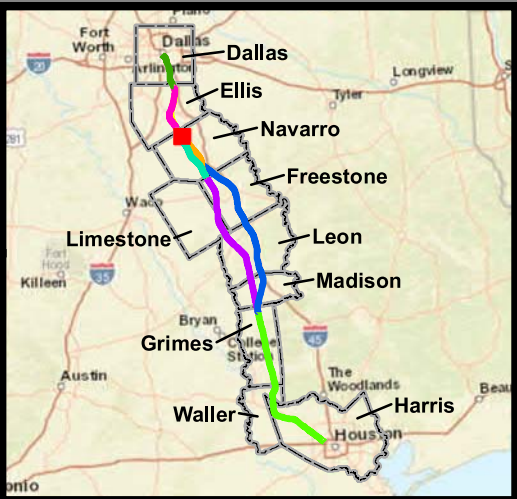


**Dallas to Houston High-Speed Rail
Draft Environmental Impact Statement**

**Appendix D:
Natural Resources
Mapbook Set 2 of 4**



**Federal Railroad
Administration**



**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 65 of 257

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

National Wetlands Inventory (NWI)

 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

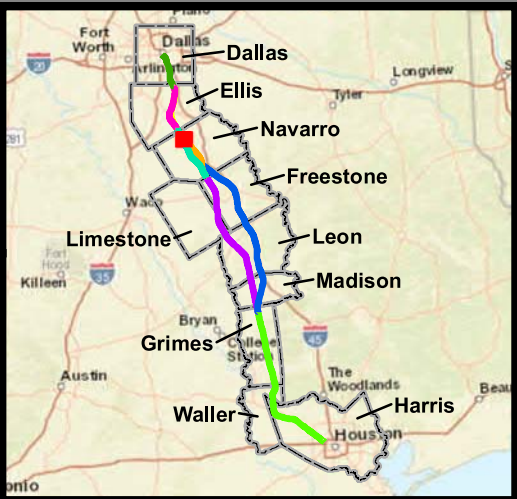
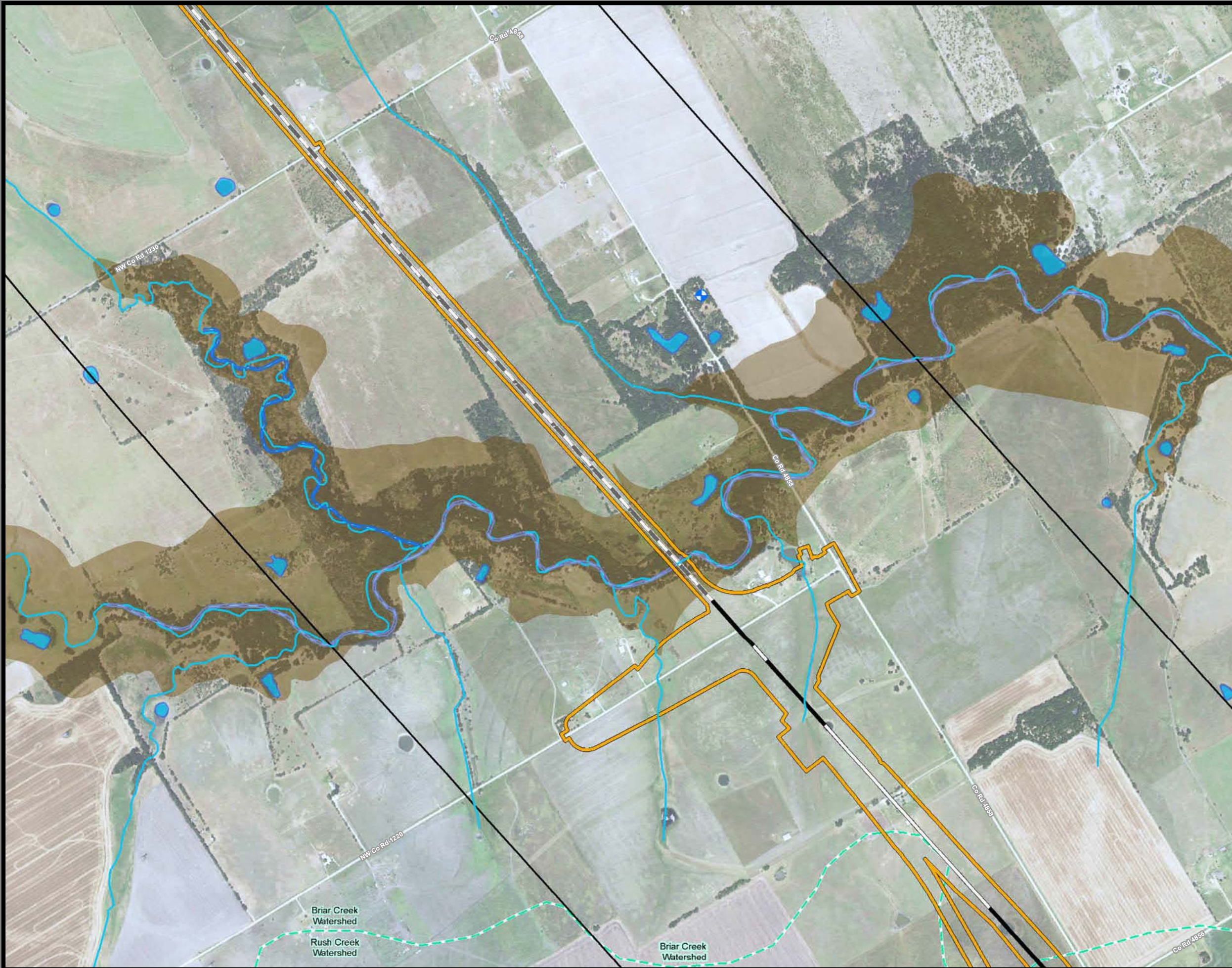
This Sheet only depicts Segment 3B; Segments 3A & 3C are also located in this same area and can be referenced on Sheets 46 & 84.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 66 of 257

- Legend**
- Limits of Disturbance**
- Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
- Viaduct
 - Embankment
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 - Half Mile Buffer
 - City Boundary
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 - Railroad
 - Municipal Setting Designation (MSD)
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 - Groundwater Well
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- Impaired Waters
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 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
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 - Reservoir
 - Swamp/Marsh
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 - Freshwater Forested/Shrub Wetland
 - Other

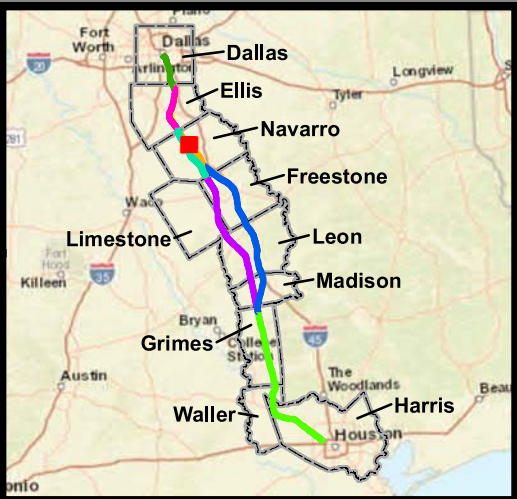
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Aerial Imagery: USDA NAIP 2014

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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 68 of 257

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

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 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

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 - Navasota Ladies'-tresses
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National Hydrography Dataset (NHD)

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 - Intermittent Stream/River
 - Artificial Stream/Canal
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 - Reservoir
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National Wetlands Inventory (NWI)

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Aerial Imagery: USDA NAIP 2014

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0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 69 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

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- Embankment
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- County Boundary
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Potential Habitat

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- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

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Field-Collected Data

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- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

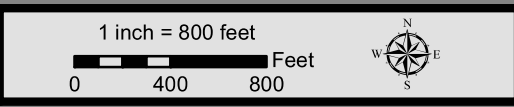
- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

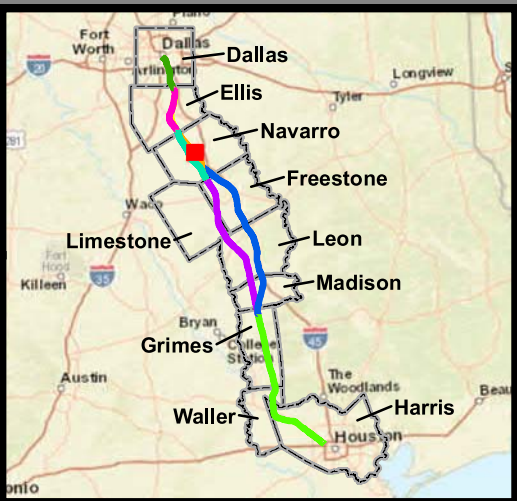
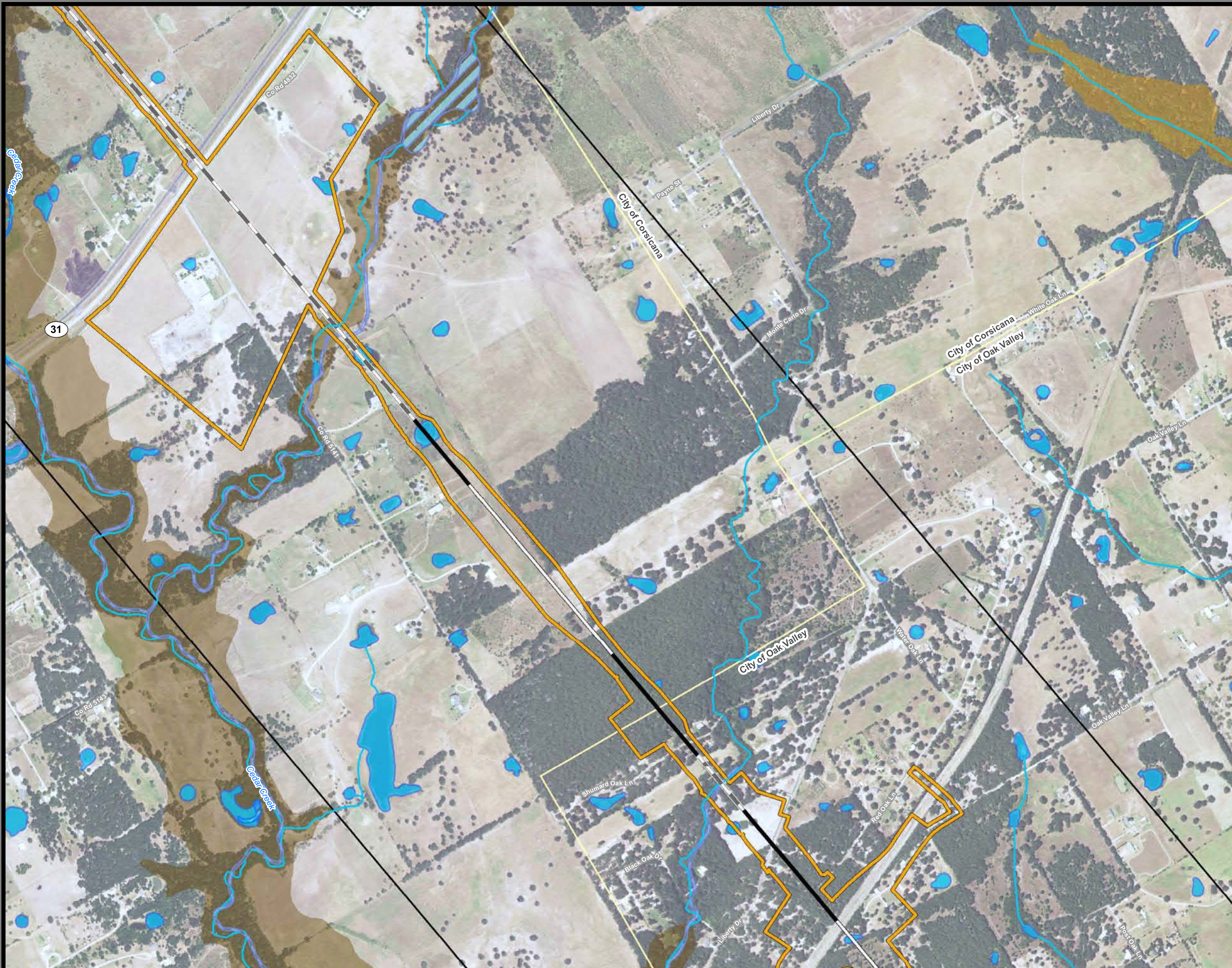
National Wetlands Inventory (NWI)

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- Freshwater Forested/Shrub Wetland
- Other

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Aerial Imagery: USDA NAIP 2014



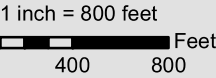


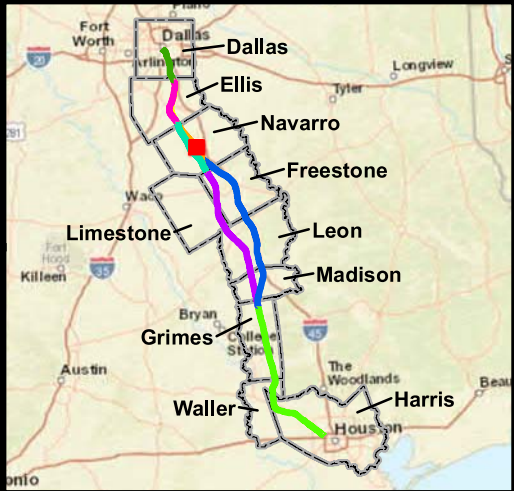
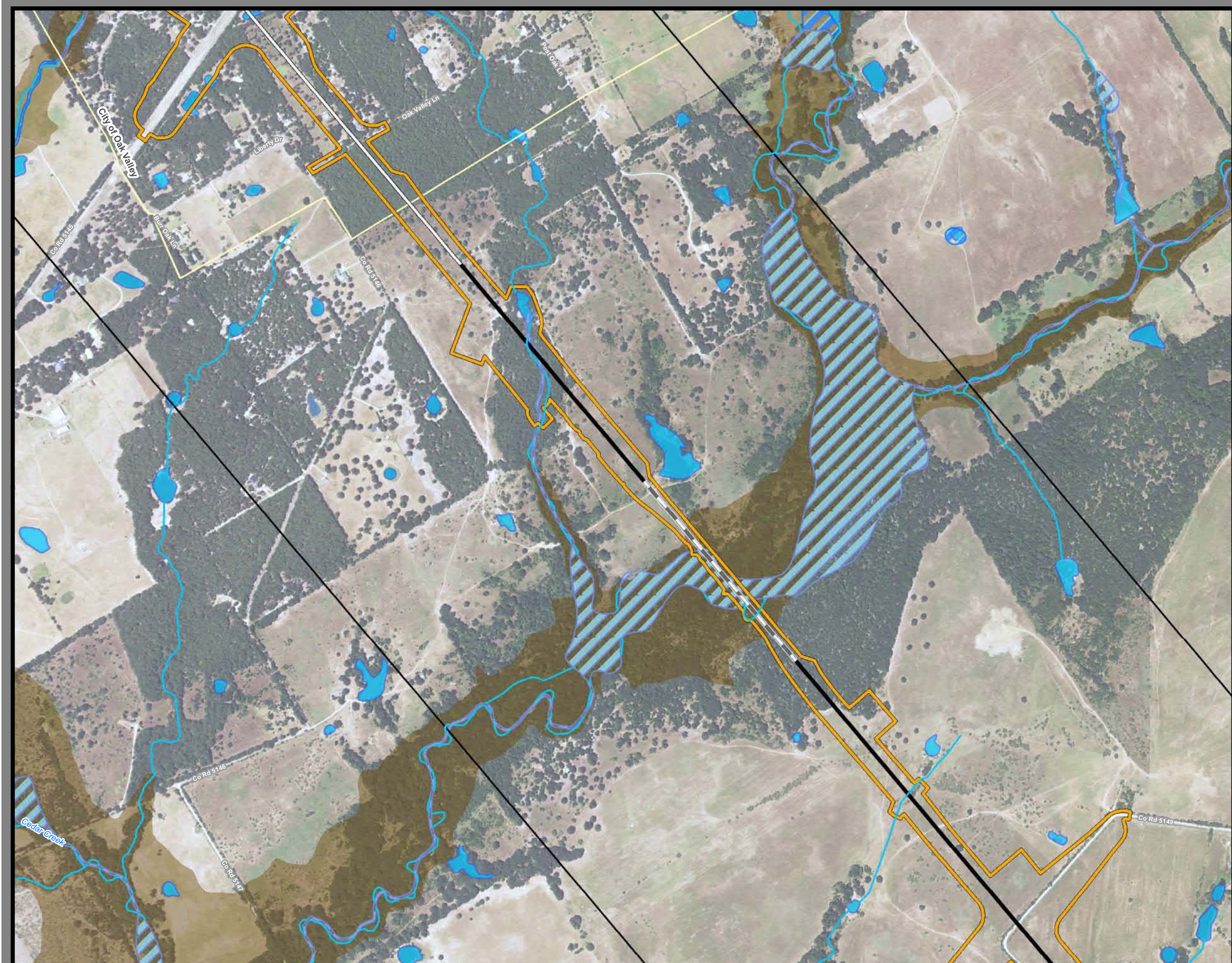
**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 70 of 257**

- Legend**
- Limits of Disturbance**
- Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
- Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
- Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
- A - 1%
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 - X - 0.2%
- Field-Collected Data**
- Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
- Perennial Stream/River
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 71 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Verberna
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
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- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
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- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

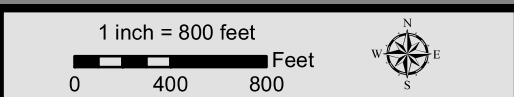
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- Intermittent Stream/River
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- Lake/Pond
- Reservoir
- Swamp/Marsh

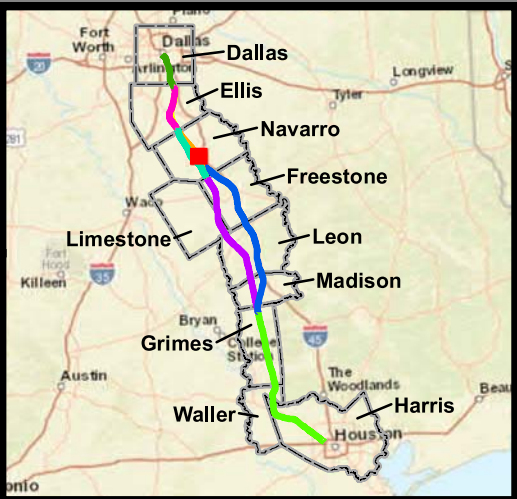
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 72 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

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- AO - 1%
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Field-Collected Data

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- Ephemeral Stream/River
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- Forested Wetland
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National Hydrography Dataset (NHD)

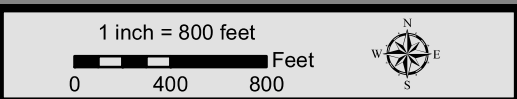
- Perennial Stream/River
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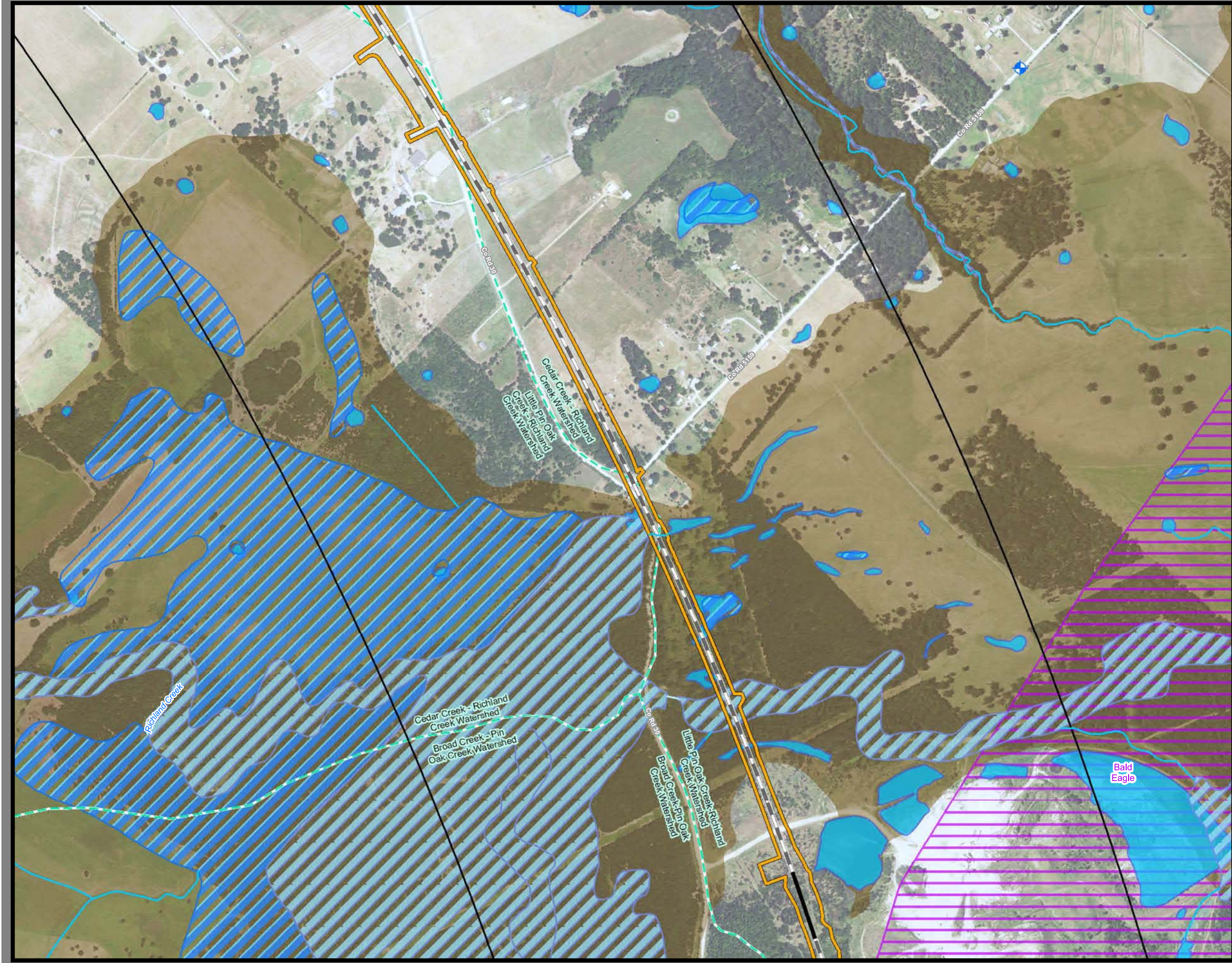
National Wetlands Inventory (NWI)

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**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 73 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

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Potential Habitat

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Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

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Field-Collected Data

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National Hydrography Dataset (NHD)

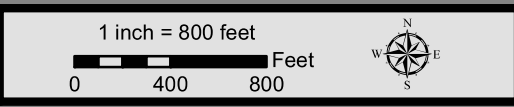
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- Intermittent Stream/River
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- Lake/Pond
- Reservoir
- Swamp/Marsh

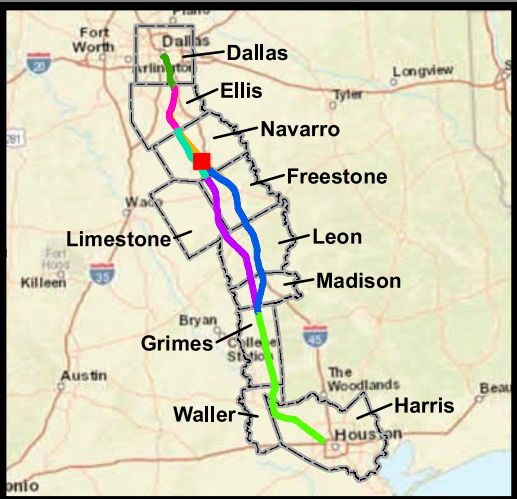
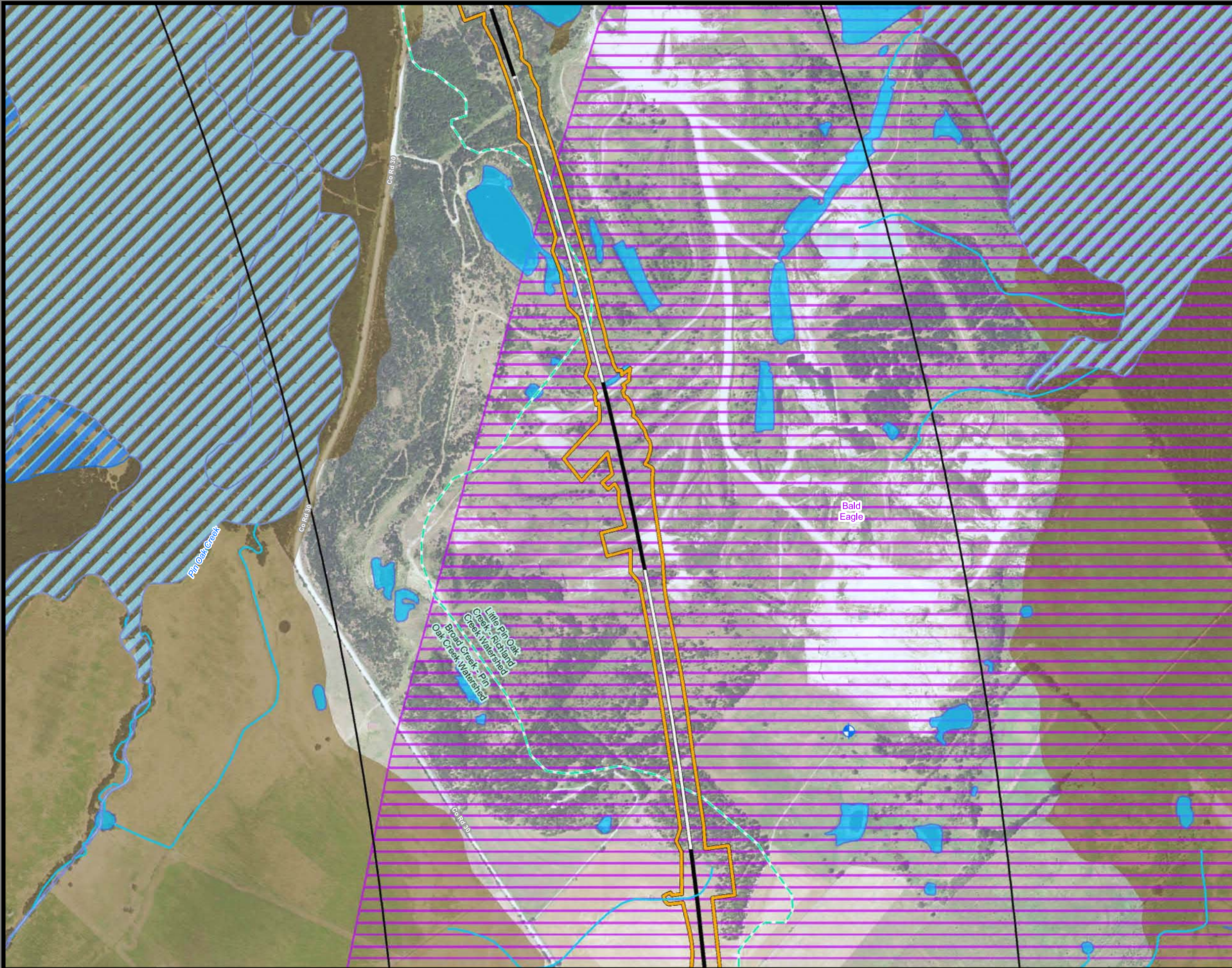
National Wetlands Inventory (NWI)

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 74 of 257

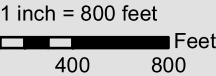
Legend

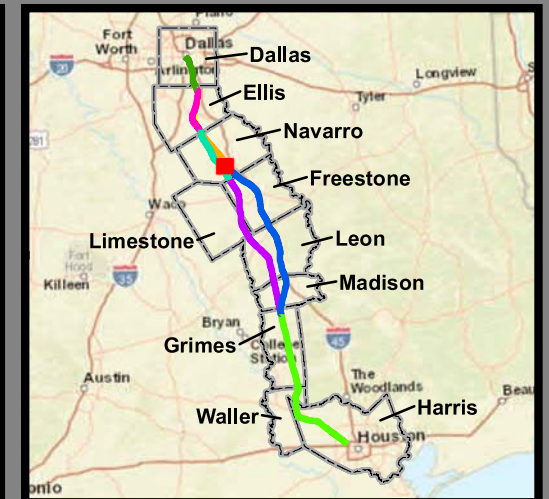
- Limits of Disturbance**
 - Segment 1
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 - Reservoir
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- National Wetlands Inventory (NWI)**
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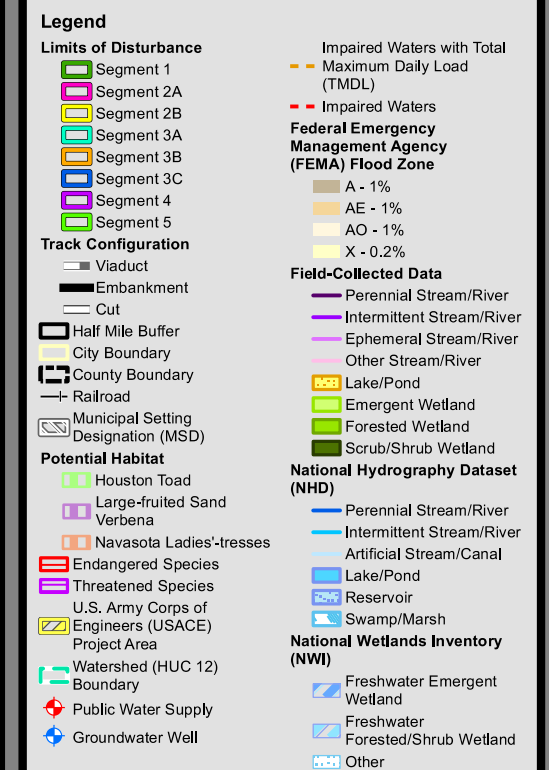
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 75 of 257

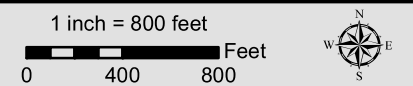


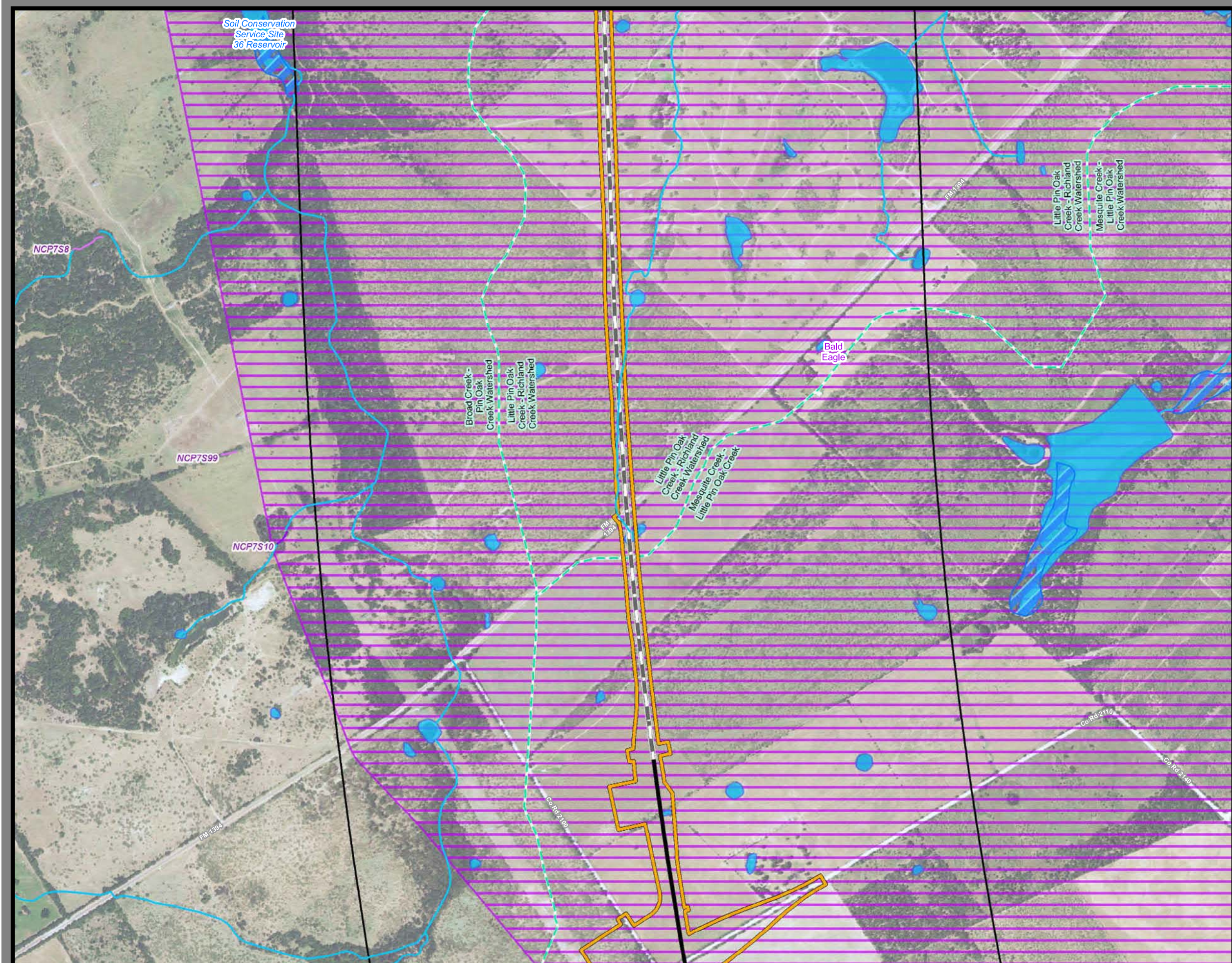
This Sheet only depicts Segment 3B; Segments 3A & 3C are also located in this same area and can be referenced on Sheets 56 & 94.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2018; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Inland Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map

Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 76 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

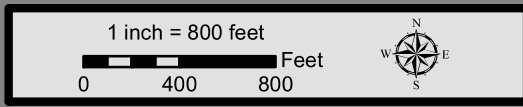
National Wetlands Inventory (NWI)

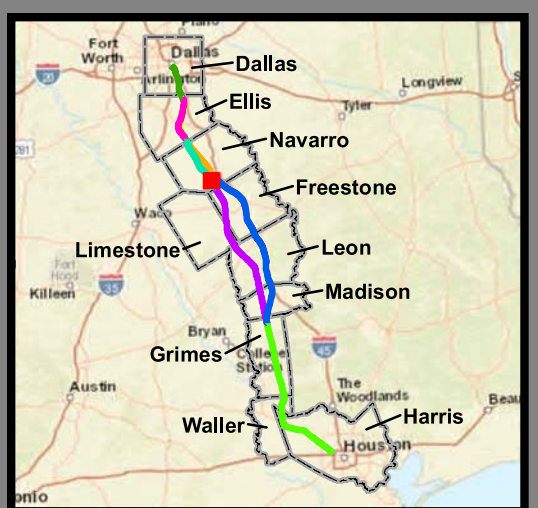
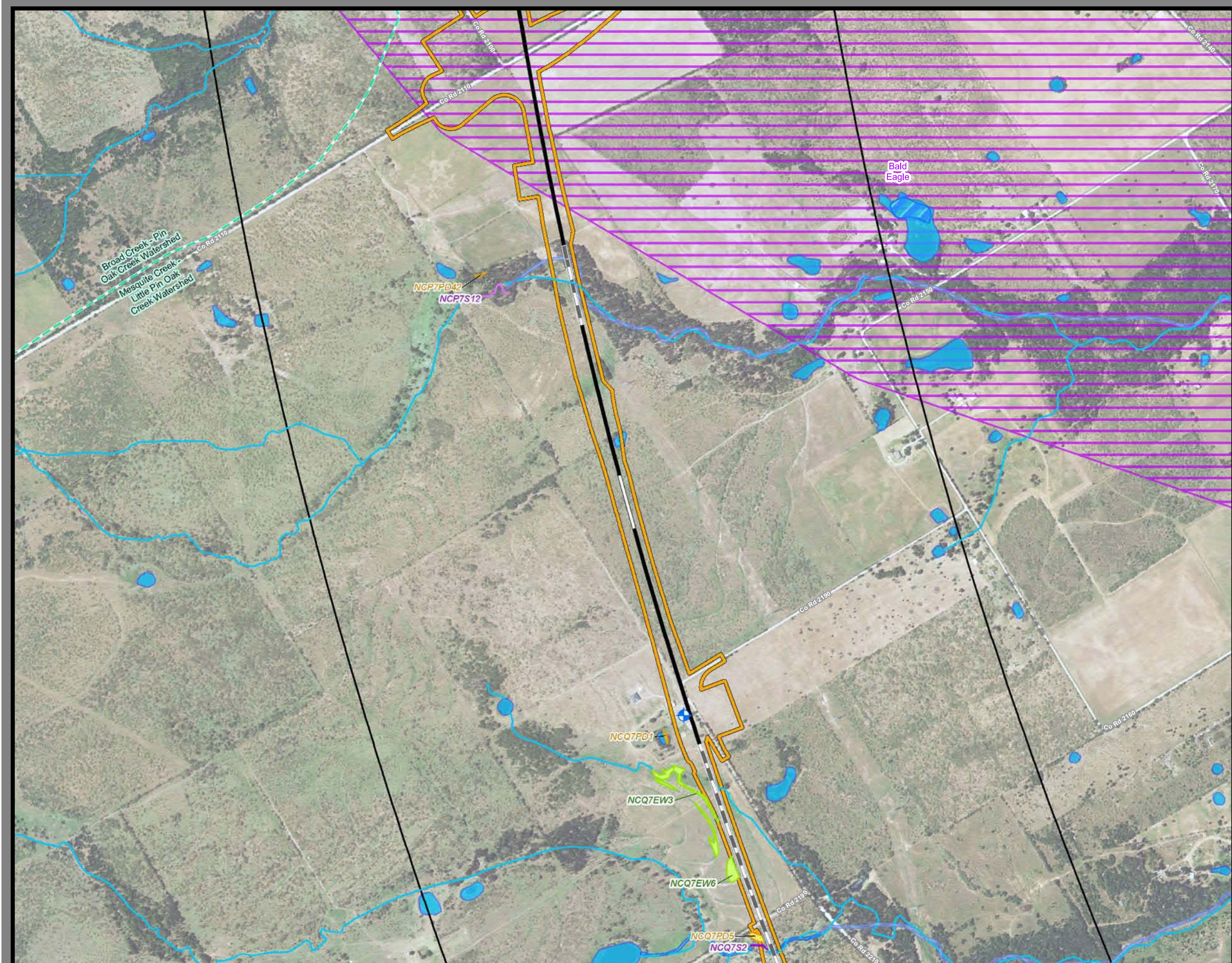
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3B; Segments 3A & 3C are also located in this same area and can be referenced on Sheets 57 & 95.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 77 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

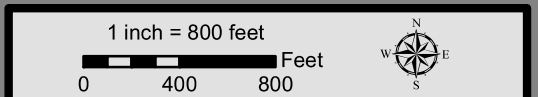
National Wetlands Inventory (NWI)

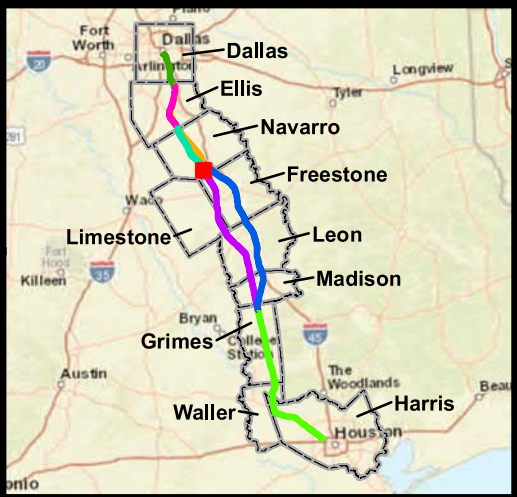
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3B; Segment 3A is also located in this same area and can be referenced on Sheet 58.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 78 of 257

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
 - Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

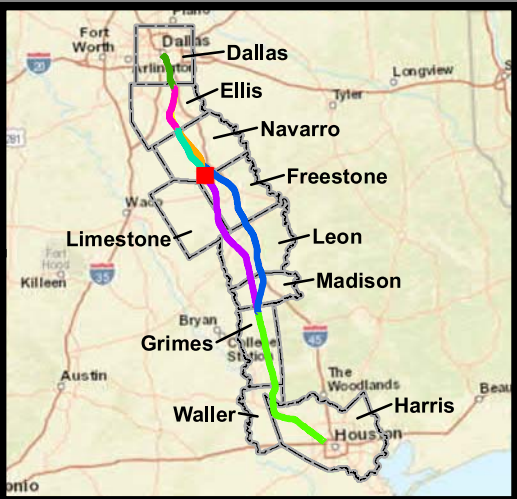
This Sheet only depicts Segment 3B; Segment 3A is also located in this same area and can be referenced on Sheet 59.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B
Sheet 79 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

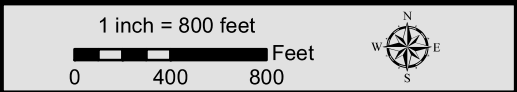
National Wetlands Inventory (NWI)

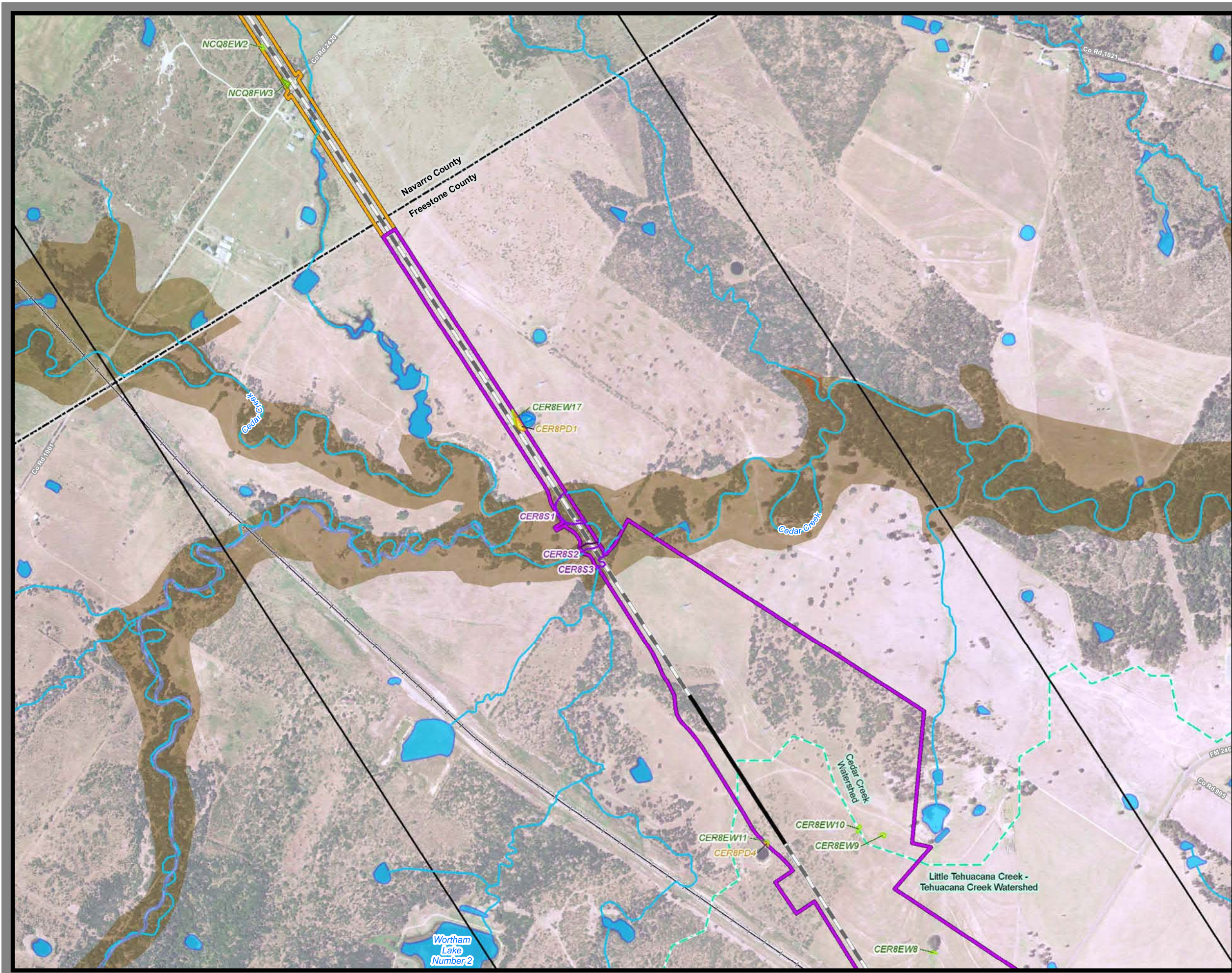
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3B; Segment 3A is also located in this same area and can be referenced on Sheet 60.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3B, 4
Sheet 80 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

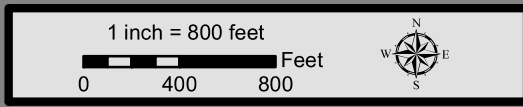
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

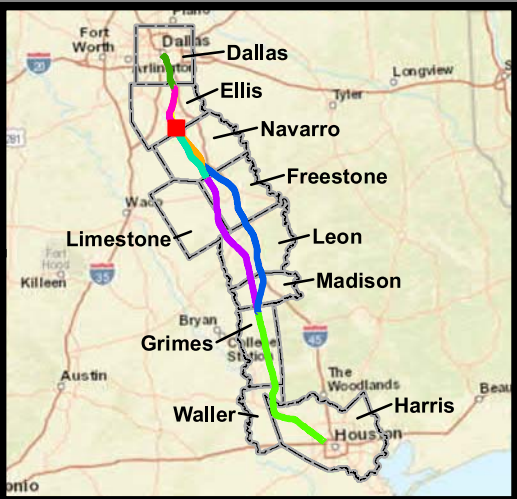
This Sheet only depicts Segments 3B & 4; Segment 3A is also located in this same area and can be referenced on Sheet 61.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map

Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B, 3C
Sheet 81 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

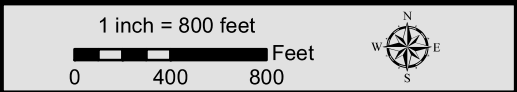
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segments 2B & 3C; Segments 2A, 3A & 3B are also located in this same area and can be referenced on Sheets 27, 44 & 63.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 82 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

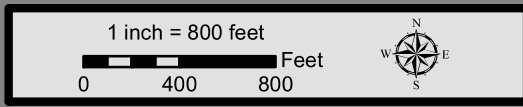
National Wetlands Inventory (NWI)

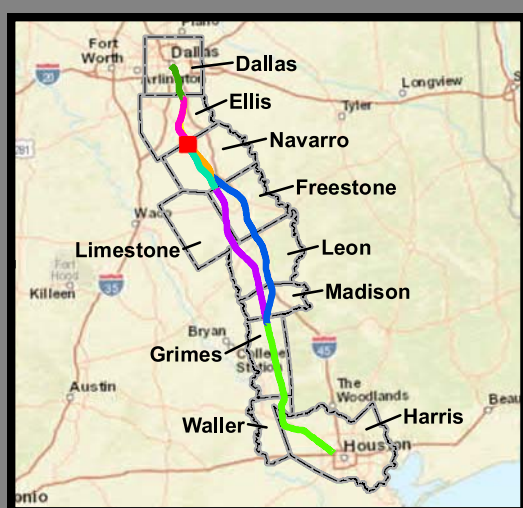
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segments 3A & 3B are also located in this same area and can be referenced on Sheets 44 & 63.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 83 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

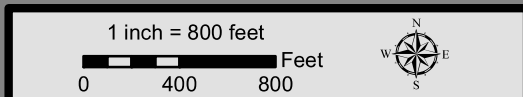
National Wetlands Inventory (NWI)

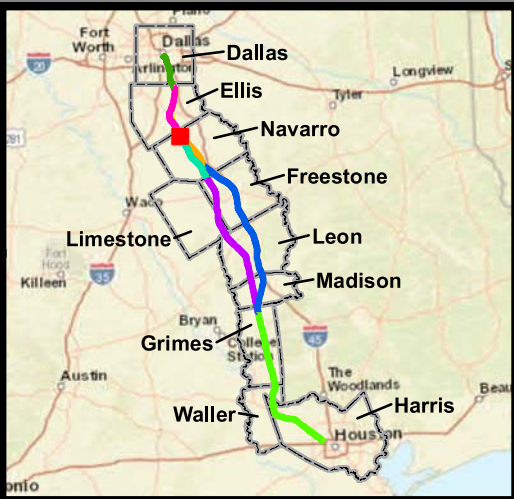
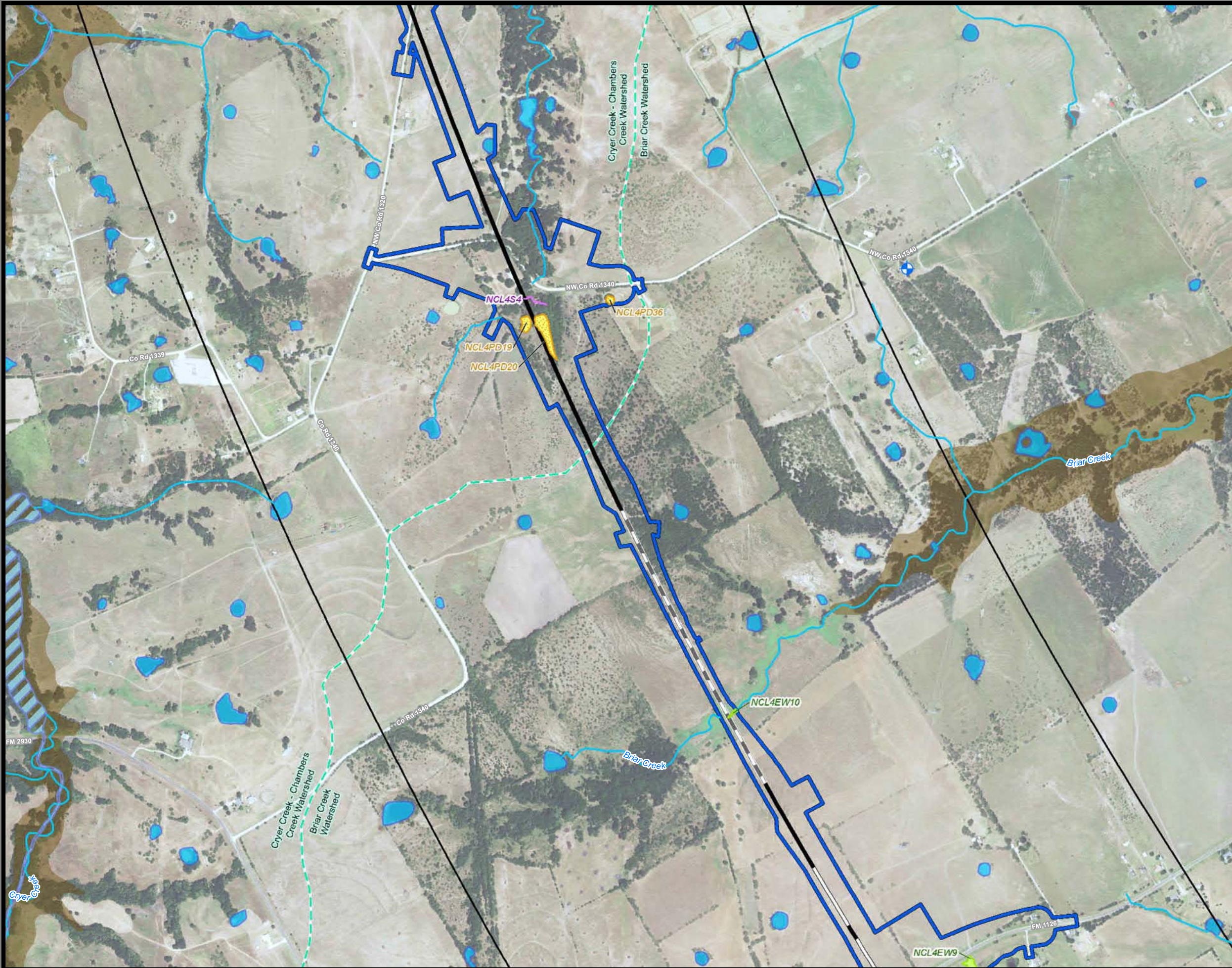
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segments 3A & 3B are also located in this same area and can be referenced on Sheets 45 & 64.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 84 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting
- Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Federal Emergency Management Agency (FEMA) Flood Zone

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

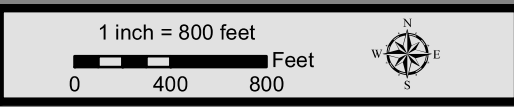
National Wetlands Inventory (NWI)

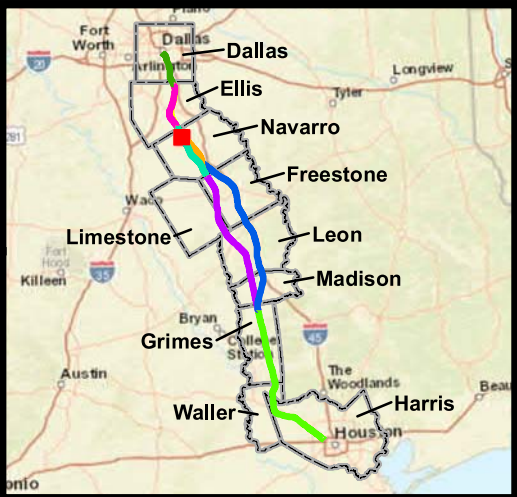
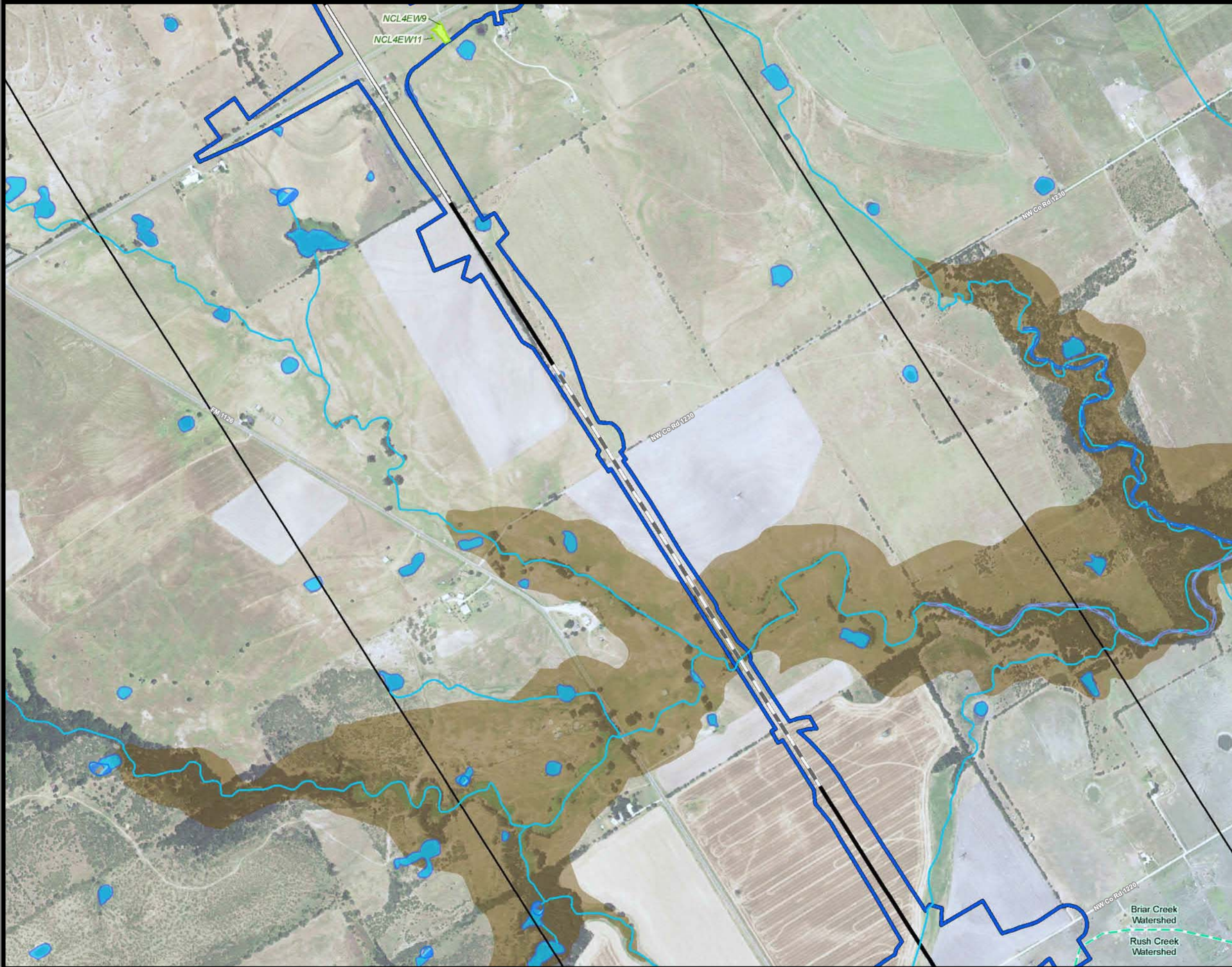
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segments 3A & 3B are also located in this same area and can be referenced on Sheets 46 & 65.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 85 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

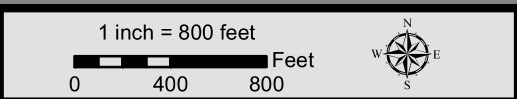
National Wetlands Inventory (NWI)

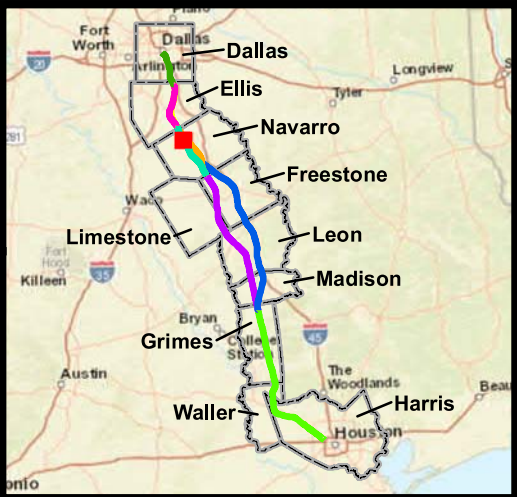
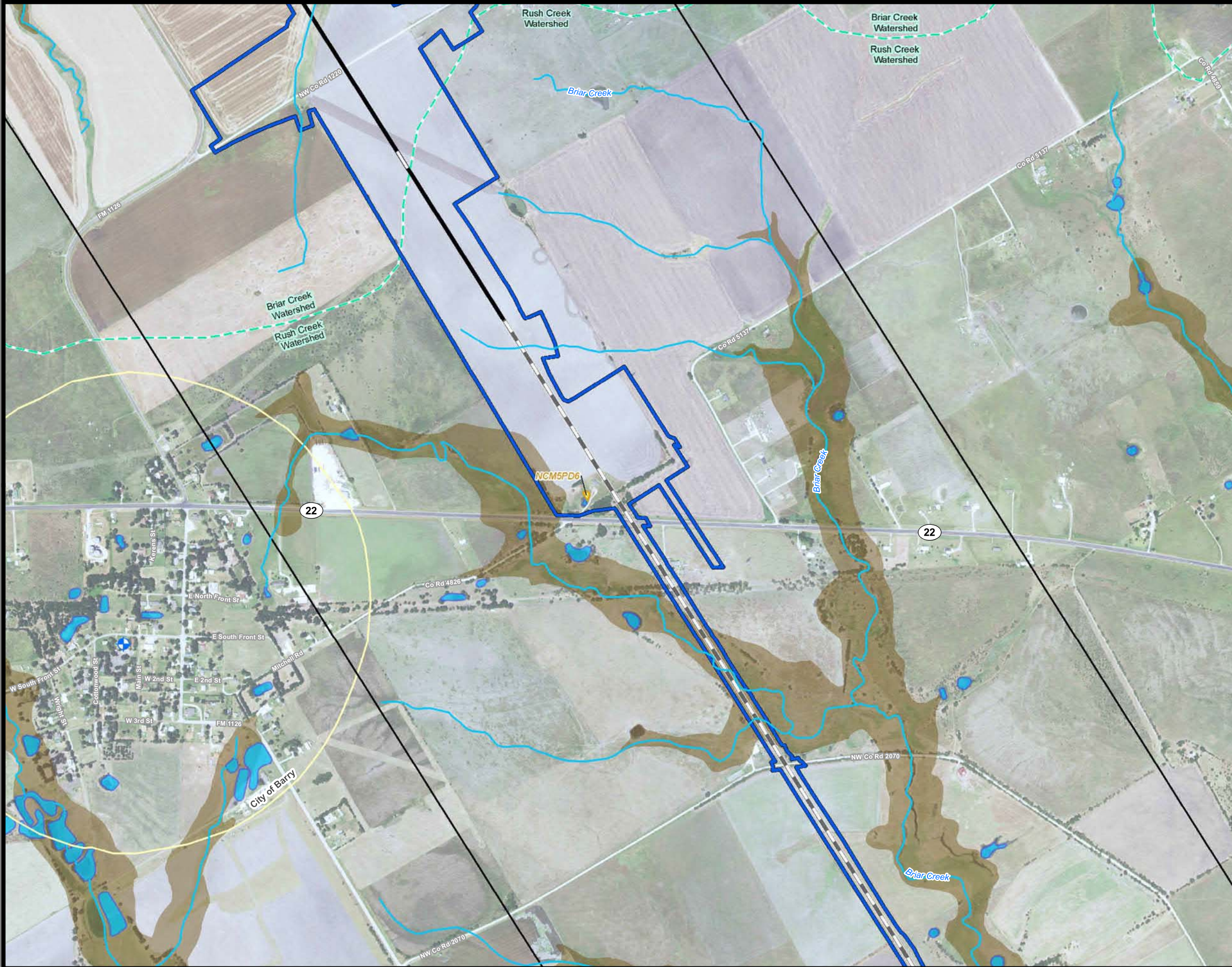
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segments 3A & 3B are also located in this same area and can be referenced on Sheets 47 & 66.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 86 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

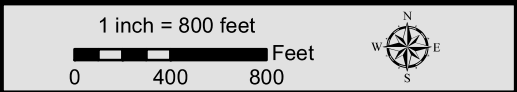
National Wetlands Inventory (NWI)

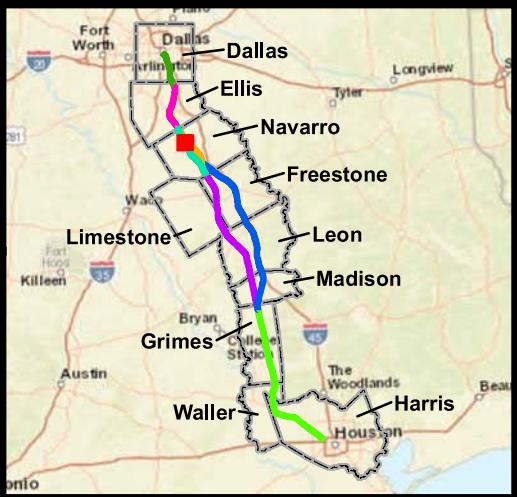
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 48.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 87 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

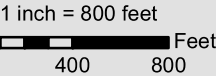
National Wetlands Inventory (NWI)

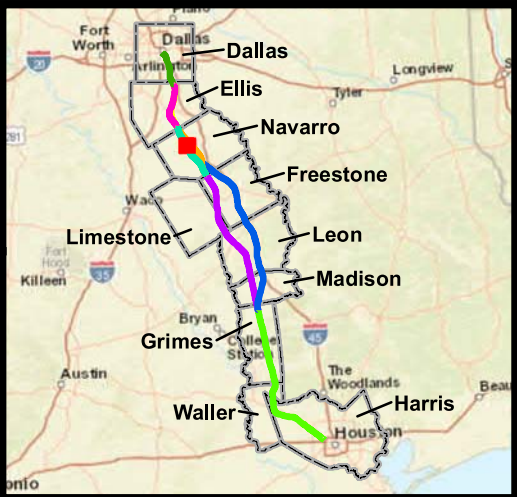
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 49.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 88 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

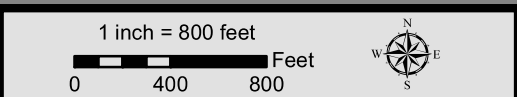
National Wetlands Inventory (NWI)

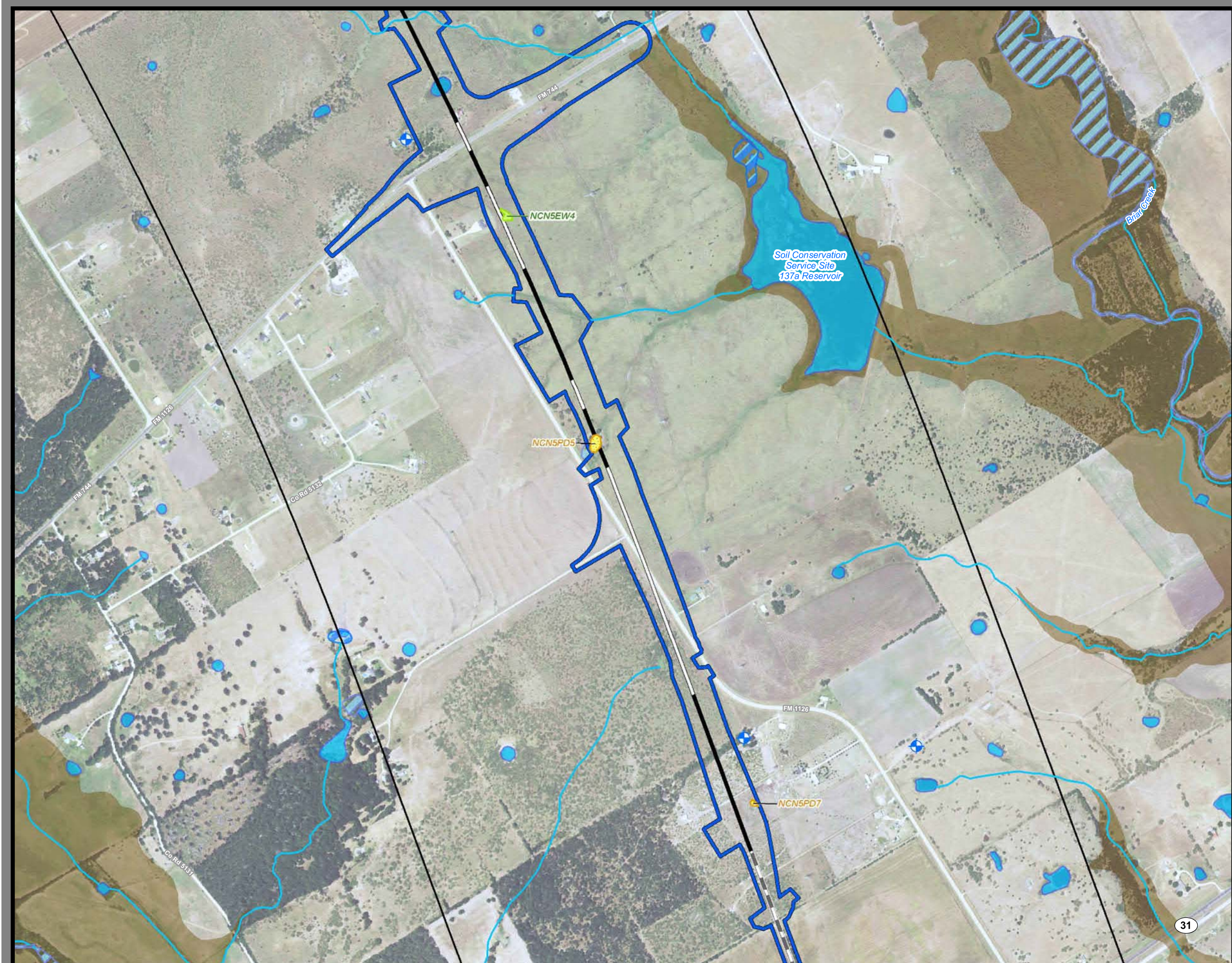
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 50.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 89 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

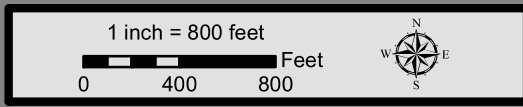
National Wetlands Inventory (NWI)

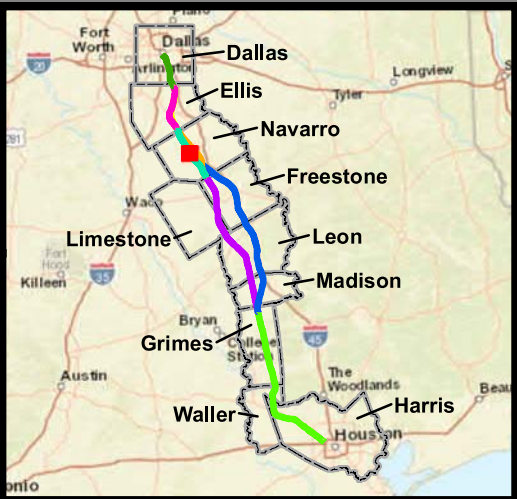
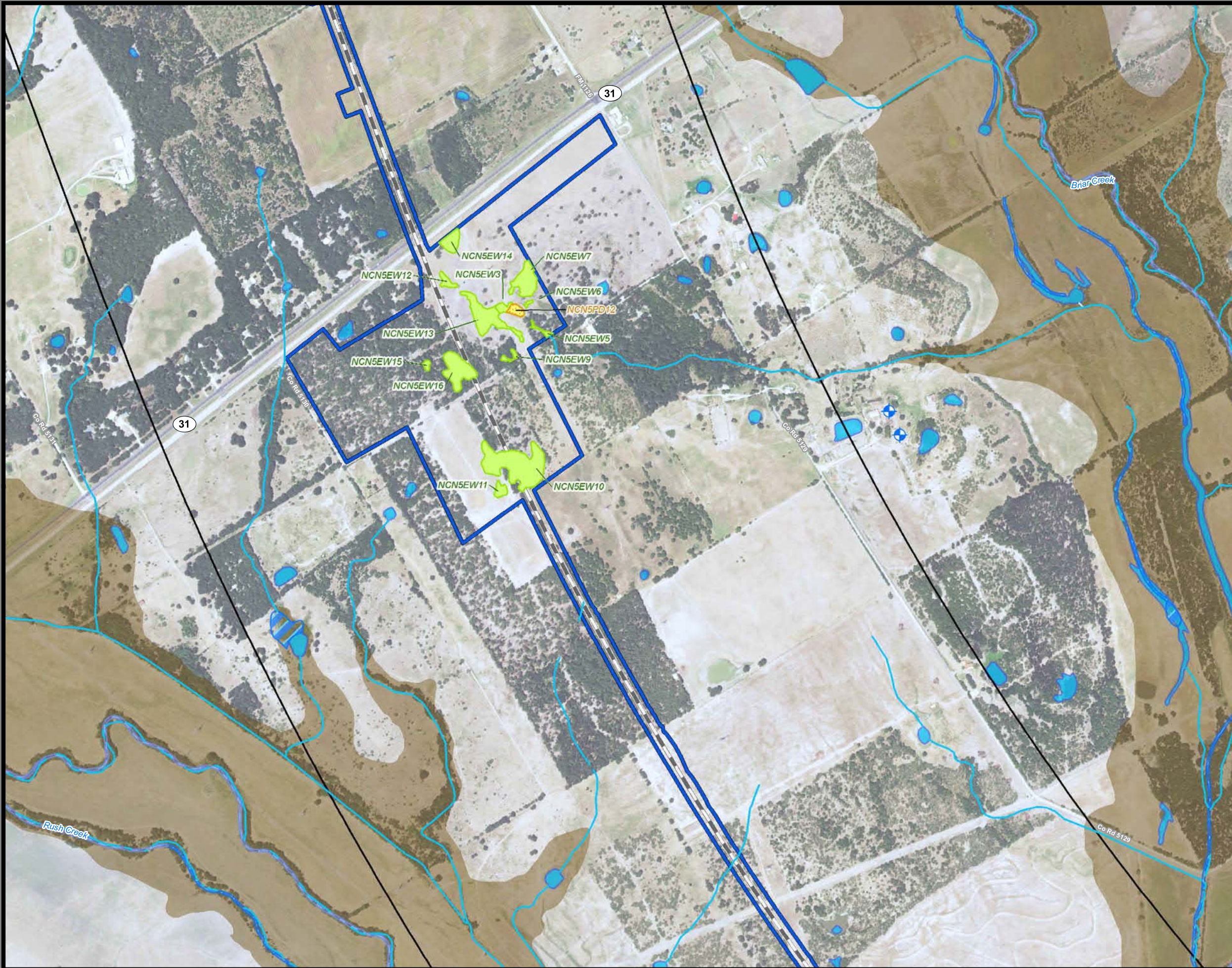
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 51.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 90 of 257**

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

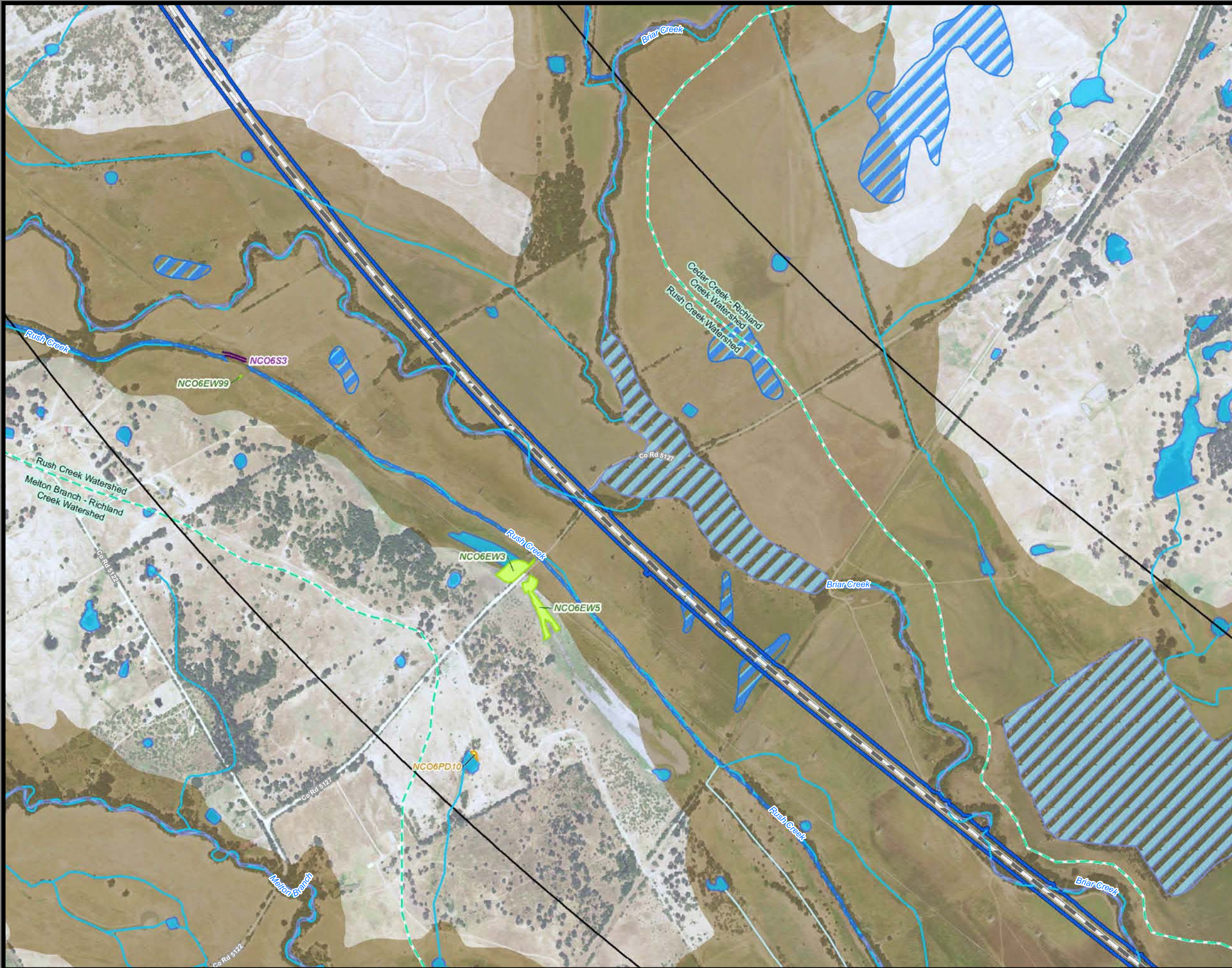
This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 52.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 91 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

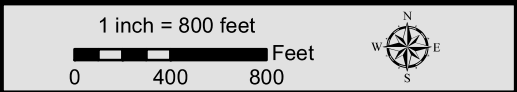
National Wetlands Inventory (NWI)

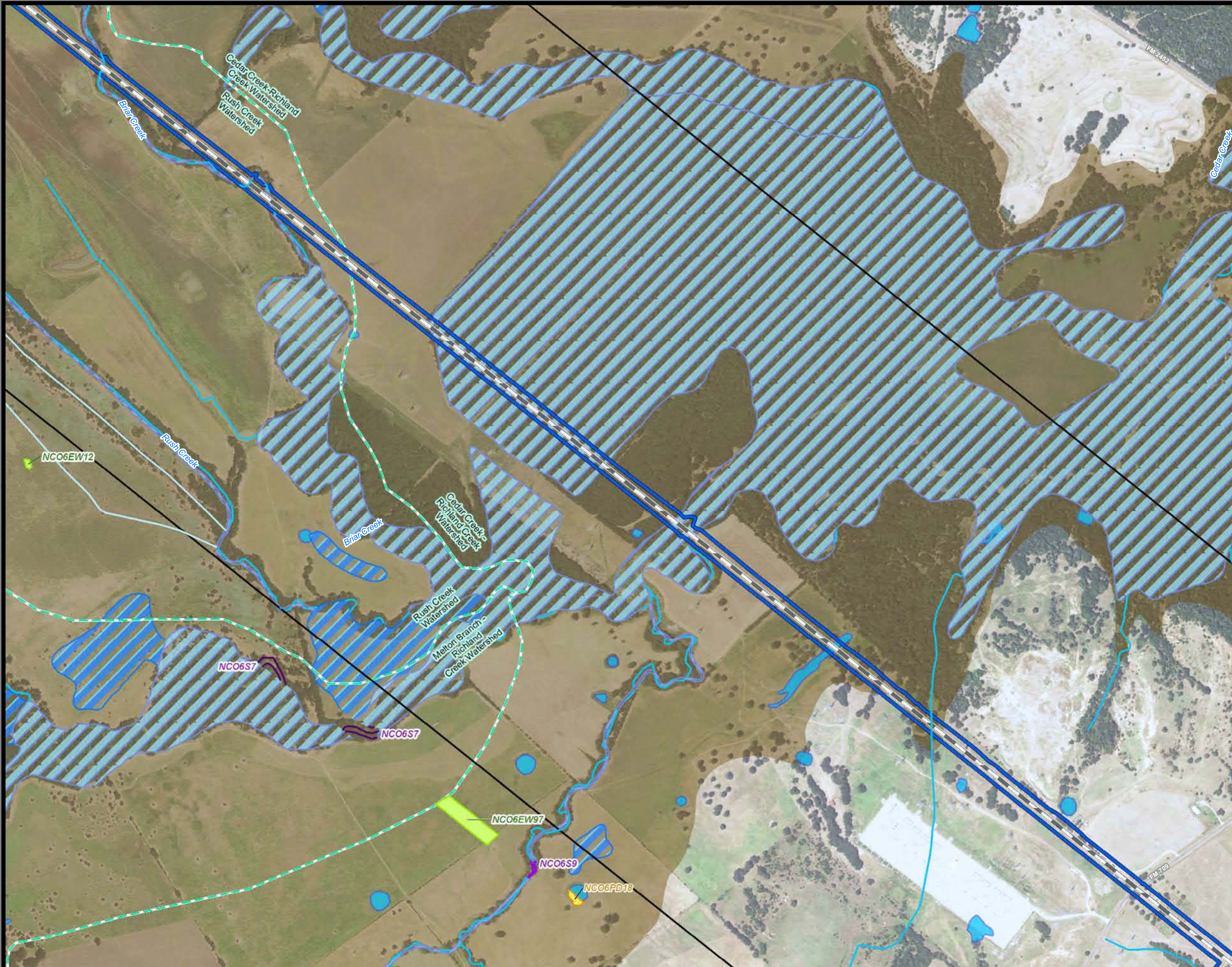
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 53.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





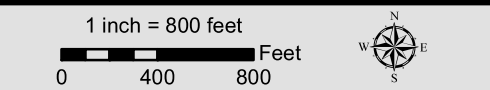
**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 92 of 257

- Legend**
- Limits of Disturbance**
- Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
- Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
- Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
- A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
- Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
- Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
- Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 54.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 93 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

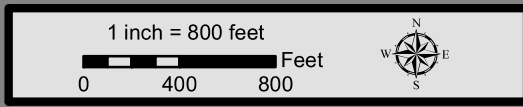
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

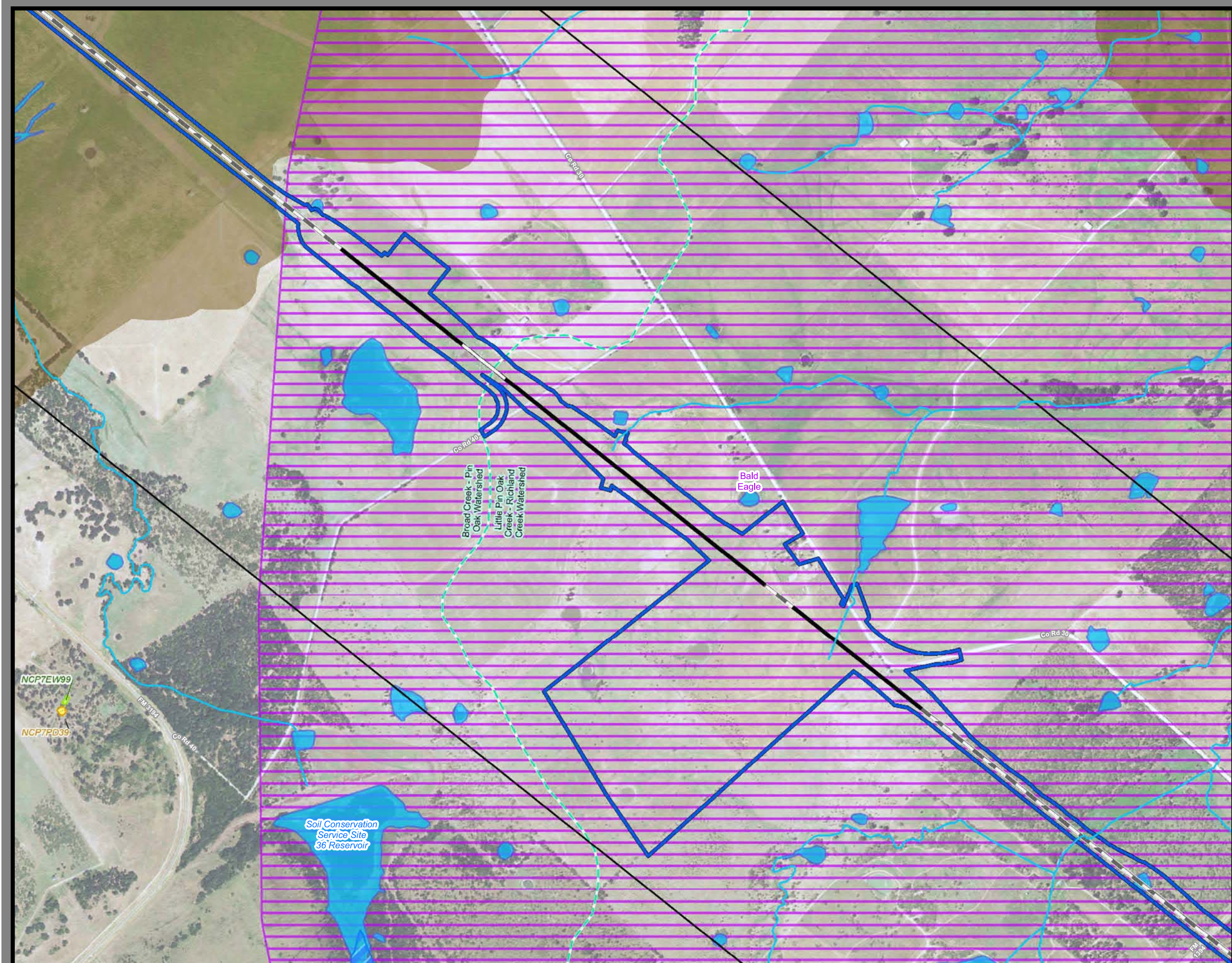
This Sheet only depicts Segment 3C; Segment 3A is also located in this same area and can be referenced on Sheet 55.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map

Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 94 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

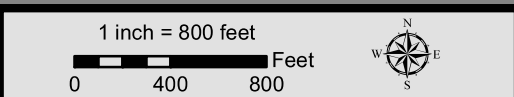
National Wetlands Inventory (NWI)

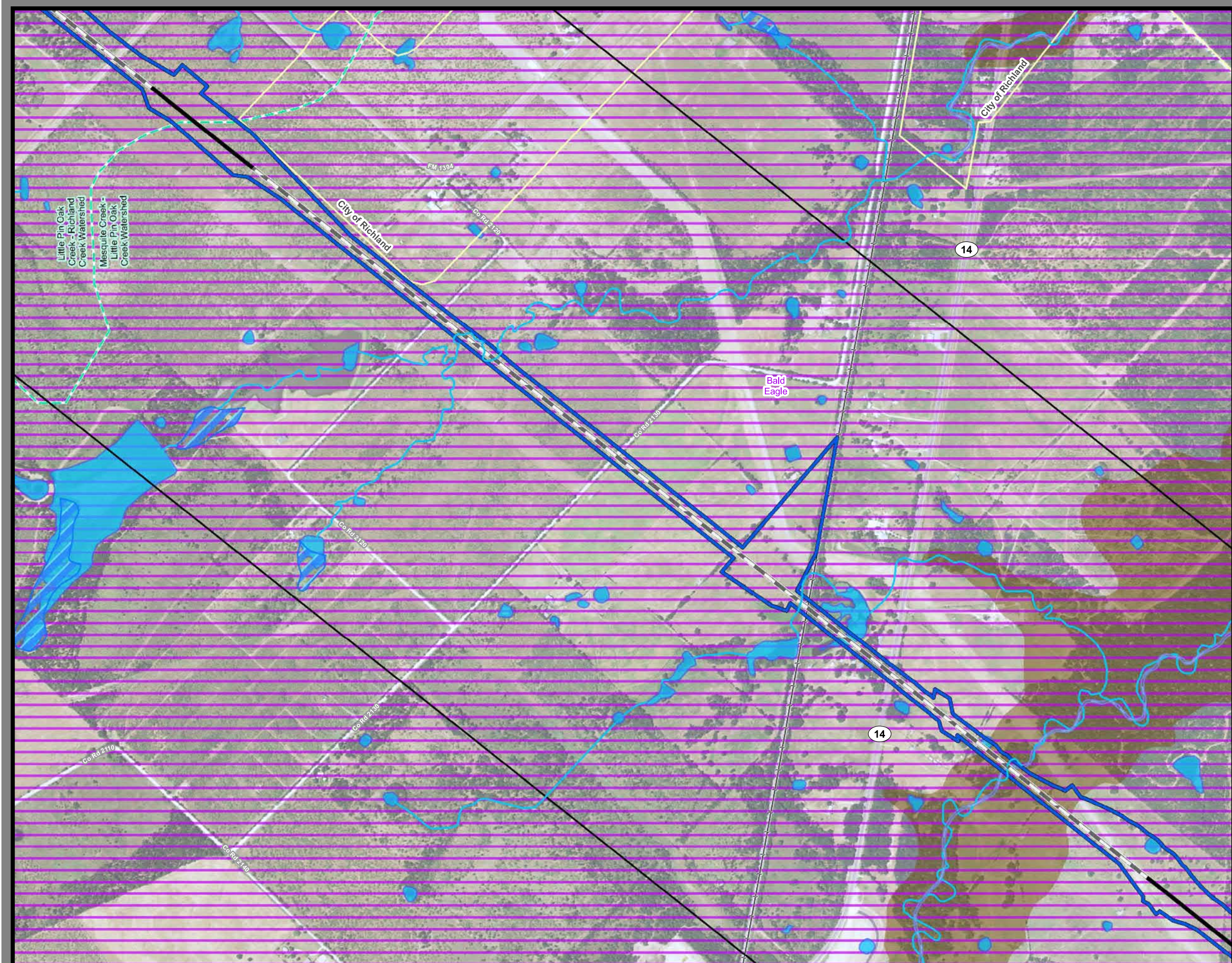
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3C; Segments 3A & 3B are also located in this same area and can be referenced on Sheets 56 & 75.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 95 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

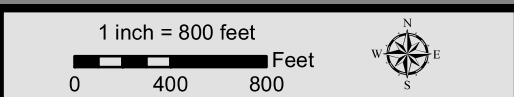
- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

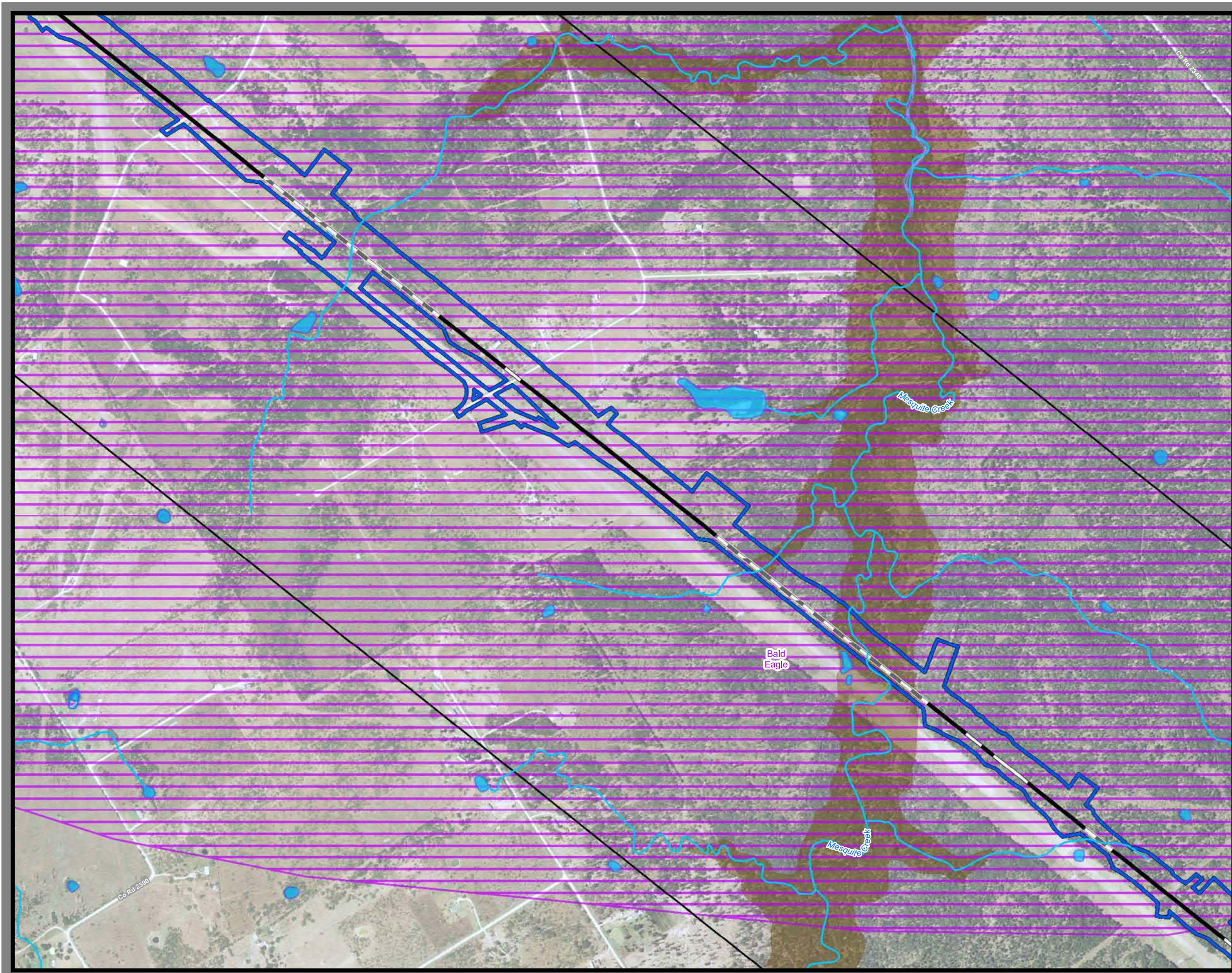
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
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**Dallas to Houston
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Natural Resources
Segment 3C
Sheet 96 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
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- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

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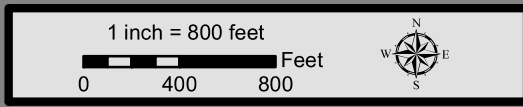
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- Reservoir
- Swamp/Marsh

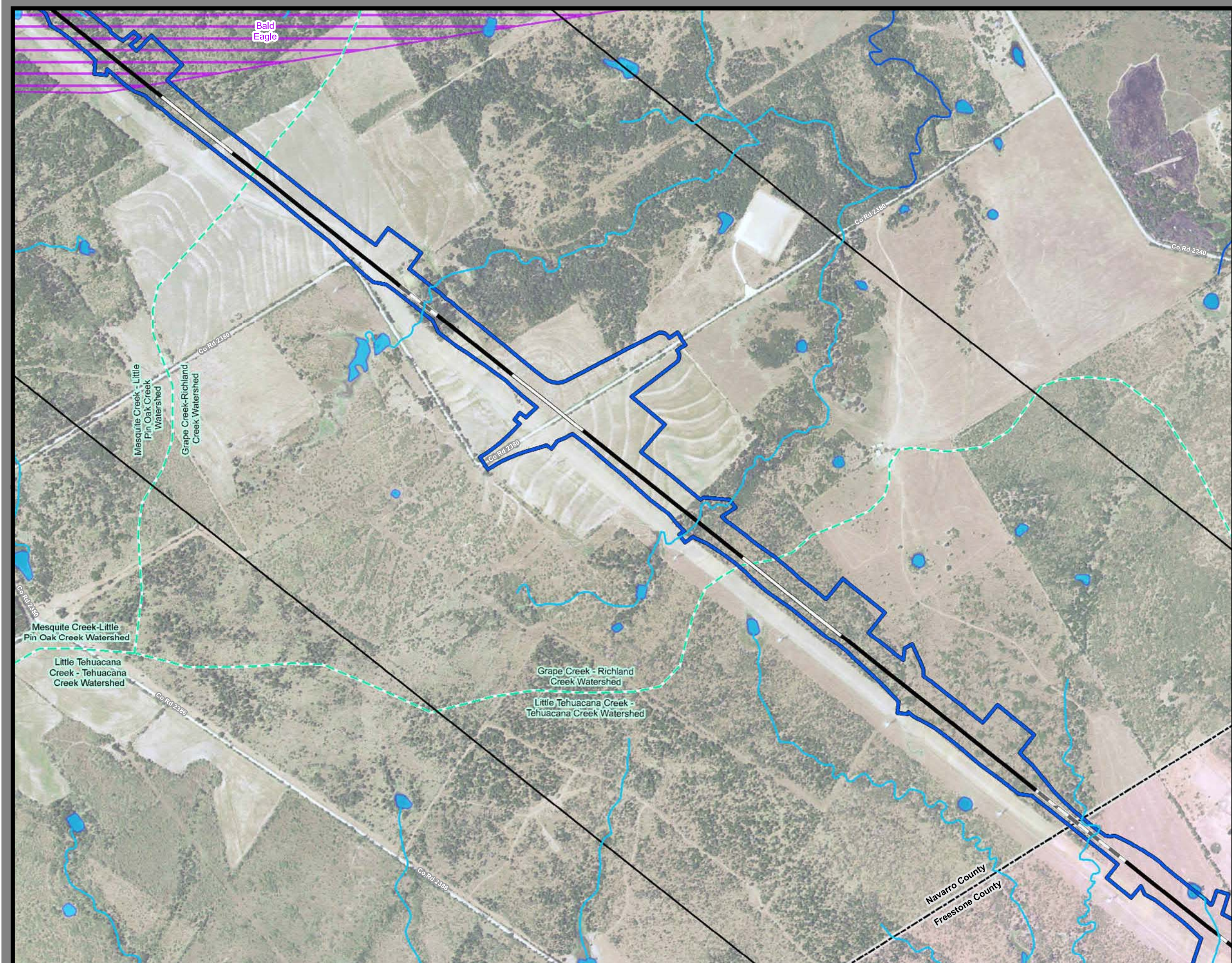
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
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Legend

Limits of Disturbance

- Segment 1
- Segment 2A
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- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

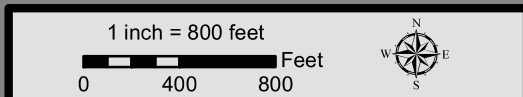
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- Swamp/Marsh

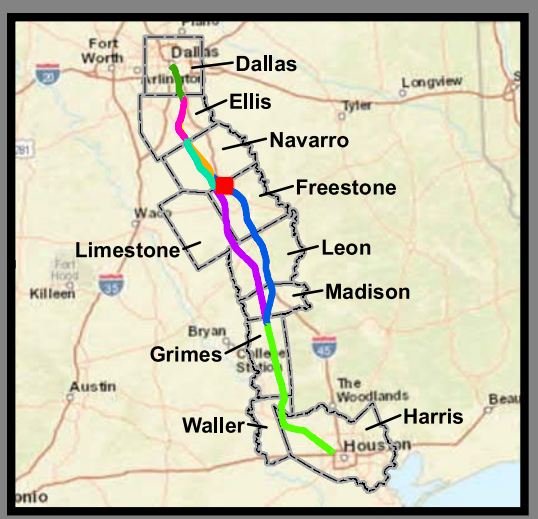
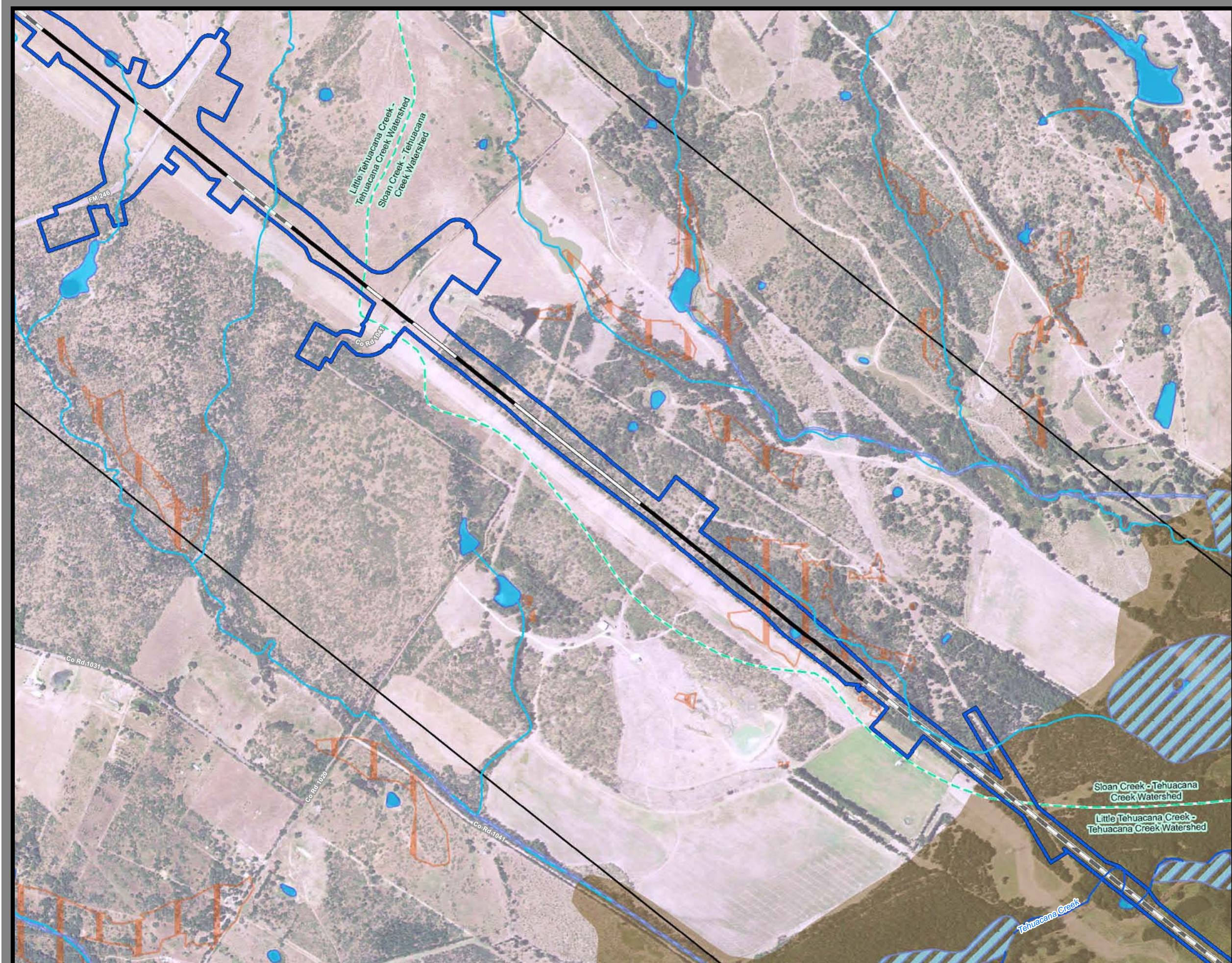
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
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Legend

Limits of Disturbance

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- Segment 2A
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- Segment 3B
- Segment 3C
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- Segment 5

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- Lake/Pond
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- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

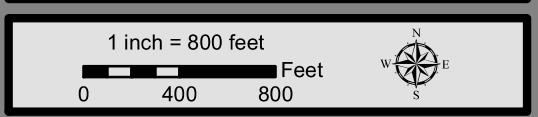
- Perennial Stream/River
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- Reservoir
- Swamp/Marsh

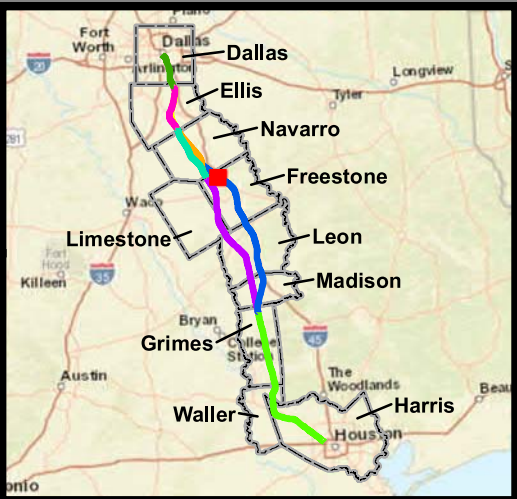
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Aerial Imagery: USDA NAIP 2014





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High-Speed Rail Project
Natural Resources
Segment 3C
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Legend

Limits of Disturbance

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- Impaired Waters

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National Hydrography Dataset (NHD)

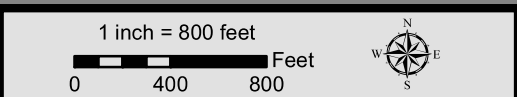
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- Reservoir
- Swamp/Marsh

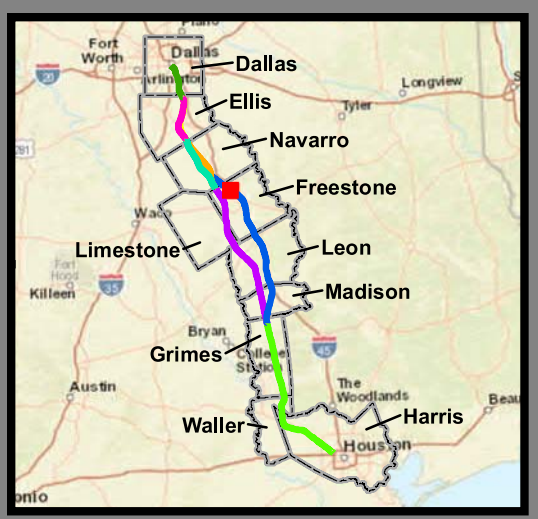
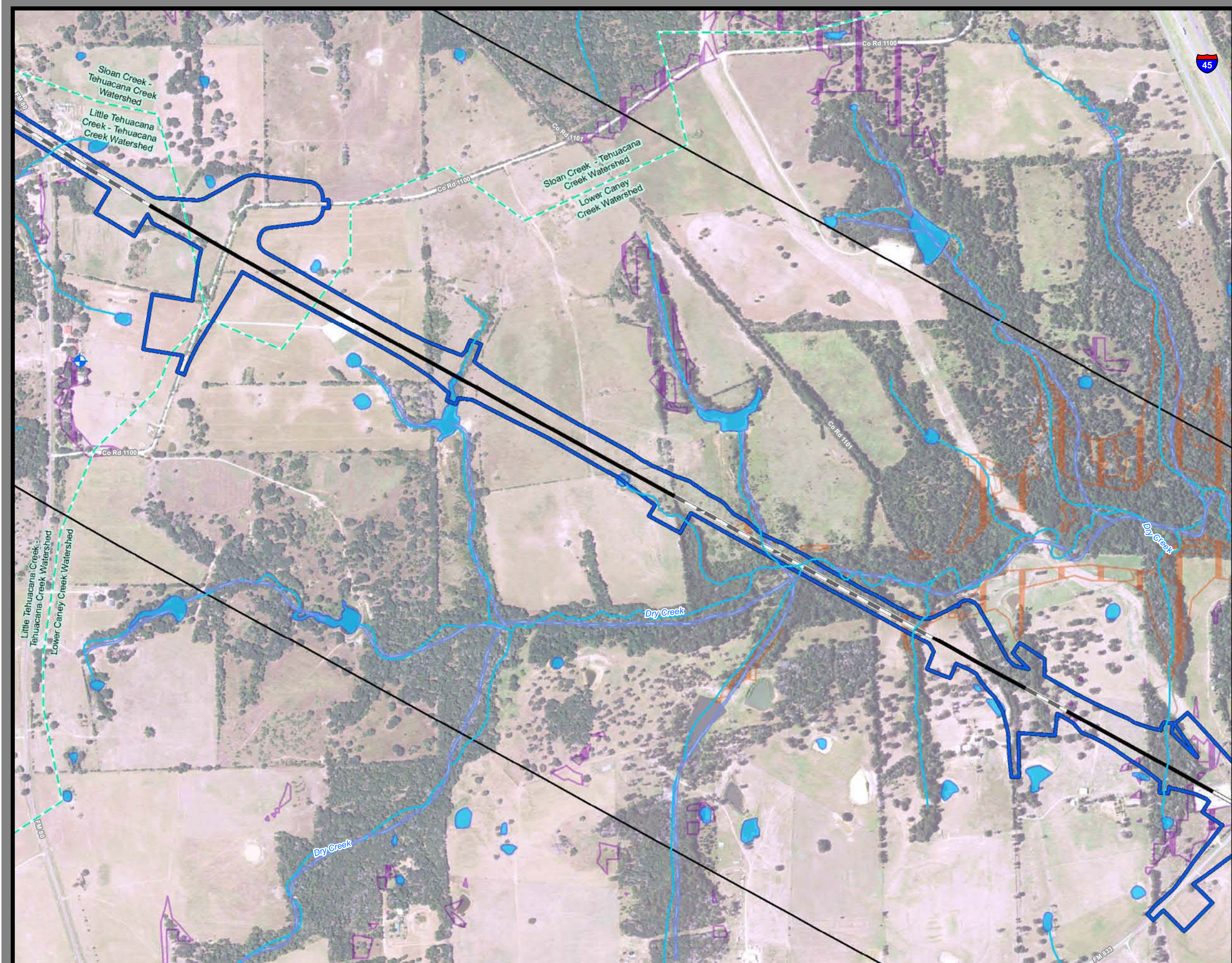
National Wetlands Inventory (NWI)

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 100 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
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Track Configuration

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Potential Habitat

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Impaired Waters with Total Maximum Daily Load (TMDL)

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- AO - 1%
- X - 0.2%

Federal Emergency Management Agency (FEMA) Flood Zone

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- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

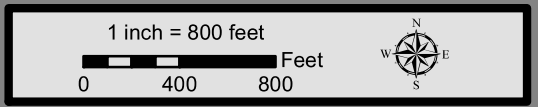
National Wetlands Inventory (NWI)

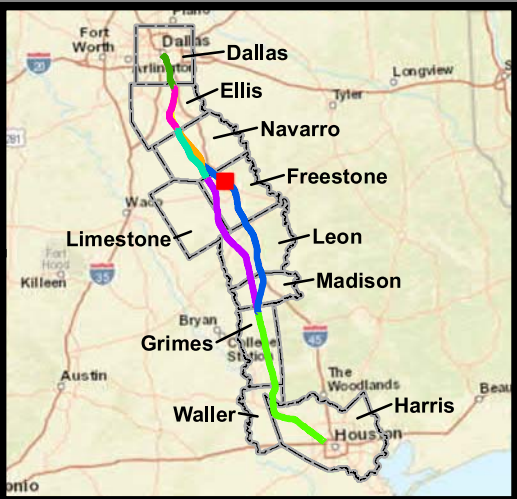
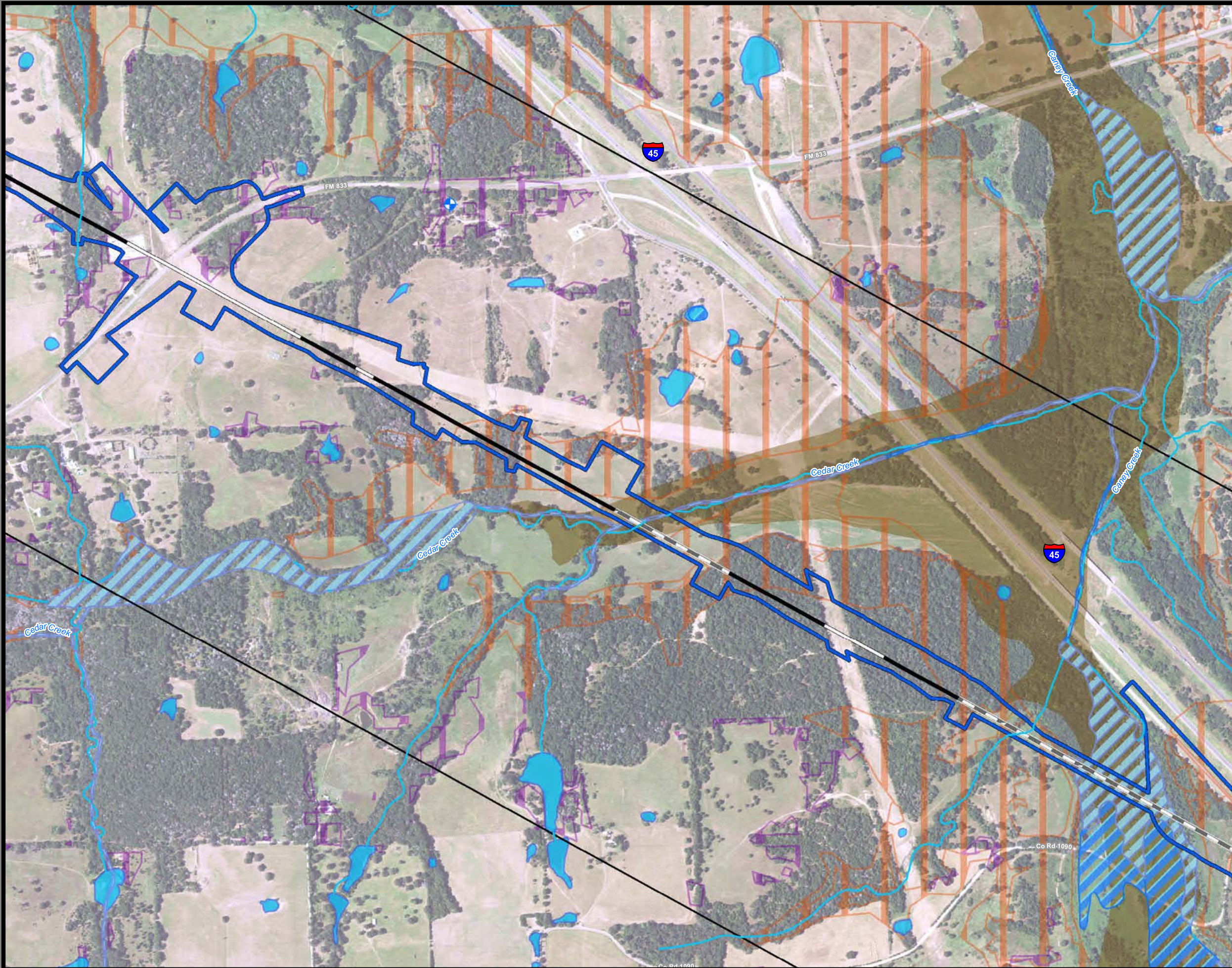
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 101 of 257

Legend

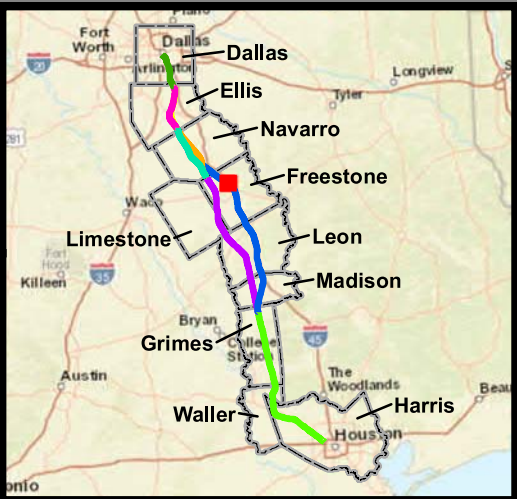
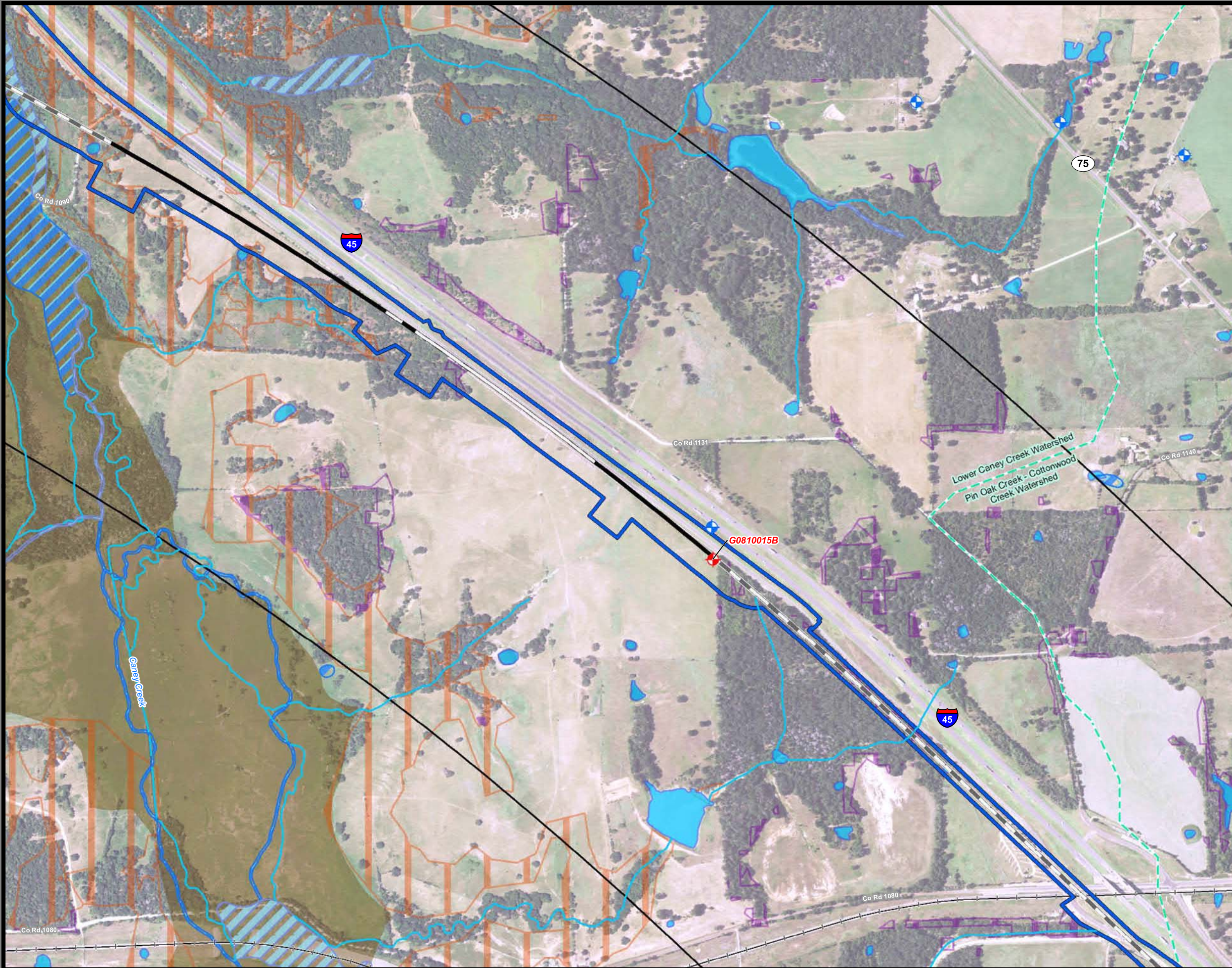
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|--|--|
| Limits of Disturbance <ul style="list-style-type: none">Segment 1Segment 2ASegment 2BSegment 3ASegment 3BSegment 3CSegment 4Segment 5 | Impaired Waters with Total Maximum Daily Load (TMDL) <ul style="list-style-type: none">Impaired Waters |
| Track Configuration <ul style="list-style-type: none">ViaductEmbankmentCutHalf Mile BufferCity BoundaryCounty BoundaryRailroadMunicipal Setting Designation (MSD) | Federal Emergency Management Agency (FEMA) Flood Zone <ul style="list-style-type: none">A - 1%AE - 1%AO - 1%X - 0.2% |
| Potential Habitat <ul style="list-style-type: none">Houston ToadLarge-fruited Sand VerbenaNavasota Ladies'-tressesEndangered SpeciesThreatened SpeciesU.S. Army Corps of Engineers (USACE) Project AreaWatershed (HUC 12) BoundaryPublic Water SupplyGroundwater Well | Field-Collected Data <ul style="list-style-type: none">Perennial Stream/RiverIntermittent Stream/RiverEphemeral Stream/RiverOther Stream/RiverLake/PondEmergent WetlandForested WetlandScrub/Shrub Wetland |
| | National Hydrography Dataset (NHD) <ul style="list-style-type: none">Perennial Stream/RiverIntermittent Stream/RiverArtificial Stream/CanalLake/PondReservoirSwamp/Marsh |
| | National Wetlands Inventory (NWI) <ul style="list-style-type: none">Freshwater Emergent WetlandFreshwater Forested/Shrub WetlandOther |

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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3C
Sheet 102 of 257**

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
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Track Configuration

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- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

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Field-Collected Data

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National Hydrography Dataset (NHD)

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National Wetlands Inventory (NWI)

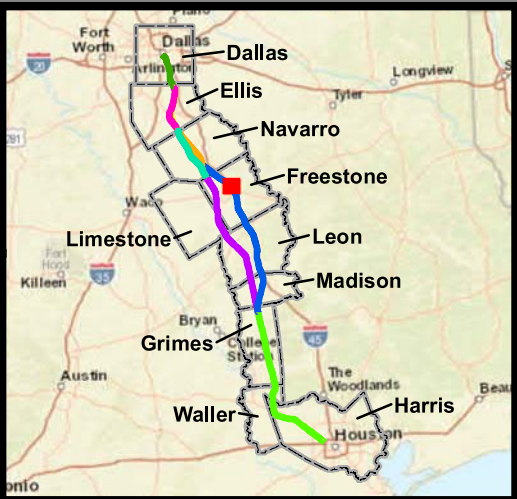
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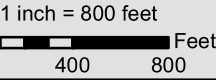
**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 103 of 257

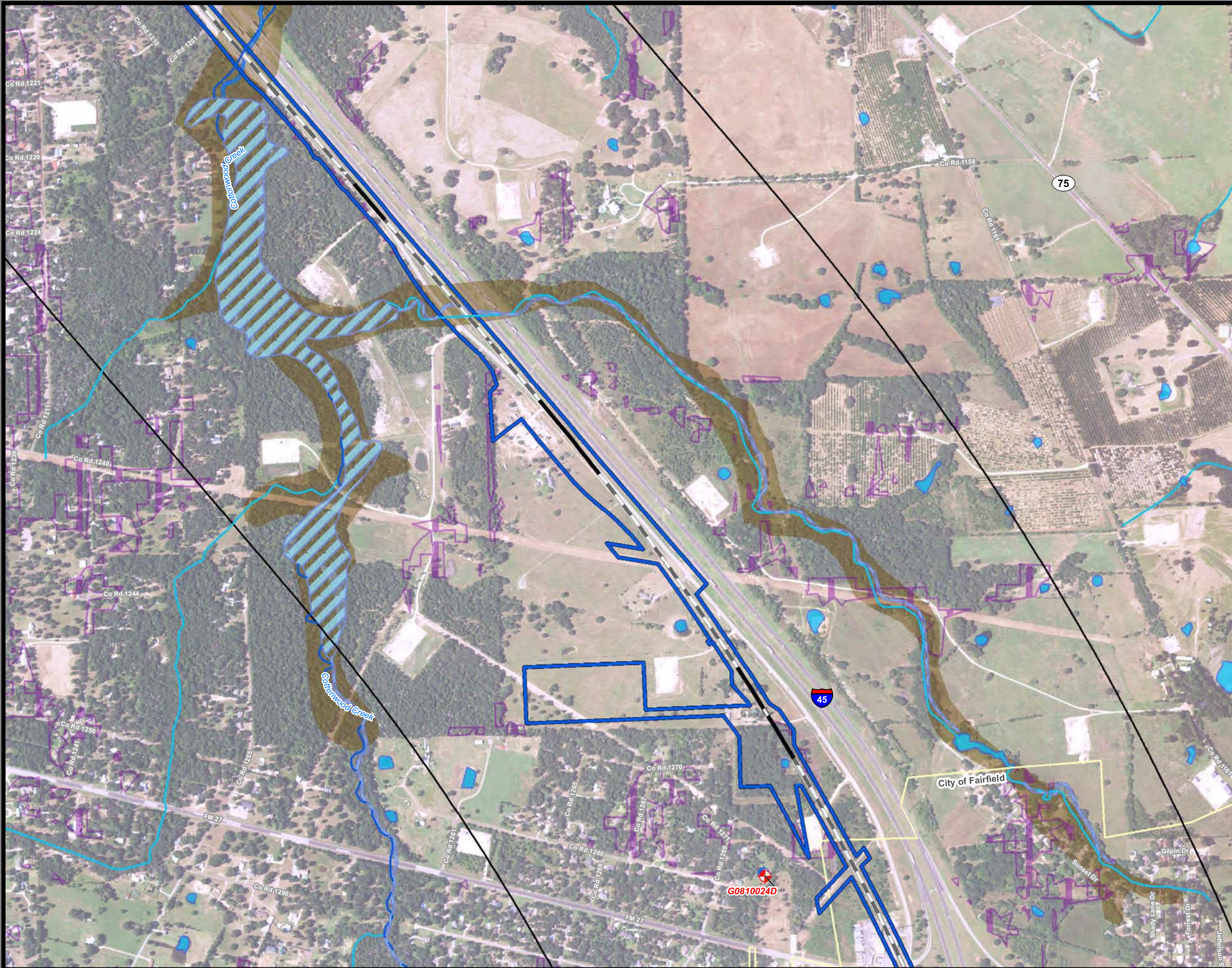
Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
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 - Segment 4
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
Sheet 104 of 257

Legend

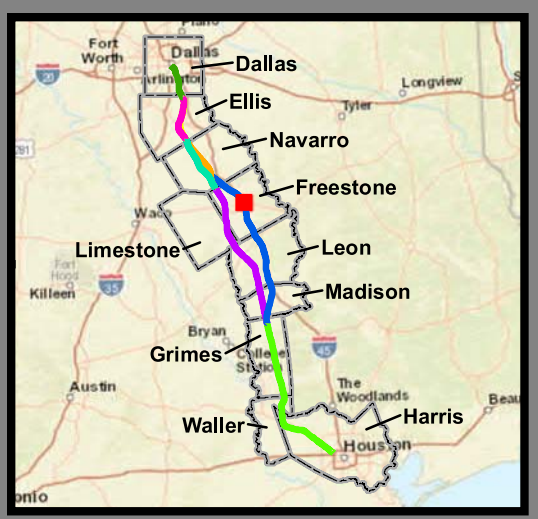
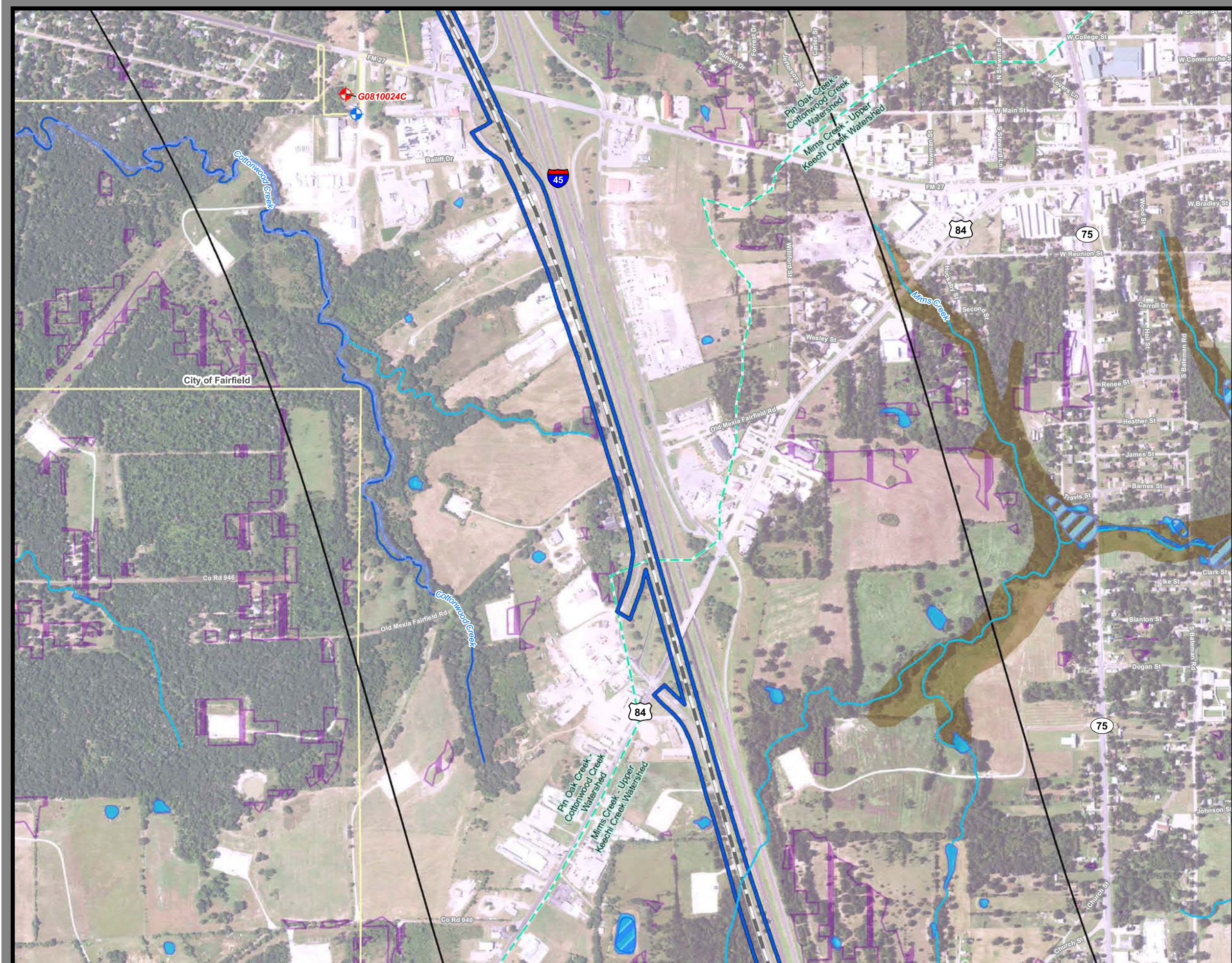
- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting
 - Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
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- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
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- Field-Collected Data**
 - Perennial Stream/River
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Natural Resources
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Legend

Limits of Disturbance

- Segment 1
- Segment 2A
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National Hydrography Dataset (NHD)

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National Wetlands Inventory (NWI)

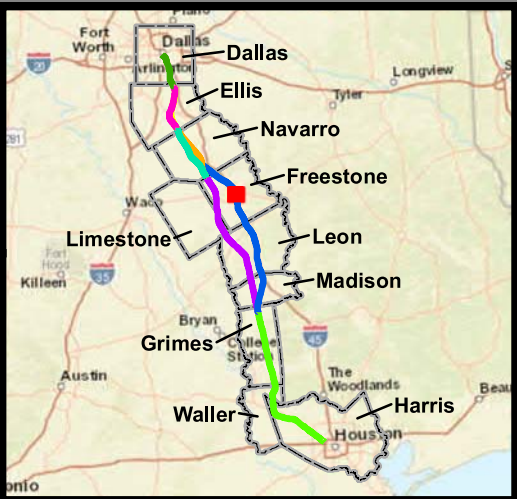
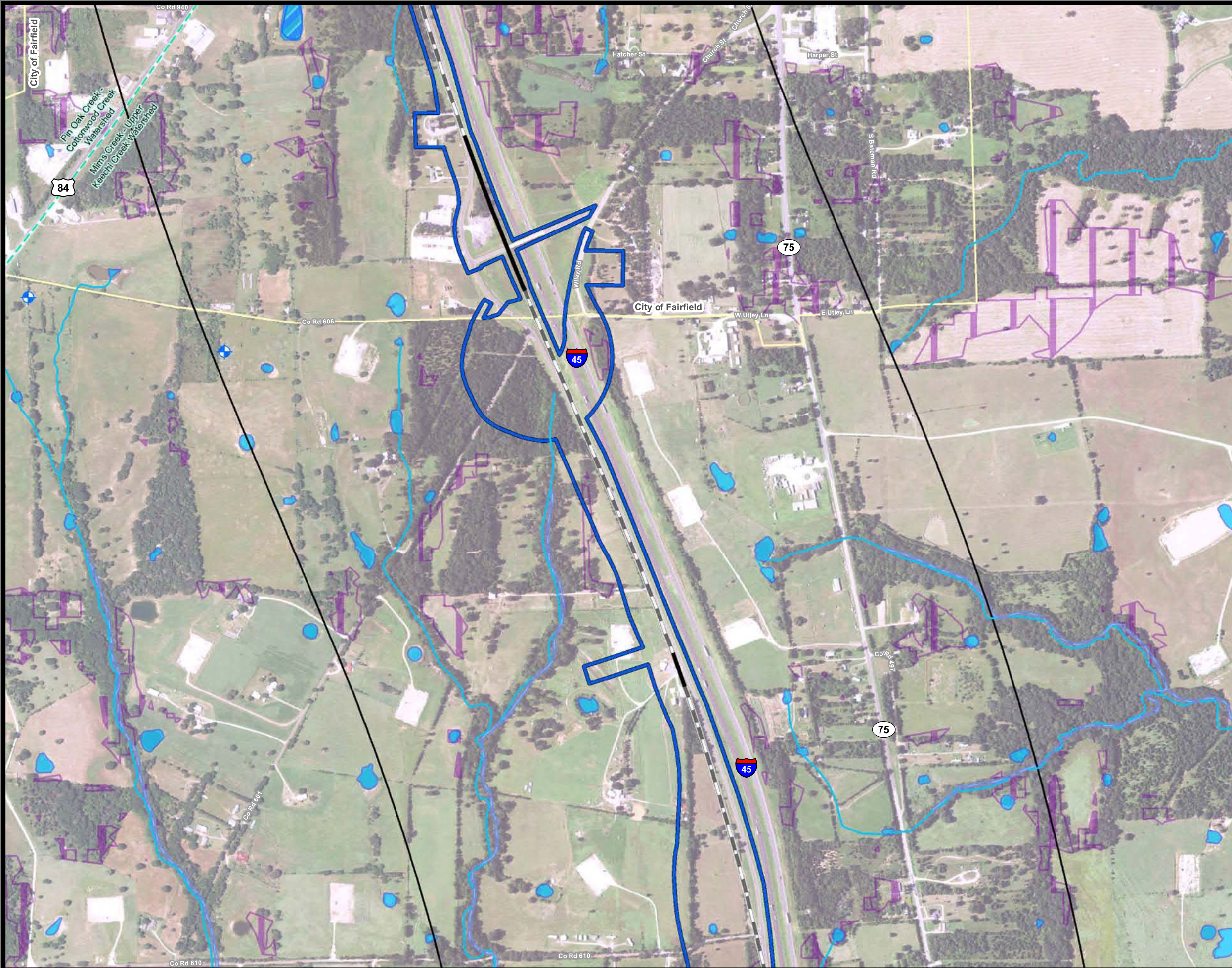
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Legend

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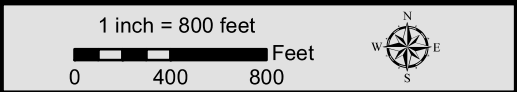
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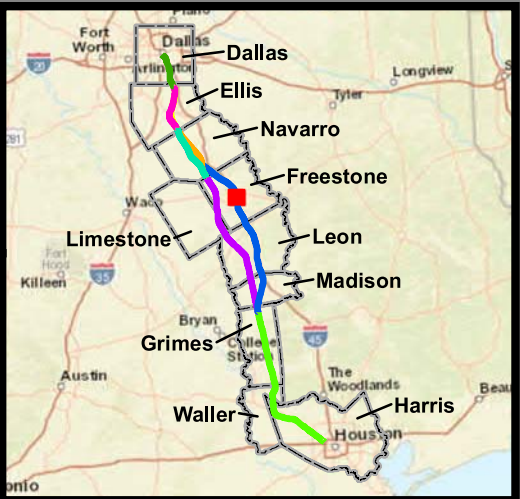
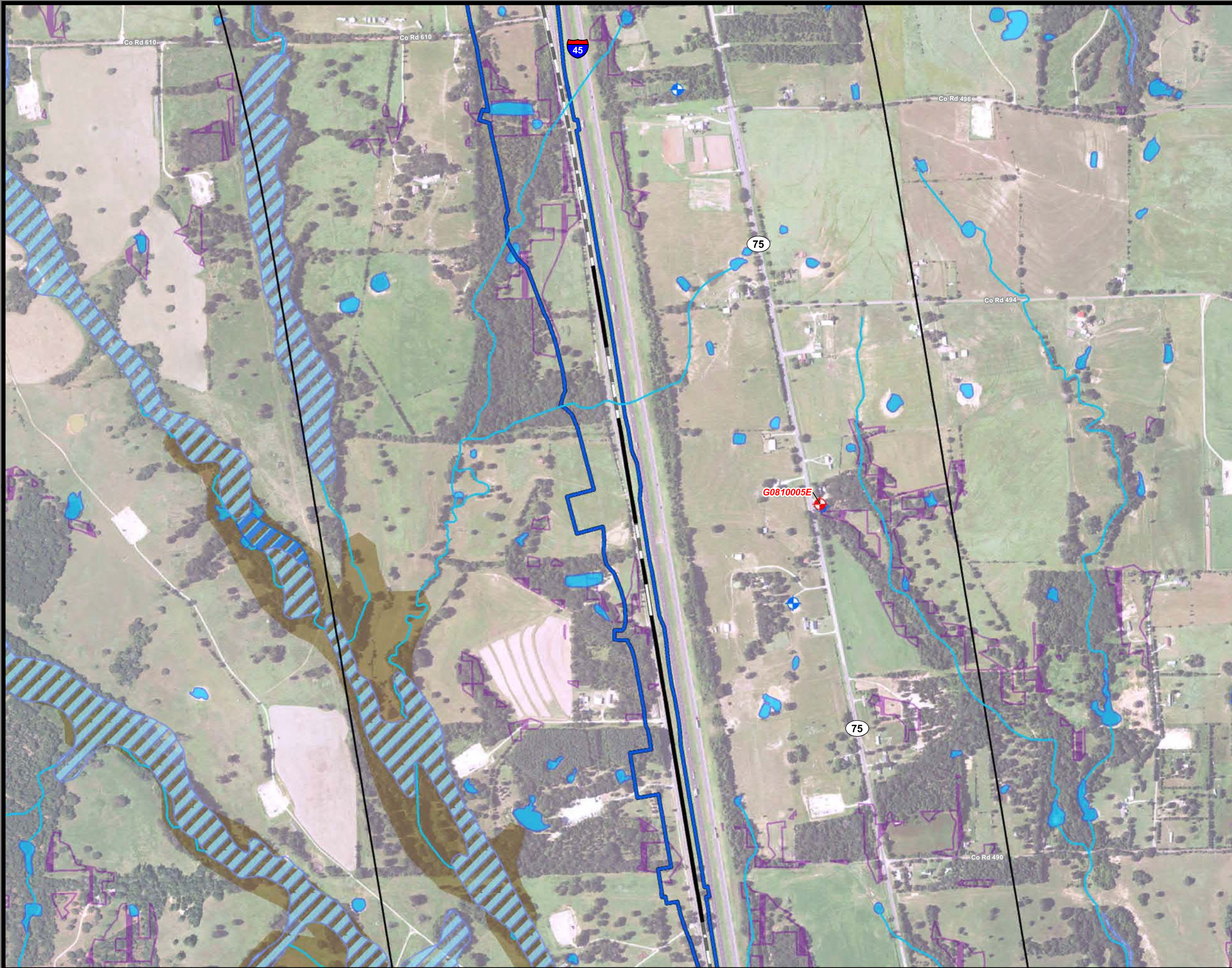
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**Dallas to Houston
High-Speed Rail Project
Natural Resources
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Legend

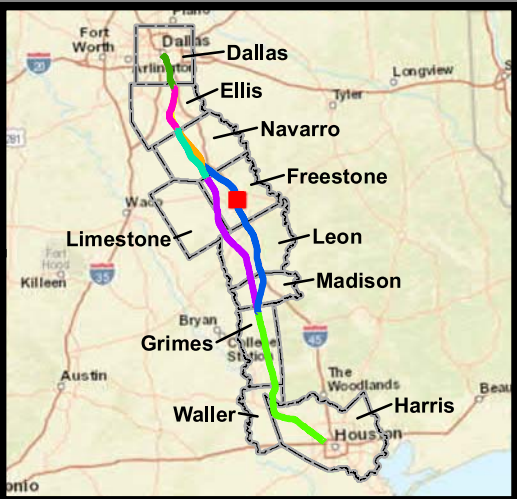
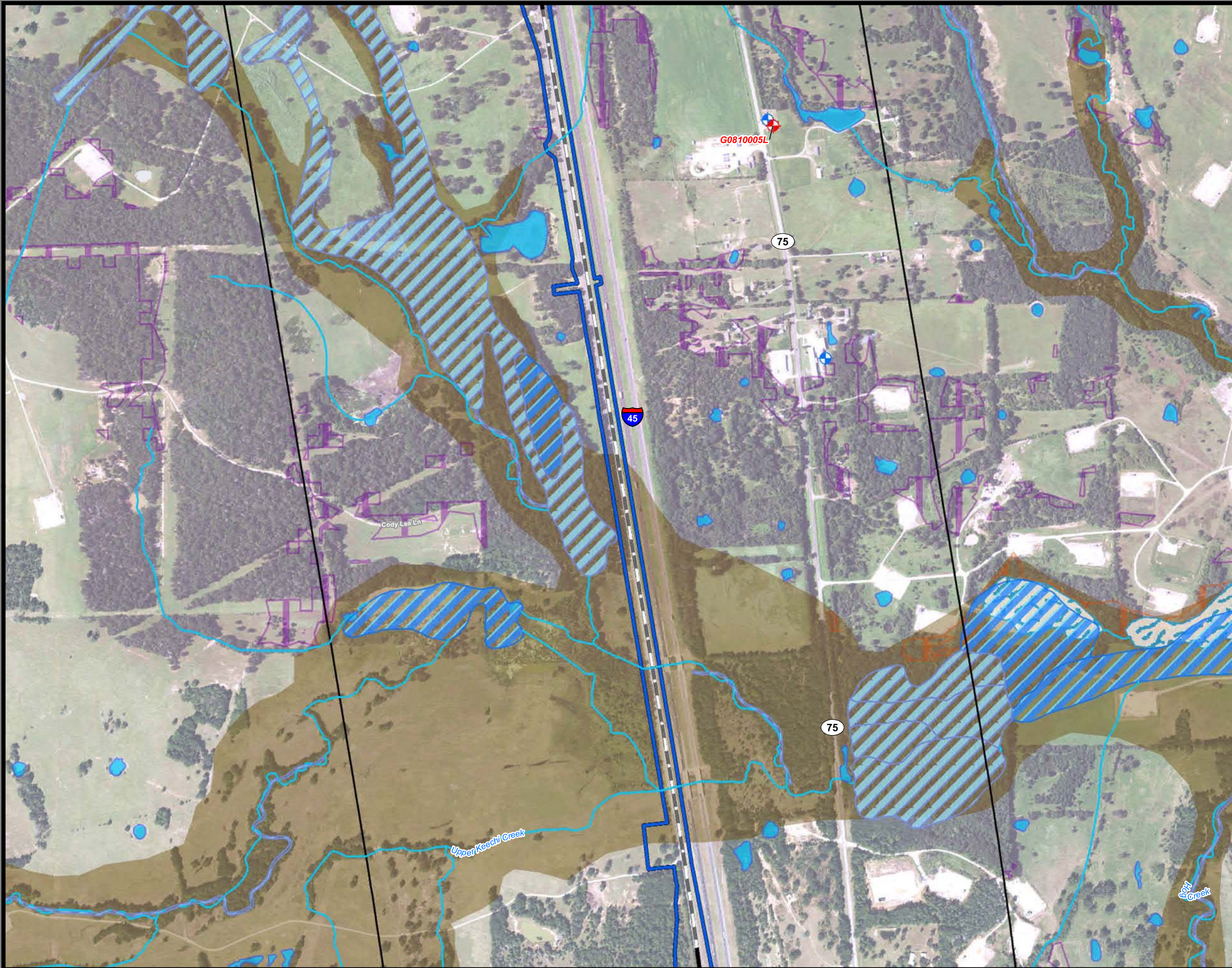
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Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

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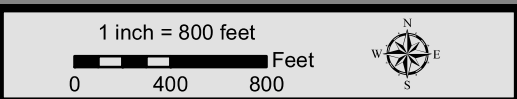
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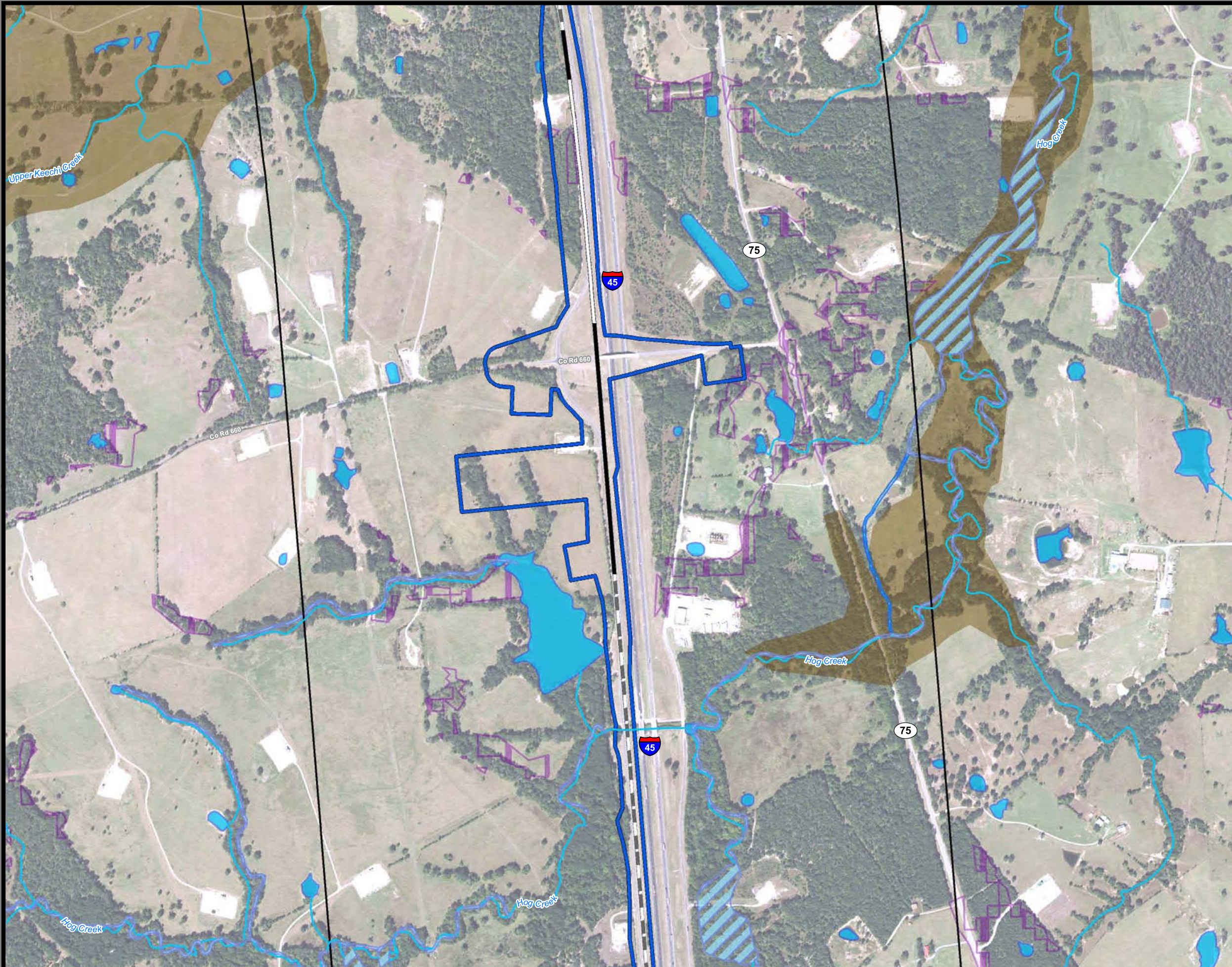
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High-Speed Rail Project**
Natural Resources
Segment 3C
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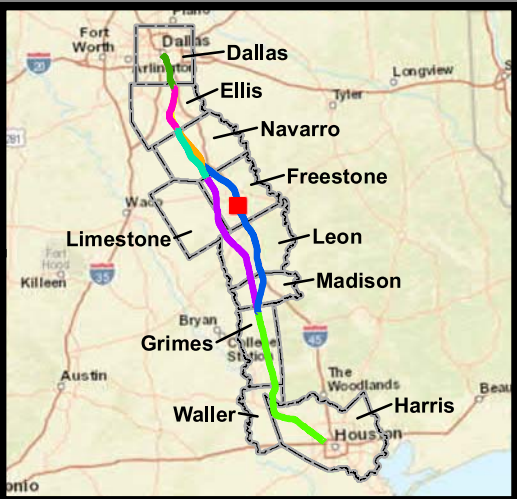
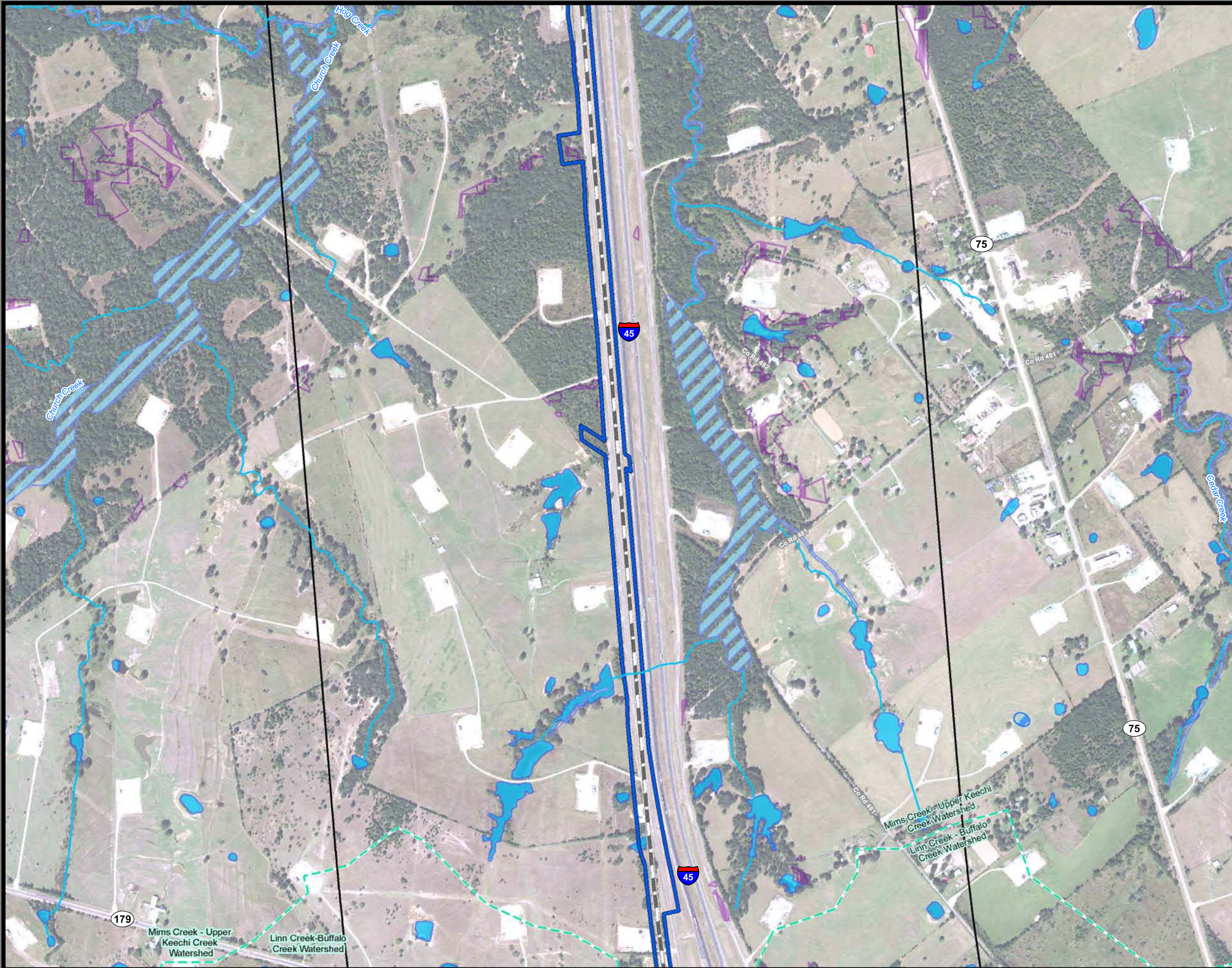
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High-Speed Rail Project**
Natural Resources
Segment 3C
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Legend

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Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

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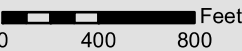
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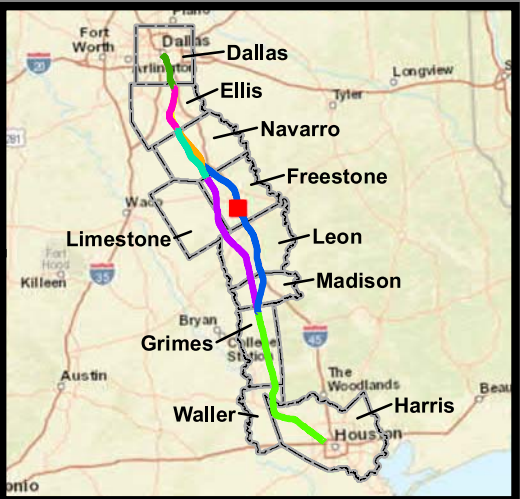
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High-Speed Rail Project
Natural Resources
Segment 3C
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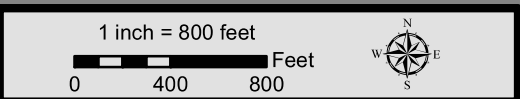
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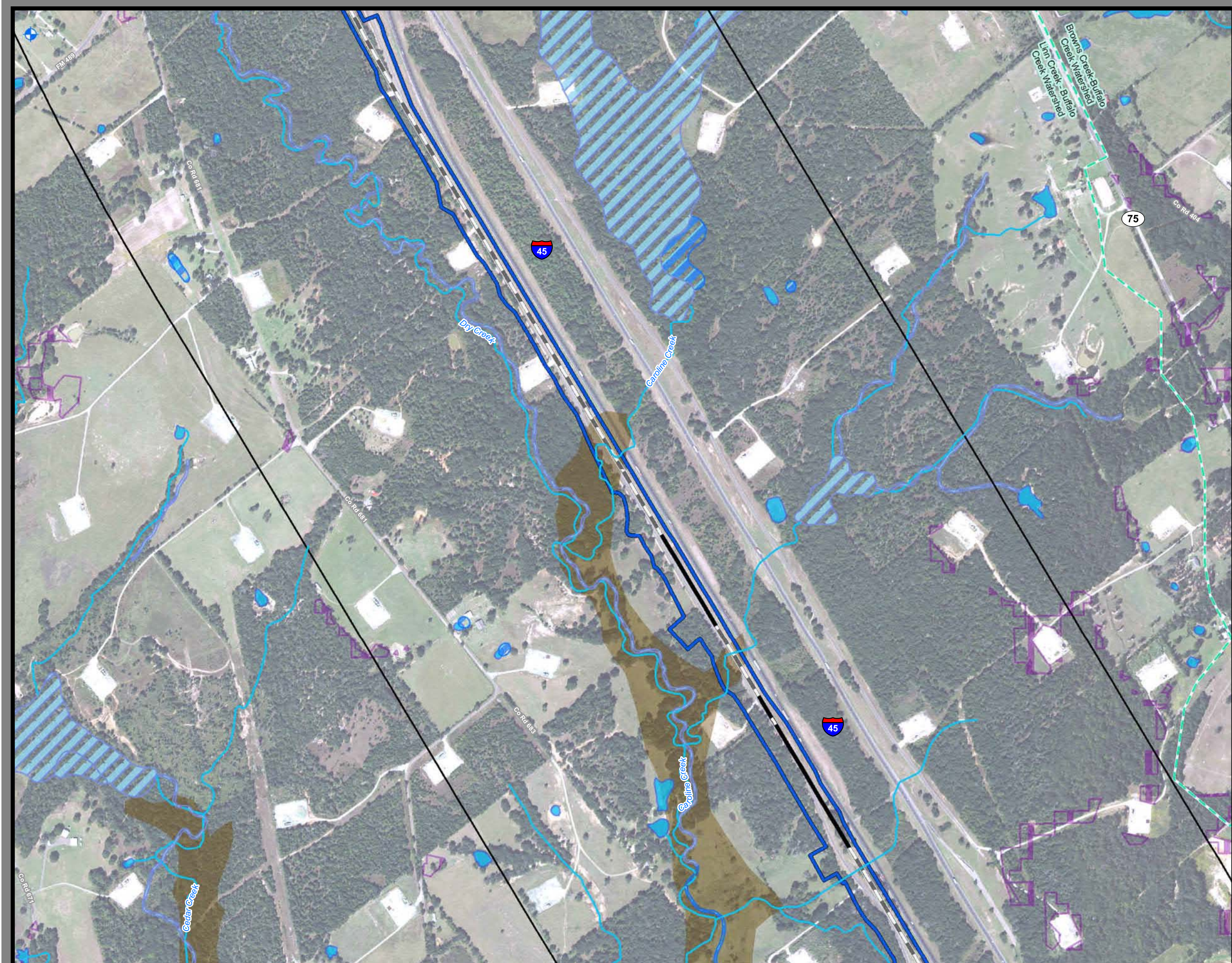
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3C
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Legend

Limits of Disturbance

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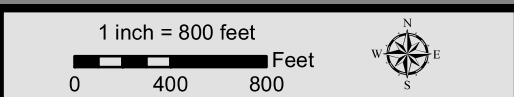
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High-Speed Rail Project**
Natural Resources
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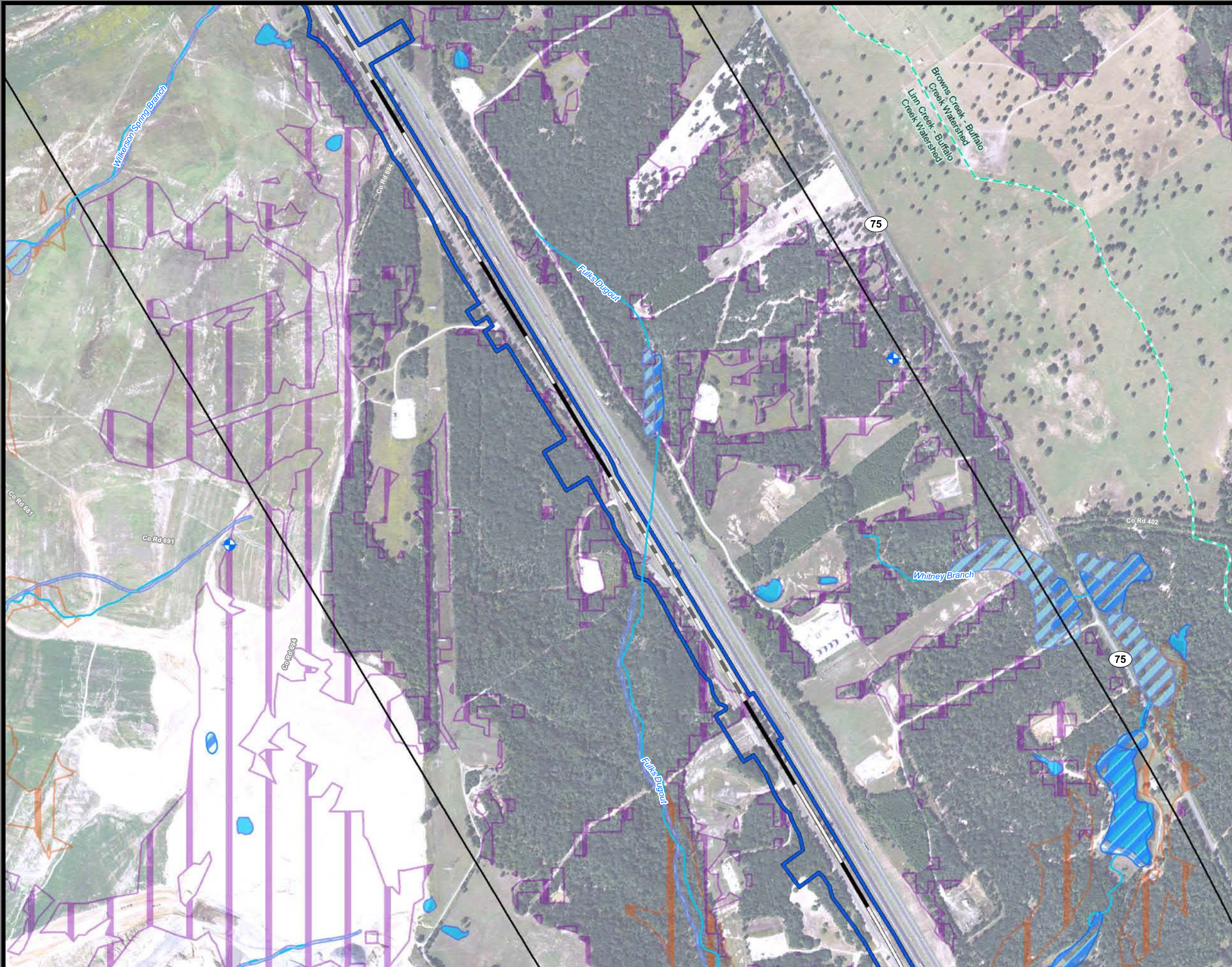
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High-Speed Rail Project**
Natural Resources
Segment 3C
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Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

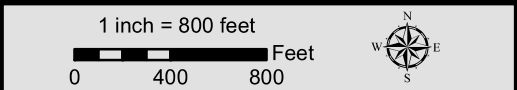
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- Reservoir
- Swamp/Marsh

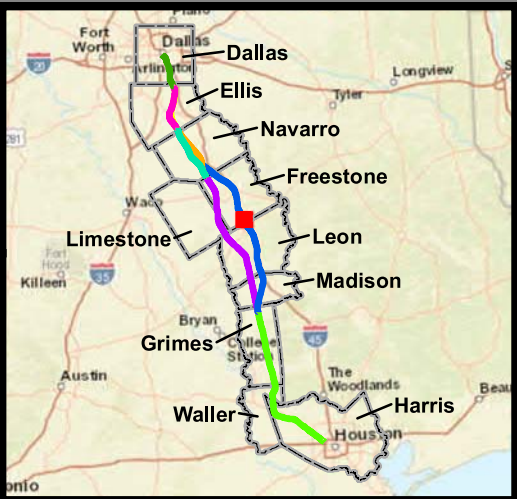
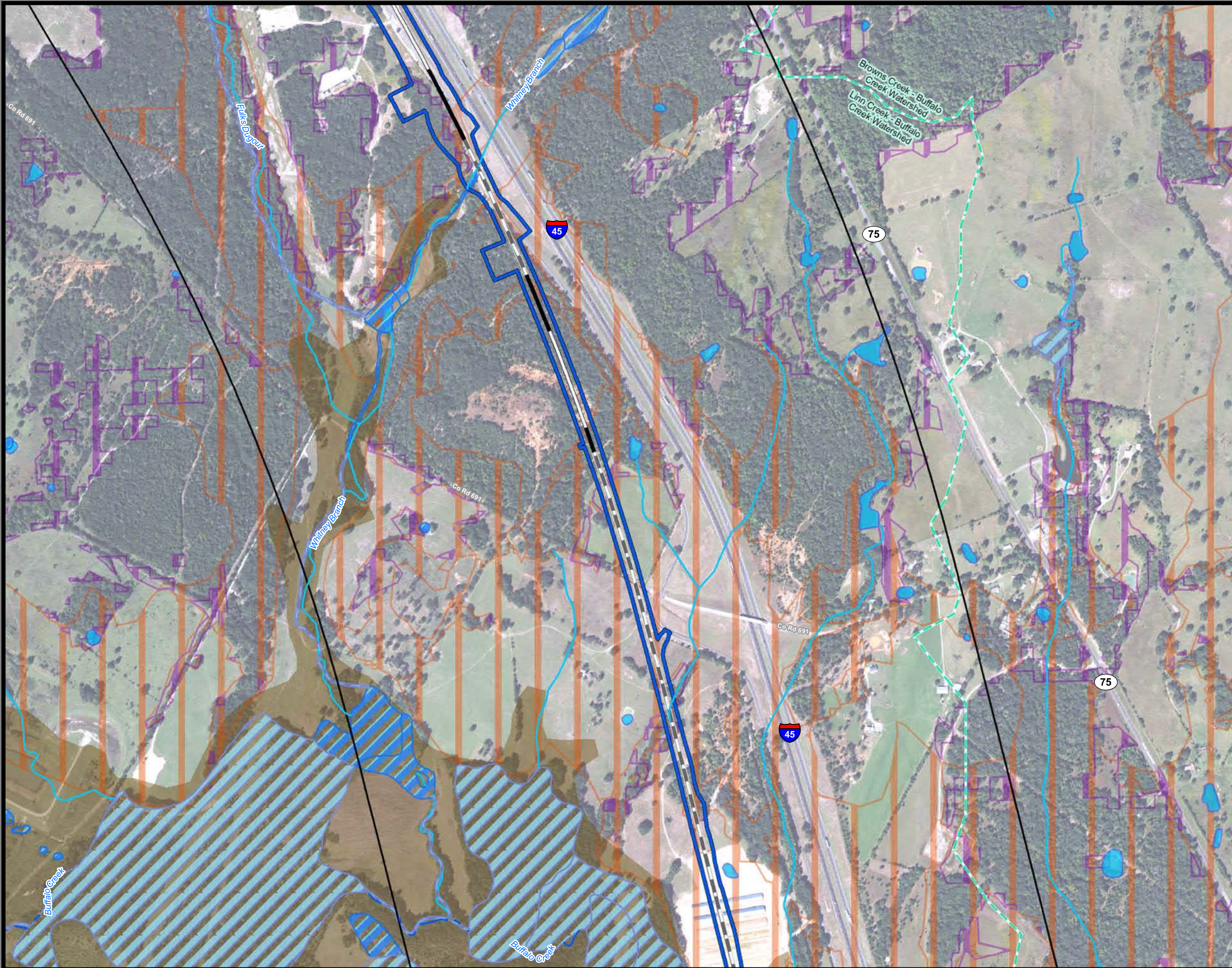
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Natural Resources
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Legend

- Limits of Disturbance**

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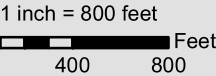
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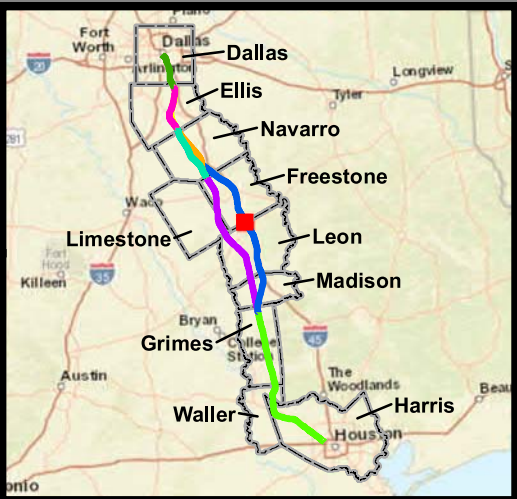
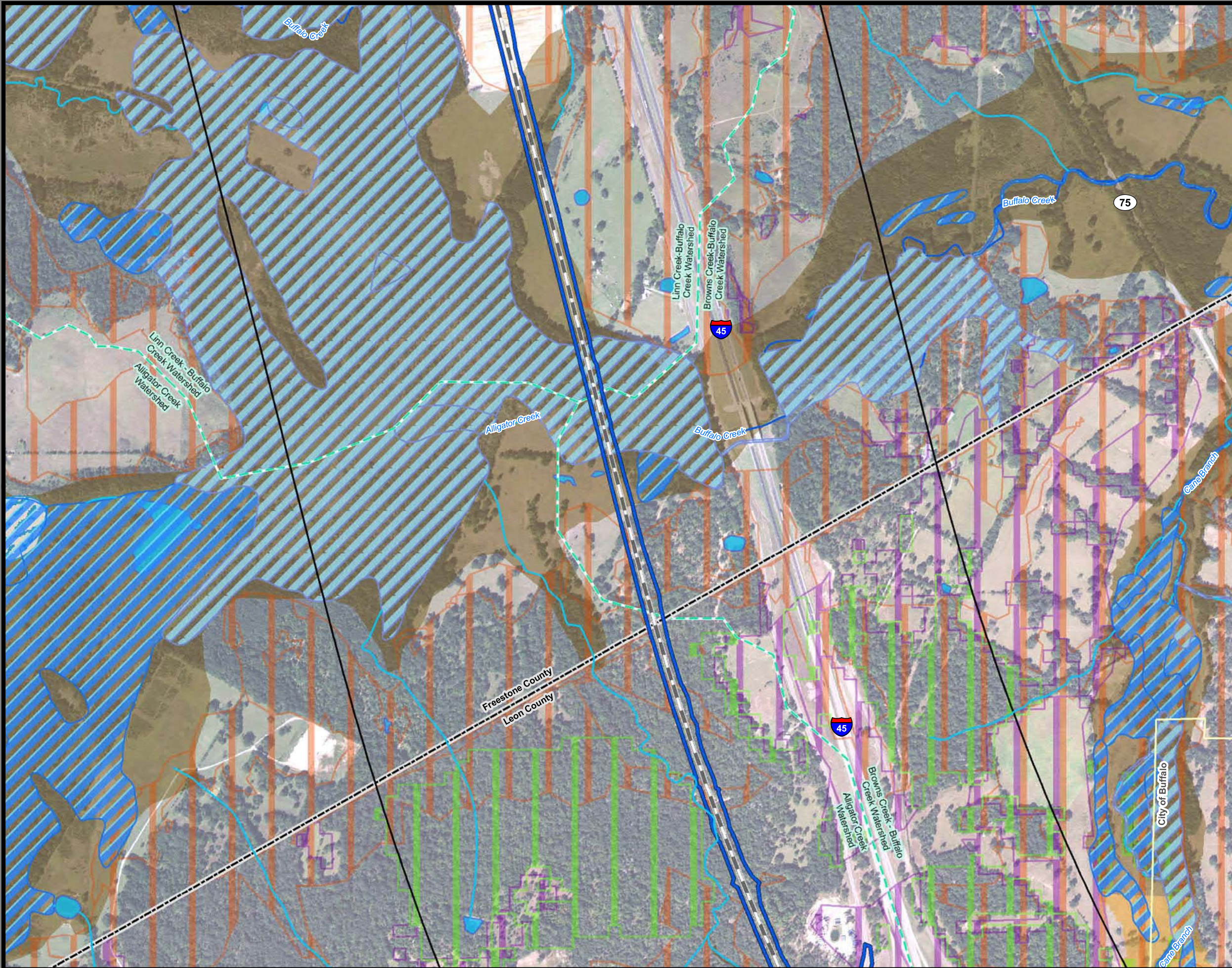
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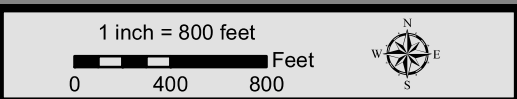
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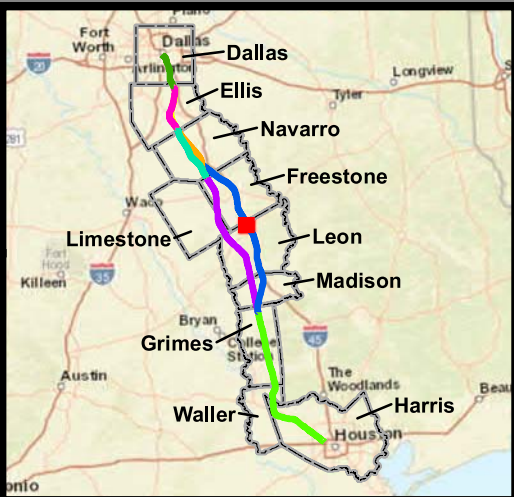
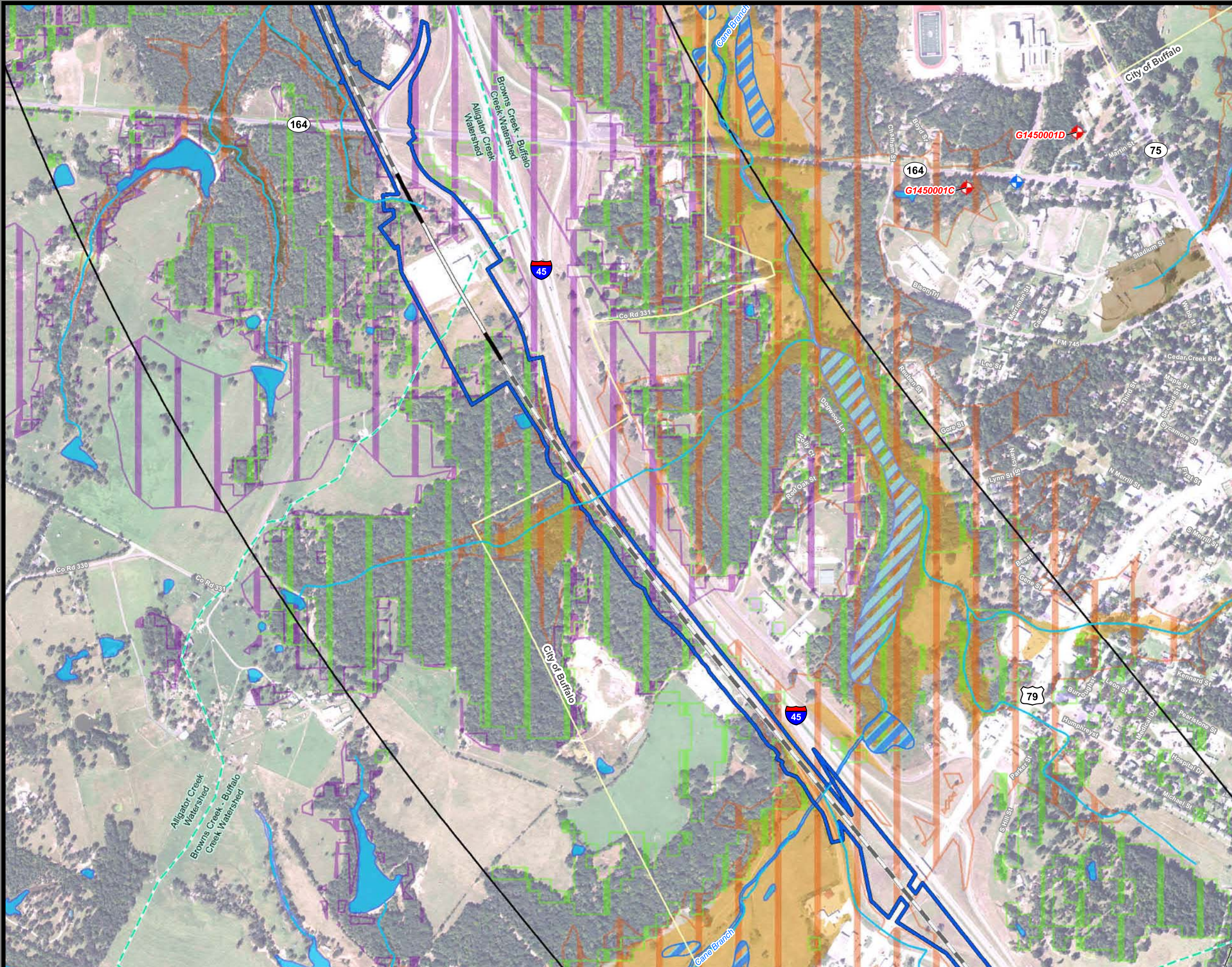
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High-Speed Rail Project
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Limits of Disturbance

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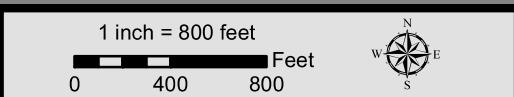
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
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Sheet 118 of 257

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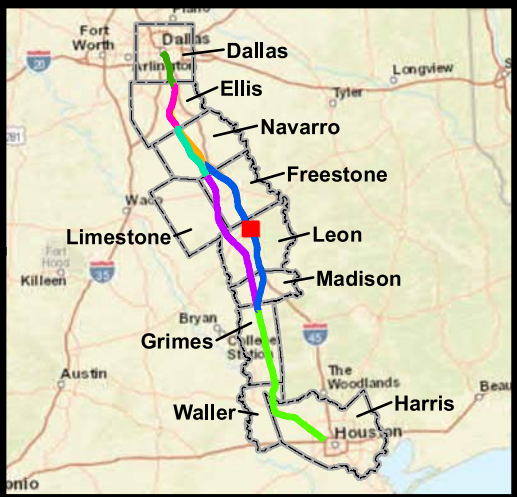
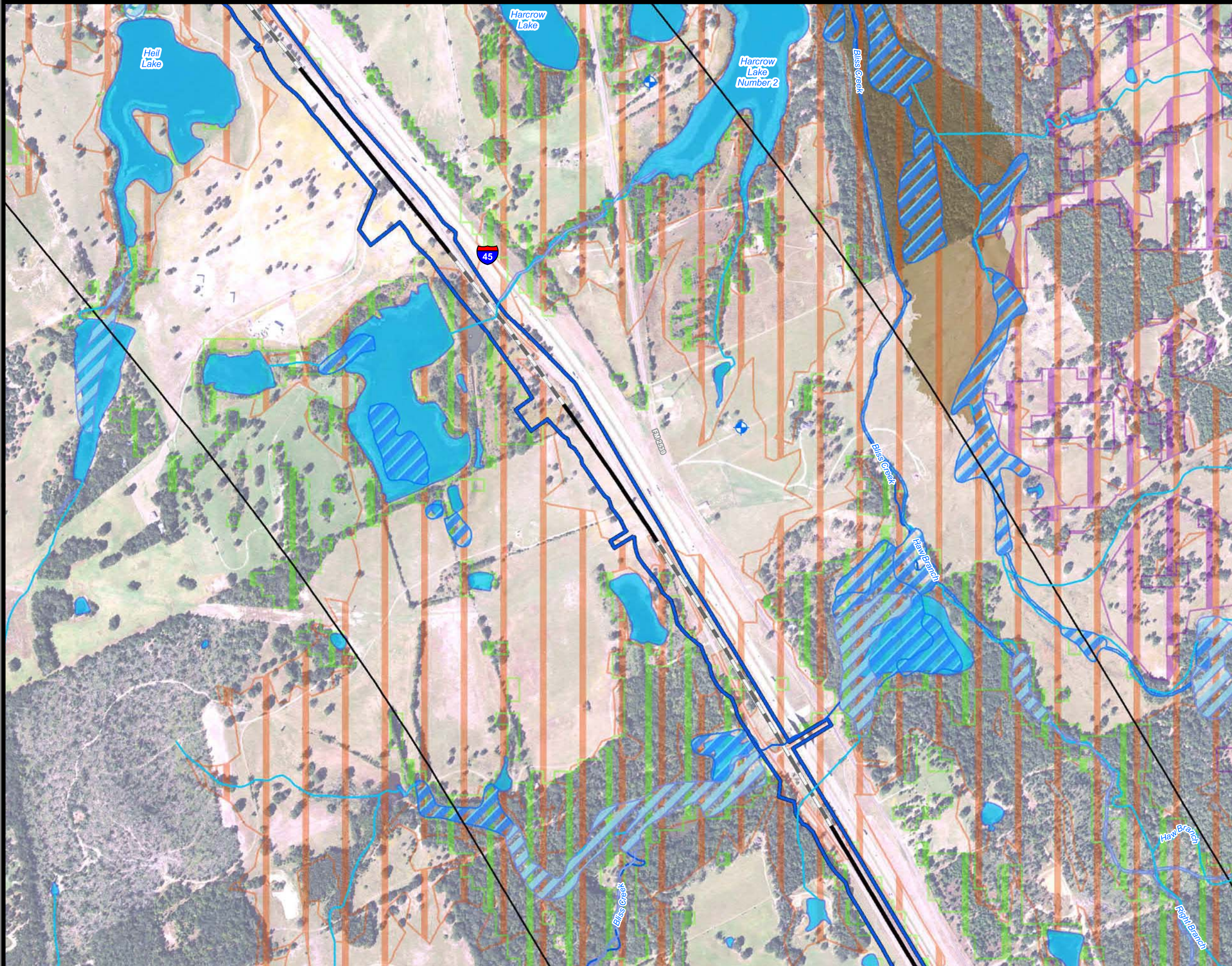
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High-Speed Rail Project
Natural Resources
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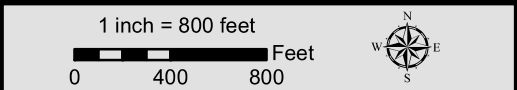
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**Dallas to Houston
High-Speed Rail Project**
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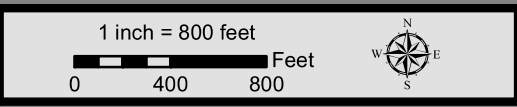
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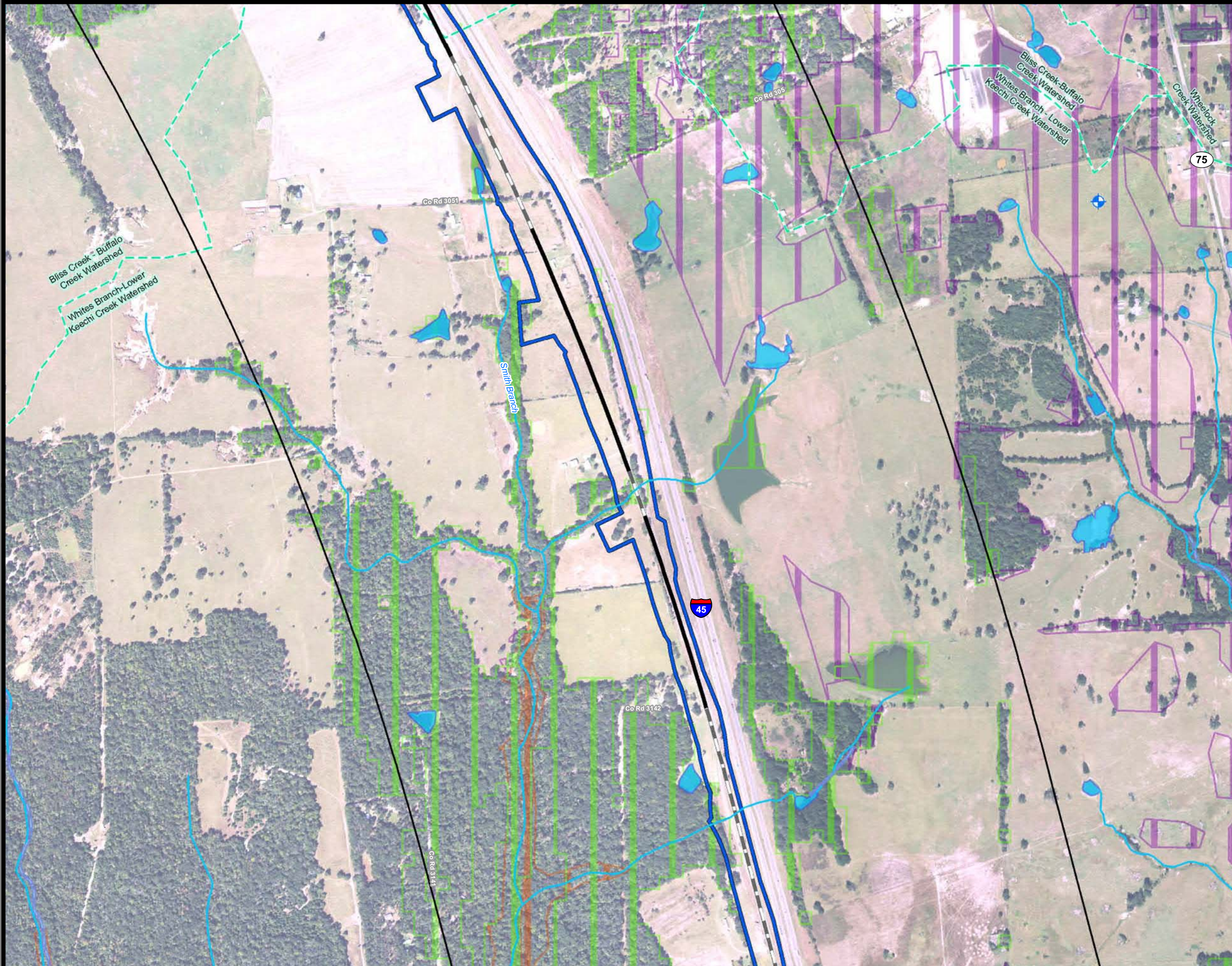
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
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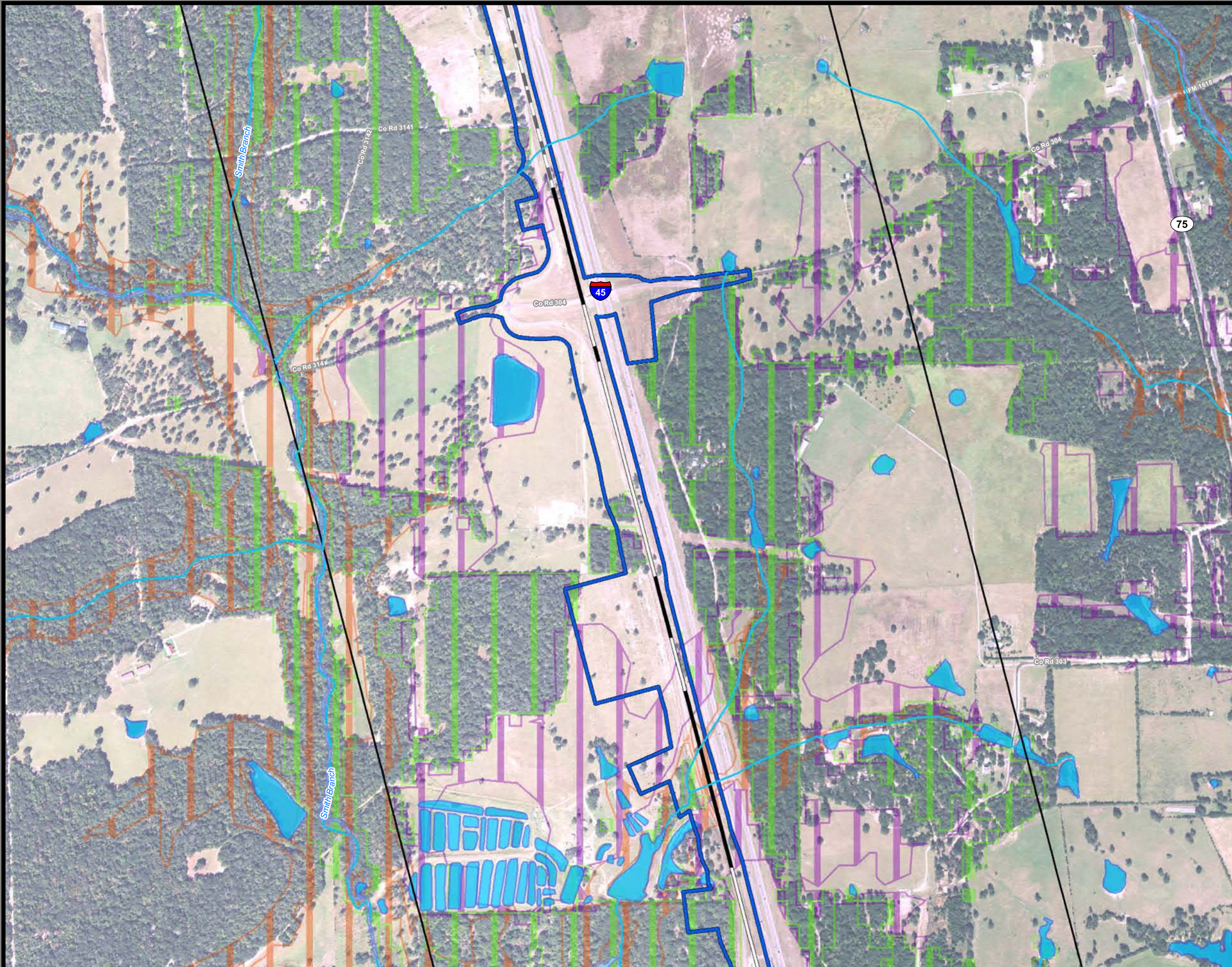
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High-Speed Rail Project
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Segment 3C
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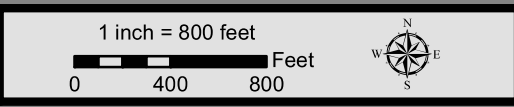
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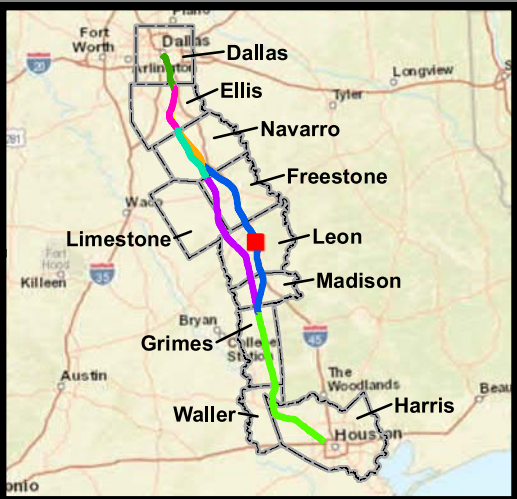
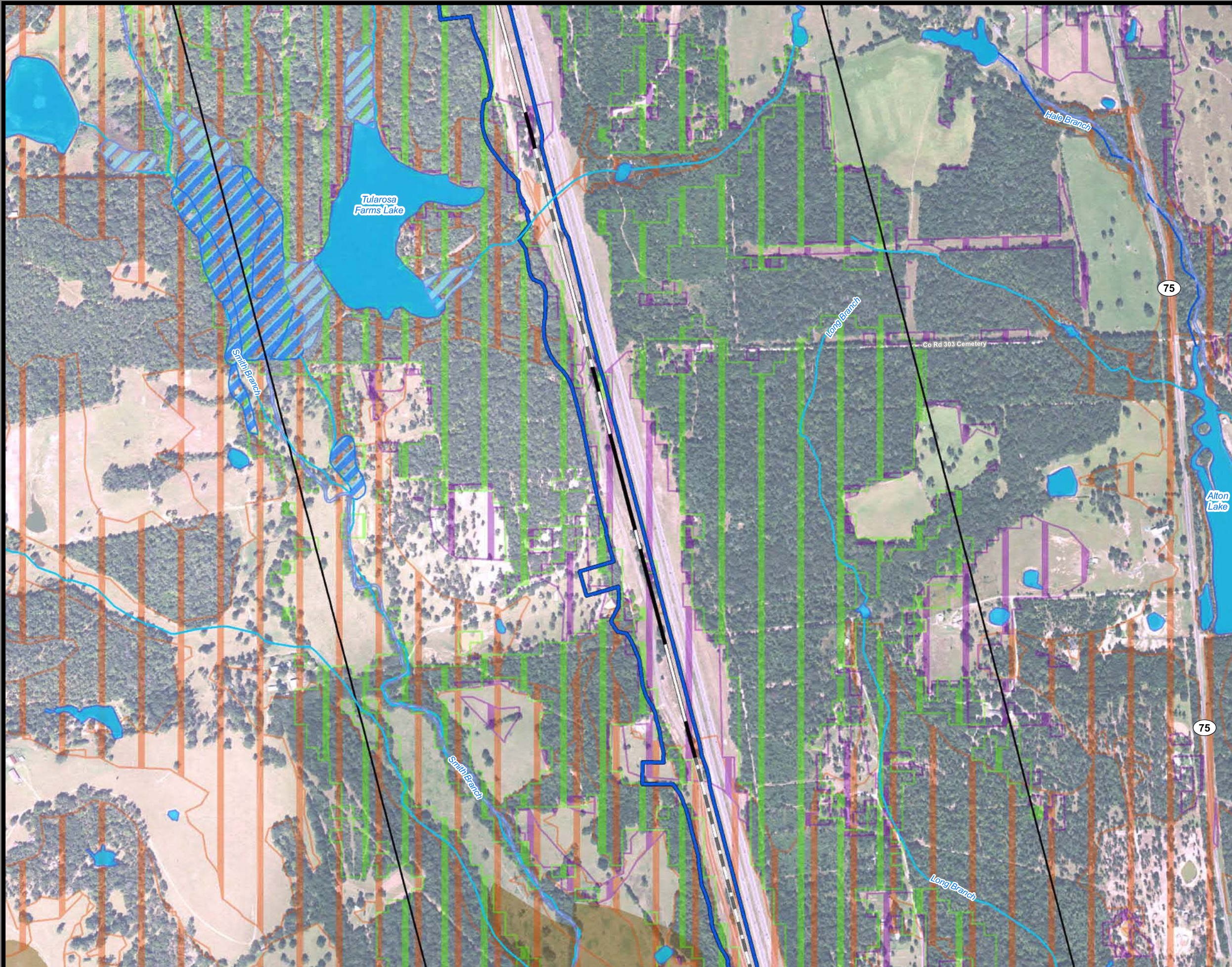
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High-Speed Rail Project
Natural Resources
Segment 3C
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Legend

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- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

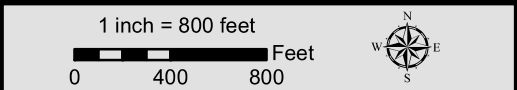
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- Lake/Pond
- Reservoir
- Swamp/Marsh

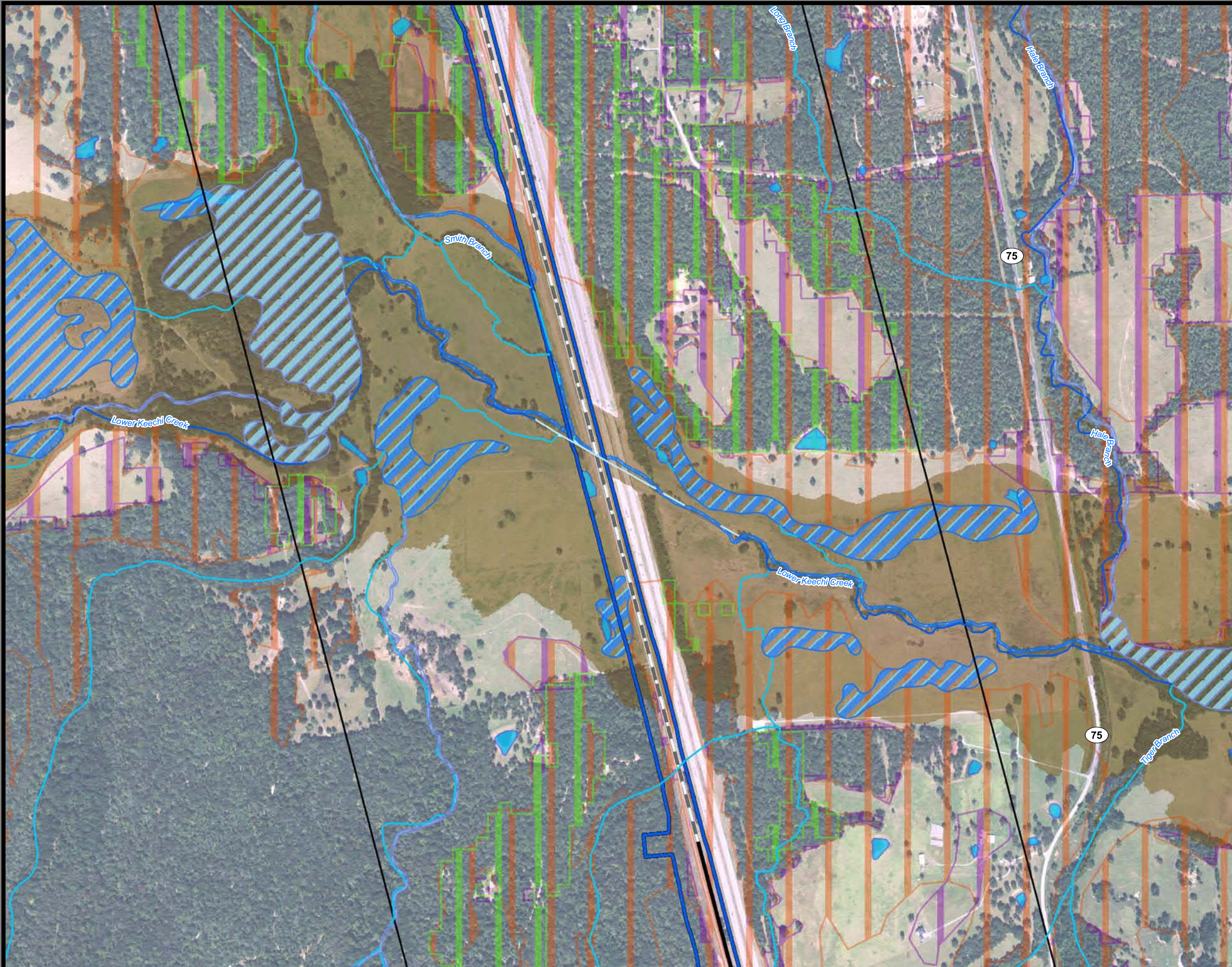
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Aerial Imagery: USDA NAIP 2014





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Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
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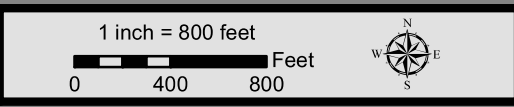
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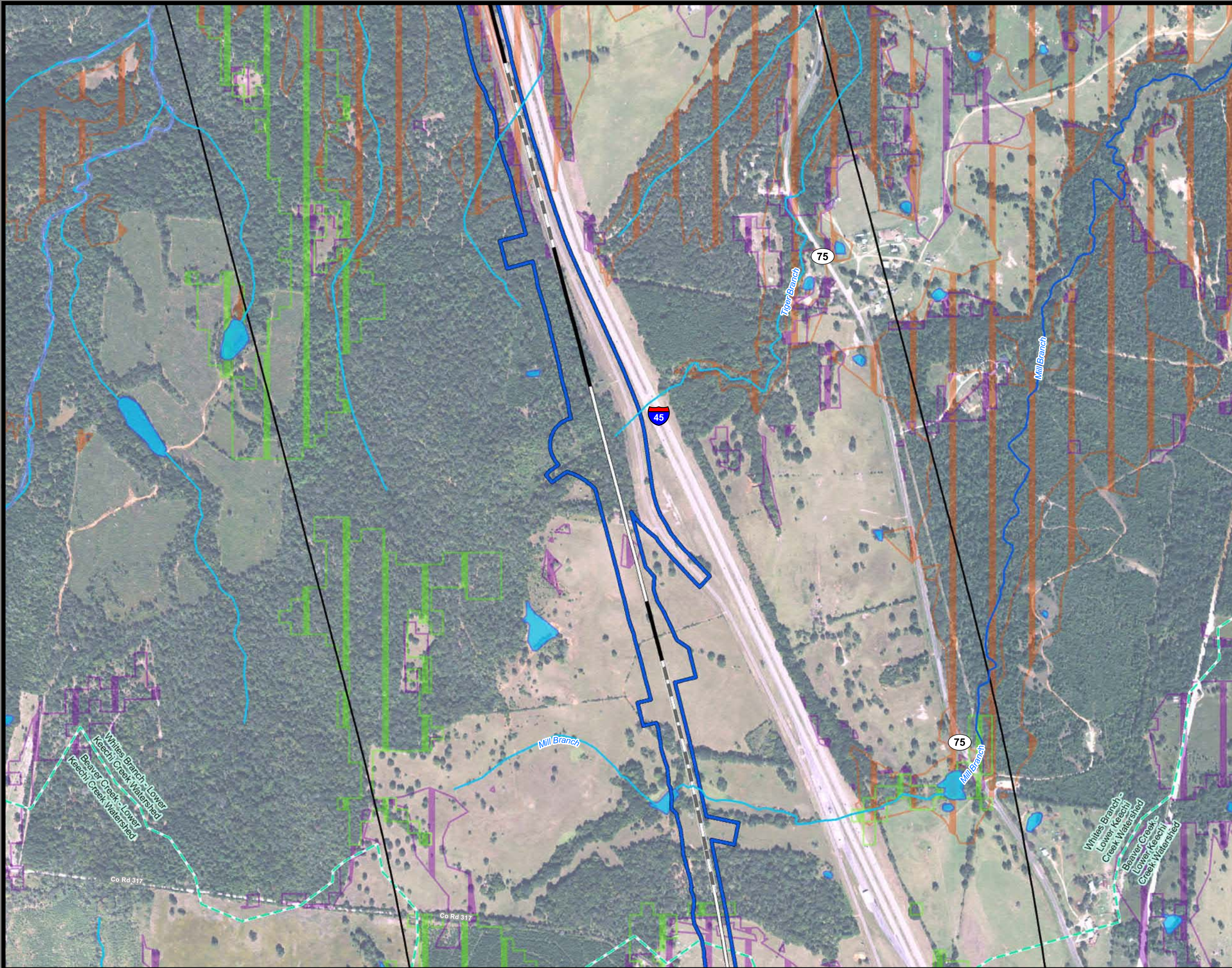
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Natural Resources
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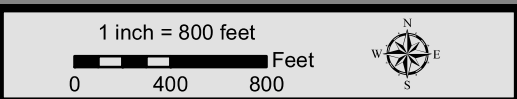
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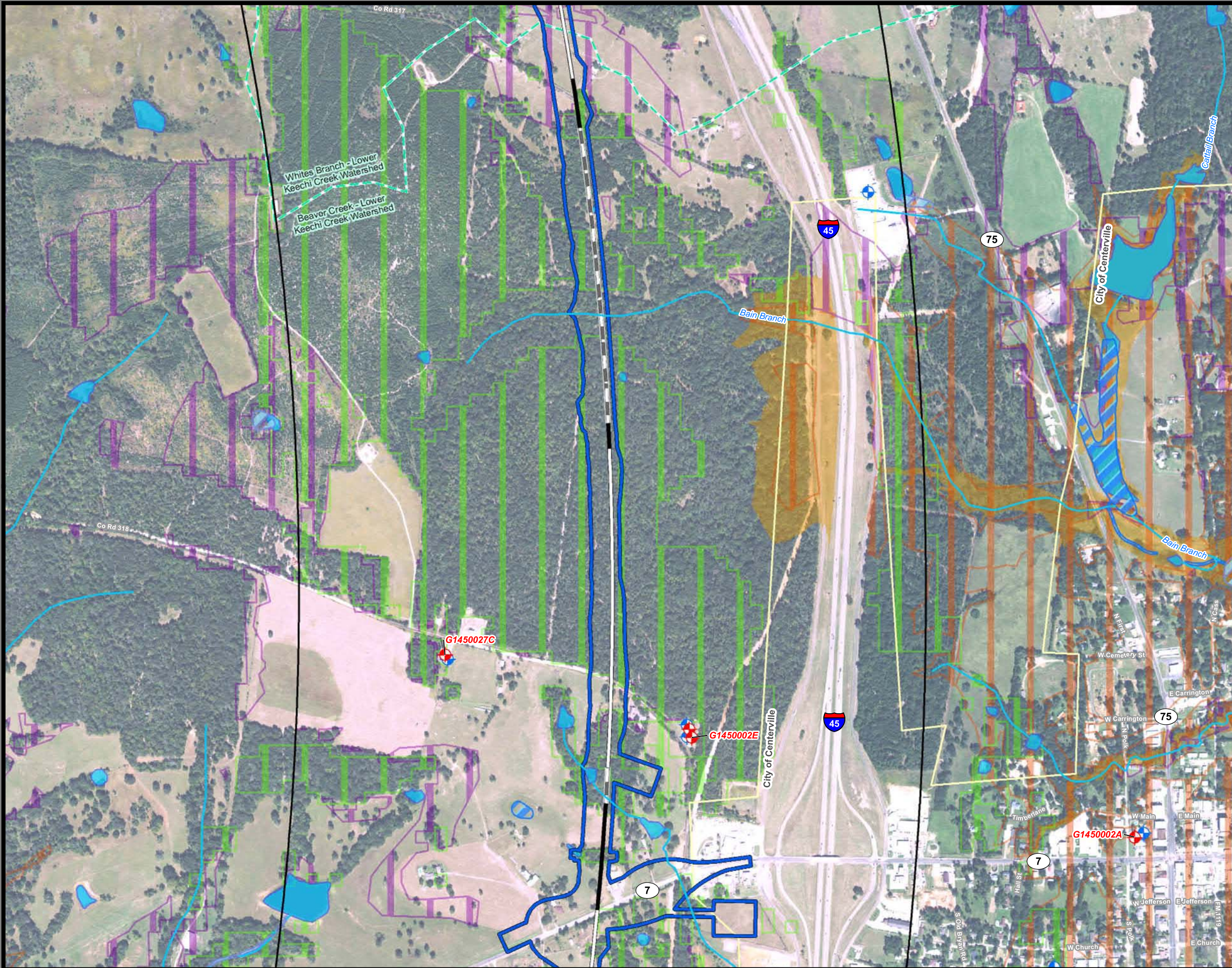
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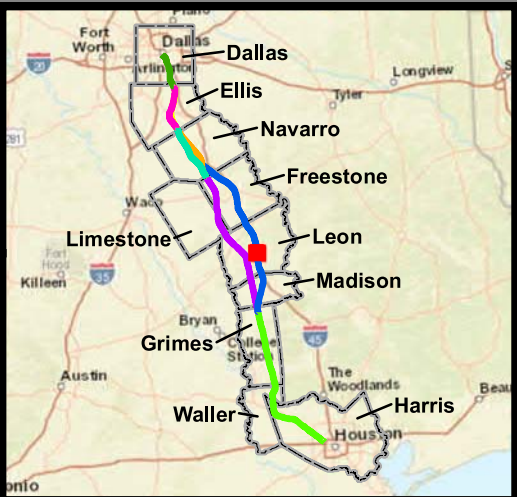
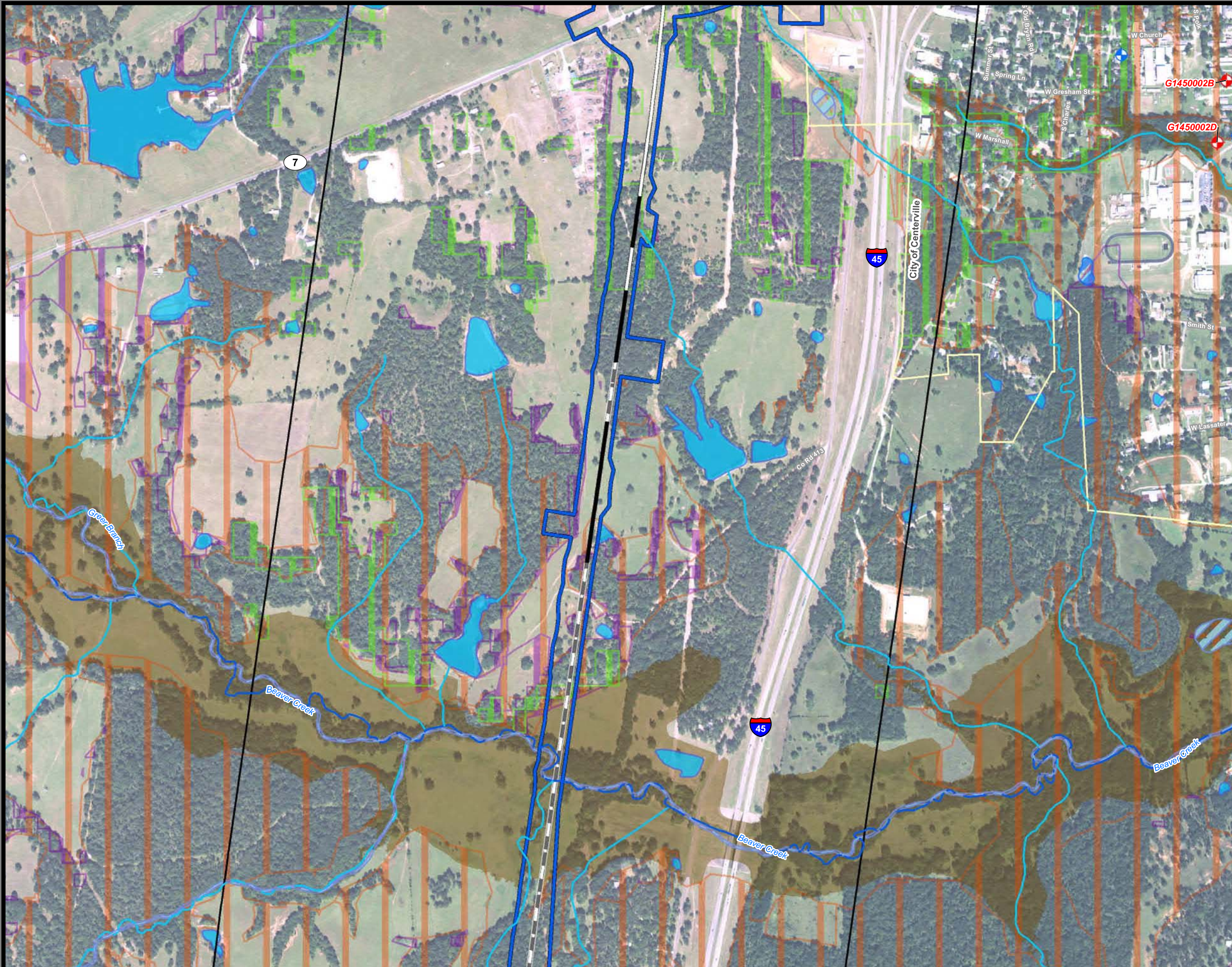
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1 inch = 800 feet

0 400 800 Feet





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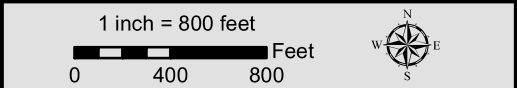
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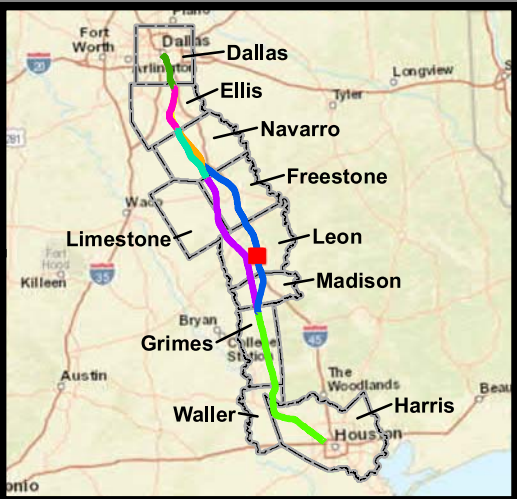
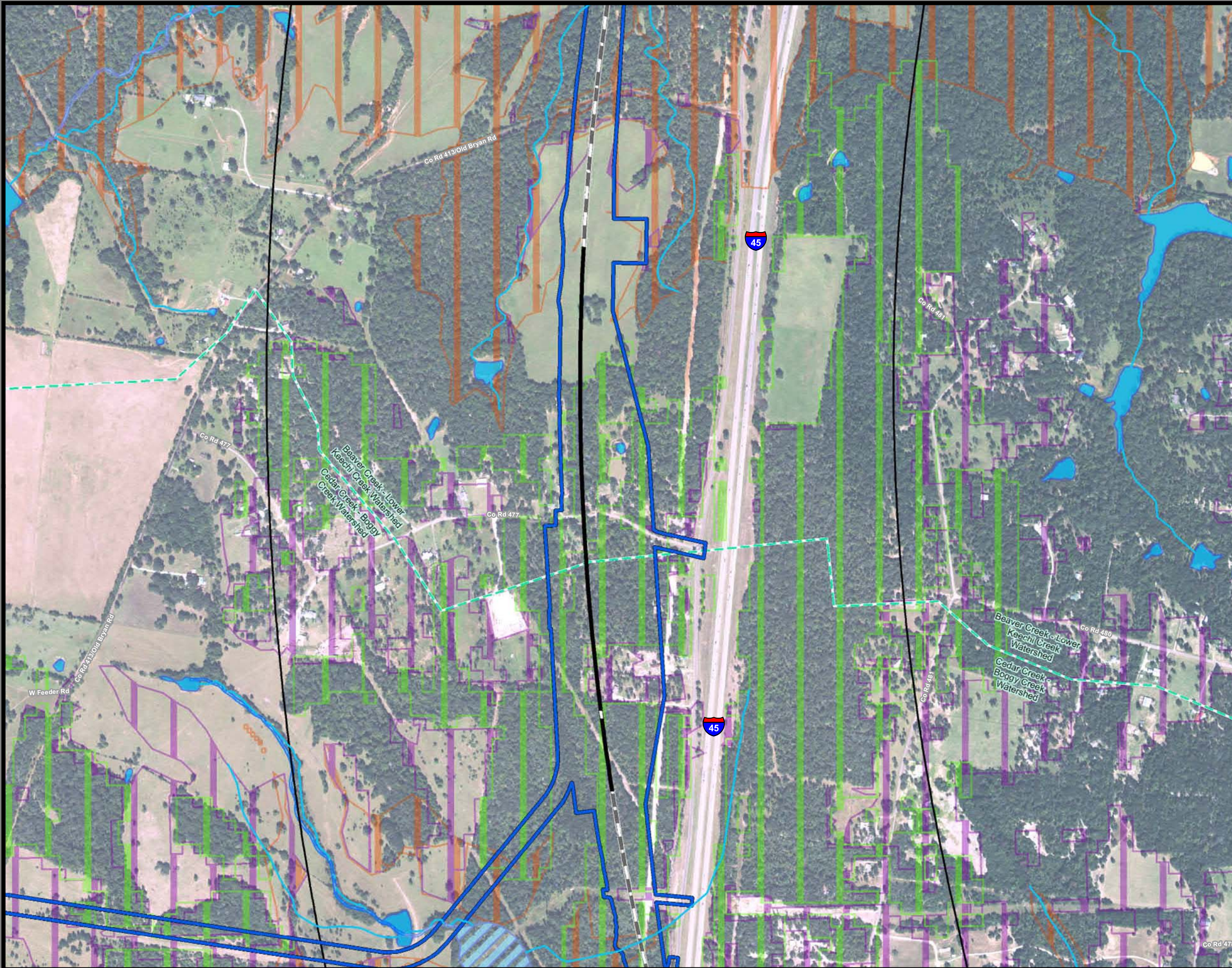
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Legend

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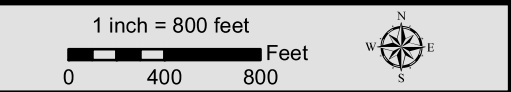
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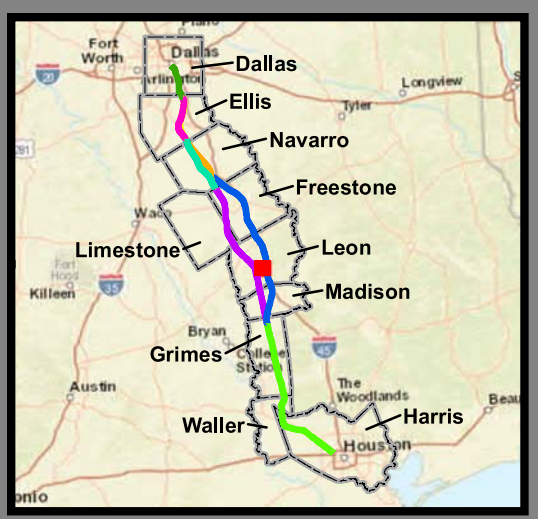
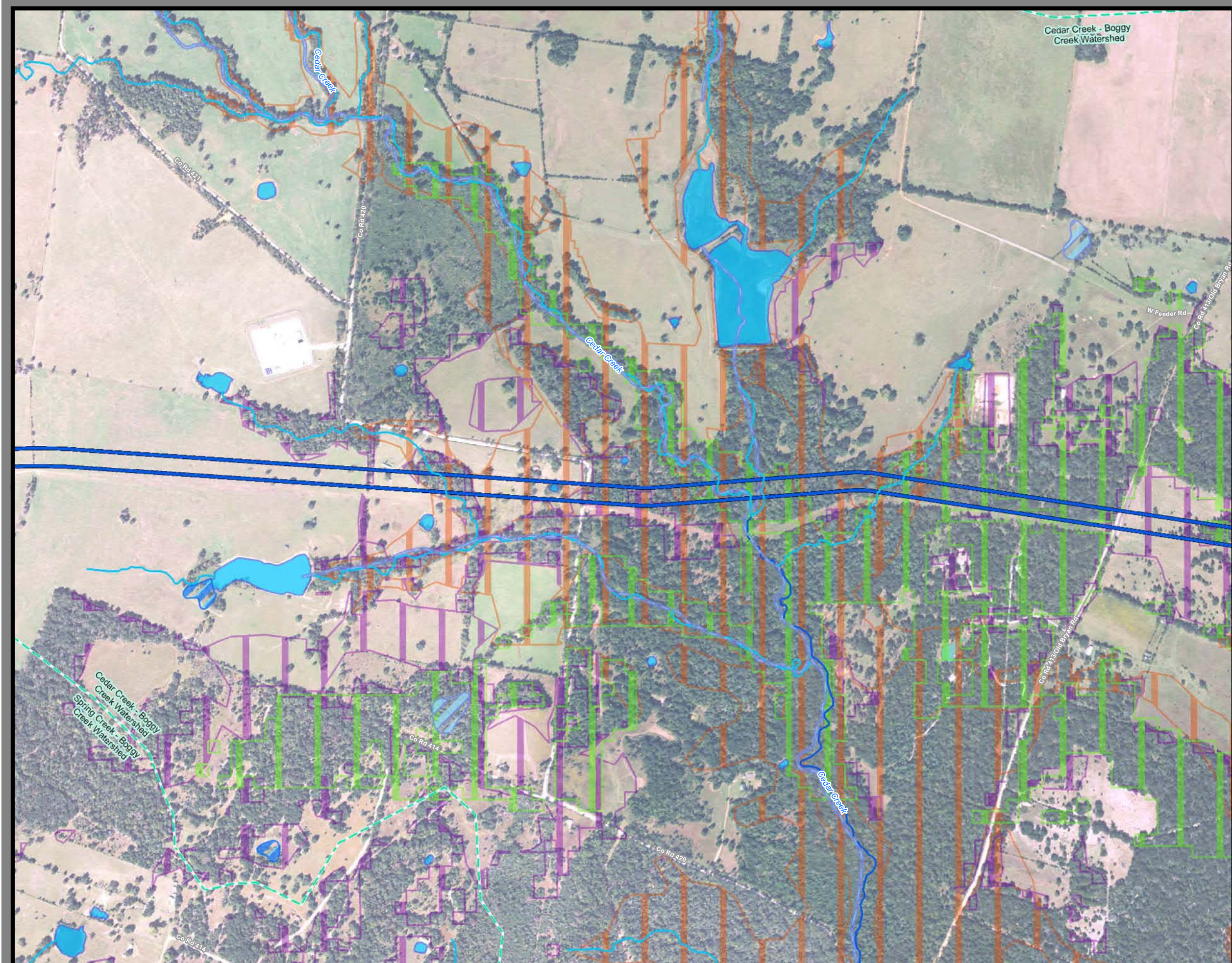
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High-Speed Rail Project
Natural Resources
Segment 3C
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