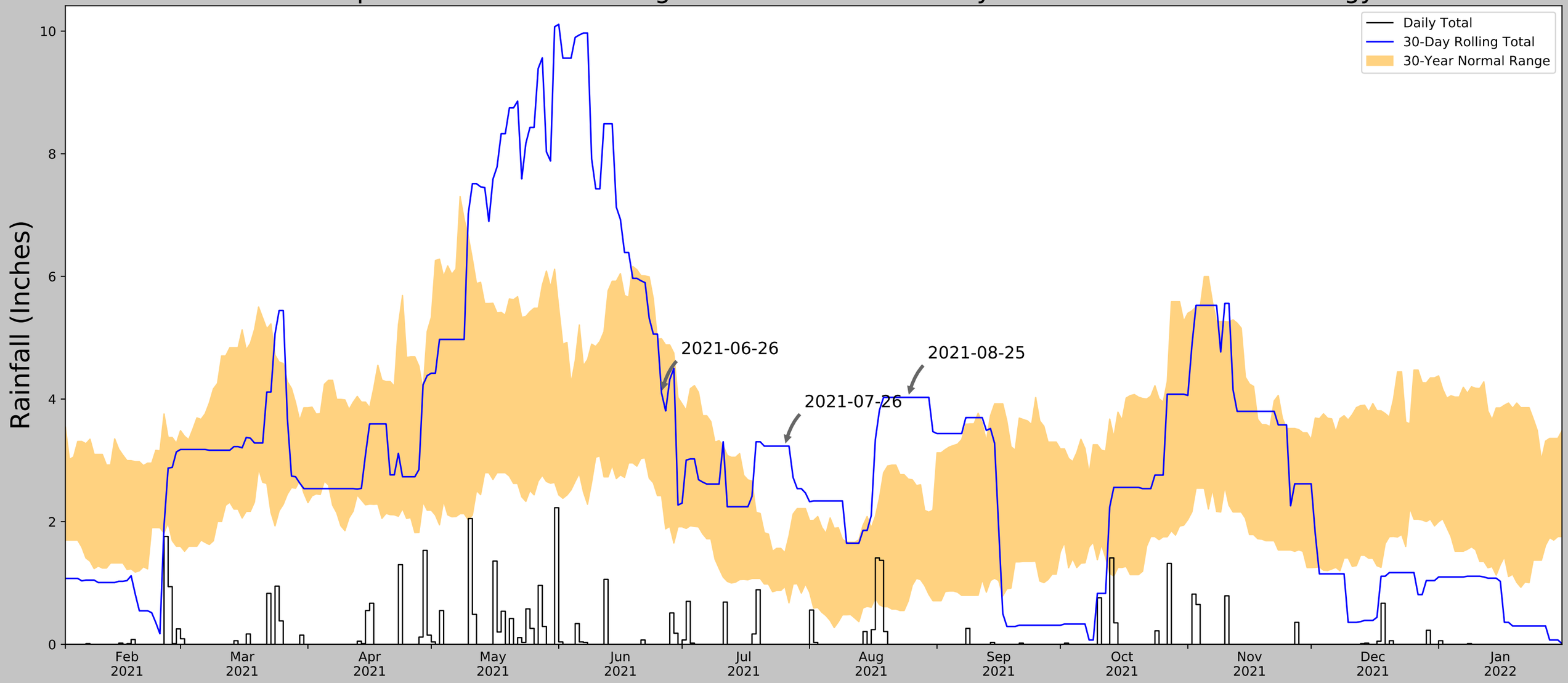
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MCKINNEY MUNI AP	33.1803, -96.5903	580.053	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-08-25
Elevation (ft)	550.01
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

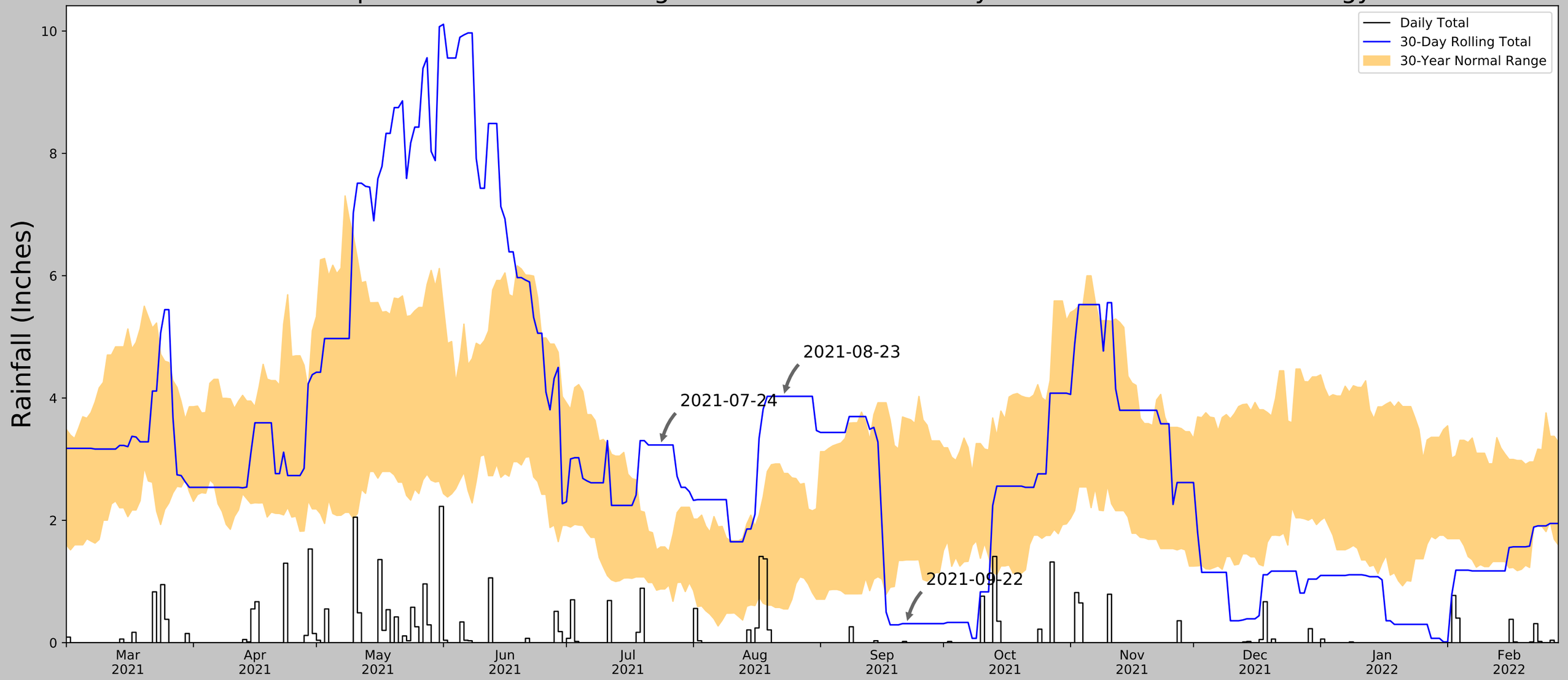
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-25	0.705118	2.694882	4.027559	Wet	3	3	9
2021-07-26	0.94252	1.492913	3.232284	Wet	3	2	6
2021-06-26	2.425197	4.983465	4.098425	Normal	2	1	2
Result							Wetter than Normal - 17

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0

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



Coordinates	33.250326, -96.618486
Observation Date	2021-09-22
Elevation (ft)	550.01
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-09-22	1.352756	3.666142	0.311024	Dry	1	3	3
2021-08-23	0.550787	2.766929	4.027559	Wet	3	2	6
2021-07-24	0.877559	1.565354	3.232284	Wet	3	1	3
Result							Normal Conditions - 12

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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	5.105	30.043	2.451	8184	90
MCKINNEY 1.6 ESE	33.1927, -96.6288	604.003	4.026	53.993	2.029	9	0
MCKINNEY MUNICIPAL AIRPORT	33.1903, -96.5914	585.958	4.433	35.948	2.154	3130	0
ANNA 3.7 SSW	33.3127, -96.5827	580.053	4.78	30.043	2.295	1	0
ANNA	33.35, -96.5167	680.118	9.054	130.108	5.252	24	0
FRISCO	33.1925, -96.7931	747.047	10.855	197.037	7.024	5	0