Waters of the U.S. Delineation Report

Loop 9, Segment B: From IH 35E to IH 45 (CSJ 2964-10-005)

Texas Department of Transportation, Dallas District

April 2020

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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List of Tables

1.0 Introduction

The Texas Department of Transportation (TxDOT) conducted a waters of the U.S. (WOTUS) delineation for a proposed road project on Loop 9, Segment B from Interstate Highway IH 35 East (IH 35E) to IH 45 in Dallas and Ellis counties, Texas (CSJ 2964-10-005). The delineation was completed on January 29 and May 1, 2019. Field evaluations occurred in discontinuous months as additional access became available.

The delineation was performed to evaluate the presence of jurisdictional WOTUS and identify their boundaries within the project area. It is anticipated that this waters of the U.S. delineation report (WOTUS DR) will be used in support of the jurisdictional determination process for on-site aquatic resources. If it is determined that jurisdictional resources will be impacted, this WOTUS DR will also support applications for regulatory permits that may be required from the United States Army Corps of Engineers (USACE) for proposed construction activities.

Waterbodies were delineated according to USACE Regulatory Guidance Letter (RGL) 05-05 Ordinary High Water Mark (OHWM) Identification for non-tidal waters and the Mean High Tide (MHT) line for 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) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) – March 2010 (2010 Regional Supplement). 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 four (4) attachments:

- Attachment 1 – Figures: contains maps of the project area
- Attachment 2 – Wetland Determination Data Forms: documents the three (3) criteria for wetlands at all sample points
- Attachment 3 – Historical Aerial Photographs: contains historical aerial imagery, starting with the oldest photographs first
- Attachment 4 - Site Photographs: contains photographs taken during the site visit(s)

2.0 Project Overview

The TxDOT-Dallas District proposes the construction of Loop 9 as a new location frontage road system between IH 35E to IH 45 through Dallas and Ellis Counties, Texas. The length of the project is an approximate ten-mile new location frontage road system. The proposed project would also include the preservation of right-of-way (ROW) for an ultimate access-controlled main lane facility. Construction of the future main lanes would be based on projected traffic and funding and would require additional environmental analysis prior to construction.

This project is going through the planning, specifications, and estimates (PS&E) process. It was determined during the PS&E process that additional ROW must be required for construction of the IH 35E Interchange.

The proposed construction of the IH 35E Interchange will now require an additional approximately 41 acres of new right-of-way (ROW) for the use of staging area(s) along IH 35E for construction of the interchange at the proposed Loop 9, as well as the preservation of the additional ROW for future construction of the ultimate interchange facility (final phase). The proposed ROW located along the west side of IH 35E from north of Travis

Street to south of Parakeet Drive will be needed, to accommodate the proposed interchange improvements of ramps, bridge structures, and frontage roads within the project area. Total project length of the IH 35E interchange at Loop 9 is approximately 0.5 miles in length.

This WOTUS DR only covers the approximately 41 acres of new ROW. Approximately 23 acres of the 41 acre project area (56 percent) have been surveyed. The remainder of the project area could not be field surveyed due to lack of right-of-entry (ROE). Those areas have been desktop delineated using available resources. Resources used to conduct the desktop delineation are described in Section 4.0.

Attachment 1 - Figures contains the following eight (8) maps of the project area:

- Figure 1 – Vicinity Map
- Figure 2 – Aerial Overview Map
- Figure 3 – USGS Topographic Map
- Figure 4 – NWI Wetland Map
- Figure 5 – NRCS Soils Map
- Figure 6 – FEMA Floodplain Map
- Figure 7 – LiDAR Map
- Figure 8 – Waters of the U.S. Delineation Map

3.0 Ecological Site Description

The project area is located within the Southwestern Prairies Cotton and Forage Land Resource Region (LRR J) of the Great Plains and is more specifically located in Major Land Resource Area (MLRA) 86A (Texas Blackland Prairie, Northern part). Most of this MLRA is characterized by a nearly level to gently sloping, dissected plain. Dissected areas with steeper slopes occur along entrenched river and creek valleys. This area supports mixed tall and mid-grass prairies. Areas along the major rivers and streams support savanna vegetation. Nearly all of this area is improved pasture, cropland, or rangeland. Urban development is rapidly increasing adjacent to the major cities.

The project area consists of existing and proposed ROW. Currently, the project area consists of disturbed land, agricultural land, pastures, shrublands and maintained residential lawns. Additionally, vegetation within existing ROW along IH 35E, within the project area, consists primarily of well maintained, regularly mowed, herbaceous roadside vegetation.

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 potential WOUS within the project area.

4.1.1 USGS Topographic Maps

The United States Geological Survey (USGS) topographic maps illustrate elevation contours, drainage patterns, and hydrography. The Lancaster, Texas, USGS Quadrangle (Quad) map was reviewed to determine the likelihood of the project area containing jurisdictional waterbodies.

4.1.2 USFWS NWI Data

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

4.1.3 NRCS Soil Survey Data

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

4.1.4 Aerial Photography

Aerial photography provides 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 GeoSearch™ database and Google Earth, prior to and during the field delineation, in order to further understand the nature of the project area.

4.1.5 FEMA FIRM

The Federal Emergency Management Agency (FEMA) maintains flood insurance rate maps (FIRMs). The FIRM including the project area was reviewed to determine if the 100-year floodplain is mapped. The USACE utilizes the 100-year floodplain to assist in determining jurisdiction of aquatic features. FEMA FIRM data was reviewed to evaluate the location of any mapped floodplain in relation to aquatic resources located within the project area.

4.1.6 LiDAR

Light detection and ranging (LiDAR) is a remote sensing technique that measures spatial and temporal data. LiDAR information is provided by the Texas Natural Resources Information System (TNRIS) online database for each USGS Quad. LiDAR data was obtained for the Lancaster, Texas, USGS Quad to evaluate elevation changes throughout the project area.

4.2 Waters of the U.S. Delineation

With respect to any non-tidal waterbodies located within the project area, biologists followed the methodology outlined in Regulatory Guidance Letter (RGL) 05-05. With respect to any tidal waterbodies located within the site, biologists identified the MHT line by observing changes in vegetation, drift deposits of shells and debris, and physical markings or characteristics along the shoreline that may indicate the general height reached by a rising tide.

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

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

Geospatial data was collected utilizing a Trimble GeoXH 6000 Series Global Positioning System (GPS) with sub-meter accuracy. All geospatial data was collected in accordance with the April 21, 2016 memorandum from the Galveston District of the USACE entitled, Standard Operating Procedure, Recording Jurisdictional Delineations using GPS.

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 prevalent where more than 50% 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 to 5 and an index of 3.0 or less signifies that hydrophytic vegetation is present. In the current delineation, and as shown on the wetland determination data forms in Attachment 2, a prevalence index was calculated for each sample point's vegetation community.

4.2.3 Soils

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

At each sample point, in areas where the absence of inundation or heavy saturation allowed, a pit was excavated to a depth of at least 16 inches to reveal soil profiles and to determine whether or not 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

The USGS Lancaster, Texas 7.5-minute topographic Quad map from 2019 was reviewed to assess the surface topography within the project area. A review of the topographic map indicates that elevation varies slightly throughout the project area. Topography within the southern half of the project area slopes in a general southern direction within the Headwaters of Red Oak Creek sub watershed. Topography within the northern half of the project area slopes in a general northern direction within the Middle Red Oak Creek sub watershed. Both sub watersheds are within the Red Oak Creek watershed. Refer to Figure 3 in Attachment 1 for an illustration of topography.

5.1.2 USFWS NWI Data

No NWI features were identified within the project area. Refer to Figure 4 in Attachment 1 for an illustration of NWI features surrounding the project area.

5.1.3 NRCS Soil Survey Data

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

Table 1: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric/Non hydric
Dallas County			
5	Austin silty clay, 1 to 3 percent slopes	Found in landform ridges, well drained and high runoff class, farmland of statewide importance	Non-hydric
44	Houston black clay, 1 to 3 percent slopes	Found in landform ridges, moderately well drained and a very high runoff class, all areas are prime farmland	Non-hydric
Ellis County			
AuB	Austin silty clay, 1 to 3 percent slopes	Found in landform ridges, well drained and high runoff class, farmland of statewide importance	Non-hydric

Table 1: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric/Non hydric
Ellis County (continued)			
HaB	Houston Black clay, 1 to 3 percent slopes	Found in landform ridges, moderately well drained and a very high runoff class, all areas are prime farmland	Non-hydric

5.1.4 Aerial Photography

Historic aerial imagery for the project and surrounding areas was evaluated using images provided by GeoSearch™ and Google Earth. The table below summarizes observations for the project area for each year reviewed. Attachment 3 contains copies of the historic aerial photographs reviewed for the project area.

Table 2: Historic Aerial Photography Observations

Year	Observations
1958	The 1958 aerial photograph depicts the majority of the project area and the surrounding area as predominantly rural and agricultural land use. IH 35E is visible in the photograph.
1968	Residential development began along IH 35E, north of the project area, between 1958 and 1968.
1972	Residential development began within the city of Glenn Heights, northwest of the project area, between 1968 and 1972. Development within the project area along IH 35E began between 1968 and 1972.
1981	Residential development began along Red Oak Creek and Little Creek west of the project area and continued in the surrounding areas. Development within the project area along IH 35E continued between 1972 and 1981.
1995	Residential development continued along IH 35E north and east of the project area as well as within the city of Glenn Heights between 1981 and 1995.
2016	Development has increased steadily from 1958 to present in the areas surrounding the project area, land use within the project area is a mix of rural, residential, and commercial.

5.1.5 FEMA FIRM

A review of FEMA FIRMs indicated that the project area is located outside of the floodplain. Refer to Figure 6 in Attachment 1 for an illustration of the FEMA FIRM data surrounding the project area.

5.1.6 LiDAR

A review of LiDAR data indicated the topography within the southern half of the project area is generally sloping from the north to the south while the topography within the northern half of the project area is generally sloping from the south to the north. Refer to Figure 7 in Attachment 1 for an illustration of LiDAR data within the project area.

5.2 Waters of the U.S. Delineation

The table below summarizes the waterbodies/wetlands identified within the project area. Refer to Figure 8 in Attachment 1 for a depiction of the boundaries of each waterbody/wetland feature, as well as the location within the project area where sample point data were collected. Refer to Attachment 2, Wetland Determination Data Forms, for the completed wetland determination data forms for the project. Refer to Attachment 4, Site Photos, for photographs of the project area.

Table 3: Summary of Waterbody/Wetland Features

Waterbody or Wetland Number	Name	Type	Latitude, Longitude	Acres within project area (all waterbodies and wetlands)	Linear feet within project area (waterbodies only)	Potentially Jurisdictional (Section 404)?	Potentially Navigable (Section 10)?
Pond 10	Pond	Man-made Pond	32.546524, -96.825042	0.03	NA	No	No
Total				0.03			
NA Not Applicable; used to denote when a feature is not measured in that unit							

5.2.1 Hydrology

Normal hydrologic circumstances were present within the project area. The table below summarizes wetland hydrological indicators identified within the project area. Refer to the wetland determination data forms in Attachment 2 to see the specific hydrology recorded at each sample point.

Table 4: Wetland Hydrological Indicators

Wetland Type	Sample Point Name(s)	Primary Wetland Hydrological Indicators	Secondary Wetland Hydrological Indicators
N/A	DPB060	N/A	Geomorphic Position

5.2.2 Vegetation

Normal circumstances were present within the project area. Representative dominant taxa for each distinct habitat type encountered within the project area are listed in the tables below. Indicator status for each species was obtained from the 2016 NWPL.

Table 5: Disturbed Prairie Dominant Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Sapling/Shrub	*Juniperus virginiana*	Eastern red cedar	UPL
Sapling/Shrub	*Maclura pomifera*	Osage orange	FACU
Herb	*Cynodon dactylon*	Bermuda grass	FACU
Herb	*Sorghum halepense*	Johnson grass	FACU

Table 6: Urban Dominant Plant Species

Strata	Scientific Name	Common Name	NWPL Classification
Herb	*Lolium perenne*	Ryegrass	FACU
Herb	*Cynodon dactylon*	Bermuda grass	FACU

5.2.3 Soils

Common soils found within the project area include clay, clay loam, dark matrix color with a chroma of 2 or 3 and low value of 1 or 2. Normal circumstances were present throughout the project area. No sample points exhibited hydric soils within the project area. Refer to the wetland determination data forms in Attachment 2 to see the specific soil data recorded at each sample point.

6.0 Conclusion

A WOTUS delineation was conducted for the Loop 9, Segment B from IH 35E to IH 45 in Dallas and Ellis counties, Texas (CSJ 2964-10-005). The field delineation was completed on January 29 and May 1, 2019. Refer to Section 5.2, above, for a table summarizing the aquatic resources (i.e., waterbodies/wetlands) identified within the project area.

Based on observations and data collected in the field, as well as desktop delineations where field access was not available, 0.03 acres of open water features were delineated within the project area. Based on best professional judgment, it was determined that 0.0 acres of open water features delineated within the project area would be considered jurisdictional.

Pond 10 is a man-made feature excavated in an upland area of the proposed project area. Pond 10 is located outside of the 100-year floodplain with no surface water connections observed; therefore, Pond 10 is considered potentially non-jurisdictional.

The professional opinion offered in this report is based on best professional judgement. It should be noted that the USACE makes the final determination on the location of waterbody and wetland boundaries and their jurisdictional status. To obtain an official jurisdictional determination (JD) from the USACE, this report must be submitted to the USACE Fort Worth District Office, along with a JD request form and, if appropriate, a pre-construction notification / permit application.

7.0 References

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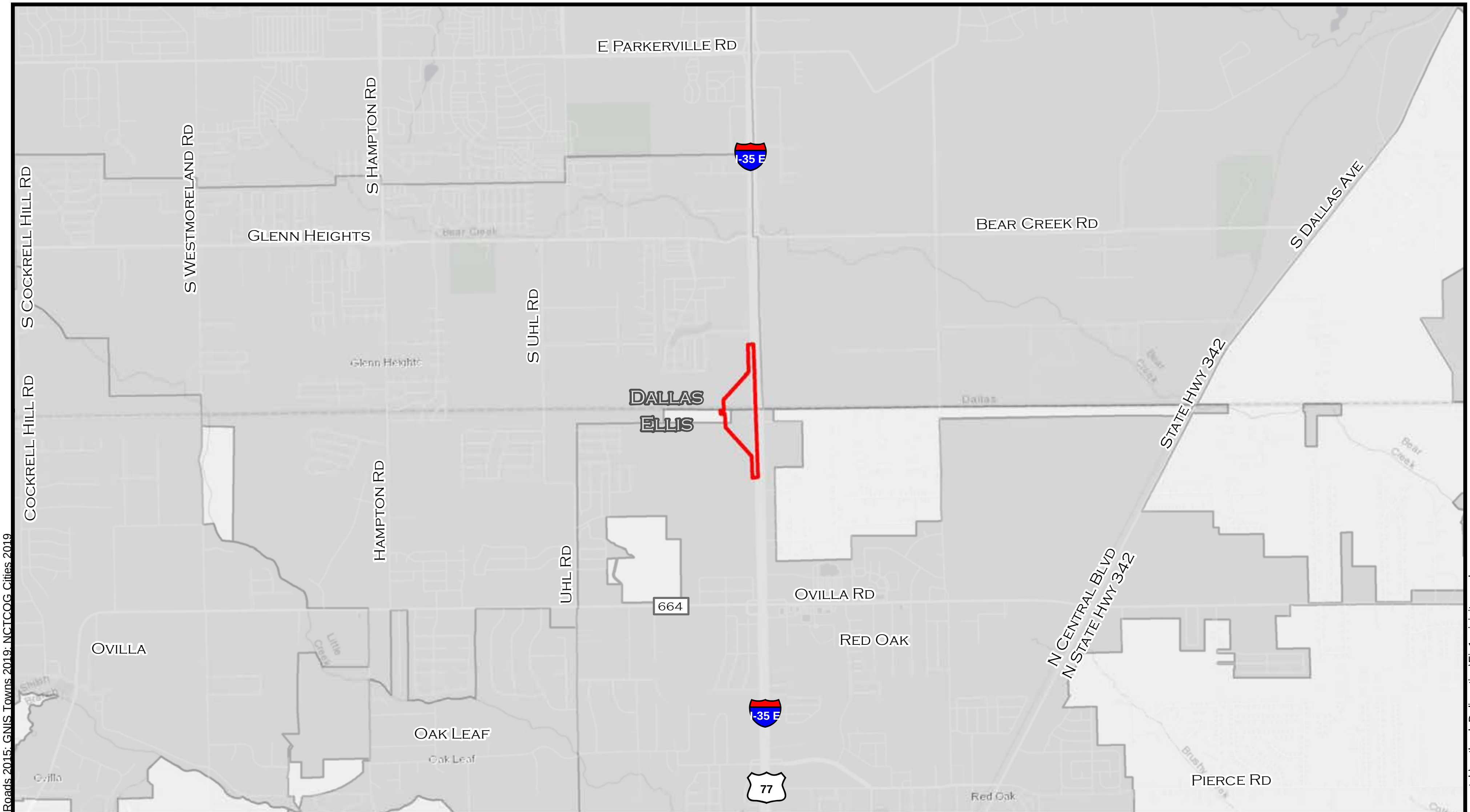
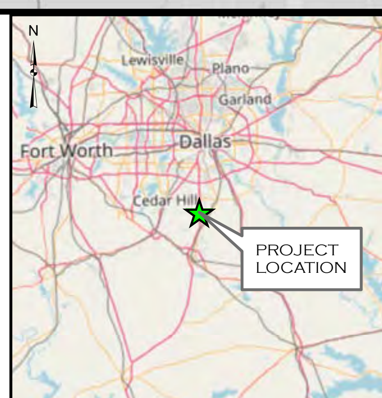
8.0 Attachments

1. Figures
2. Wetland Determination Data Forms
3. Historical Aerial Photographs
4. Site Photographs

Attachment 1 - Figures



Project Area



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
Vicinity Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 2,000 4,000 Feet

FIGURE 1

DATE:
March 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

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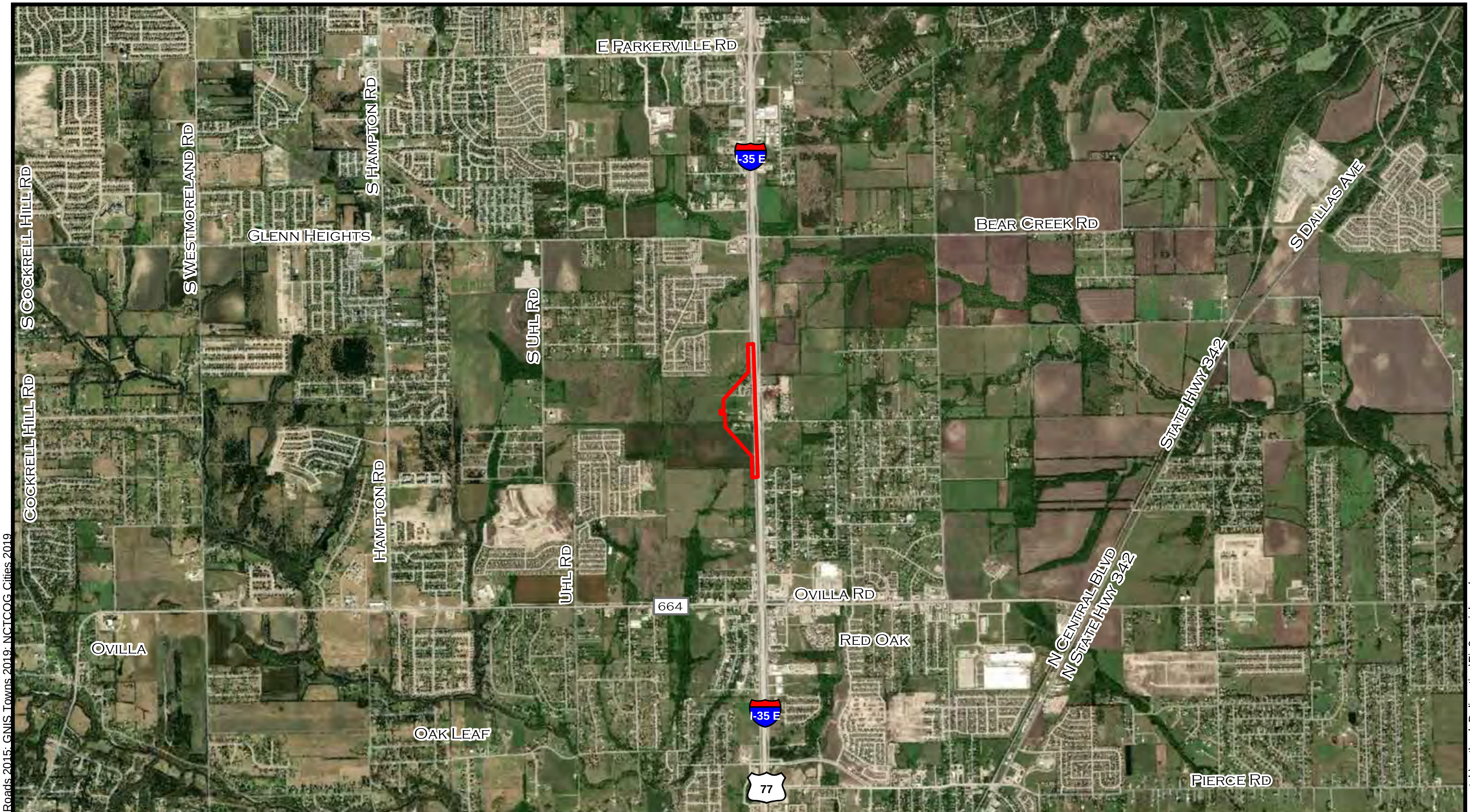

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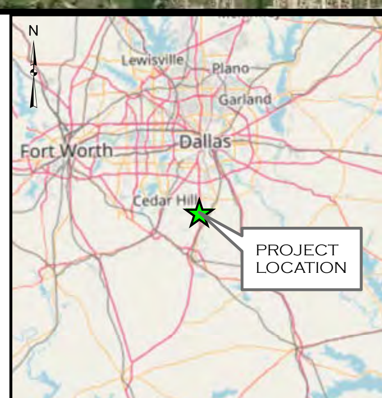

Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
Aerial Overview Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 2,000 4,000 Feet

FIGURE 2

DATE:
March 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

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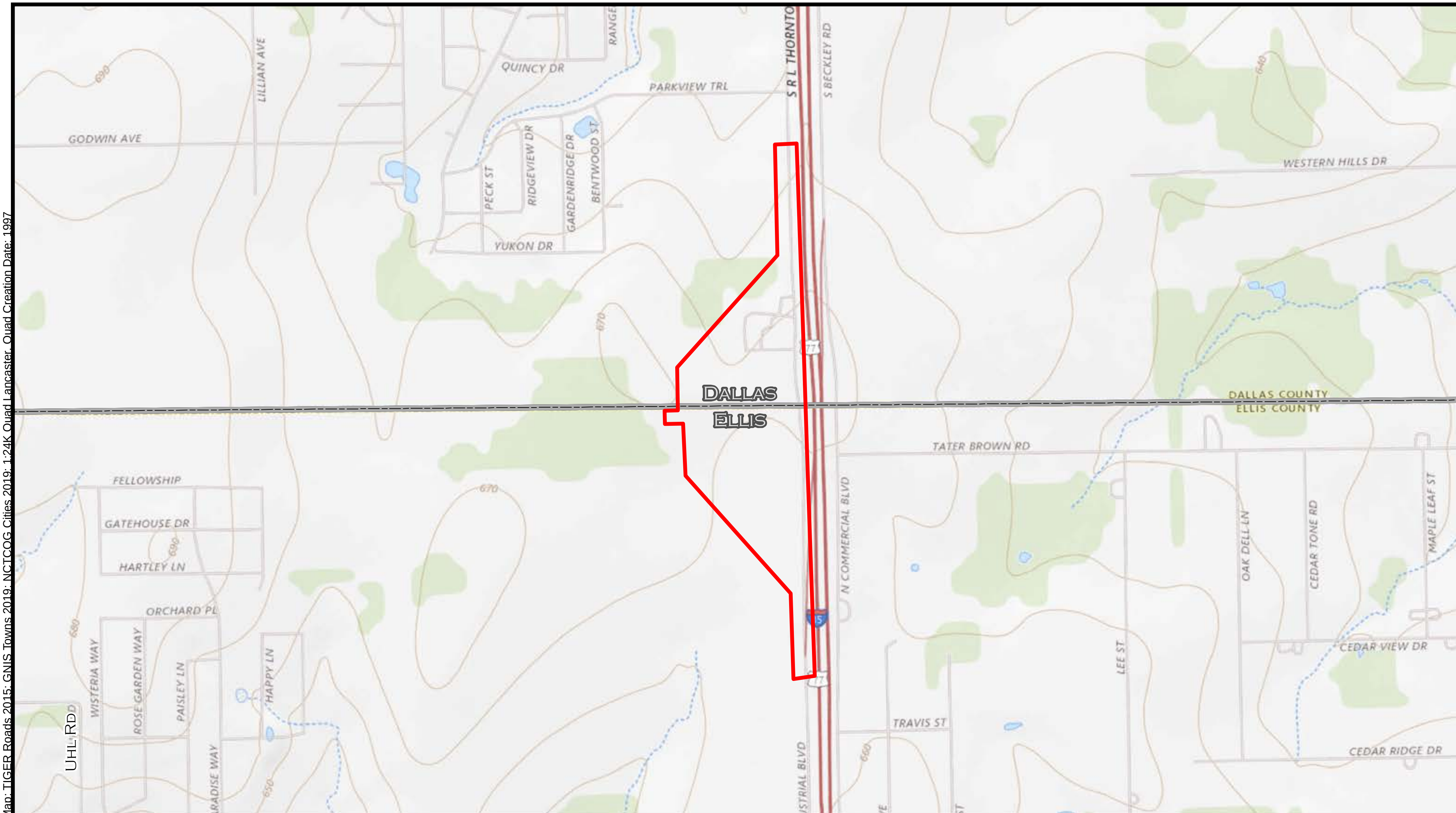

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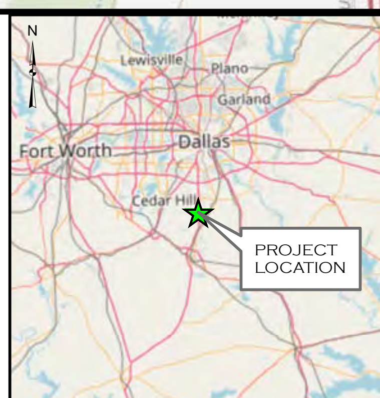

Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
USGS Topographic Map
Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 500 1,000 Feet

FIGURE 3

DATE:
March 2020

Sources: USGS Topographic Map Server; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019; 1:24K Quad Lancaster, Quad Creation Date: 1997

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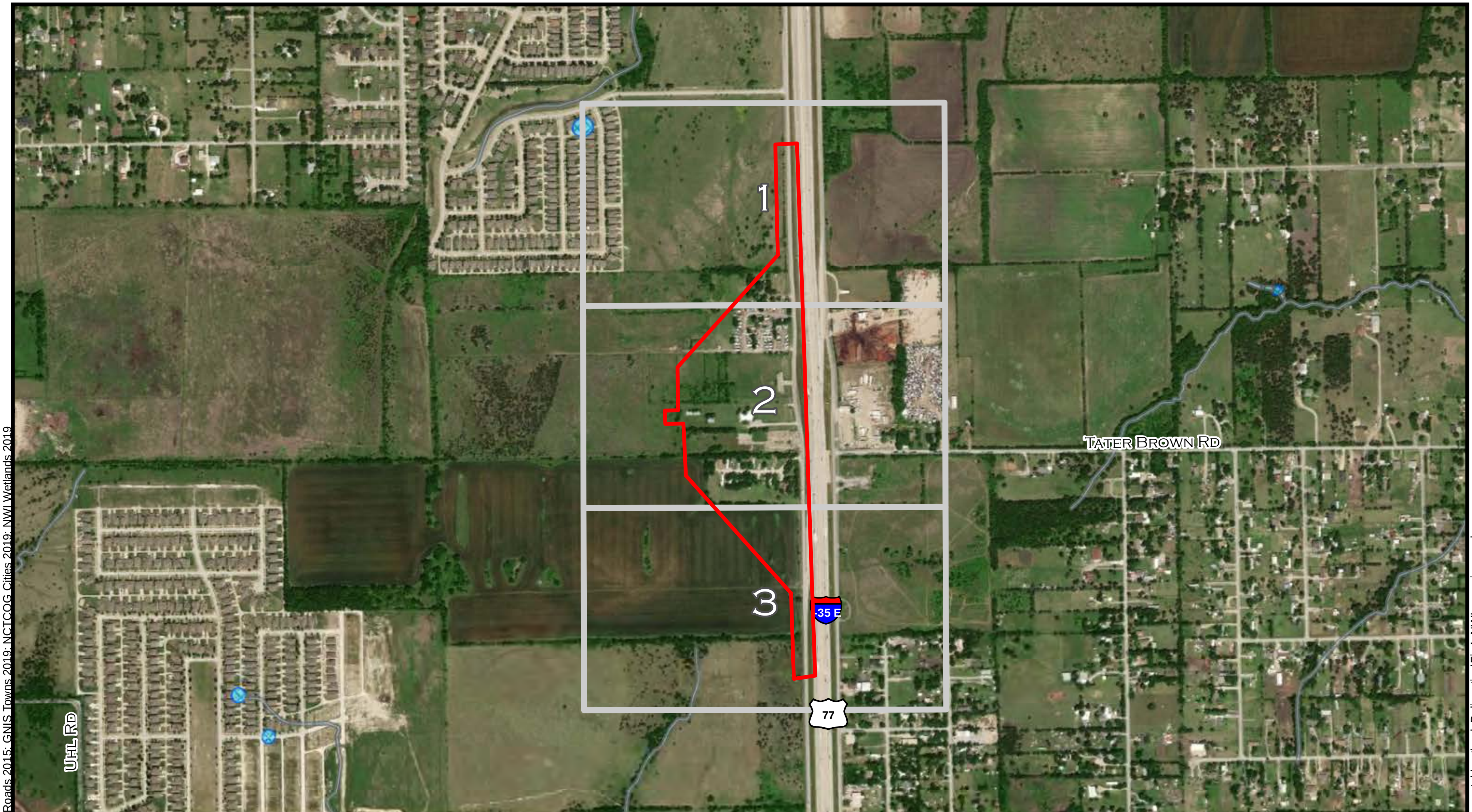
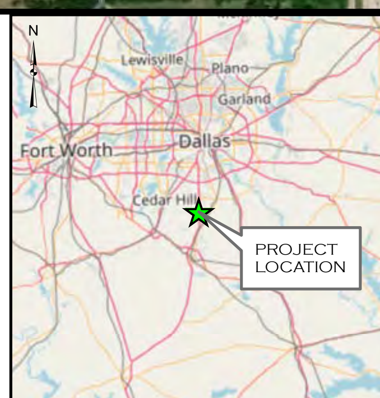


Project Area
NWI Wetland Type
Freshwater Pond
Riverine



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NWI Wetlands Overview

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 500 1,000 Feet

FIGURE 4

DATE:
March 2020

Sources: ESRI Imagery 2018; Open Street Map: TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019; NWI Wetlands 2019

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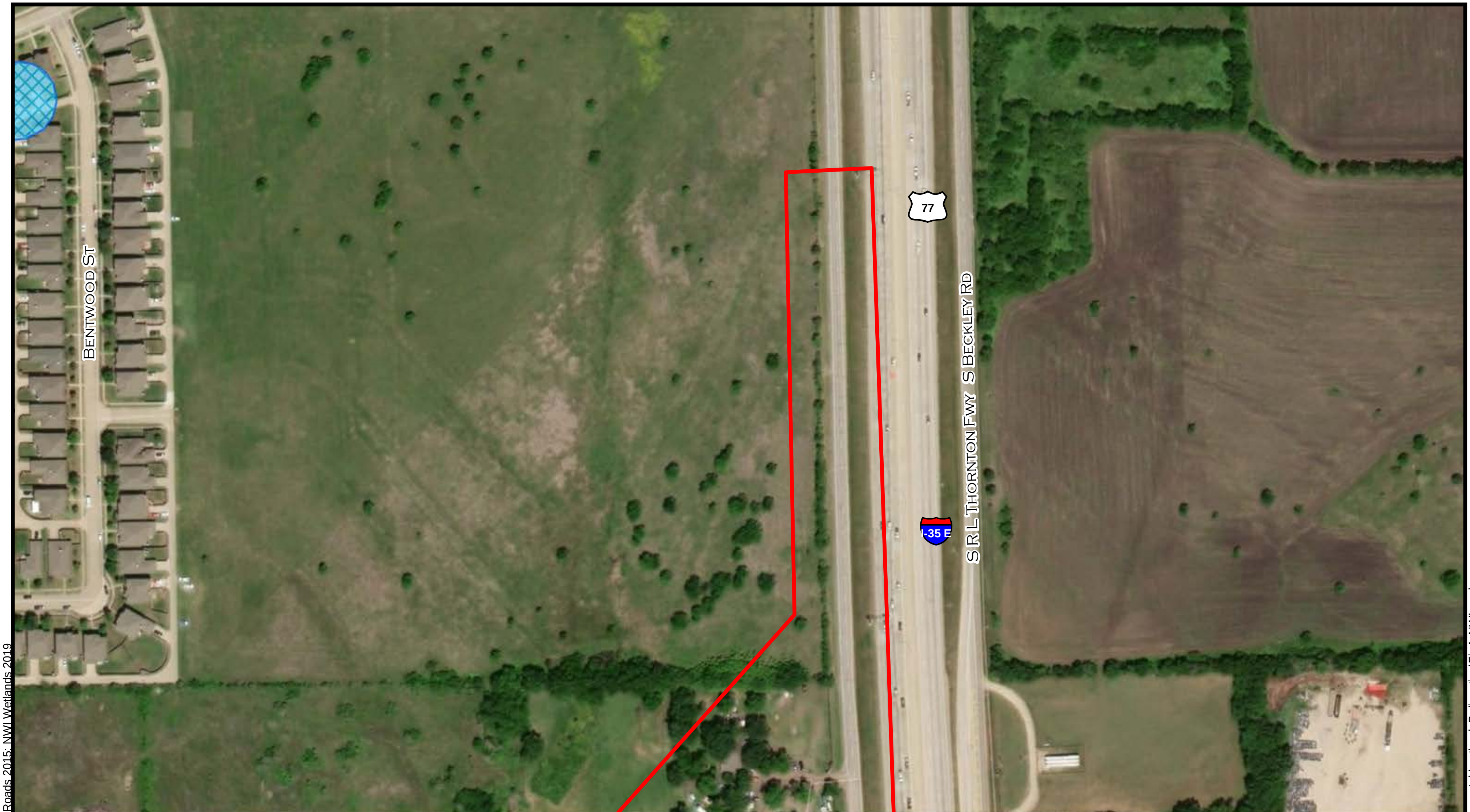
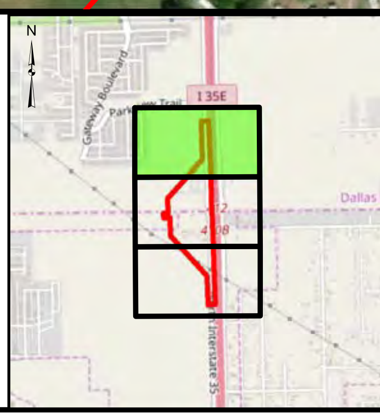


Project Area
NWI Wetland Type
Freshwater Pond



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NWI Wetland Map
Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

FIGURE 4
Sheet 1

DATE:
March 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NWI Wetlands 2019

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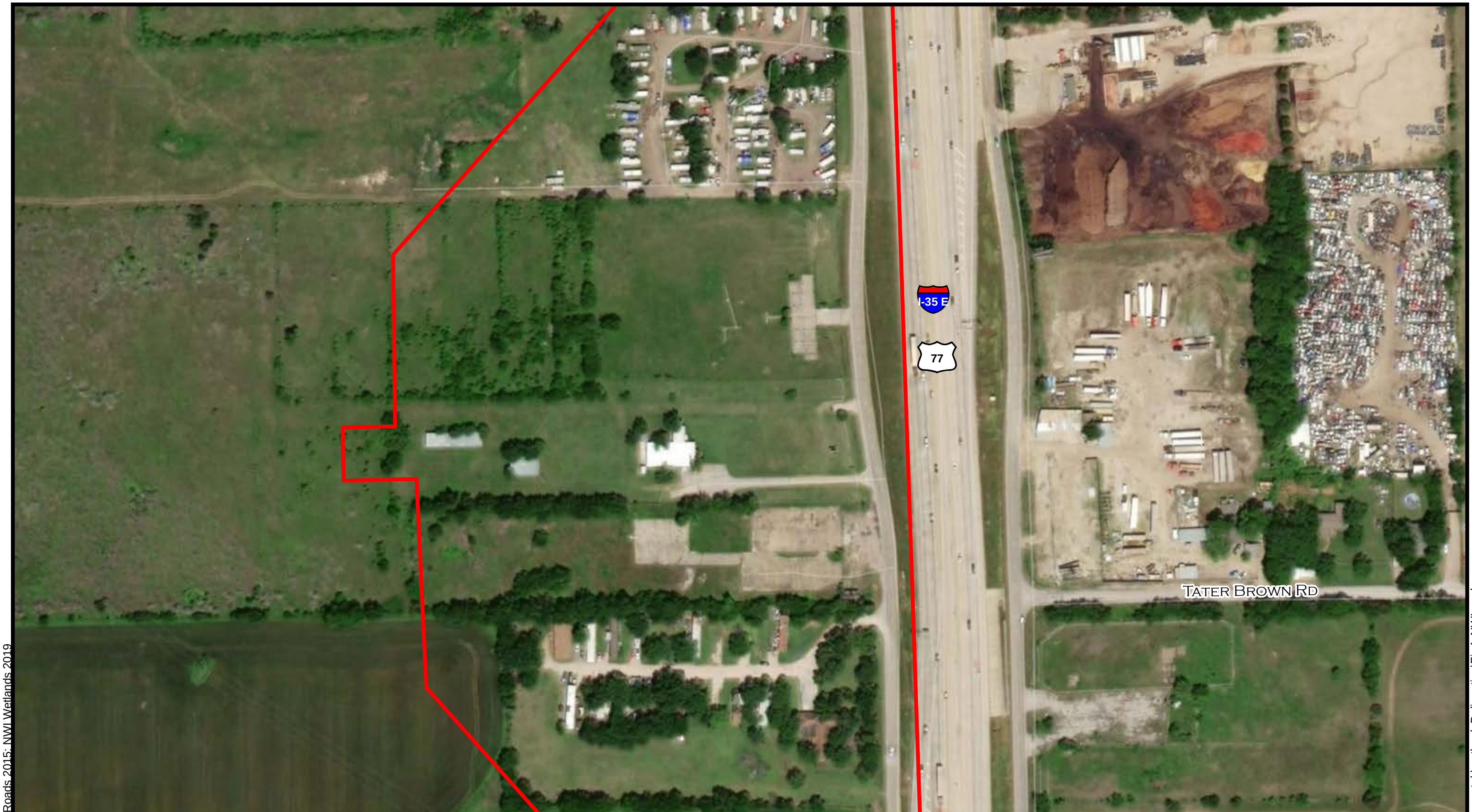
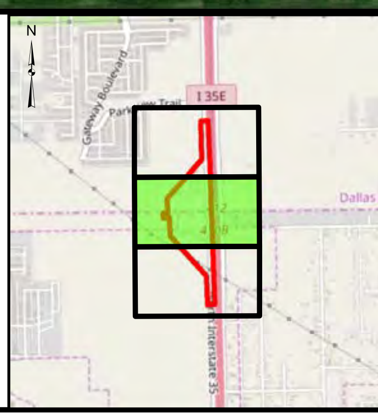


PROJECT AREA



LOOP 9, SEGMENT B: IH 35E TO IH 45
CSJ: 2964-10-005
NWI WETLAND MAP

DALLAS & ELLIS COUNTIES, TEXAS

Texas Department of Transportation

N

0 125 250 Feet

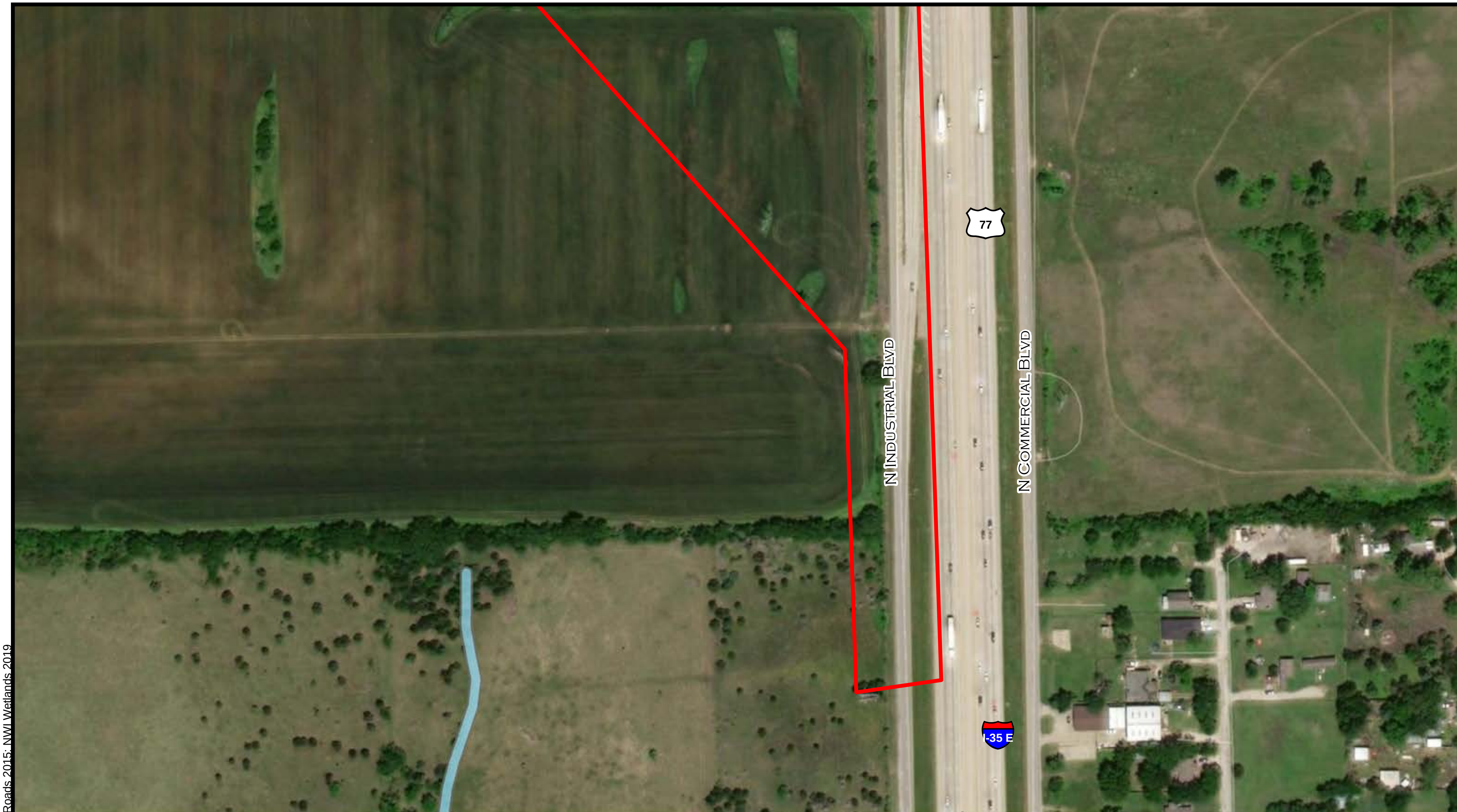
FIGURE 4
SHEET 2

DATE:
MARCH 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NWI Wetlands 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig4_NWI.mxd

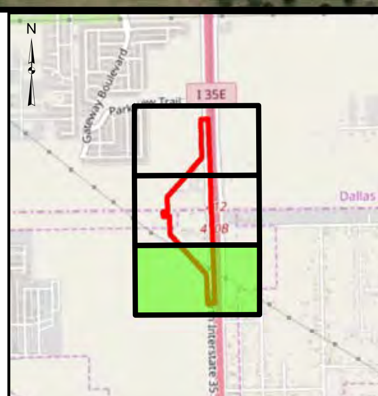
Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area

NWI Wetland Type

Riverine



Loop 9, Segment B: IH 35E to IH 45

CSJ: 2964-10-005

NWI Wetland Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

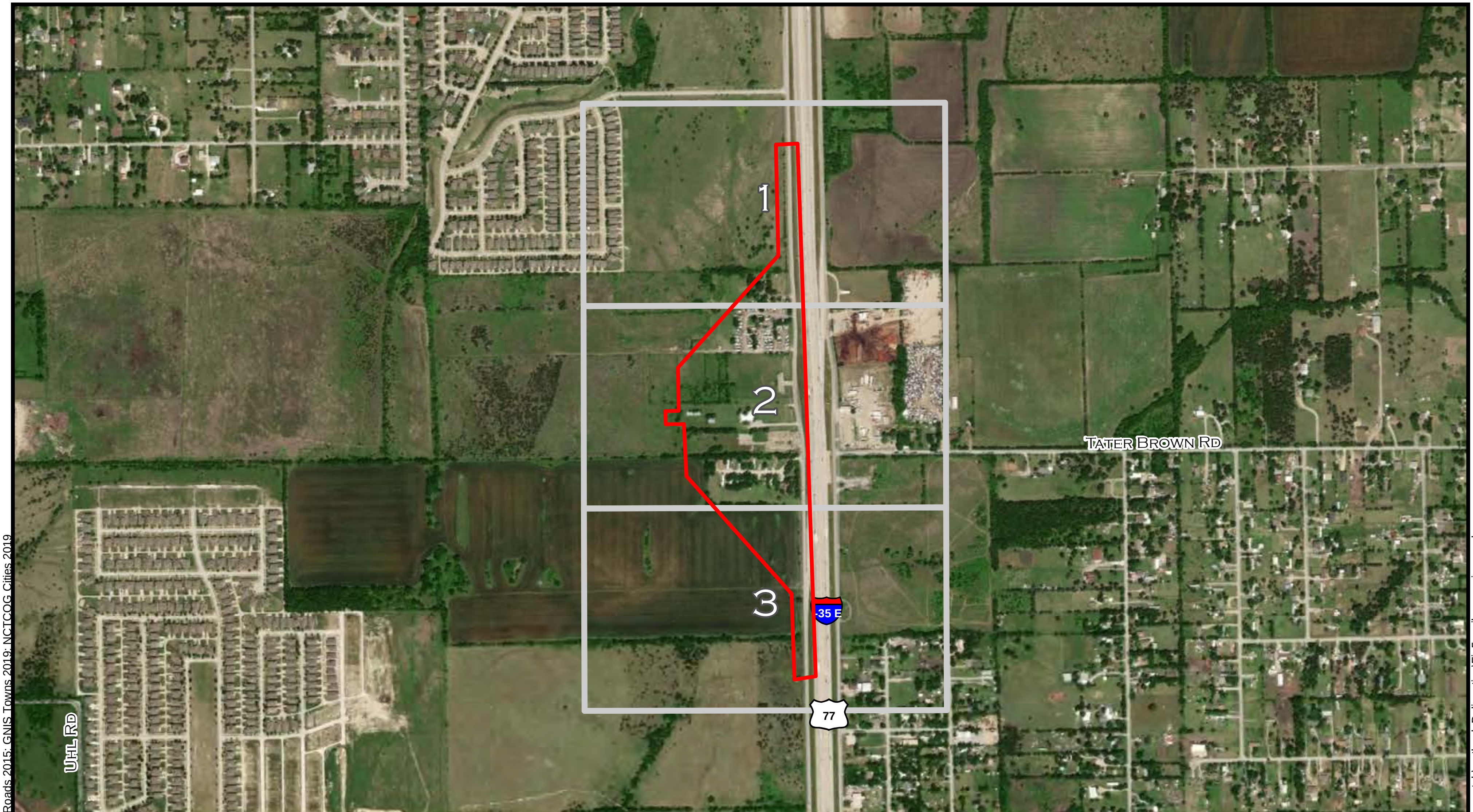
FIGURE 4
SHEET 3

DATE:
March 2020

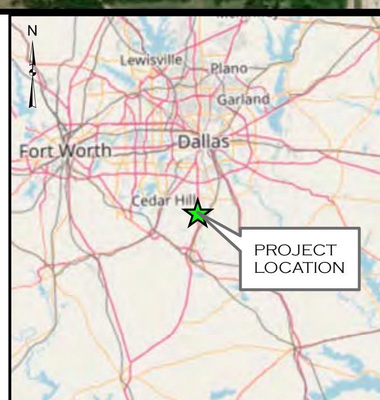
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NWI Wetlands 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig4_NWI.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NRCS Soils Overview

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 500 1,000 Feet

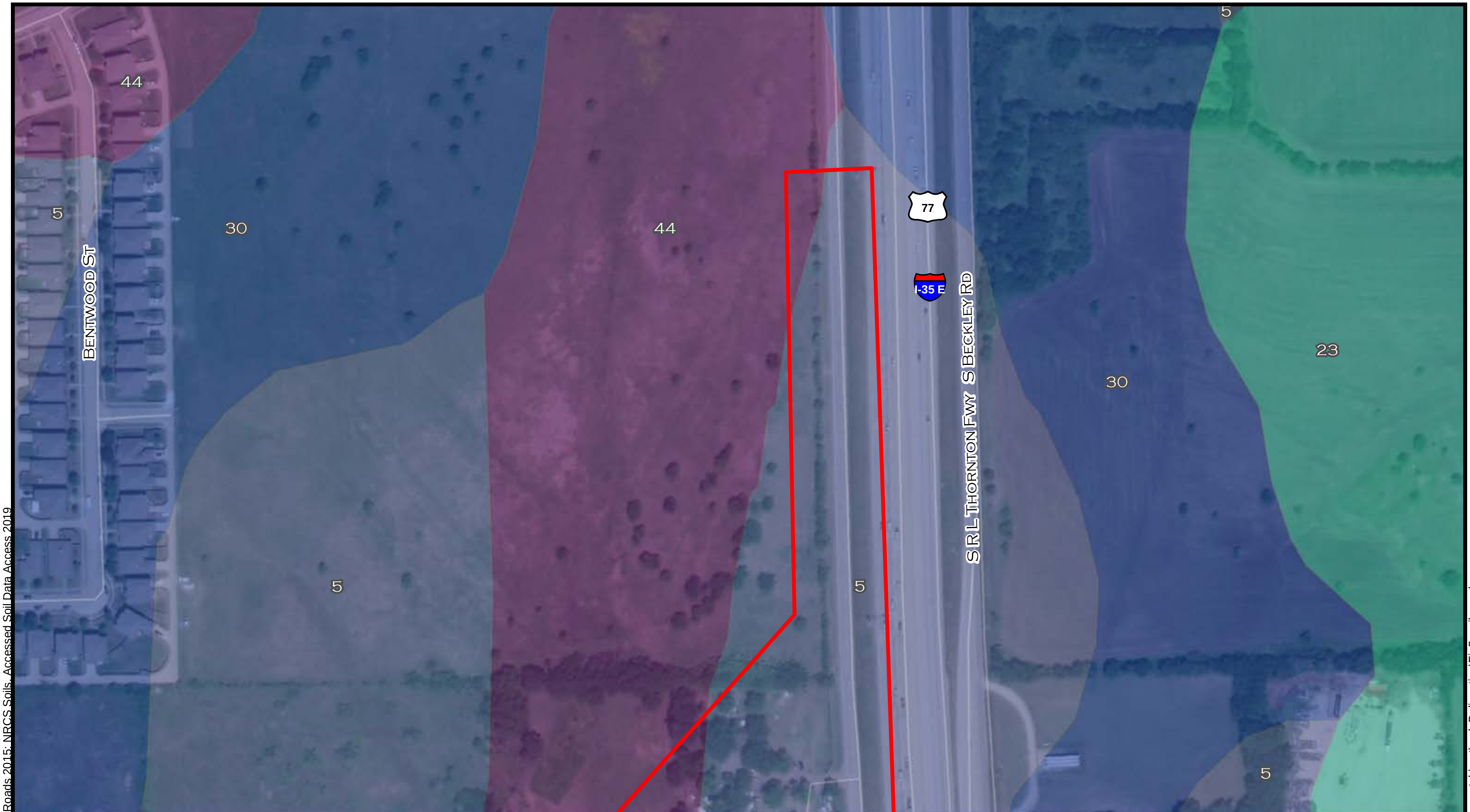
FIGURE 5

DATE:
March 2020

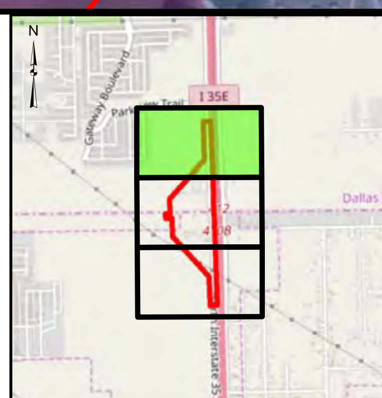
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig5_soils_overview.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area
23 - Dalco clay, 1 to 3 percent slopes
30 - Eddy-Stephen complex, 1 to 5 percent slopes
44 - Houston Black clay, 1 to 3 percent slopes
5 - Austin silty clay, 1 to 3 percent slopes



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NRCS Soils Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

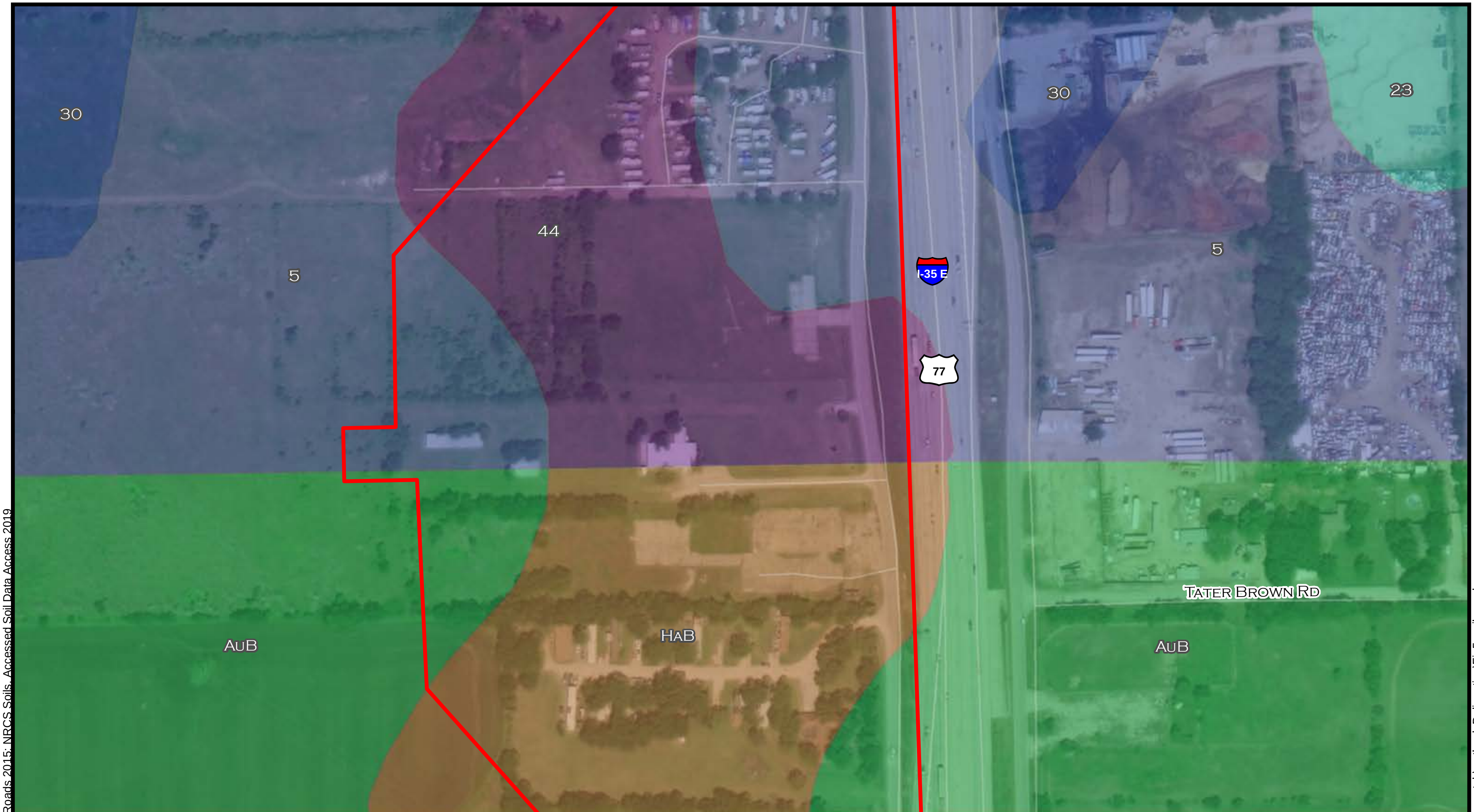
FIGURE 5
SHEET 1

DATE:
March 2020

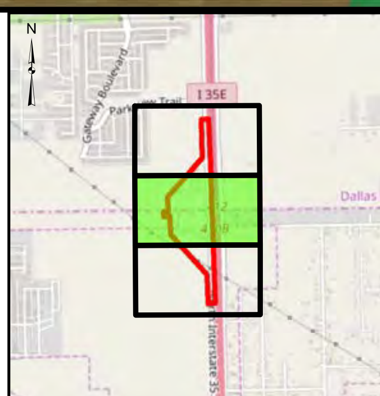
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NRCS Soils. Accessed Soil Data Access 2019.

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig5_soils.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area
23 - Dalco clay, 1 to 3 percent slopes
30 - Eddy-Stephen complex, 1 to 5 percent slopes
44 - Houston Black clay, 1 to 3 percent slopes
5 - Austin silty clay, 1 to 3 percent slopes
AuB - Austin silty clay, 1 to 3 percent slopes
HaB - Houston Black clay, 1 to 3 percent slopes



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NRCS Soils Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

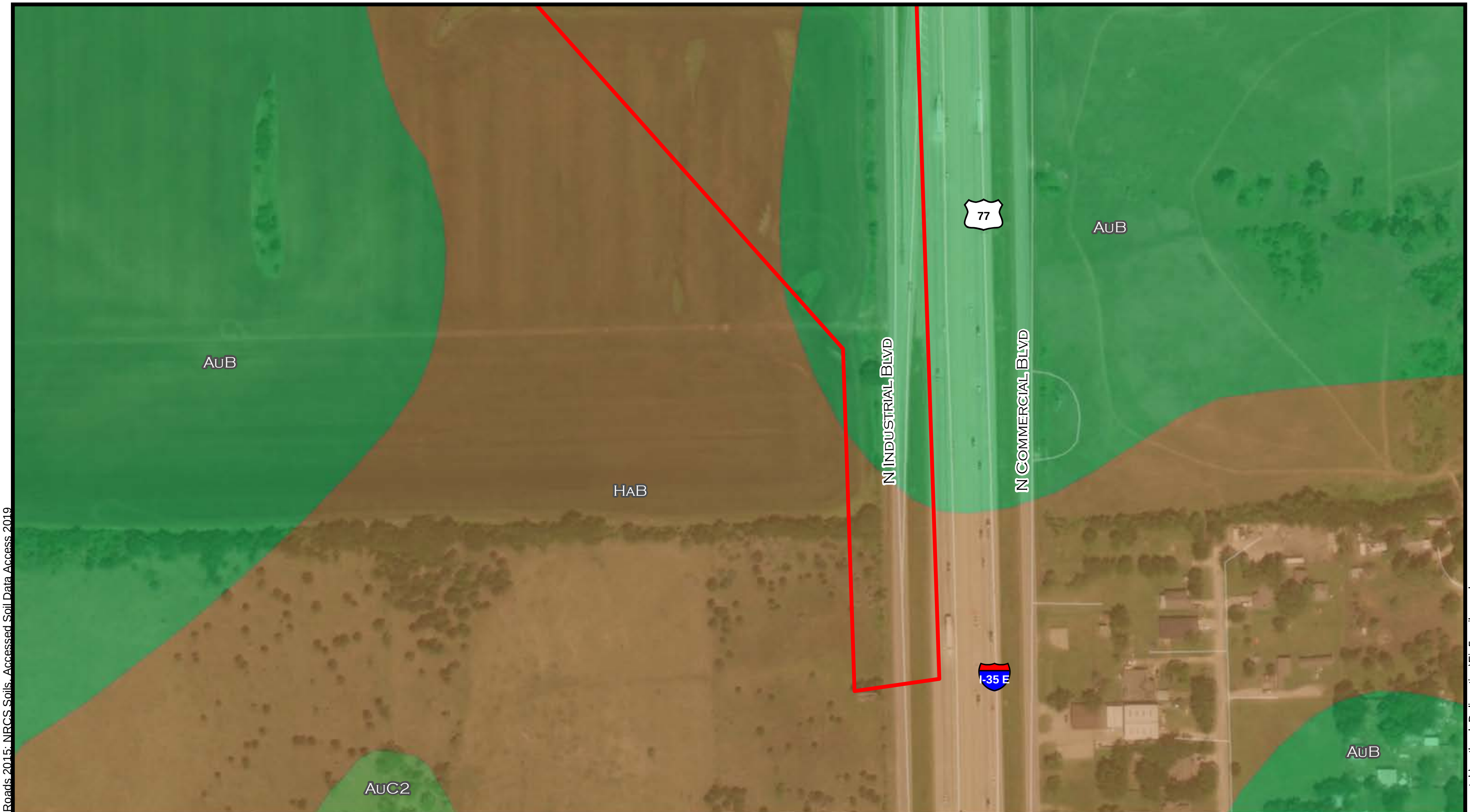
FIGURE 5
Sheet 2

DATE:
March 2020

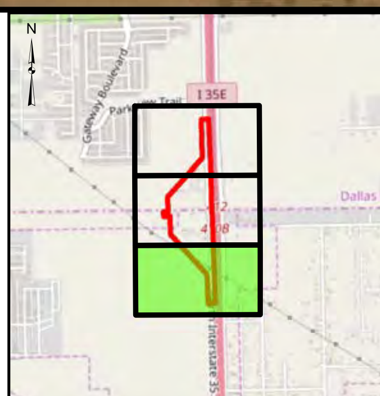
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NRCS Soils. Accessed Soil Data Access 2019.

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig5_soils.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area
AuB - Austin silty clay, 1 to 3 percent slopes
AuC2 - Austin silty clay, 2 to 5 percent slopes, eroded
HaB - Houston Black clay, 1 to 3 percent slopes



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
NRCS Soils Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

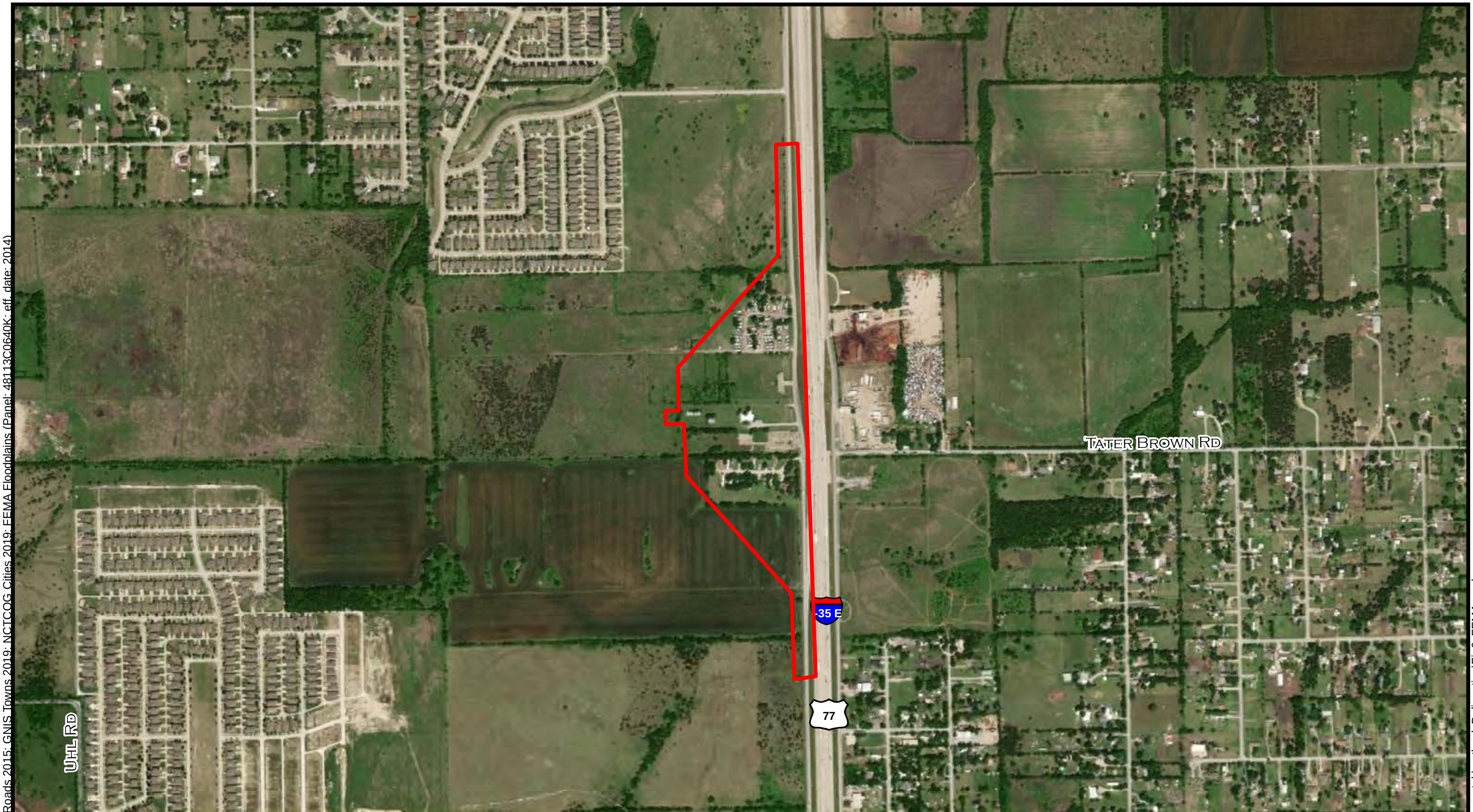
FIGURE 5
SHEET 3

DATE:
March 2020

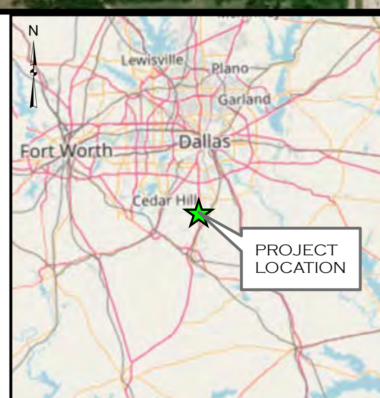
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; NRCS Soils, Accessed Soil Data Access 2019.

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig5_soils.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Project Area



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
FEMA Floodplains Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 500 1,000 Feet

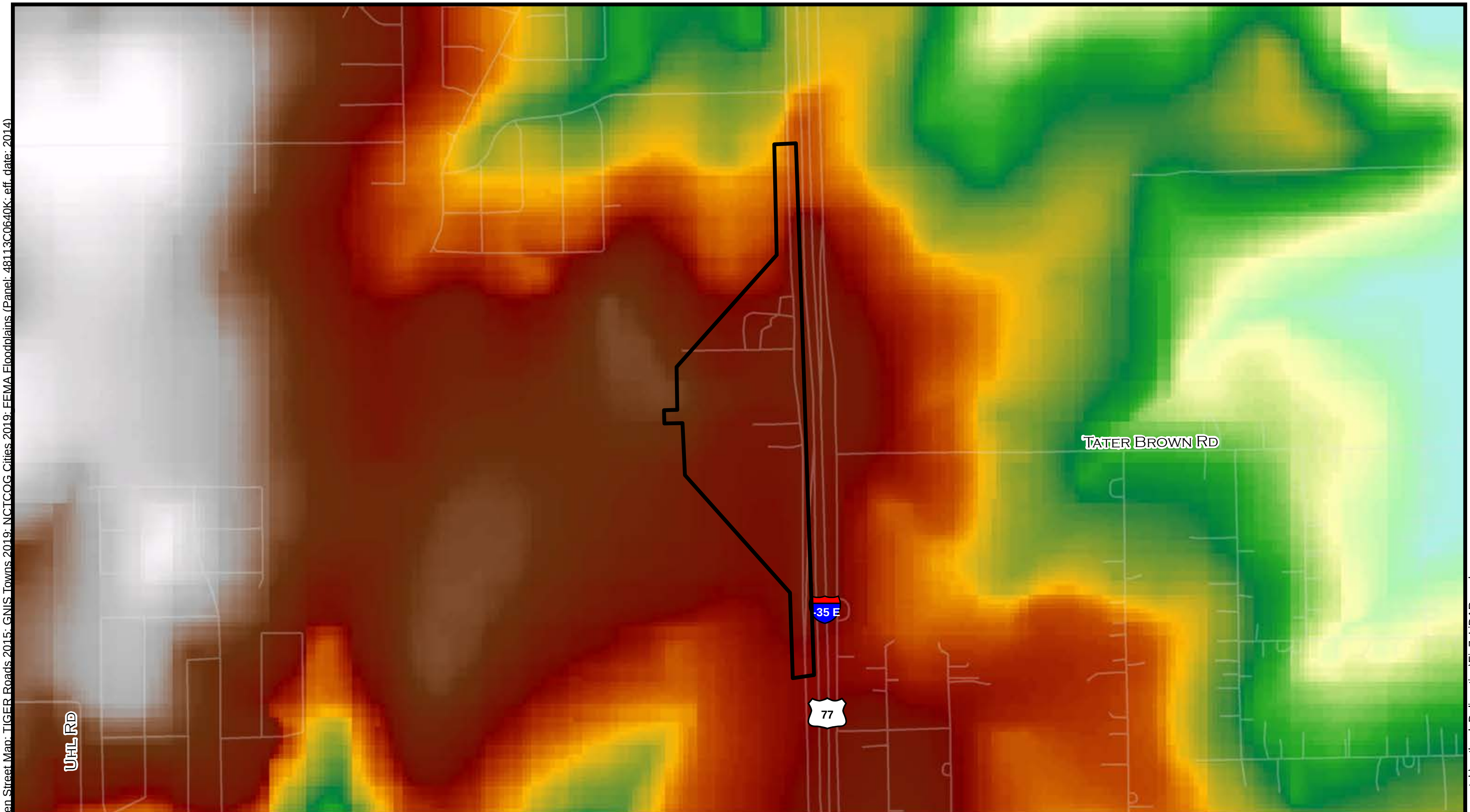
FIGURE 6

DATE: March 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019; FEMA Floodplains (Panel: 48113C0640K; eff. date: 2014)

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig6_FEMA.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)

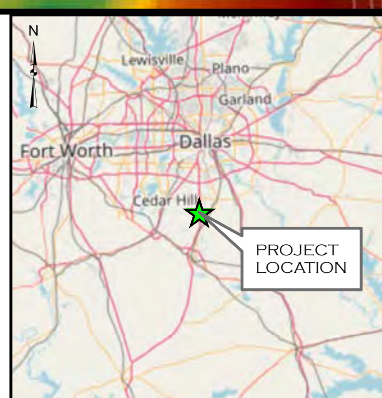


Project Area

Elevation (m)

High : 211.203

Low : 182.834



Loop 9, Segment B: IH 35E to IH 45

CSJ: 2964-10-005

LiDAR Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 500 1,000 Feet

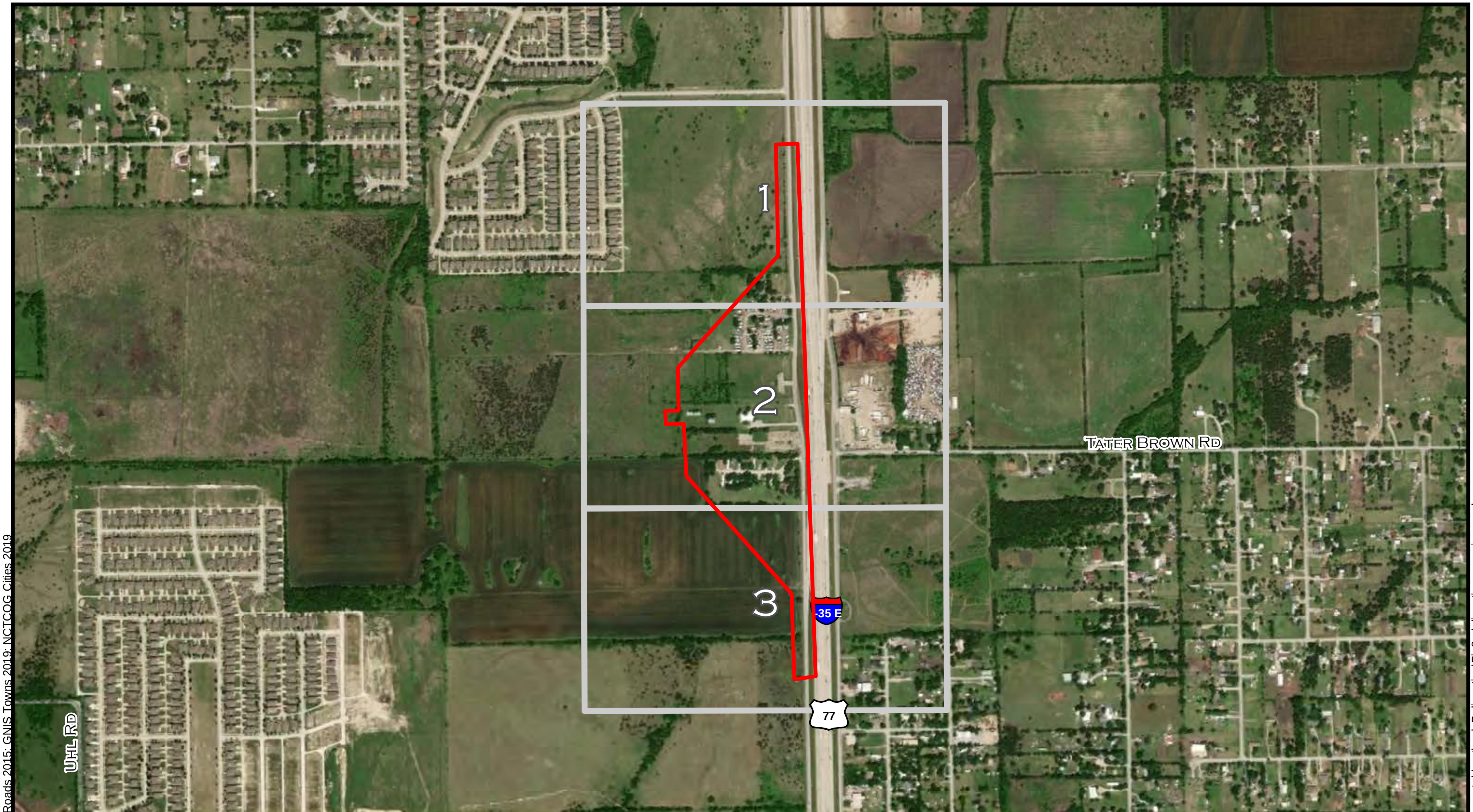
FIGURE 7

DATE: March 2020

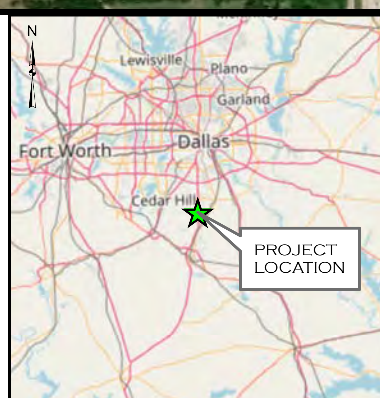
Sources: National Elevation Dataset 10 Meter 2012; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019; FEMA Floodplains (Panel: 48113C0640K; eff. date: 2014)

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig7_LiDAR.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



PROJECT AREA



LOOP 9, SEGMENT B: IH 35E TO IH 45
CSJ: 2964-10-005
WATERS OF THE U.S. DELINEATION OVERVIEW

DALLAS & ELLIS COUNTIES, TEXAS

Texas Department of Transportation

N

0 500 1,000 Feet

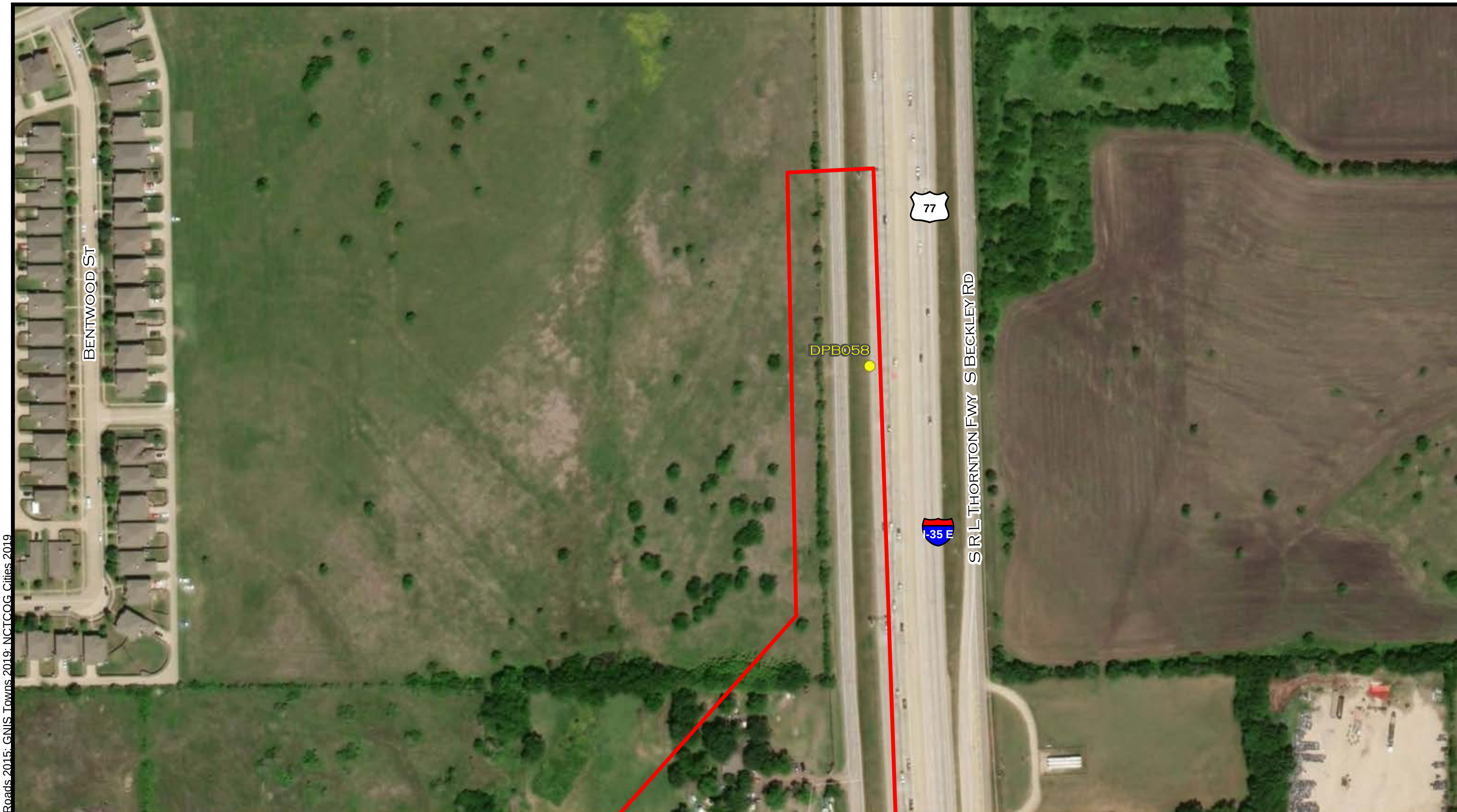
FIGURE 8

DATE:
MARCH 2020

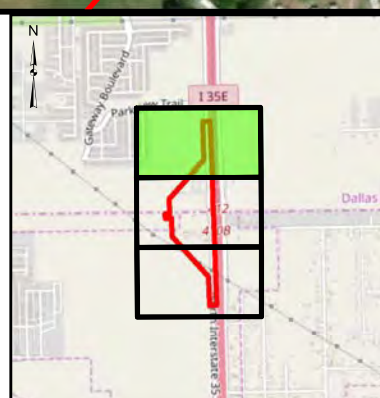
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig8_delineation_overview.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



- Data Points
- Project Area



Loop 9, Segment B: IH 35E to IH 45

CSJ: 2964-10-005

Waters of the U.S. Delineation Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

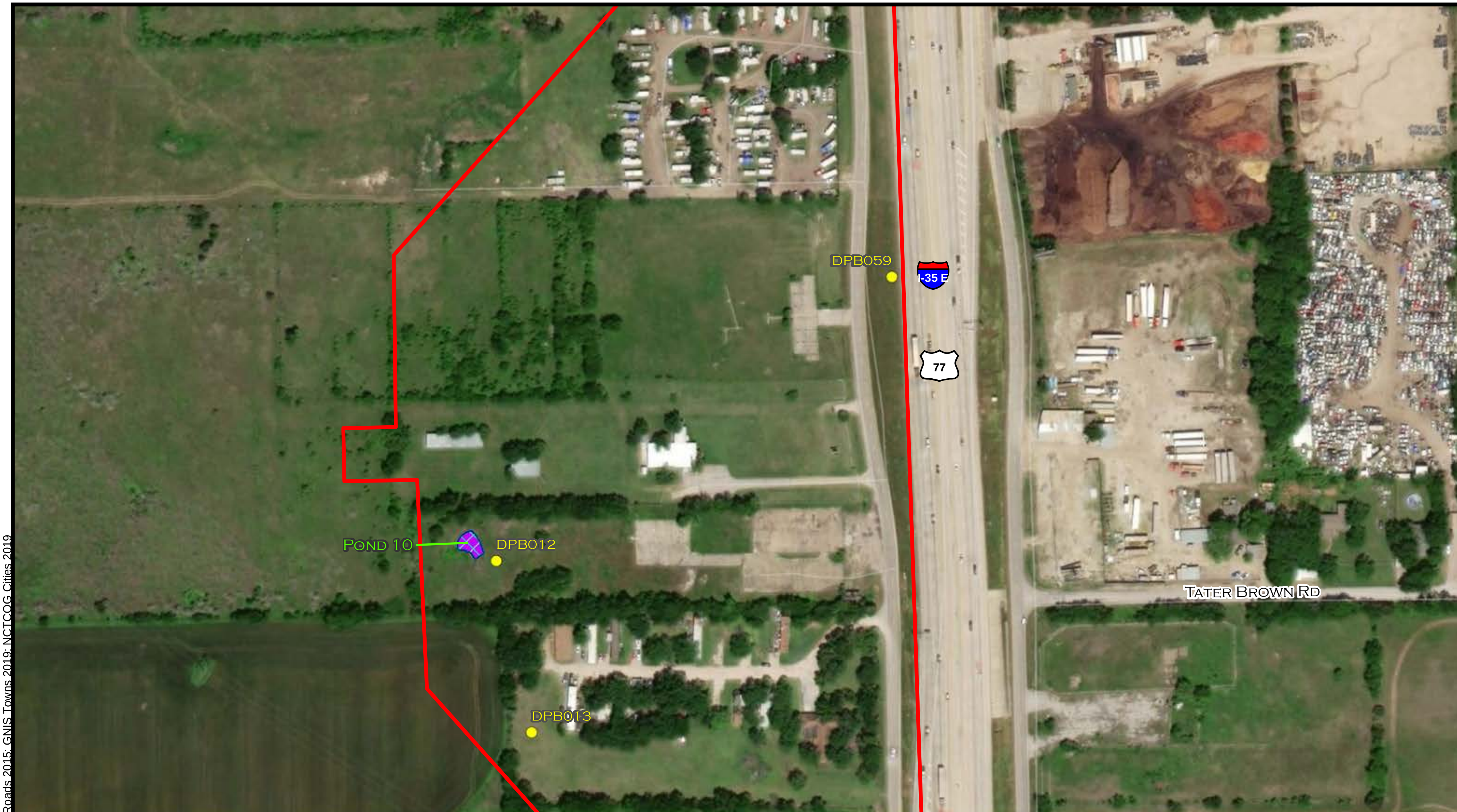
FIGURE 8
Sheet 1

DATE:
March 2020

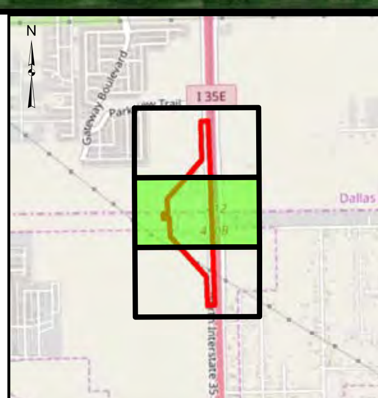
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig8_delineation.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Data Points
Open Water (Field Delineation)
Project Area



Loop 9, Segment B: IH 35E to IH 45
CSJ: 2964-10-005
Waters of the U.S. Delineation Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

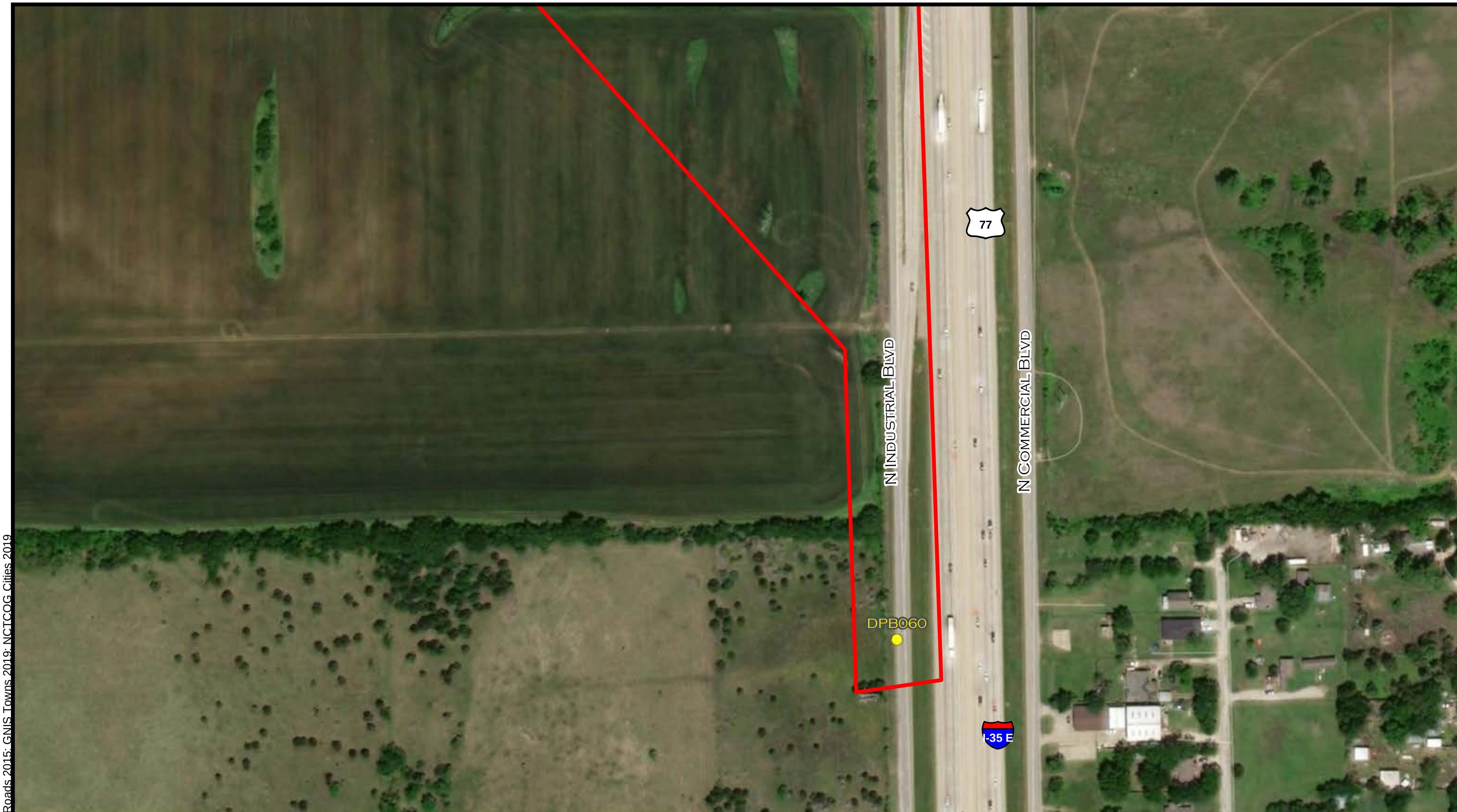
FIGURE 8
Sheet 2

DATE:
March 2020

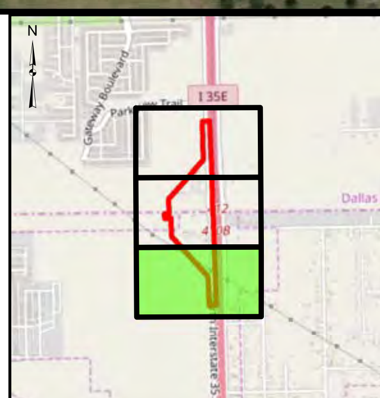
Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig8_delineation.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)



Data Points
Project Area



Loop 9, Segment B: IH 35E to IH 45

CSJ: 2964-10-005

Waters of the U.S. Delineation Map

Dallas & Ellis Counties, Texas

Texas Department of Transportation

N

0 125 250 Feet

FIGURE 8
SHEET 3

DATE:
MARCH 2020

Sources: ESRI Imagery 2018; Open Street Map; TIGER Roads 2015; GNIS Towns 2019; NCTCOG Cities 2019

Document Path: C:\GIS_Data\Project_Temp\HOU136\Segment_b\wetland_Delineation\Fig8_delineation.mxd

Project Alignment Sources: 2020-01-15-LP9 ULT-Alternative 1.kmz (includes IH 35E)

Attachment 2 - Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Loop 9, Segment B | County: Ellis | Sampling Date: January 29, 2019
Applicant/Owner: TxDOT-Dallas District | State: Texas | Sampling Point: DPB012
Investigator(s): Grahme Borchardt and Sally Clark | Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 00-05
Subregion (LRR): LRR J | Lat: -96.82490 | Long: 32.54646 | Datum: NAD 1983 (CONUS)
Soil Map Unit Name: Austin silty clay, 1 to 3 percent slopes | NWI Classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

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

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft.)	Absolute % cover	Dominant Species?	Indicator Status
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 ft.)			
1. *Sorghum halepense*	75	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	75		
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			
% Bare Ground in Herb Stratum	25		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or 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	**0**	x 1 = **0**
FACW species	**0**	x 2 = **0**
FAC species	**0**	x 3 = **0**
FACU species	**75**	x 4 = **300**
UPL species	**0**	x 5 = **0**
Column Totals:	**75** (A)	**300** (B)

Prevalence Index = B/A = **4.00**

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] (Explain)
____ 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** X

Remarks:
No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: **DPB012**

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 %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100	None	—	—	—	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 Soils 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 observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is 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:

	Yes	No	Depth (inches)
Surface Water Present?		**X**	**N/A**
Water Table Present?		**X**	**N/A**
Saturation Present? (includes capillary fringe)		**X**	**N/A**

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

No positive indication of wetland hydrology was observed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site:	Loop 9, Segment B	County:	Ellis	Sampling Date:	January 29, 2019
Applicant/Owner:	TxDOT-Dallas District	State:	Texas	Sampling Point:	DPB013
Investigator(s):	Grahme Borchardt and Sally Clark	Section, Township, Range:	N/A		
Landform (hillslope, terrace, etc.):	Flat	Local relief (concave, convex, none):	None	Slope (%):	00-05
Subregion (LRR):	LRR J	Lat:	-96.82471	Long:	32.54561
Datum:	NAD 1983 (CONUS)				
Soil Map Unit Name:	Houston black clay, 1 to 3 percent slopes	NWI Classification:	Upland		

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

Are Vegetation **No** ,Soil **No** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ___

Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft.)	Absolute % cover	Dominant Species?	Indicator Status
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Maclura pomifera*	3	Yes	FACU
2. *Juniperus virginiana*	5	Yes	UPL
3.			
4.			
5.			
= Total Cover	8		
Herb Stratum (Plot size: 5 ft.)			
1. *Cynodon dactylon*	97	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	97		
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **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	5	x 5 =	25
Column Totals:	105 (A)		425 (B)

Prevalence Index = B/A = **4.05**

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] (Explain)
___ 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 **X**

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: DPB013

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 %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100	None	—	—	—	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 Soils 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 observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is 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 **X**	Depth (inches):	**N/A**
Water Table Present?	Yes ____	No **X**	Depth (inches):	**N/A**
Saturation Present? (includes capillary fringe)	Yes ____	No **X**	Depth (inches):	**N/A**

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

No positive indication of wetland hydrology was observed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Loop 9, Segment B County: Ellis Sampling Date: May 1, 2019
Applicant/Owner: TxDOT- Dallas District State: TX Sampling Point: DPB058
Investigator(s): Grahme Borchardt and Jason Voight Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 00-05
Subregion (LRR): LRR J Lat: 32.54658 Long: -96.83882 Datum: NAD 1983 (CONUS)
Soil Map Unit Name: Austin silty clay, 1 to 3 percent slopes NWI Classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **Yes** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

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

	Yes	No
Hydrophytic Vegetation Present?		**X**
Hydric Soil Present?		**X**
Wetland Hydrology Present?		**X**

Is the Sampled Area within a Wetland? **Yes** ____ **No** **X**

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

Entire soil profile consisted of fill material from construcion of the adjacent roadway facility.

VEGETATION - Use scientific names of plants.

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 ft.)			
1. *Lolium perenne*	45	Yes	FACU
2. *Cynodon dactylon*	45	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	90		
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			
% Bare Ground in Herb Stratum 10			

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **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	**90**	x 4 =	**360**
UPL species	**0**	x 5 =	**0**
Column Totals:	**90** (A)		**360** (B)

Prevalence Index = B/A = **4.00**

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] (Explain)
____ 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** **X**

Remarks:
No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: **DPB058**

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 %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	85	None	—	—	—	Clay Loam	
0-20	None	15	None	—	—	—	Gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils 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 observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is 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:

	Yes	No	Depth (inches)
Surface Water Present?		X	N/A
Water Table Present?		X	N/A
Saturation Present? (includes capillary fringe)		X	N/A

Wetland Hydrology Present? **Yes** ____ **No** **X**

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

Remarks:

No positive indication of wetland hydrology was observed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Loop 9, Segment B   County: Dallas   Sampling Date: May 1, 2019
Applicant/Owner: TxDOT- Dallas District   State: TX   Sampling Point: DPB059
Investigator(s): Grahme Borchardt and Jason Voight   Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Ditch   Local relief (concave, convex, none): Concave   Slope (%): 00-05
Subregion (LRR): LRR J   Lat: 32.55136   Long: -96.82265   Datum: NAD 1983 (CONUS)
Soil Map Unit Name: Austin silty clay, 1 to 3 percent slopes   NWI Classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **Yes** ,or Hydrology **No** significantly disturbed?   Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic?   (If needed, explain any answers in Remarks.)

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

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? Yes ____ No **X**

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

Entire soil profile consisted of fill material from construcion of the adjacent roadway facility.

VEGETATION - Use scientific names of plants.

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 ft.)			
1. *Cynodon dactylon*	60	Yes	FACU
2. *Lolium perenne*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	90		
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **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	90	x 4 = 360
UPL species	0	x 5 = 0
Column Totals:	90 (A)	360 (B)

Prevalence Index = B/A = **4.00**

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] (Explain)
___ 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 **X**

Remarks:
No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: **DPB059**

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
0-18	None	100	None	—	—	—	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 Soils 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 observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ____ No X

Remarks:

No positive indication of hydric soils was observed.

Entire soil profile consisted of fill material from construcion of the adjacent roadway facility.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is 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:

	Yes	No	Depth (inches)
Surface Water Present?		X	N/A
Water Table Present?		X	N/A
Saturation Present? (includes capillary fringe)		X	N/A

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

No positive indication of wetland hydrology was observed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Loop 9, Segment B County: Ellis Sampling Date: May 1, 2019
Applicant/Owner: TxDOT- Dallas District State: TX Sampling Point: DPB060
Investigator(s): Grahme Borchardt and Jason Voight Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 00-05
Subregion (LRR): LRR J Lat: 32.54207 Long: -96.82244 Datum: NAD 1983 (CONUS)
Soil Map Unit Name: Houston Black clay, 1 to 3 percent slopes NWI Classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **Yes** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ___
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

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

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

Entire soil profile consisted of fill material from construction of the adjacent roadway facility

VEGETATION - Use scientific names of plants.

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Celtis laevigata*	20	Yes	FAC
2. *Juniperus virginiana*	20	Yes	UPL
3.			
4.			
5.			
= Total Cover	40		
Herb Stratum (Plot size: 5 ft.)			
1. *Lolium perenne*	60	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	60		
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x 1 = **0**
FACW species	**0**	x 2 = **0**
FAC species	**20**	x 3 = **60**
FACU species	**60**	x 4 = **240**
UPL species	**20**	x 5 = **100**
Column Totals:	**100** (A)	**400** (B)

Prevalence Index = B/A = **4.00**

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] (Explain)
___ 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** **X**

Remarks:
No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: **DPB060**

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	None	100	None	—	—	—	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 Soils 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 observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

No positive indication of hydric soils was observed.

Entire soil profile consisted of fill material from the construction of the the adjacent roadway facility

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is 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)
- **X** Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?		**X**	**N/A**
Water Table Present?		**X**	**N/A**
Saturation Present? (includes capillary fringe)		**X**	**N/A**

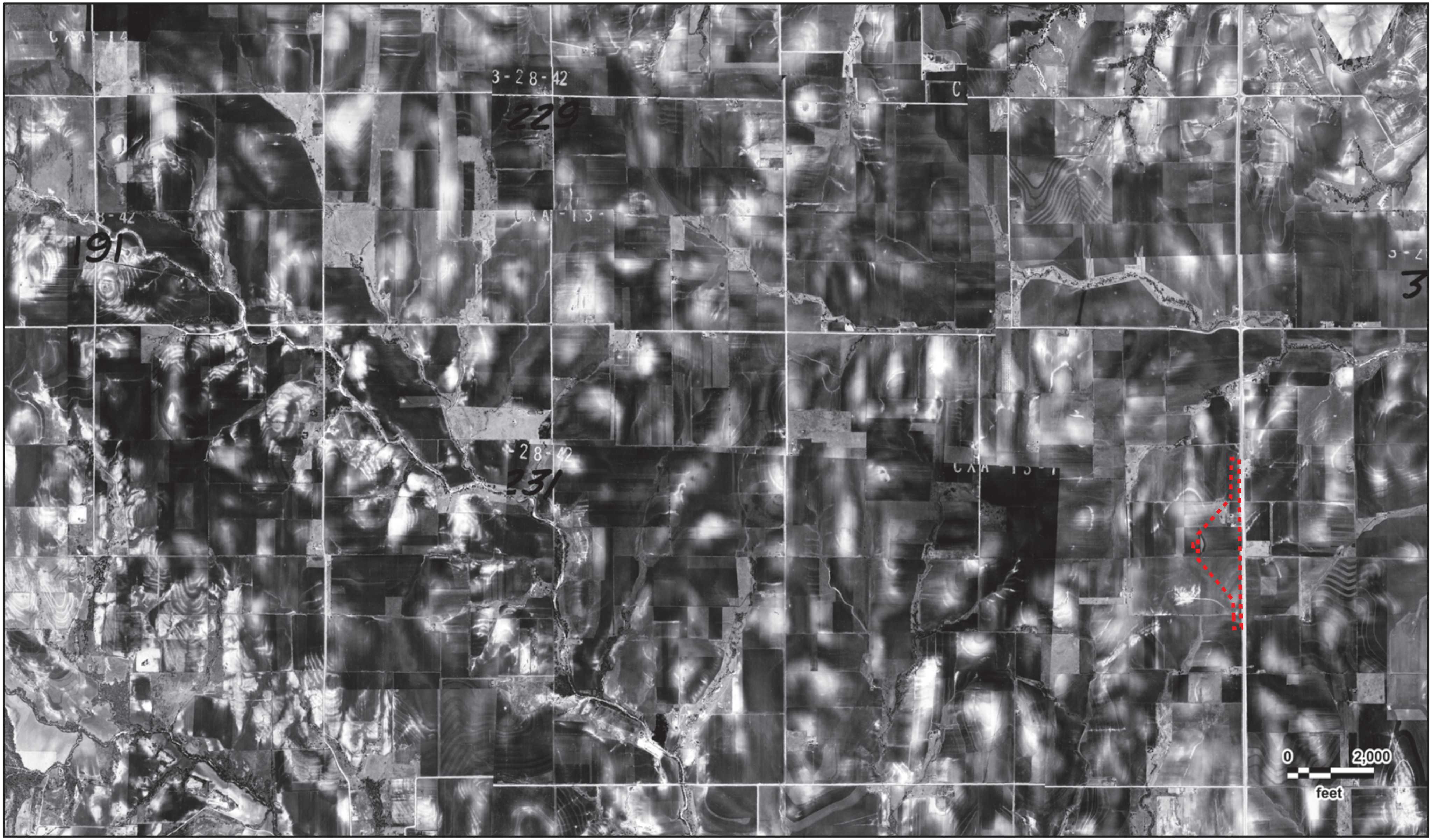
Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

No positive indication of wetland hydrology was observed.

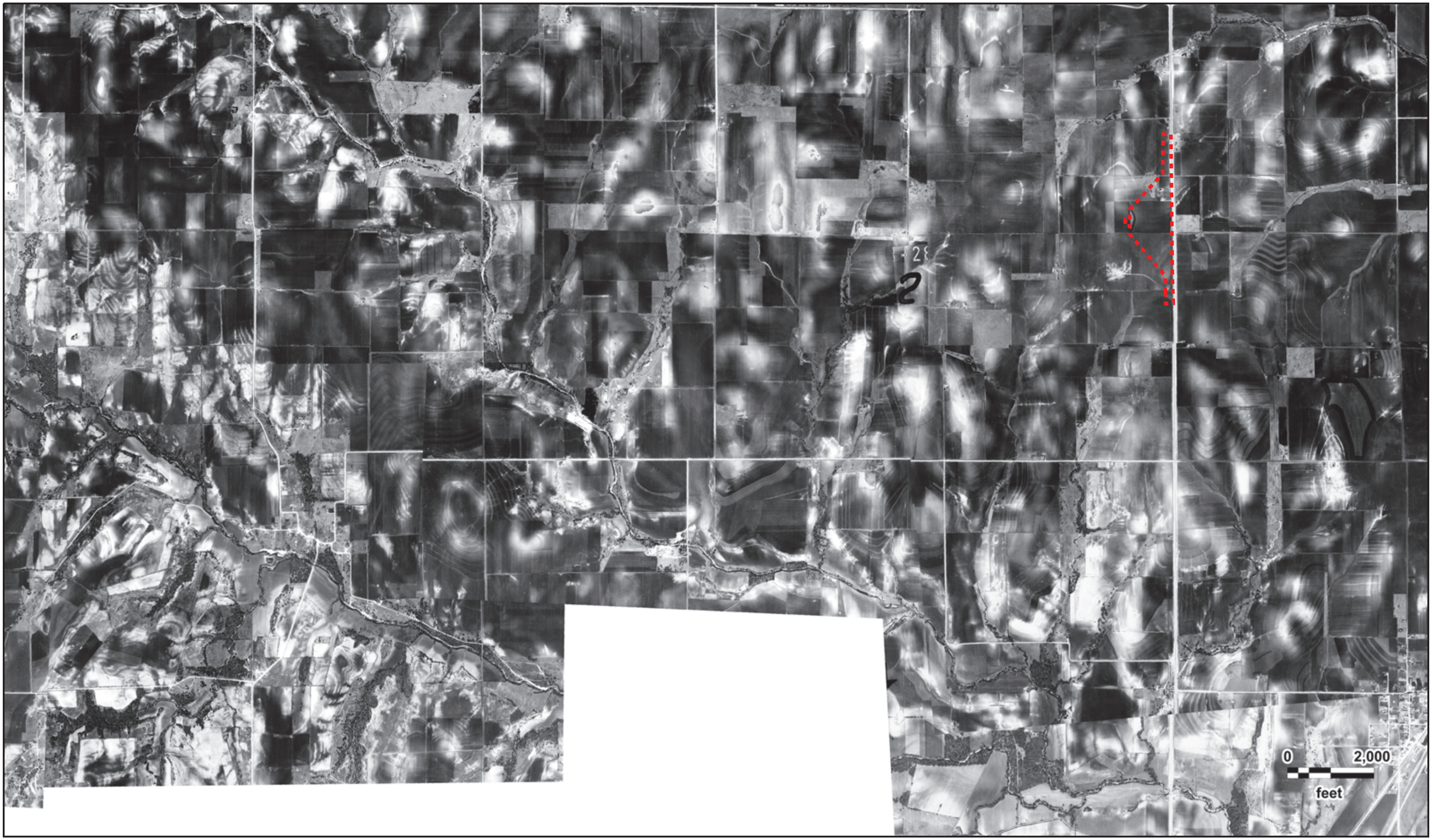
Attachment 3 – Historical Aerial Photographs



ASCS
03/28/1942
Loop 9, Seg B

GeoSearch

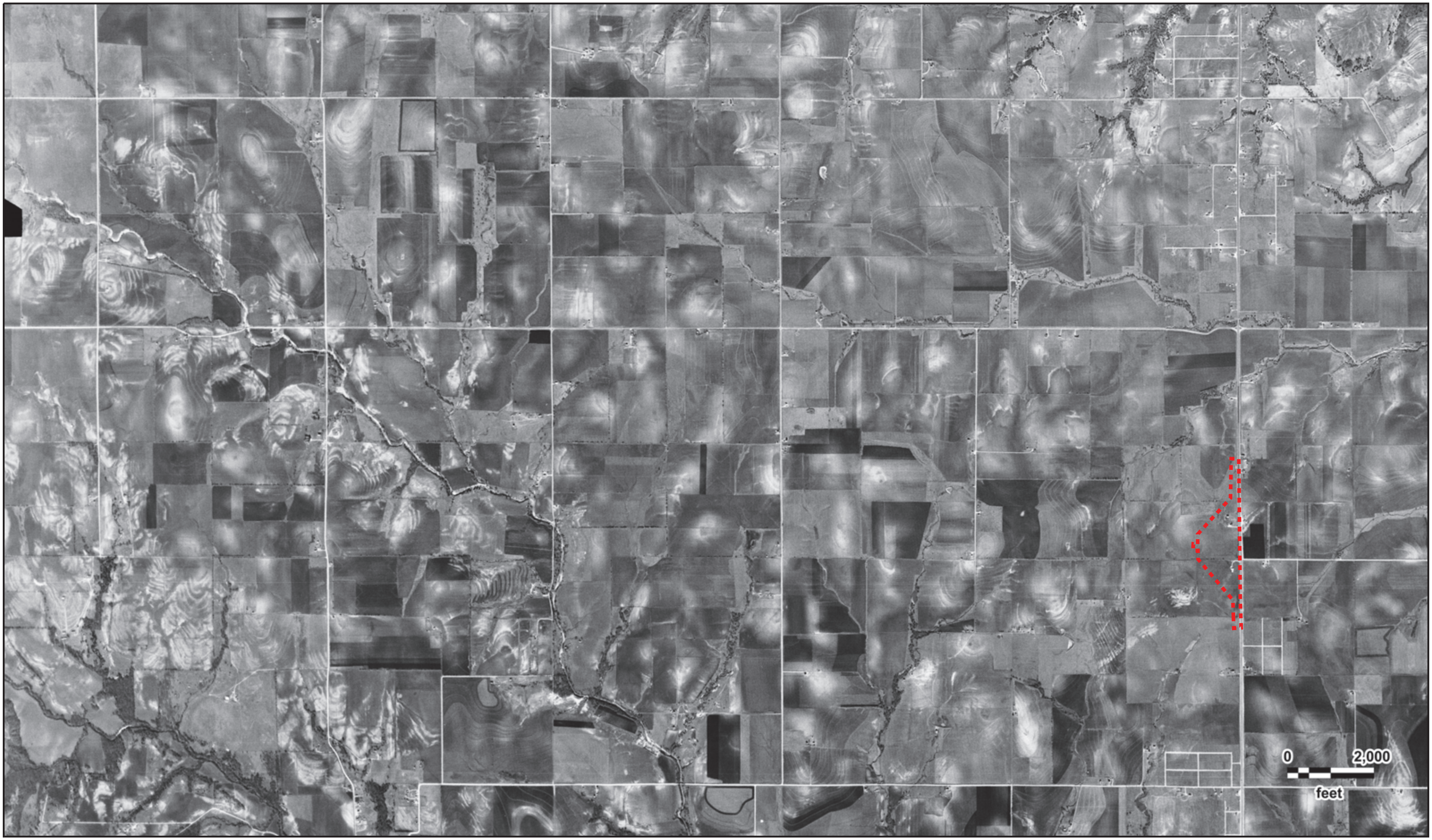
JOB #: 277448 - 02/13/2019



ASCS
03/28/1942
Loop 9, Seg B

GeoSearch

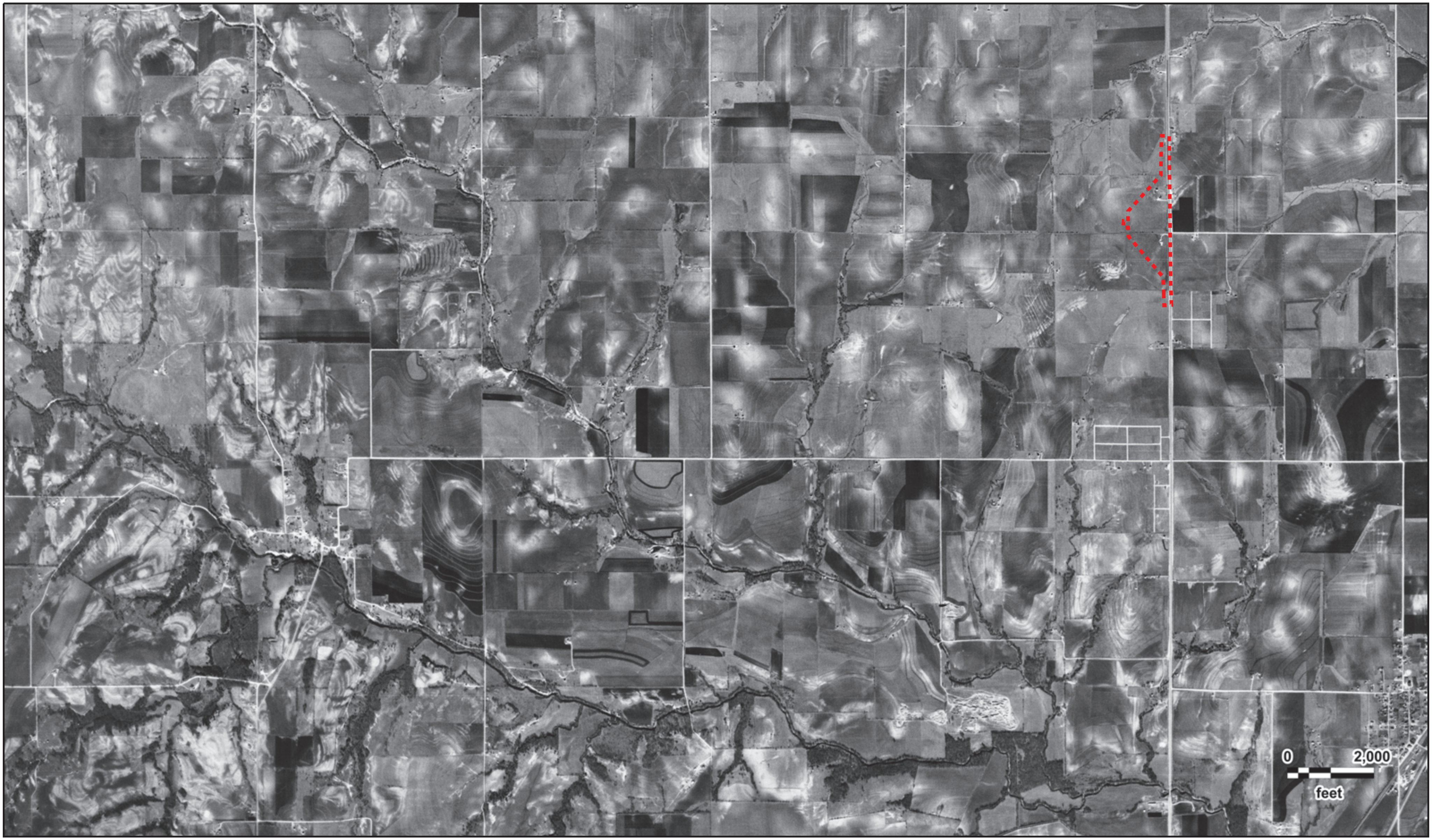
JOB #: 277448 - 02/13/2019



N
W
E
S

AMS
01/05/1953
Loop 9, Seg B

GeoSearch

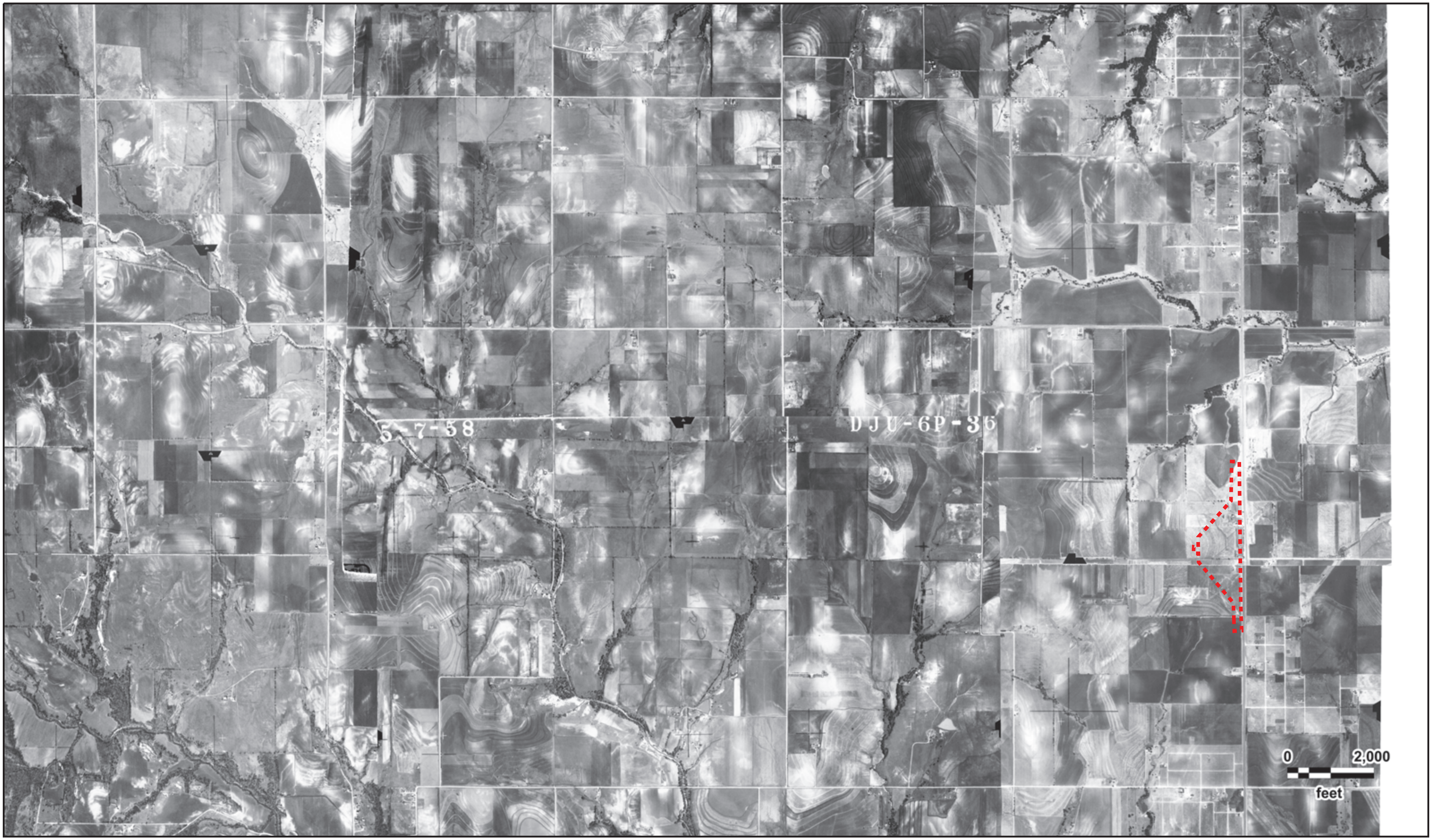


N
W E
S

AMS
01/05/1953
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

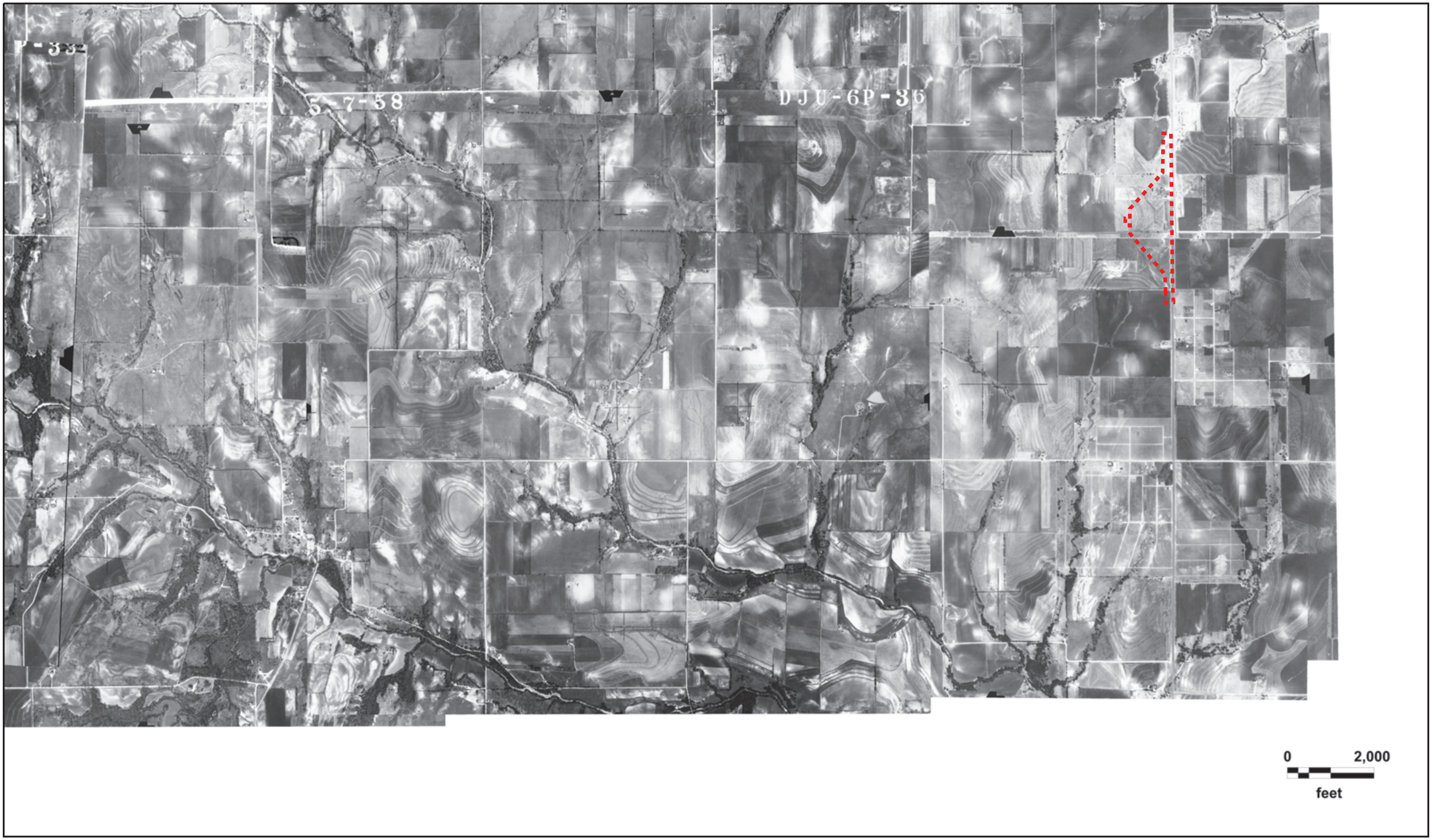


N
W E
S

ASCS
05/07/1958
Loop 9, Seg B

GeoSearch

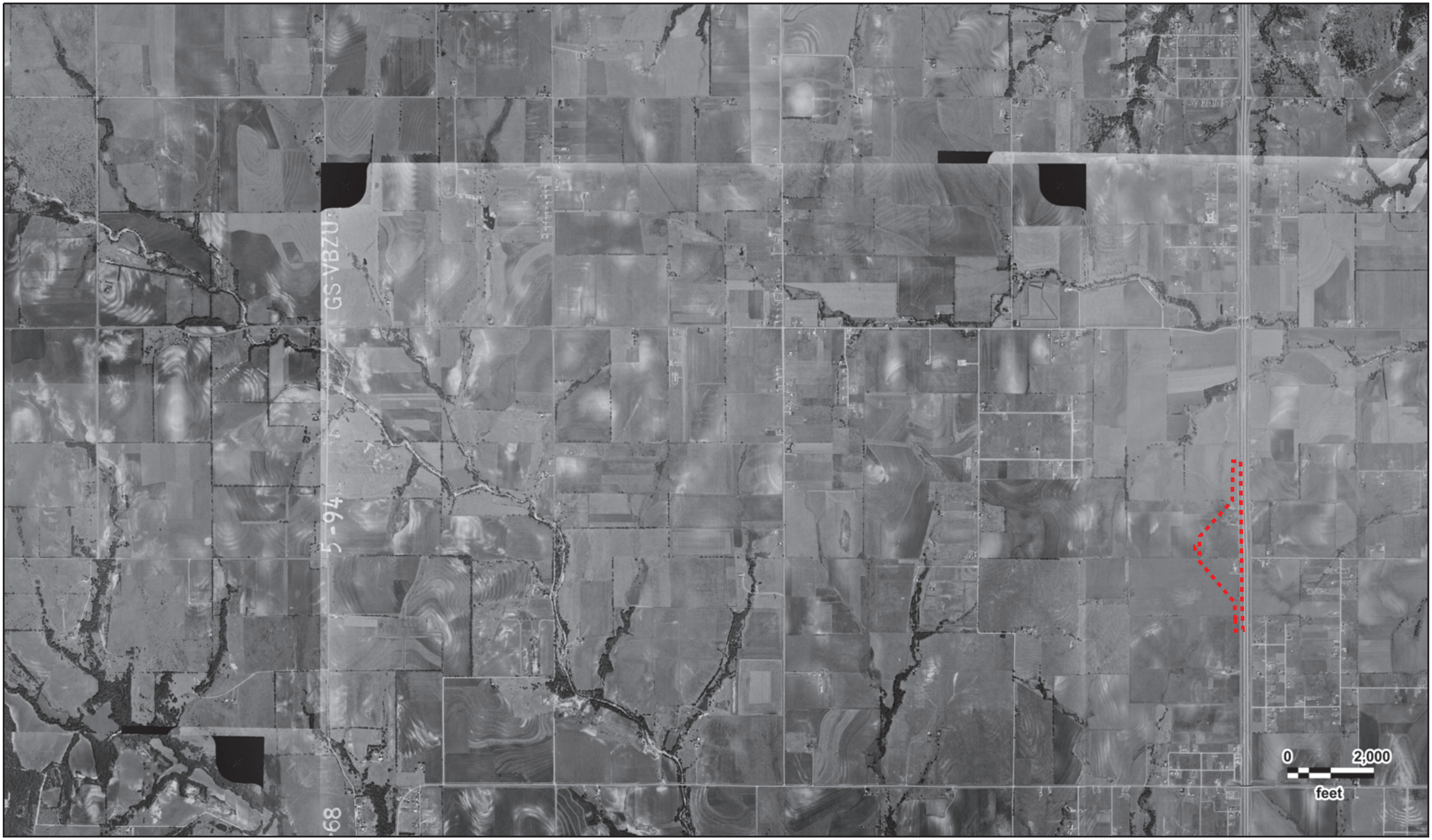
JOB #: 277448 - 02/13/2019



ASCS
05/07/1958
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

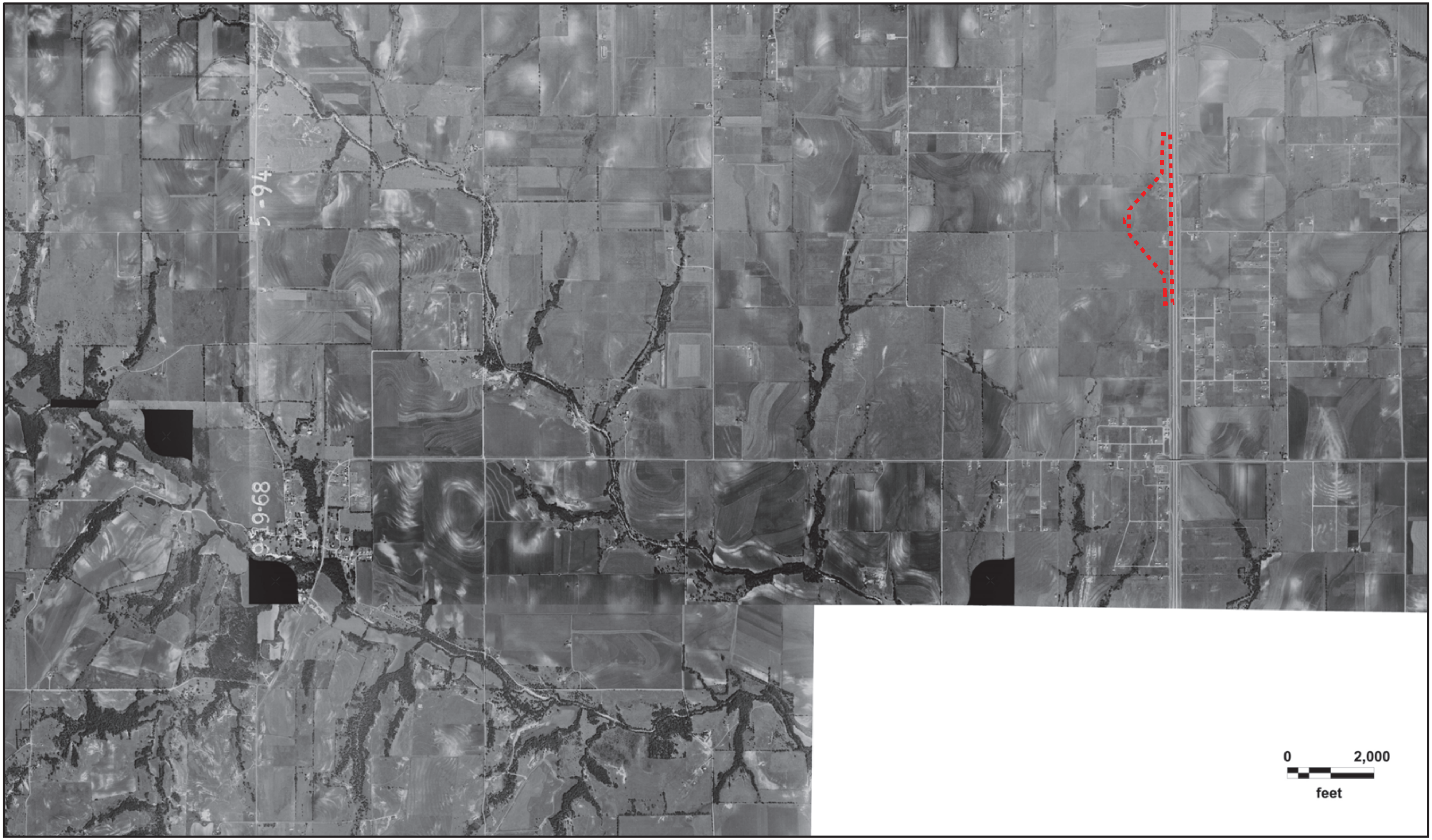


N
W E
S

USGS
10/19/1968
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019



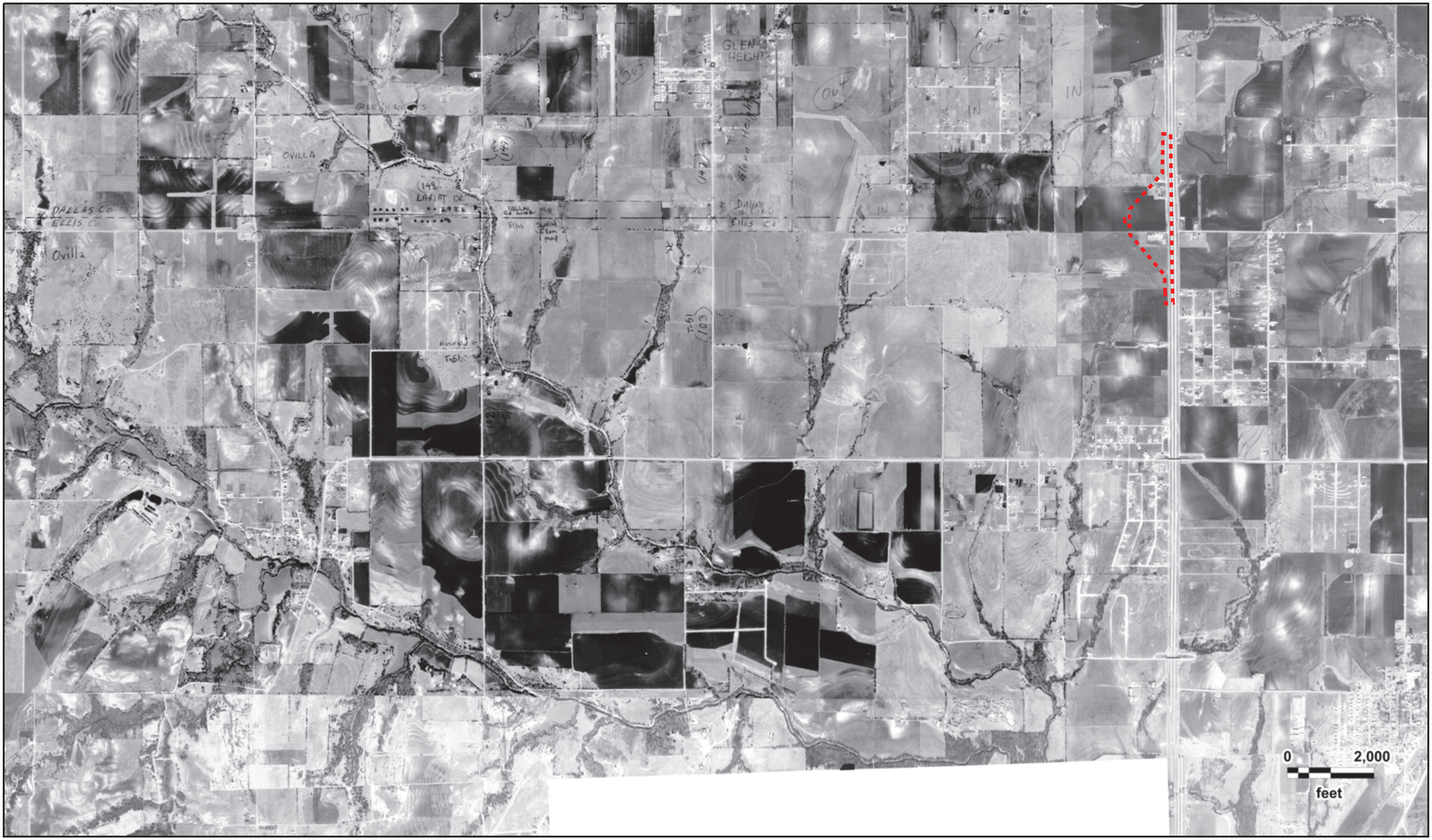
USGS
10/19/1968
Loop 9, Seg B

GeoSearch

ASCS
02/13/1972
Loop 9, Seg B

GeoSearch

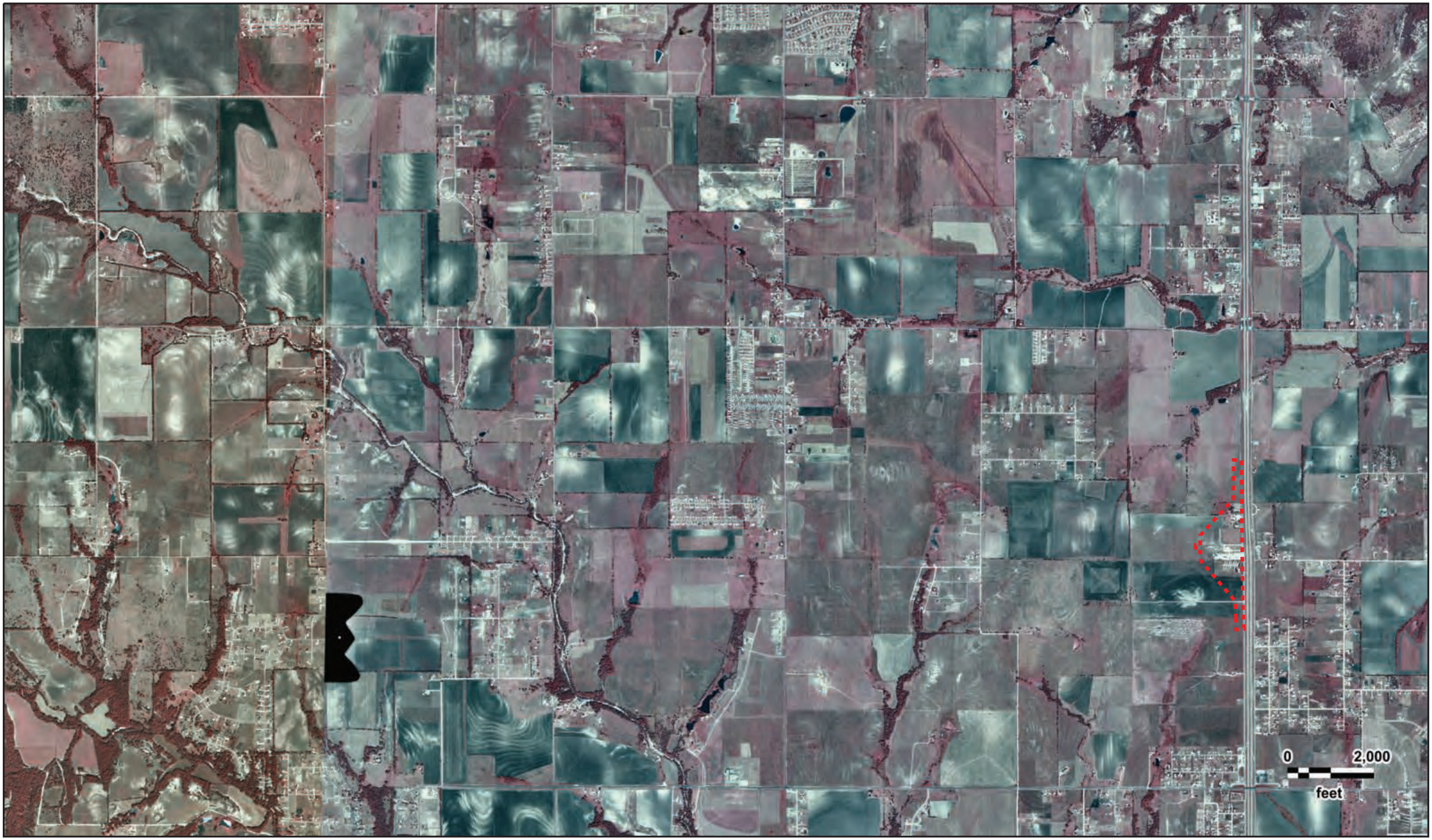
JOB #: 277448 - 02/13/2019



ASCS
02/13/1972
Loop 9, Seg B

GeoSearch

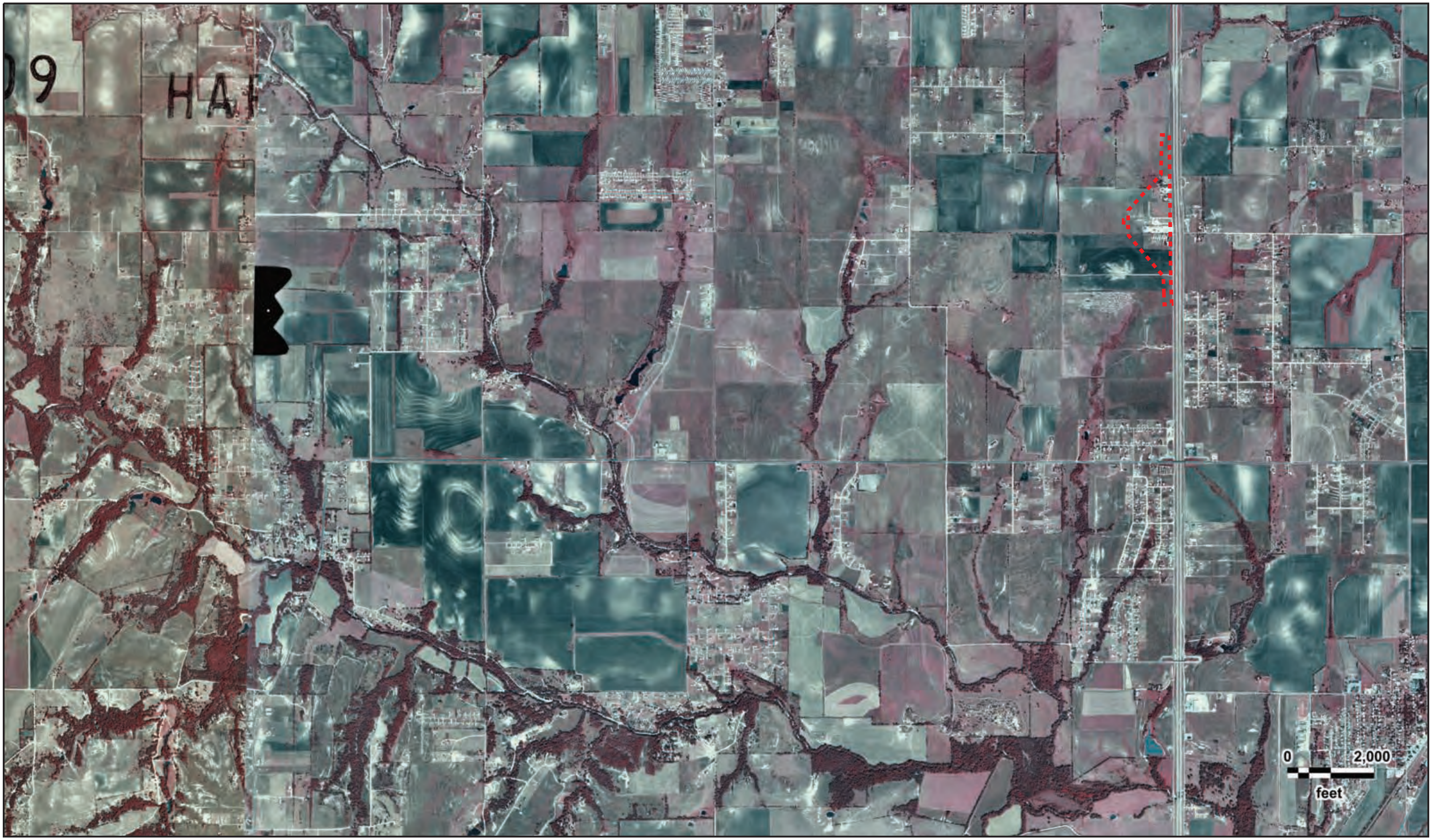
JOB #: 277448 - 02/13/2019



USGS
09/21/1981
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

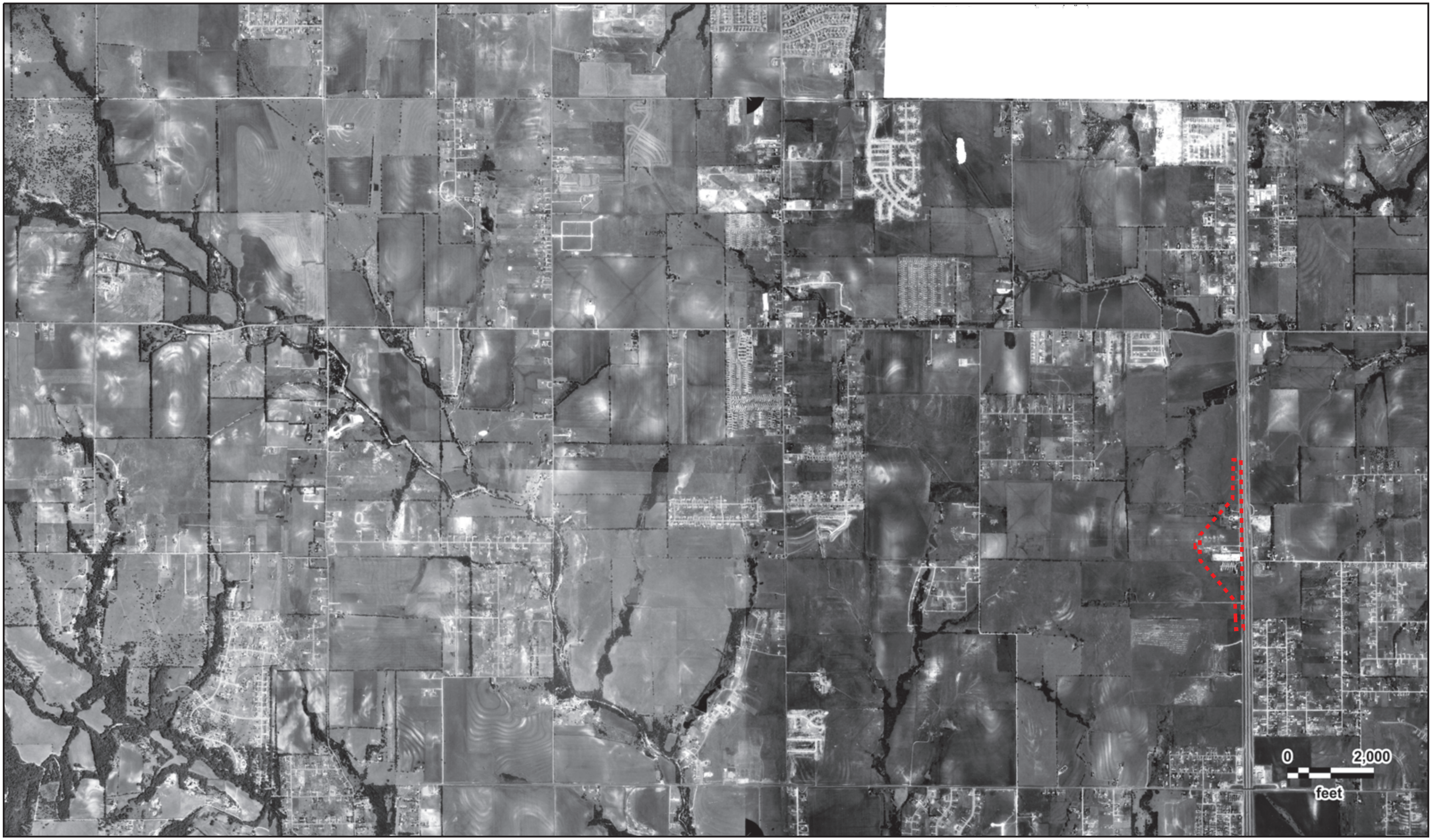


N
W
E
S

USGS
09/21/1981
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

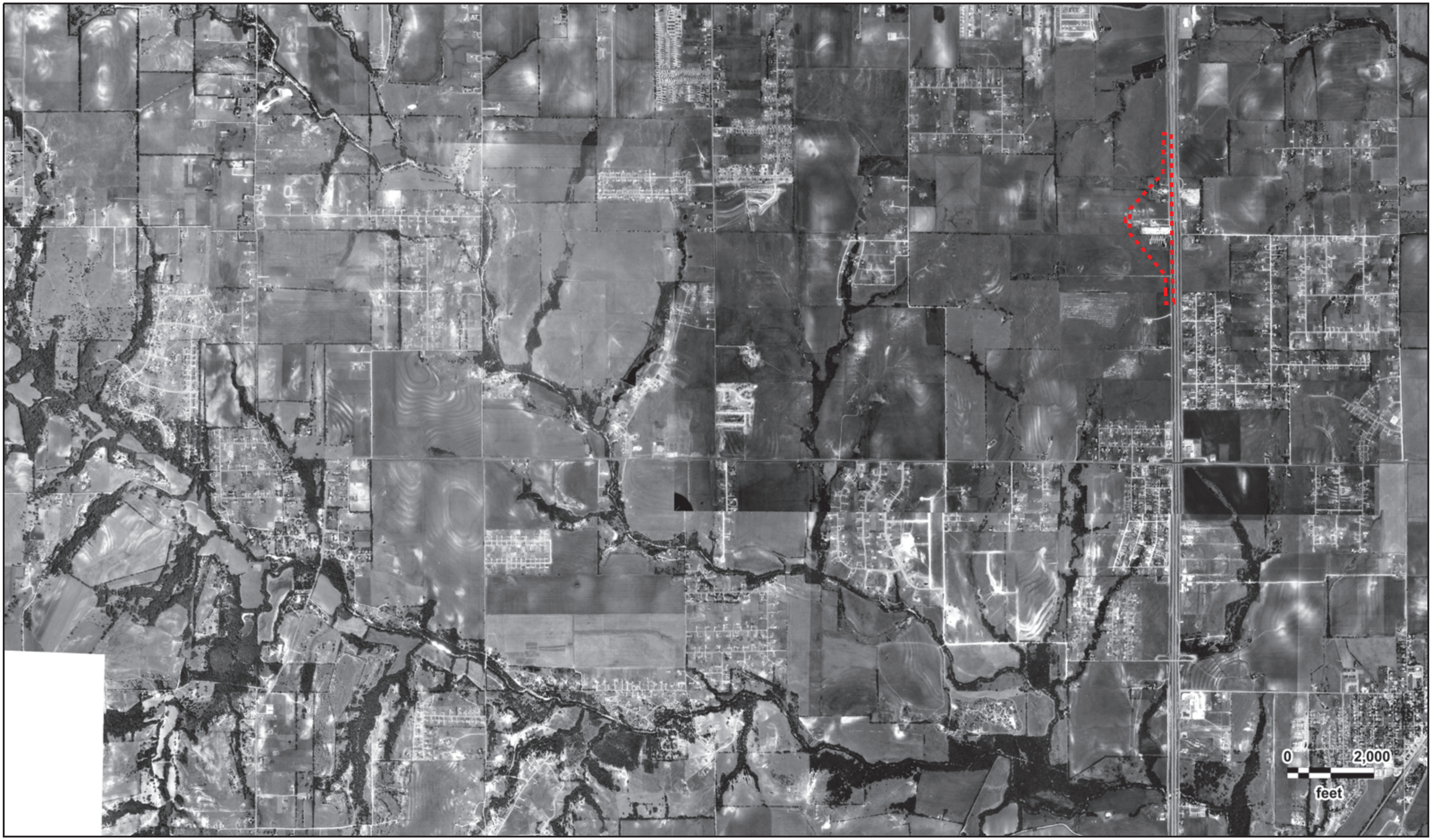


N
W E
S

TXDOT
05/10/1984
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

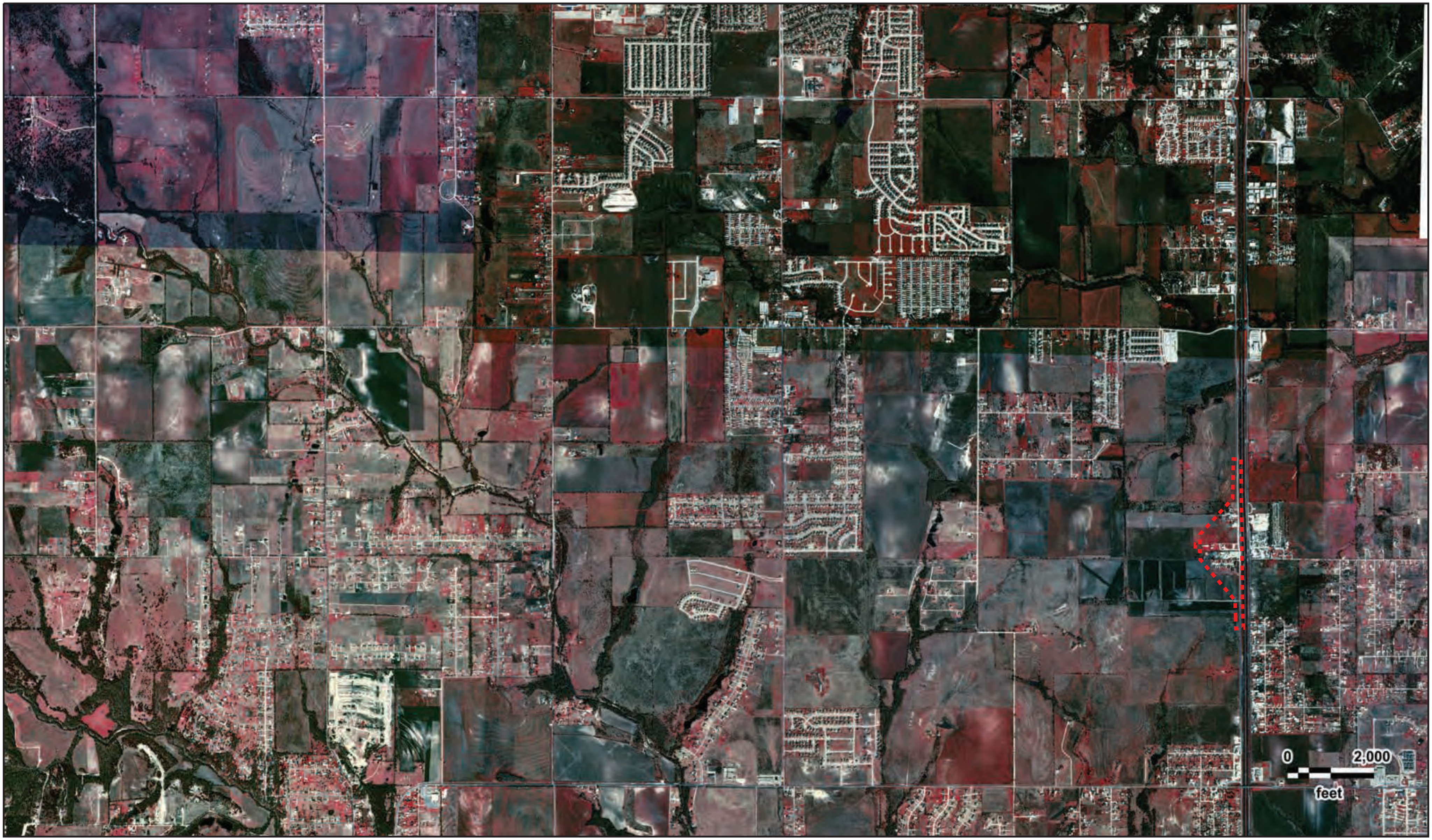


N
W E
S

TXDOT
05/10/1984
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

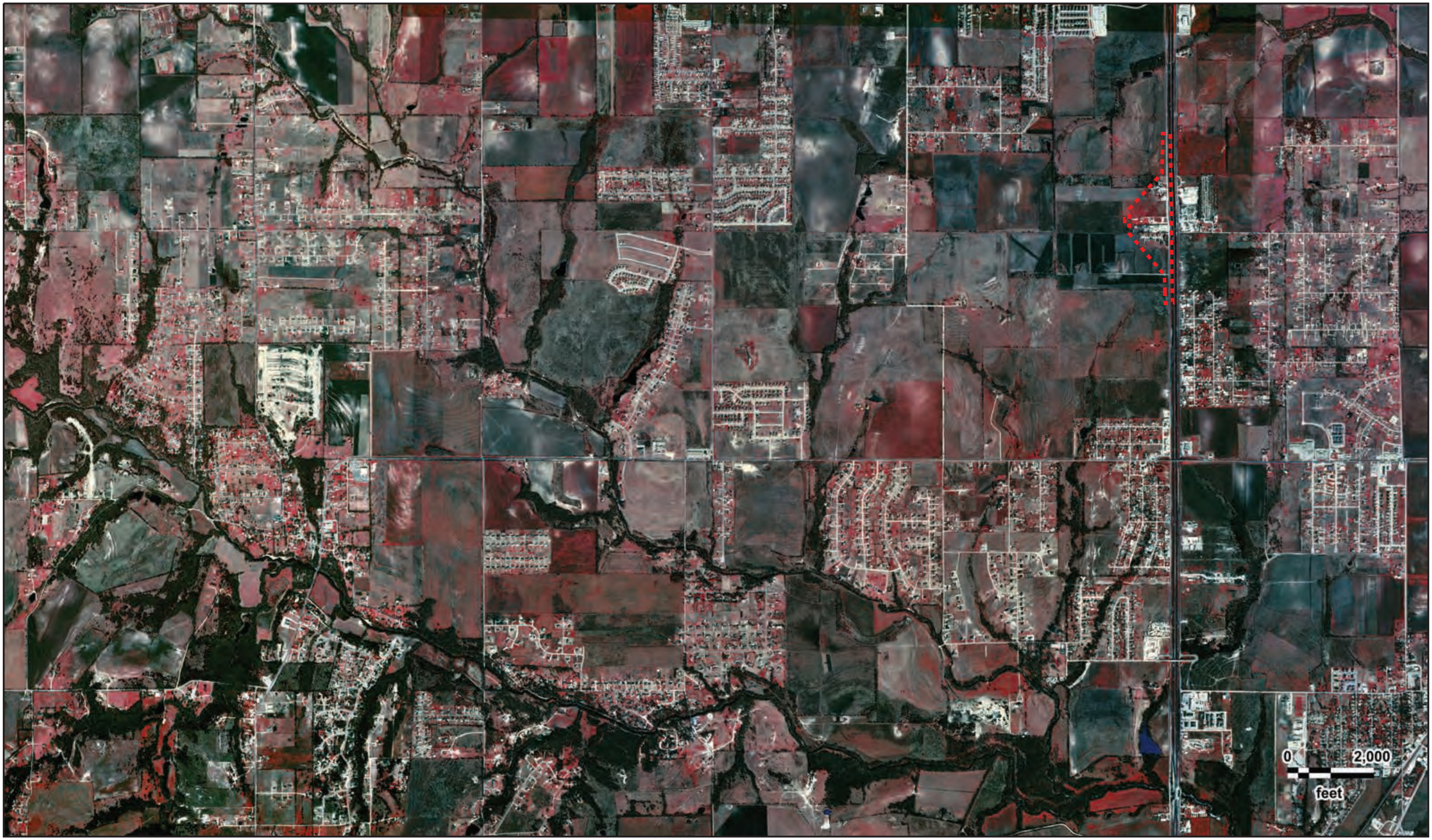


N
W E
S

USGS
02/19/1995
Loop 9, Seg B

GeoSearch

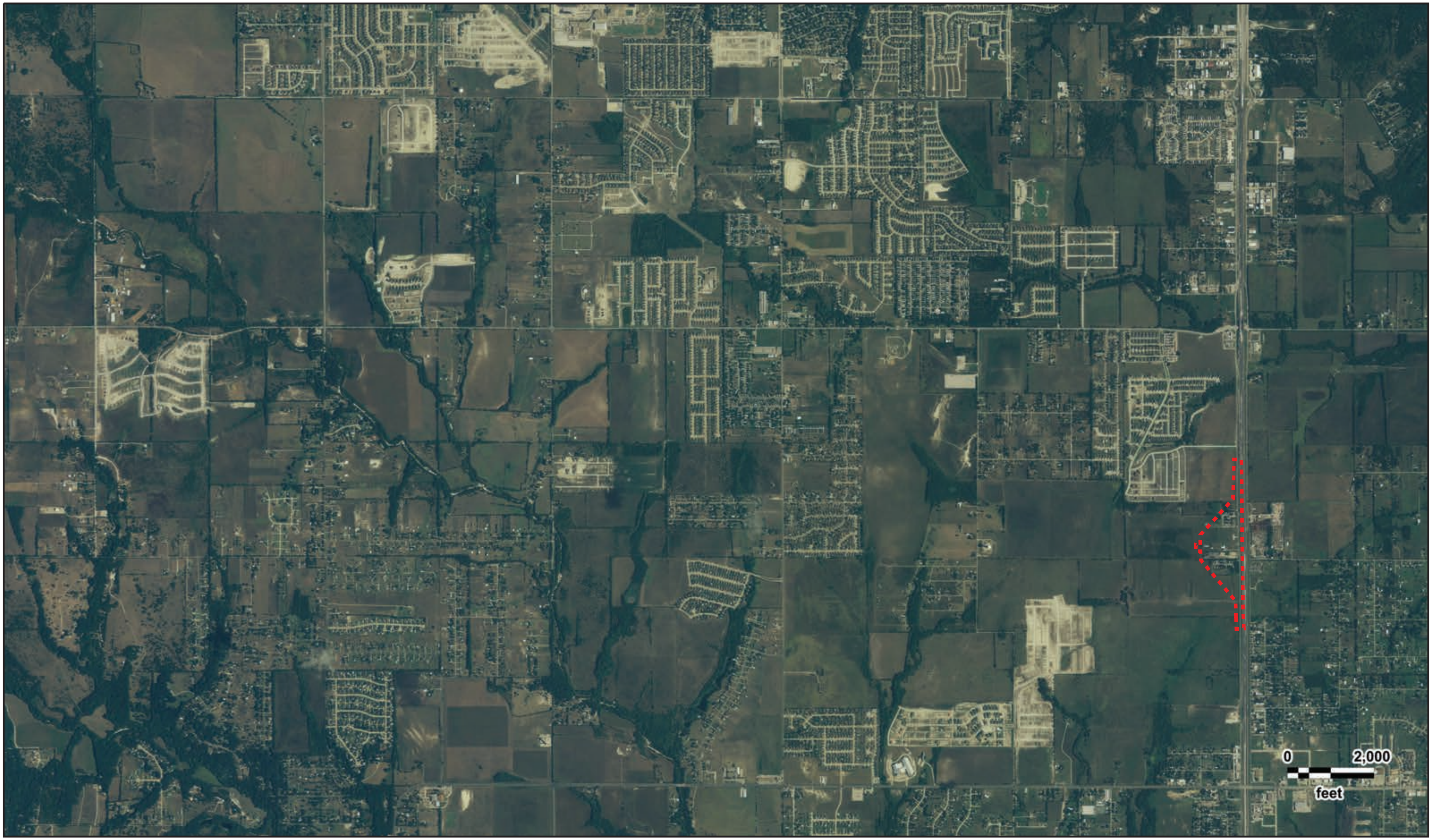
JOB #: 277448 - 02/13/2019



USGS
02/19/1995
Loop 9, Seg B

GeoSearch

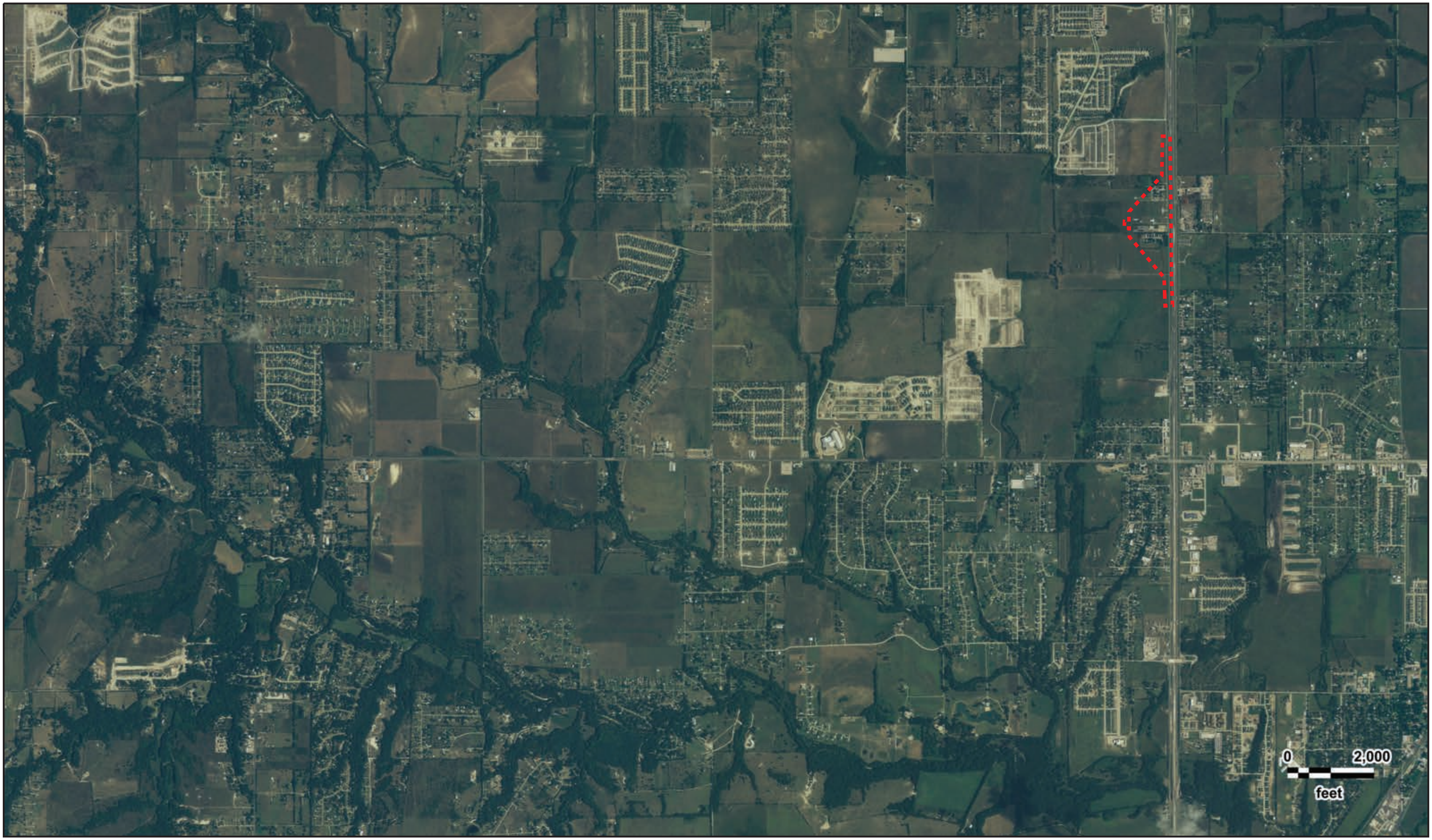
JOB #: 277448 - 02/13/2019



USDA
2005
Loop 9, Seg B

GeoSearch

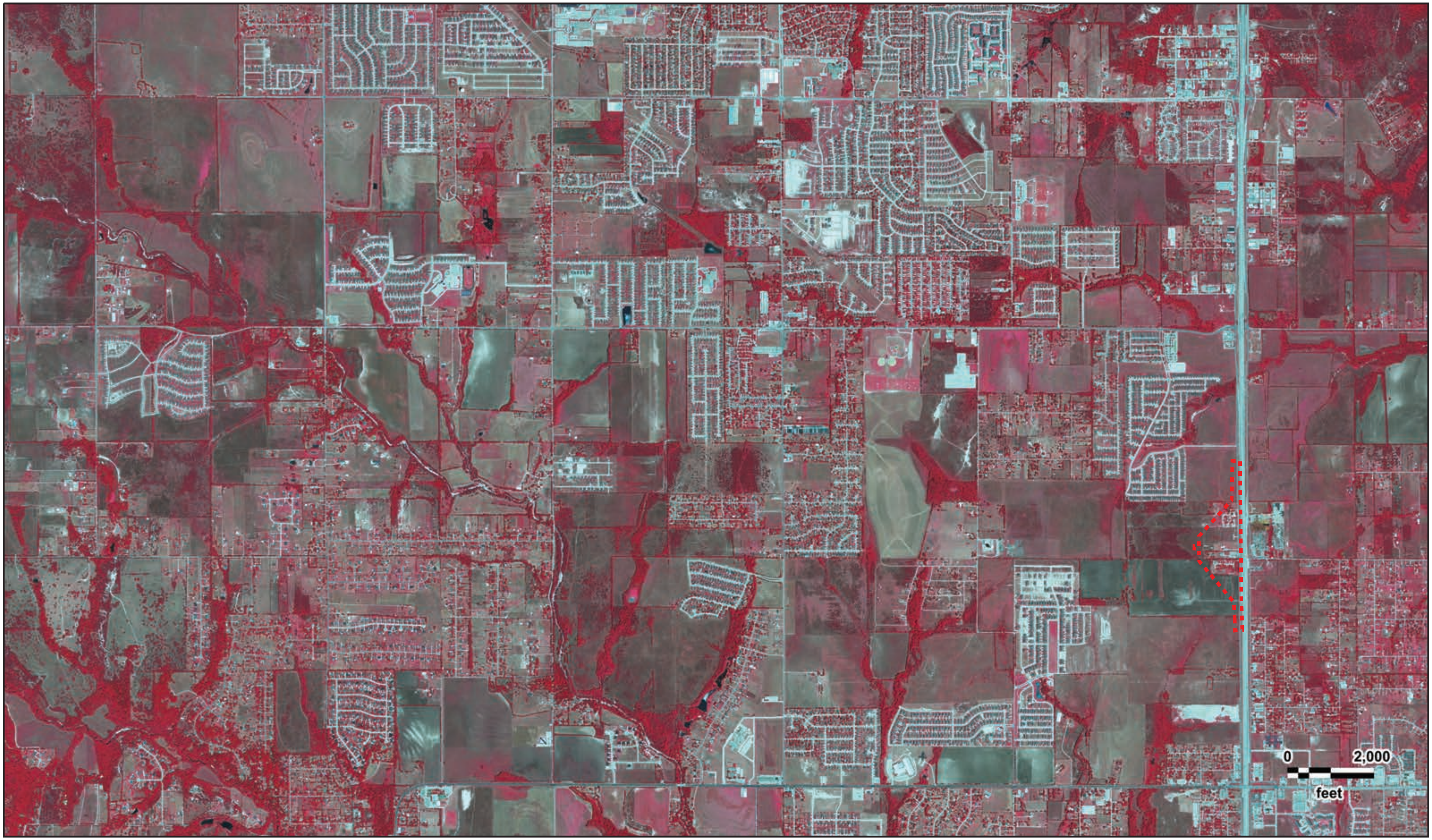
JOB #: 277448 - 02/13/2019



USDA
2005
Loop 9, Seg B

GeoSearch

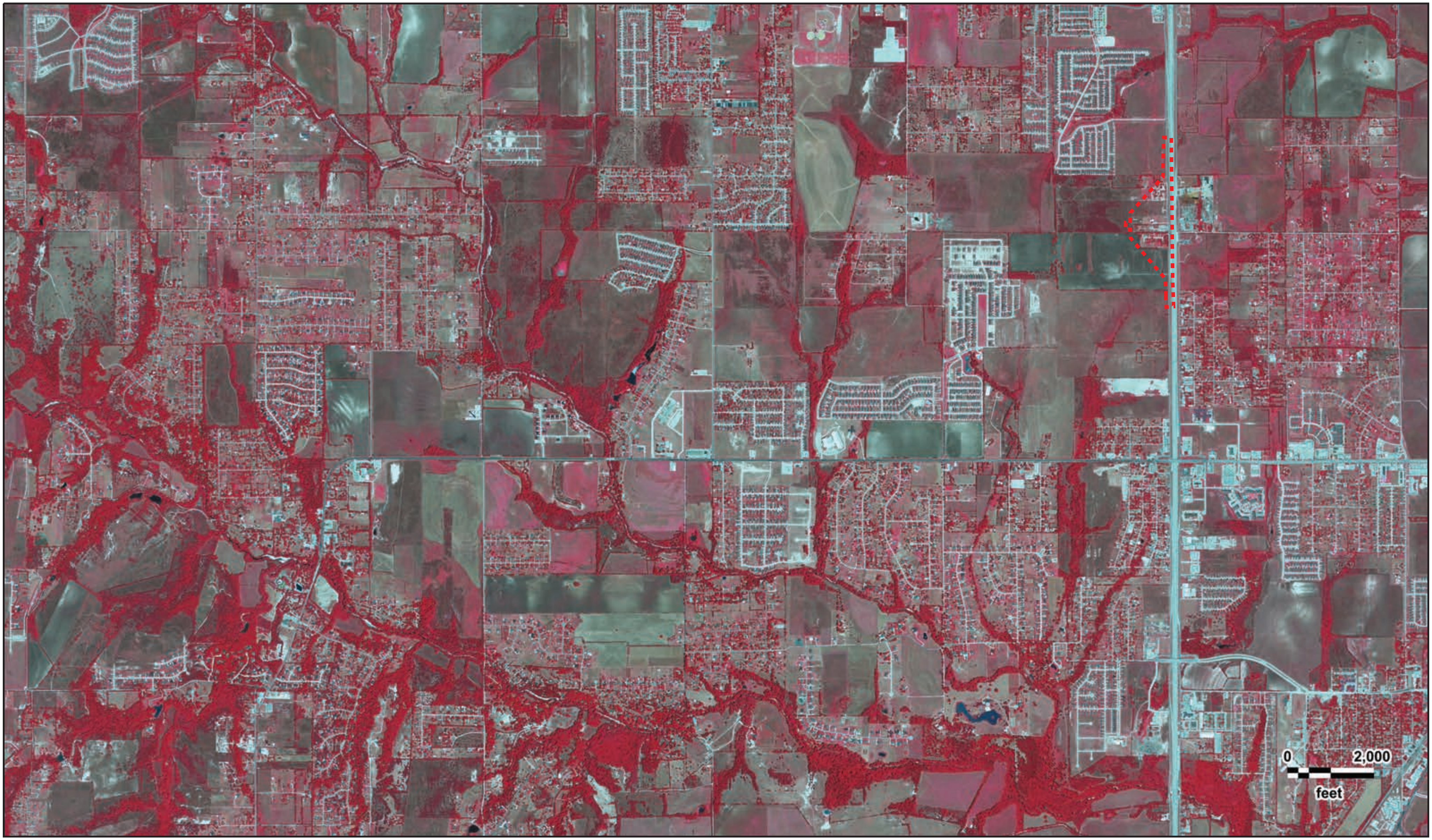
JOB #: 277448 - 02/13/2019



USDA
2010
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

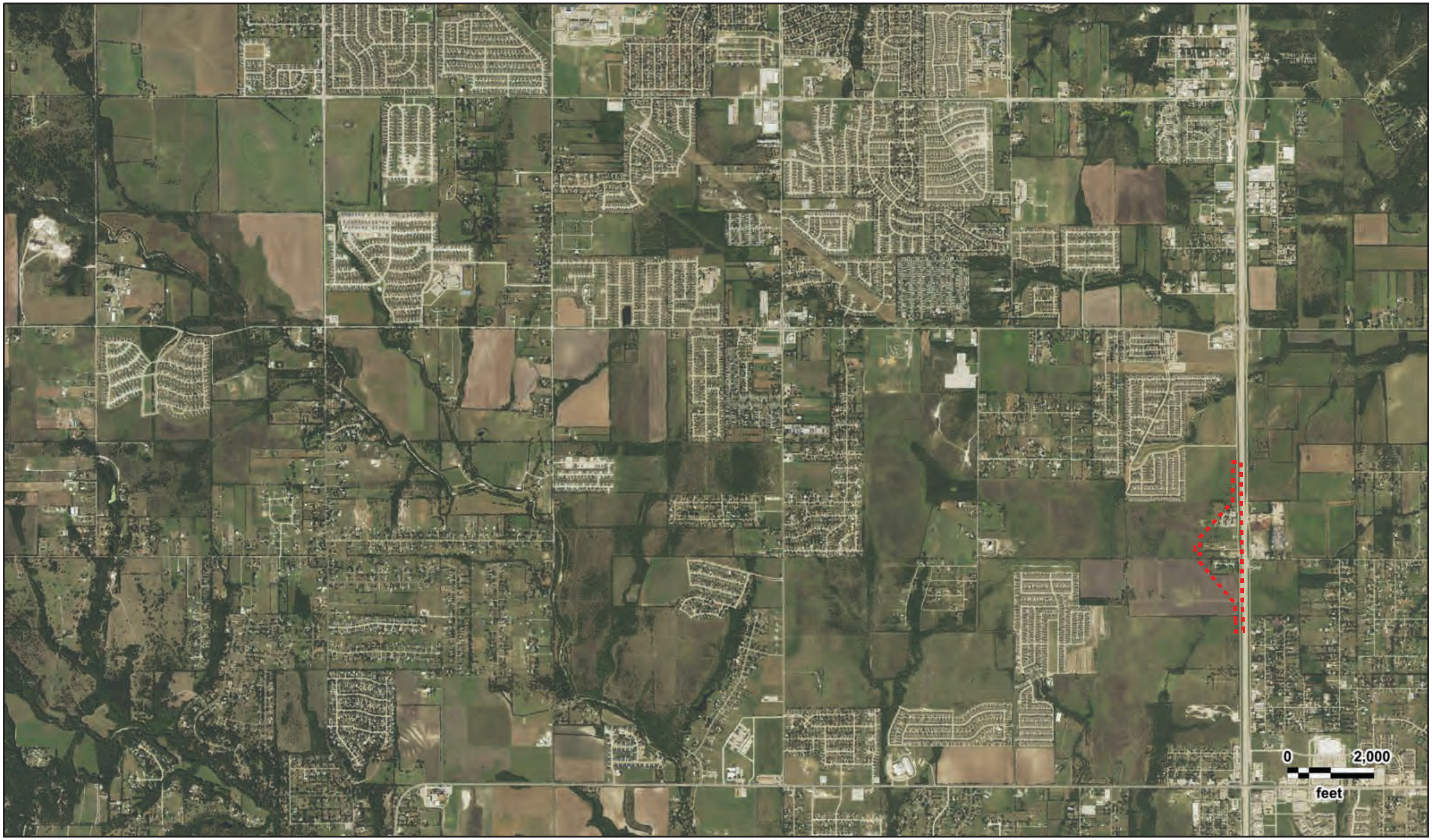


N
W
E
S

USDA
2010
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019



N
W E
S

USDA
2016
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

N
W E
S

USDA
2016
Loop 9, Seg B

GeoSearch

JOB #: 277448 - 02/13/2019

Attachment 4 - Site Photographs

Photo 1: Pond 10 within an overgrown field in the middle of the project area near DPB012. Photo taken April 2020. (32.546454°, -96.824894°)

Photo 2: Photo looking into an open field in the middle of the project area near DPB059. Photo facing west. Photo taken April 2020. (32.547815°, -96.822577°)

Photo 3: Photo of maintained urban vegetation along IH 35E.
Photo facing northwest. Photo taken May 2019. (32.549558°, -96.822612°)

Photo 4: Photo looking into an agricultural field in the southern portion of the project. Photo facing west. Photo taken in April 2020. (32.544749°, -96.822585°)