



Biological Evaluation Form

Main CSJ: 0313-02-057 and 0171-03-070

Form Prepared By: Ryan Blankenship, AWB - Cox|McLain Environmental Consulting, Inc.

Date of Evaluation: January 8, 2018

Project has no Federal nexus.

Proposed Letting Date: December 2018

Project not assigned to TxDOT under the NEPA Assignment MOU

District(s): Fort Worth

County(ies): Parker

Roadway Name: Farm-to-Market (FM) Road 51 and State Highway (SH) 99

Limits From: FM 51: From North of Cottondale Rd.
SH 199: North of South Ash St.

Limits To: FM 51: To Texas Dr.
SH 199: North of Old Springtown Rd.

Project Description: Please see the following document that has been uploaded into TXECOS: Project Description (0313-02-057 & 0171-03-070).pdf

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

Endangered Species Act (ESA)

Yes Is the action area of the proposed project within the range of federally protected species?

Yes Did the USFWS IPaC system identify any endangered species that may occur or could potentially be affected by the proposed project activities?

Date that the [IPaC system](#) was accessed: December 8, 2017

No Is the action area of the proposed project in suitable habitat of federally protected species?

*Explain:

No potentially suitable habitat for federally protected species is located within the proposed project area, as verified by a qualified biologist. Please see the "Threatened and Endangered Species, and Species of Greatest Conservation Need Table" found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf"

Resources consulted or activities conducted to make effect determination (if applicable):

- TPWD County List USFWS Critical Habitat Maps Species Expert Consulted
- Aerial Photography Coastal Areas Maps Site Visit
- Topographic Map Species Study Conducted Karst Zone Maps
- Ecological Mapping System of Texas (EMST) Natural Diversity Database (NDD)

Other:

-USFWS Official Species List



-Site visit conducted on August 1, 2017 and October 12, 2017

Migratory Bird Treaty Act (MBTA)

- Yes Is there potential for nesting birds to be present in the project action area during construction?
- No Were active nests identified during the site survey?
- Yes Will BMPs will be incorporated to protect migratory bird nests?

Bald and Golden Eagle Protection Act (BGEPA)

- No Does the proposed project have the potential to impact Bald or Golden Eagles?

Comments:

No potentially suitable nesting habitat was observed within or adjacent to the project area, as verified by a qualified biologist. Additionally, no eagle nests, or past presence of nests, were observed during the August 2017 or October 2017 site visits.

Fish and Wildlife Coordination Act (FWCA)

- Yes Does the project have impacts on one or more Waters of the U.S. or wetlands?
- Yes Is the project covered by a Nationwide Permit?
- No Is the project covered by an Individual Permit from the USACE?

Comments:

According to current plans, the proposed project is anticipated to result in permanent and temporary impacts to Walnut Creek at crossing location #1, illustrated on the Water Resources Map found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf".

Executive Order 13112 on Invasive Species

- Yes Would the proposed project be in compliance with EO 13112?

Comments:

Upon completion of earthwork activities, disturbed areas would be reseeded according to TXDOT specifications and in compliance with EO 13112 where applicable.



Executive Memorandum on Environmentally and Economically Beneficial Landscaping

Yes Would landscaping be included in the proposed projects?

*Describe the landscaping activities:

Landscaping enhancements would be included in the final project design. Specific features and landscaping design have not been identified at this point in the project development but all enhancements would be in compliance with the EO on Invasive Species and EM on Beneficial Landscaping.

Yes Would the proposed project be in compliance with the Executive Memorandum on Beneficial Landscaping?

Farmland Protection Policy Act (FPPA)

Yes Would the project require new ROW or permanent easements (Do not include temporary easements)?

No Is the project located in a "non-urbanized area" that contain areas mapped as prime, unique, statewide important or locally important farmland by the NRCS Web Soil Survey or Census Bureau?

Comments:

Although the project would require new ROW the entirety of the proposed project is located within an urbanized area. Although Attachment 18 in the Supporting Documents.pdf appears to indicate that a small portion of the proposed project area is not located within an urbanized area this is a mapping error. According to the 2010 Census data for urbanized areas the Springtown Urbanized Area includes the current US 51 right-of-way. See Attachment 19 in the Supporting Documents.pdf (accessed on October 24, 2017 from <https://tigerweb.geo.census.gov/tigerweb/>).

General Comments

Supporting documentation may be found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf", which has been uploaded into TXECOS.



Findings

Endangered Species Act (ESA)

No suitable habitat was observed for any federally listed species. Therefore, there would be no effect on federally listed species. However, measures to avoid harm to any threatened and endangered species would be taken should they be observed during construction of the proposed project. Coordination with the USFWS would not be required. The USFWS IPaC website was accessed on December 8, 2017.

Essential Fish Habitat (EFH)

Tidally influenced waters do not occur within the project action area. Coordination with National Marine Fisheries Service is not required.

Coastal Barrier Resources Act (CBRA)

This project is not located within a designated CBRA map unit. Coordination with the U.S. Fish and Wildlife Service (USFWS) is not required.

Marine Mammal Protection Act (MMPA)

Marine mammals are protected under the Marine Mammal Protection Act (MMPA). The Texas coast provides suitable habitat and is within range of several marine mammals including the West Indian Manatee (*Trichechus manatus*), and bottlenose dolphin (*Tursiops truncatus*).

The project area does not contain suitable habitat for marine mammals. Coordination with NMFS is not required.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance within the Act's policies and regulations.

A site survey did not identify active nests within the project action area. While no impact to migratory birds is expected, TxDOT will take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young should they be discovered on the project site. Direction to contractors is provided on the standard EPIC sheet.

Bald and Golden Eagle Protection Act (BGEPA)

The proposed project does not have the potential to impact Bald or Golden Eagles.

Fish and Wildlife Coordination Act (FWCA)

The Fish and Wildlife Coordination Act (FWCA) of 1958 requires that federal agencies obtain comments from USFWS and TPWD. This coordination is required whenever a project involves impounding, diverting, or deepening a stream channel or other body of water.

The proposed project is authorized under a Section 404 of the Clean Water Act Nationwide Permit; therefore, no coordination under FWCA would be required.

Executive Order 13112 on Invasive Species (EO 13112)



Re-vegetation of disturbed areas would be in compliance with the Executive Order on Invasive Species (EO 13112). Regionally native and non-invasive plants will be used to the extent practicable in landscaping and re-vegetation.

Executive Memorandum on Beneficial Landscaping

Landscaping would be a part of the proposed project activities. Revegetation of disturbed areas will be in compliance with the Executive Memorandum on Environmentally and Economically Beneficial Landscaping. Regionally native and noninvasive plants will be used to the extent practicable in landscaping and revegetation.

Landscaping enhancements would be included in the final project design. Specific features and landscaping design have not been identified at this point in the project development but all enhancements would be in compliance with the EO on Invasive Species and EM on Beneficial Landscaping.

Farmland Protection Policy Act (FPPA)

Coordination with the National Resources Conservation Service (NRCS) for FPPA would not be required because the project is not located in areas mapped as prime, unique, statewide or locally important nor is it located in an "urbanized area" identified by the NRCS Web Soil Survey or Census Bureau.



Suggested Attachments

Aerial Map (with delineated project boundaries)

USFWS T&E List

TPWD T&E List

Species Impact Table

NDD EOID List and Tracked Managed Areas (Required for TPWD Coordination)

NOAA EFH Mapper Printout

USFWS CBRA Mapper Printout

EMST Project MOU Summary Table (Required for TPWD Coordination)

TPWD SGCN List

FPPA Documentation

NRCS Web Soil Survey Map

Census Bureau Urbanized Area Map

Landscaping Plans

Photos (Required for TPWD Coordination)

Previous TPWD Coordination Documentation (if applicable)



Tier I Site Assessment

Main CSJ: 0313-02-057 and 0171-03-070

Form Prepared By: Ryan Blankenship, AWB - Cox|McLain Environmental Consulting, Inc.

Date of Evaluation: January 8, 2018

Project is classified as a Categorical Exclusion

Proposed Letting Date: December 2018

Project not assigned to TxDOT under the NEPA Assignment MOU

District(s): Fort Worth

County(ies): Parker

Roadway Name: Farm-to-Market (FM) Road 51 and State Highway (SH) 99

Limits From: FM 51: From North of Cottondale Rd.
SH 199: North of South Ash St.

Limits To: FM 51: To Texas Dr.
SH 199: North of Old Springtown Rd.

Project Description: Please see the following document that has been uploaded into TXECOS: Project Description (0313-02-057 & 0171-03-070).pdf

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

1. Yes Is the project within range of a state threatened or endangered species or SGCN and suitable habitat is present?

*Explain:

Potentially suitable habitat is present for one or more state-listed threatened species and/or species of greatest conservation need. For species specific information, please see the "Threatened and Endangered Species, and Species of Greatest Conservation Need Table" found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf "

Date [TPWD County](#) List Accessed: October 24, 2017

Date that the NDD was accessed: December 4, 2017

What agency performed the NDD search? TPWD

NDD Search Results for EOIDs and Tracked Managed Areas

EOID Number	Common Name	Scientific Name	Listing Status	Buffer Zone
4062	Comanche Peak prairie clover	<i>Dalea reverchonii</i>	SGCN	1.5 Mile

No Does the BMP PA eliminate the requirement to coordinate for all species?

Comments:

No BMPs are provided for the Comanche-Peak prairie clover or Quayle's butterweed.

2. No NDD and TCAP review indicates adverse impacts to remnant vegetation?



Tier I Site Assessment

Comments:

No remnant vegetation was identified by the EMST or by qualified biologists as occurring within the project area.

3. No Does the project require a NWP with PCN or IP by USACE?

Comments:

According to current plans, the proposed project is anticipated to result in permanent and temporary impacts to Walnut Creek at crossing location #1, illustrated on the Water Resources Map found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf ". These actions impacts would be authorized by a NWP 14, without a PCN.

4. No Does the project include more than 200 linear feet of stream channel for each single and complete crossing of one or more of the following that is not already channelized or otherwise maintained:

5. No Does the project contain known isolated wetlands outside the TxDOT ROW that will be directly impacted by the project?

Comments:

A wetland delineation of the proposed project area was conducted on October 12, 2017. During these investigations a single emergent wetland was identified at crossing # 1, within the proposed project area. However, based on the current project design, no impacts to this wetland are anticipated. Please see the Water Resources Map found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf ".

6. No Would the project impact at least 0.10 acre of riparian vegetation?

Comments:

Approximately 0.026-acre of Central Texas: Riparian Herbaceous Vegetation (Riparian MOU) would be impacted by the proposed project area, as verified by a qualified biologist. Please see the Project EMST Vegetation Types, EMST Mapped Vegetation Type Figure, Observed Vegetation Types, and Observed Vegetation Types Figure found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf ".

7. No Does project disturb a habitat type in an area equal to or greater than the area of disturbance indicated in the Threshold Table Programmatic Agreement?

Comments:

According to current project plans, approximately 0.026-acre of Central Texas: Riparian Herbaceous Vegetation (Riparian MOU) will be impacted by the proposed project. The Riparian MOU Type Threshold for the Crosstimbers Ecoregion is 0.10-acre. The proposed project is not expected to exceed the Riparian MOU type threshold. Please see the Project EMST Vegetation Types, EMST Mapped Vegetation Type Figure, Observed Vegetation Types, and Observed Vegetation Types Figure found in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf ".

*Attach associated file of EMST output (Mapper Report or other Excel File which includes MOU Type, Ecosystem Name, Common/Vegetation Type Name) in ECOS

Excel File Name:

EMST MOU Habitat Types (0313-02-057 & 0171-03-070.xls



7.1. Yes Is there a discrepancy between actual habitat(s) and EMST mapped habitat(s)?

*Explain:

The EMST mapped vegetation types did not correspond with the observed vegetation types. Near the northern terminus of the proposed project area the EMST map shows an area mapped as "Crosstimbers: Savanna Grassland" vegetation type. However, during the October 2017 site visit this areas was better represented as "Urban Low Intensity" vegetation type. In addition, "Central Texas: Riparian Herbaceous Vegetation" was verified by qualified biologists along the banks of Walnut Creek (Crossing 1), near the intersection of FM 51 and SH 199.

Attach file showing discrepancy between actual and EMST mapped habitat(s).

File Name:

Please see the EMST Mapped Vegetation Types maps and the Observed Vegetation Types documentation in the uploaded file "Biological Evaluation Form and Tier I Site Assessment Form Attachments (0313-02-057 & 0171-03-070).pdf", which has been uploaded into TXECOS.

Is TPWD Coordination Required?

Yes

Early Coordination

Administrated Coordination - Must be conducted through ENV-NRM

BMPs Implemented or EPICs included (as necessary):

Vegetation Disturbance: During construction, efforts would be taken to avoid and minimizing disturbance of vegetation and soils. Areas within the existing ROW, but outside the limits of construction, would not be disturbed. Every effort would be made to preserve trees where they would neither compromise safety nor substantially interfere with the proposed projects.

Migratory Bird Treaty Act (MBTA): Between October 1 and February 15, the contractor would remove all old migratory bird nests from any structure that would be affected by the proposed project, and complete any bridge work/demolition and /or vegetation clearing. In addition, the contractor would be prepared to prevent migratory birds from building nests by utilizing nest prevention methods, such as bird-deterrent netting and bird-repelling sprays and/or gels, between February 15 and October 1. In the event that migratory birds are encountered on-site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young would be avoided.

Whooping Crane: The contractor and/or TxDOT personnel would be advised of potential for Whooping Cranes to occur within the project limits. Construction personnel will be advised to avoid adverse impacts to this species and to report any sightings to TxDOT District Environmental staff. Drainage modifications will be limited to the extent practical to accommodate the additional paved surface needed to bring the roadway up to current TxDOT safety standards. The construction personnel will report all sightings to TxDOT Fort Worth District Environmental staff. Reports should include the time, date and location and any available photos.

Bald and Golden Eagle Protection Act: The Bald and Golden Eagle Protection Act prohibits the taking or possession of and commerce in eagles, parts, feathers, nests, or eggs with limited exceptions. The definition of take includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. Eagles may not be taken for any purpose unless a permit is issued prior to the taking.

Plains Spotted Skunk: The contractor will be advised of potential occurrence of Plains Spotted Skunk in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.



Texas garter snake and other terrestrial reptiles:

- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, utilize erosion control blankets or mats that contain no netting or contain loosely woven, natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.
- For open trenches and excavation pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.
- Inform contractors that if reptiles are found on project site to allow species to safely leave the project area.
- Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter where feasible.
- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.

Streams and Riparian Areas: In addition to BMPs required for a TCEQ Storm Water Pollution Prevention Plan and/ or 401 water quality permit:

- The use of equipment in streams and riparian areas during construction will be minimized to the extent necessary to complete the construction activities. When possible, equipment access would be from banks, bridge decks, or barges.
- When temporary stream crossings are unavoidable, stream crossings would be removed stream crossings once they are no longer needed and stabilize banks and soils around the crossing.
- When work will occur in the water:
 - o The project footprints will be surveyed for stated listed species where appropriate habitat exists.
 - o State listed mussels and SGCN species discovered, would be relocated under a TPWD permit.
- For all construction equipment and gear that comes in contact with any public waters:
 - o Follow the “TPWD Clean/Drain/Dry Procedures and Zebra Mussel Decontamination Procedures for Contractors Working in Inland Public Waters” (https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/tools.phtml)

TxDOT Contact Information

Name: Chad Putnam

Phone Number: (817) 370-6567

E-mail: Chad.Putnam@txdot.gov



Tier I Site Assessment



Suggested Attachments

Aerial Map (with delineated project boundaries)

USFWS T&E List

TPWD T&E List

Species Impact Table

NDD EOID List and Tracked Managed Areas (Required for TPWD Coordination)

EMST Project MOU Summary Table (Required for TPWD Coordination)

TPWD SGCN List

Photos (Required for TPWD Coordination)

Previous TPWD Coordination Documentation (if applicable)



Biological Evaluation Form and Tier I Site Assessment Form Attachments

FM 51 AND SH 199 ROADWAY RECONSTRUCTION AND PEDESTRIAN ENHANCEMENTS

Fort Worth District

FM 51 from north of Cottondale Road to Texas Drive

SH 199 from north of South Ash Street to north of Old Springtown
Road

Main CSJ: 0313-02-057

Associated CSJs: 0171-03-07

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT

BIOLOGICAL EVALUATION FORM AND TIER I SITE ASSESSMENT: LIST OF ATTACHMENTS

ATTACHMENT 1: UNITED STATES FISH AND WILDLIFE SERVICE OFFICIAL SPECIES LIST

ATTACHMENT 2: TEXAS PARKS AND WILDLIFE DEPARTMENT ANNOTATED COUNTY LIST OF RARE SPECIES FOR PARKER COUNTY

ATTACHMENT 3: TABLE: THREATENED AND ENDANGERED SPECIES AND SPECIES OF GREATEST CONSERVATION NEED OF POTENTIAL OCCURRENCE IN PARKER COUNTY, TEXAS

ATTACHMENT 4: TPWD TXNDD CORRESPONDENCE

ATTACHMENT 5: TXNDD ELEMENTS OF OCCURRENCE FIGURE

ATTACHMENT 6: TXNDD EOIDS WITHIN THE VICINITY OF THE PROPOSED PROJECT

ATTACHMENT 7: PROJECT EMST VEGETATION TYPES

ATTACHMENT 8: EMST MAPPED VEGETATION TYPES FIGURE

ATTACHMENT 9: OBSERVED VEGETATION TYPES

ATTACHMENT 10: OBSERVED VEGETATION TYPES FIGURE

ATTACHMENT 11: WATER RESOURCES FIGURE

ATTACHMENT 12: SOILS IN THE PROJECT AREA FIGURE

ATTACHMENT 13: URBANIZED AREA FIGURE

ATTACHMENT 14: 2010 CENSUS URBANIZED AREA SCREENSHOT

ATTACHMENT 15: PROJECT AREA PHOTOGRAPHS

***ATTACHMENT 1: UNITED STATES FISH AND WILDLIFE SERVICE OFFICIAL SPECIES
LIST***



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Arlington Ecological Services Field Office

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

Phone: (817) 277-1100 Fax: (817) 277-1129

<http://www.fws.gov/southwest/es/arlingontexas/>

<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

In Reply Refer To:

December 08, 2017

Consultation Code: 02ETAR00-2018-SLI-0295

Event Code: 02ETAR00-2018-E-00638

Project Name: FM51 and SH 199 in Springtown (CSJ:0313-02-057 and 0171-03-070)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

After evaluating the potential effects of a proposed action on federally listed species, one of the

following determinations should be made by the Federal agency:

1. No effect - the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
2. May affect, but is not likely to adversely affect - the appropriate determination when a proposed action's anticipated effects are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
3. May affect, is likely to adversely affect - the appropriate determination if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arlington Ecological Services Field Office

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

(817) 277-1100

Project Summary

Consultation Code: 02ETAR00-2018-SLI-0295

Event Code: 02ETAR00-2018-E-00638

Project Name: FM51 and SH 199 in Springtown (CSJ:0313-02-057 and 0171-03-070)

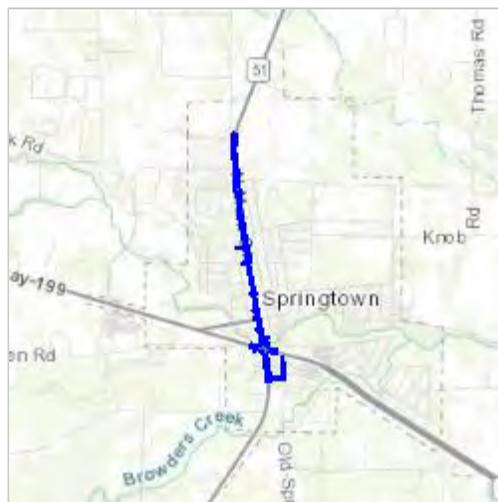
Project Type: TRANSPORTATION

Project Description: The proposed FM 51 and SH 199 project will take place in the city of Springtown, Parker County, Texas. The proposed construction activities include: roadway replacement and widening on FM 51 from 1,100-foot north of Pojo Road to 100-foot south of Texas Drive and pavement replacement on SH 199 from 400-foot west to 450-foot east of the SH 199 / FM 51 intersection. Additionally, the bridge over Walnut Creek will be replaced and elevated and storm water, water, and sewer improvements are planned along FM 51. Sidewalk replacement and new construction will take place along SH 199 as well as in existing County right-of-way to connect to existing sidewalk in Springtown Park. Pavement improvements are also proposed along Texas Drive and Old Springtown Road to facilitate a temporary detour which will be utilized during the construction phase of the proposed project. Approximately 22.84 acres of existing ROW, 0.78-acre of proposed ROW, and 0.4202-acre of proposed drainage easements will be included in the proposed project.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/32.97113086628815N97.68486207061528W>



Counties: Parker, TX

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
<p>Black-capped Vireo <i>Vireo atricapilla</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5716</p>	Endangered
<p>Least Tern <i>Sterna antillarum</i></p> <p>Population: interior pop. No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ Wind Energy Projects <p>Species profile: https://ecos.fws.gov/ecp/species/8505</p>	Endangered
<p>Piping Plover <i>Charadrius melodus</i></p> <p>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ Wind Energy Projects <p>Species profile: https://ecos.fws.gov/ecp/species/6039</p>	Threatened
<p>Red Knot <i>Calidris canutus rufa</i></p> <p>No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ Wind Energy Projects <p>Species profile: https://ecos.fws.gov/ecp/species/1864</p>	Threatened
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758</p>	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

***ATTACHMENT 2: TEXAS PARKS AND WILDLIFE DEPARTMENT ANNOTATED
COUNTY LISTS OF RARE SPECIES FOR PARKER COUNTY***

PARKER COUNTY

BIRDS

		Federal Status	State Status
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	DL	T
year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	DL	
migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	DL	T
found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds			
Golden-cheeked Warbler	<i>Setophaga chrysoparia</i>	LE	E
juniper-oak woodlands; dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer			
Interior Least Tern	<i>Sterna antillarum athalassos</i>	LE	E
subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony			
Mountain Plover	<i>Charadrius montanus</i>		
breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous			
Peregrine Falcon	<i>Falco peregrinus</i>	DL	T
both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, F.p. tundrius is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.			
Sprague's Pipit	<i>Anthus spragueii</i>		
only in Texas during migration and winter, mid September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare further west; sensitive to patch size and avoids edges.			

PARKER COUNTY

BIRDS

	Federal Status	State Status
Western Burrowing Owl <i>Athene cunicularia hypugaea</i> open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows		
Whooping Crane <i>Grus americana</i> potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties	LE	E

FISHES

	Federal Status	State Status
Sharpnose shiner <i>Notropis oxyrhynchus</i> endemic to Brazos River drainage; also, apparently introduced into adjacent Colorado River drainage; large turbid river, with bottom a combination of sand, gravel, and clay-mud	LE	
Smalleye shiner <i>Notropis buccula</i> endemic to upper Brazos River system and its tributaries (Clear Fork and Bosque); apparently introduced into adjacent Colorado River drainage; medium to large prairie streams with sandy substrate and turbid to clear warm water; presumably eats small aquatic invertebrates	LE	

MAMMALS

	Federal Status	State Status
Gray wolf <i>Canis lupus</i> extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands	LE	E
Plains spotted skunk <i>Spilogale putorius interrupta</i> catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie		
Red wolf <i>Canis rufus</i> extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies	LE	E

MOLLUSKS

	Federal Status	State Status
Texas fawnsfoot <i>Truncilla macrodon</i> little known; possibly rivers and larger streams, and intolerant of impoundment; flowing rice irrigation canals, possibly sand, gravel, and perhaps sandy-mud bottoms in moderate flows; Brazos and Colorado River basins	C	T
Texas pigtoe <i>Fusconaia askewi</i> rivers with mixed mud, sand, and fine gravel in protected areas associated with fallen trees or other structures; east Texas River basins, Sulphur River, Cypress Creek, Sabine through Trinity rivers as well as San Jacinto River		T

PARKER COUNTY

REPTILES

		Federal Status	State Status
Brazos water snake	<i>Nerodia harteri</i>		T
upper Brazos River drainage; riffle specialist, in shallow water with rocky bottom and on rocky portions of banks			
Texas garter snake	<i>Thamnophis sirtalis annectens</i>		
wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August			
Texas horned lizard	<i>Phrynosoma cornutum</i>		T
open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September			
Timber rattlesnake	<i>Crotalus horridus</i>		T
swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover, i.e. grapevines or palmetto			

PLANTS

		Federal Status	State Status
Comanche Peak prairie-clover	<i>Dalea reverchonii</i>		
Texas endemic; shallow, calcareous clay to sandy clay soils over limestone in grasslands or openings in post oak woodlands, often among sparse vegetation in barren, exposed sites, most known sites are underlain by Goodland Limestone, most known sites are on roadway right-of-ways; flowering April-June, one account for October			
Glen Rose yucca	<i>Yucca necopina</i>		
Texas endemic; grasslands on sandy soils and limestone outcrops; flowering April-June			
Hall's prairie clover	<i>Dalea hallii</i>		
GLOBAL RANK: G3; In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept			
Mohlenbrock's sedge	<i>Cyperus grayioides</i>		
GLOBAL RANK: G3; Deep sand and sandy loam in dry, almost barren openings in upland longleaf pine savannas, mixed pine-oak forests, and post oak woodlands; Occurs primarily in deep, periodically disturbed sandy soils in open areas maintained by factors such as wind, erosion, or fire. This species does not occur in shaded areas or in areas of high competition with other herbaceous species. Habitats include remnant sand prairies, sandy fields, sand "blow outs", sandhill woodlands, pine barrens, and open barrens in which the slope is sufficient to produce sand erosion. May also occur in areas where the soils have been disturbed by logging or road construction; Perennial			
Osage Plains false foxglove	<i>Agalinis densiflora</i>		
GLOBAL RANK: G3; Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct			

PARKER COUNTY

PLANTS

Federal Status

State Status

Quayle's butterweed

Senecio quaylei

GLOBAL RANK: G1; Known only from the type location in Parker County, where it occurred in a weedy roadside ditch; Annual; Flowering spring

Reverchon's curfpea

Pediomelum reverchonii

GLOBAL RANK: G3; Mostly in prairies on shallow rocky calcareous substrates and limestone outcrops; Perennial; Flowering Jun-Sept; Fruiting June-July

Topeka purple-coneflower

Echinacea atrorubens

GLOBAL RANK: G3; Occurring mostly in tallgrass prairie of the southern Great Plains, in blackland prairies but also in a variety of other sites like limestone hillsides; Perennial; Flowering Jan-June; Fruiting Jan-May

***ATTACHMENT 3: TABLE: THREATENED AND ENDANGERED SPECIES AND SPECIES
OF GREATEST CONSERVATION NEED OF POTENTIAL OCCURRENCE IN PARKER
COUNTY, TEXAS***

Threatened and Endangered Species, and Species of Greatest Conservation Need of Potential Occurrence in Parker County, Texas.

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Plants						
Comanche Peak prairie-clover <i>Dalea reverchonii</i>	NL	SGCN	Texas endemic; shallow, calcareous clay to sandy clay soils over limestone in grasslands or openings in post oak woodlands, often among sparse vegetation in barren, exposed sites, most known sites are underlain by Goodland Limestone, most known sites are on roadway right-of-ways; flowering April-June, one account for October.	Yes	May impact	The proposed project area contains calcareous clay soils over limestone along roadway right-of-ways. This species may occur in the Urban Low Intensity observed vegetation type located within the project area. No individuals of this species were observed during the October 2017 site visit.
Glen Rose yucca <i>Yucca necopina</i>	NL	SGCN	Texas endemic; grasslands on sandy soils and limestone outcrops; flowering April-June.	No	No impact	Grasslands on sandy soils are not located within the proposed project area. Habitat was mainly Urban Low Intensity. No individuals of this species were observed during the October 2017 site visit.
Hall's prairie clover <i>Dalea hallii</i>	NL	SGCN	GLOBAL RANK: G3; In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept.	No	No impact	Grasslands on eroded limestone or chalk or oak scrub on rocky hillsides are not located within the project area. No individuals of this species were observed during the October 2017 site visit.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Mohlenbrock's sedge <i>Cyperus grayoides</i>	NL	SGCN	GLOBAL RANK: G3; Deep sand and sandy loam in dry, almost barren openings in upland longleaf pine savannas, mixed pine-oak forests, and post oak woodlands; Occurs primarily in deep, periodically disturbed sandy soils in open areas maintained by factors such as wind, erosion, or fire. This species does not occur in shaded areas or in areas of high competition with other herbaceous species. Habitats include remnant sand prairies, sandy fields, sand "blow outs", sandhill woodlands, pine barrens, and open barrens in which the slope is sufficient to produce sand erosion. May also occur in areas where the soils have been disturbed by logging or road construction; Perennial.	No	No impact	No upland longleaf pine savannas, mixed pine-oak forests, and post oak woodlands occur within the project area. Additionally, the majority of the project area is dominated by a thick herbaceous community of native and introduced grasses and ruderal forbs. No individuals of this species were observed during the October 2017 site visit.
Osage Plains false foxglove <i>Agalinis densiflora</i>	NL	SGCN	GLOBAL RANK: G3; Most records are from grasslands on shallow, gravelly, well drained, calcareous soils; Prairies, dry limestone soils; Annual; Flowering Aug-Oct.	No	No impact	The proposed project area does not contain calcareous clay soils over limestone. Additionally, the majority of the project area is dominated by a thick herbaceous community of native and introduced grasses and ruderal forbs. No individuals of this species were observed during the October 2017 site visit.
Quayle's butterweed <i>Senecio quaylei</i>	NL	SGCN	GLOBAL RANK: G1; Known only from the type location in Parker County, where it occurred in a weedy roadside ditch; Annual; Flowering spring.	Yes	May impact	Open herbaceous areas are present within the Urban Low Intensity observed vegetation type located within the project area. No individuals of this species were observed during the October 2017 site visit.
Reverchon's scurfpea <i>Pediomelum reverchonii</i>	NL	SGCN	GLOBAL RANK: G3; Mostly in prairies on shallow rocky calcareous substrates and limestone outcrops; Perennial; Flowering Jun-Sept; Fruiting June-July.	No	No impact	Prairies on shallow rocky calcareous substrates or limestone outcrops are not located within the project area. No individuals of this species were observed during the October 2017 site visit.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Topeka purple-coneflower <i>Echinacea atrorubens</i>	NL	SGCN	GLOBAL RANK: G3; Occurring mostly in tallgrass prairie of the southern Great Plains, in blackland prairies but also in a variety of other sites like limestone hillsides; Perennial; Flowering Jan-June; Fruiting Jan-May.	No	No impact	No tallgrass prairies, blackland prairies, or limestone hillsides are located within the project area. No individuals of this species were observed during the October 2017 site visit.
Mollusks						
Texas fawnsfoot <i>Truncilla macrodon</i>	C	T	Little known; possibly rivers and larger streams, and intolerant of impoundment; flowing rice irrigation canals, possibly sand, gravel, and perhaps sandy-mud bottoms in moderate flows; Brazos and Colorado River basins.	No	No impact	Walnut Creek is a tributary of the Trinity River Basin and is a perennial water body, but is not in the Texas fawnsfoot's natural range. This species is endemic to the Brazos and Colorado River basins.
Texas pigtoe <i>Fusconaia askewi</i>	NL	T	Rivers with mixed mud, sand, and fine gravel in protected areas associated with fallen trees or other structures; east Texas River basins, Sulphur River, Cypress Creek, Sabine through Trinity rivers as well as San Jacinto River.	Yes	No impact	Walnut Creek is a perennial water body and is in Texas pigtoe's natural range. A mussel survey was conducted by Cox McLain Environmental Consulting, Inc. in October 2017 and no individuals of this species were found. Although Walnut Creek is a perennial stream, habitat conditions were not ideal for this species. No specimens were observed during the October 2017 site visit.
Fishes						
Sharpnose Shiner* <i>Notropis oxyrhynchus</i>	LE	SGCN	Endemic to Brazos River drainage; also, apparently introduced into adjacent Colorado River drainage; large turbid river, with bottom a combination of sand, gravel, and clay-mud.	No	No effect	All water bodies located within the proposed project area are in the Trinity River basin. Sharpnose Shiner are endemic to the Brazos River Basin.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Smalleye Shiner* <i>Notropis buccula</i>	LE	SGCN	Endemic to upper Brazos River system and its tributaries (Clear Fork and Bosque); apparently introduced into adjacent Colorado River drainage; medium to large prairie streams with sandy substrate and turbid to clear warm water; presumably eats small aquatic invertebrates.	No	No effect	All water bodies located within the proposed project area are in the Trinity River basin. Smalleye Shiner are endemic to the Brazos River Basin.
Reptiles						
Brazos water snake <i>Nerodia harteri</i>	NL	T	Upper Brazos River drainage; riffle specialist, in shallow water with rocky bottom and on rocky portions of Banks.	No	No impact	The crossing at Walnut Creek does not contain potentially suitable riffle habitat. Additionally, the Brazos water snake's known range is limited to the Brazos River and Lake Granbury. The proposed project area is located within the Trinity River Basin and not the Brazos River basin.
Texas garter snake <i>Thamnophis sirtalis annectens</i>	NL	SGCN	Wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August.	Yes	May impact	Wet or moist microhabitats such as fallen/rotten logs occur within the Central Texas: Riparian Herbaceous Vegetation observed vegetation type the crossing at Walnut Creek, but are limited elsewhere in the project area. No individuals of this species were observed during the October 2017 site visit.
Texas horned lizard <i>Phrynosoma cornutum</i>	NL	T	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.	No	No impact	Although the project area is located within a semi-arid region habitat within the proposed project area is not suitable for Texas horned lizards. Additionally, no harvester ant mounds (the primary food source of Texas horned lizards) were observed within the project area.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Timber rattlesnake <i>Crotalus horridus</i>	NL	T	Swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover, i.e. grapevines or palmetto.	No	No impact	No large woody debris or dense ground cover are located within the project area in sufficient amounts for a resident population of this species. No individuals of this species were observed during the October 2017 site visit.
Birds						
American Peregrine Falcon <i>Falco peregrinus anatum</i>	DL	T	Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	No	No impact	No breeding or wintering habitat is present within the proposed project area. The species is a potential migrant; any use of the project area would be incidental.
Arctic Peregrine Falcon <i>Falco peregrinus tundrius</i>	DL	SGCN	Migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	No	No impact	No breeding or wintering habitat is present within the proposed project area. The species is a potential migrant; any use of the project area would be incidental.
Bald Eagle <i>Haliaeetus leucocephalus</i>	NL	T	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds.	No	No impact	Although some perching trees located near water are present within the project area, these areas are not typically preferred habitat. Walnut Creek is not generally large enough to be considered preferred foraging habitat for the bald eagle. Additionally, no sign of presence or past use (nests) of the project area by bald eagles was observed during the October 2017 site visit.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Black-capped Vireo** <i>Vireo atricapilla</i>	LE	E	Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer.	No	No effect	No oak-juniper woodlands with the necessary distinctive patchy, two layered species; shrub and tree layer are located within the project area.
Golden-cheeked Warbler <i>Setophaga chrysoparia</i>	LE	E	Juniper-oak woodlands; dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.	No	No effect	No juniper-oak woodlands with the necessary mature Ashe juniper composition are located within the project area.
Interior Least Tern <i>Sterna antillarum athalassos</i>	LE	E	Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony.	No	No effect	No sand or gravel bars located along the shores of open bodies of water with suitable foraging locations occur within the project area.
Mountain Plover <i>Charadrius montanus</i>	NL	SGCN	Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.	No	No impact	No high plains or shortgrass prairie are located within the project area.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Peregrine Falcon <i>Falco peregrinus</i>	DL	T	Both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (<i>F. p. anatum</i>) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, <i>F.p. tundrius</i> is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.	No	No impact	No breeding or wintering habitat is present within the proposed project area. The species is a potential migrant; any use of the project area would be incidental.
Piping Plover** <i>Charadrius melodus</i>	LT	T	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.	No	No effect	No beaches or bayside mud or salt flats occur within project area.
Red Knot** <i>Calidris canutus rufa</i>	LT	SGCN	Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include clams in salt water or brackish bays. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy Counties.	No	No effect	No breeding or wintering habitat is present within the proposed project area. The species is a potential migrant; any use of the project area would be incidental.
Sprague's Pipit <i>Anthus spragueii</i>	NL	SGCN	Only in Texas during migration and winter, mid-September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare further west; sensitive to patch size and avoids edges.	No	No impact	No native upland prairie is located within the project area. The species is a potential migrant; any use of the project area would be incidental.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
Western Burrowing Owl <i>Athene cunicularia hypugaea</i>	NL	SGCN	Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows.	No	No impact	No mammal burrows were observed within the project area. The Urban Low Intensity observed vegetation observed within the project area includes residential yards which are maintained and seeded with turf grasses. No individuals of this species were observed during the October 2017 site visit.
Whooping Crane <i>Grus americana</i>	LE	E	Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	No	No effect	No breeding or wintering habitat is present within the proposed project area. The species is a potential migrant; any use of the project area would be incidental.
Mammals						
Gray wolf* <i>Canis lupus</i>	LE	E	Extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands.	No	No effect	The species is extirpated and would not be reasonably expected to occur within Parker County.
Plains spotted skunk <i>Spilogale putorius interrupta</i>	NL	SGCN	Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie.	Yes	May impact	Although most of the proposed project area is too urban to support a resident population of this species limited habitat is available within the Central Texas: Riparian Herbaceous Vegetation and Urban Low Intensity observed vegetation types. No individuals of this species were observed during the October 2017 site visit.
Red wolf* <i>Canis rufus</i>	LE	E	Extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies.	No	No effect	The species is extirpated and would not be reasonably expected to occur within Parker County.

FM 51 & SH 199 Interchange Improvements, Springtown— Parker County
 CSJ: 0313-02-057; 0171-03-070

Species	Federal Status	State Status	Habitat Description	Habitat Present in Project Area?	Species Effect/ Impact	Pertinent Project Information
<p>Status Codes:</p> <p>LE = Federally-Listed Endangered LT = Federally-Listed Threatened E = State-Listed Endangered T = State-Listed Threatened</p> <p>SGCN = Species of Greatest Conservation Need NL = Not listed C = Candidate for listing DL = De-listed</p> <p>* = Species not recognized by the USFWS as occurring within the project area but designated by TPWD as potentially occurring within the County ** = Species not recognized by TPWD as occurring within the project area but designated by the USFWS as potentially occurring within the Project Area</p>						

Sources:

Texas Parks and Wildlife Department (TPWD). Annotated County Lists of Rare Species: Parker County (last revision 12/30/2016).
<http://www.tpwd.state.tx.us/gis/ris/es/>, accessed October 24, 2017.

U.S. Fish and Wildlife Service (USFWS). Species by Project Area Report. <https://ecos.fws.gov/ipac/>, accessed December 8, 2017.

ATTACHMENT 6: TXNDD EOIDs WITHIN THE VICINITY OF THE PROJECT AREA

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 1 **Eo Id:** 5608
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

THREE (2.7) MILES SOUTHWEST OF SPRINGTOWN ON TX 51; ON BOTH SIDES OF HIGHWAY ALONG ABOUT A MILE OF THE ROAD

Survey Information:

First Observation: 1964 **Survey Date:** 1987-06-25 **Last Observation:** 2003-08
Eo Type: **Eo Rank:** AB **Eo Rank Date:** 1987-06-25
Observed Area: 20.00

Comments:

General Description: ROADSIDE; LIMESTONE WITH SANDY SURFACE

Comments: 2003, RECENT ROAD WORK BY TXDOT DESTROYED MANY OF THE PLANTS

Protection Comments:

Management Comments:

Data:

EO Data: MOST PLANTS IN FRUIT ON 6-25-87, POSSIBLY THE LARGEST KNOWN POPULATION CONSISTING OF SEVERAL THOUSAND PLANTS; ON 97-08-02 CHECKED ONLY A PORTION OF THE RIGHT-OF-WAY, POPULATION APPEARED STABLE, MOST PLANTS WERE FOUND IN VEGETATIVE STAGE, MAJORITY OF INDIVIDUALS WITH SHATTERED SPIKES AND CURING; PREVIOUS NUMBER OF PLANTS SEEN (DATE UNKNOWN) >800; AUGUST 2003, 23 PLANTS

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Element Occurrence Record

Citation:

McLemore, Caren and R J O'Kennon 2003 Dalea reverchonii (S. Watson) Shinner field survey Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.

BARNEBY, R. 1977. DALEA IMAGINES. MEM. NEW YORK BOT. GARD. 27:1-892.

MAHLER, WM. F. 1984. STATUS REPORT FOR DALEA REVERCHONII.

SINGHURST, J.R. AND P. HORNER. 1997. A FIELD SURVEY OF DALEA REVERCHONII IN NORTH-CENTRAL TEXAS OF 1-2 AUGUST 1997.

SINGHURST, JASON. 2003. E-MAIL LISTING THE DALEA REVERCHONII SPECIMENS AT BAYLOR UNIVERSITY HERBARIUM. DECEMBER 3, 2003.

Specimen:

SOUTHERN METHODIST UNIVERSITY HERBARIUM. 1983. WM.F. MAHLER #9594, SPECIMEN # NONE SMU. 16 MAY 1983.

NEW YORK BOTANICAL GARDEN, BRONX. 197?. R. BARNEBY #13529, SPECIMEN # ? NY.

BAYLOR UNIVERSITY HERBARIUM 1997 M A HORNER #6215 AND J SINGHURST, SPECIMEN # ? BAYLU 2 AUGUST 1997.

BAYLOR UNIVERSITY HERBARIUM. 2003. W.C. HOLMES #12591 AND J. SINGHURST, SPECIMEN # NONE BAYLU. JUNE 2003.

Southern Methodist University Herbarium. 1984. W.L. Mahler #9787 and Wm.F. Mahler, Specimen # none SMU. 26 May 1984.

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 2 **Eo Id:** 2767
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

CA. 4 MILES SOUTHWEST OF SPRINGTOWN NEAR STONE GATES; 0.2 TO 0.5 MILES SOUTH OF 1884 AND TX 51 ON TX 51

Survey Information:

First Observation: 1983-05-16 **Survey Date:** **Last Observation:** 1984-06-11
Eo Type: **Eo Rank:** F **Eo Rank Date:** 2003-08-01

Observed Area:

Comments:

General Description: ROADSIDE AND PASTURE; SANDY CALCAREOUS SOIL

Comments: OCCURRENCE # 019 COULD BE THE SAME SITE, ALTHOUGH MAHLERS MILEAGE DIRECTIONS DO NOT FIT

Protection Comment

Management Comments:

Data:

EO Data: ORZELL COULD NOT RELOCATE ON 6-25-87; MAHLER #9805 COLLECTED IN 1984 IS AT SMU; MCLEMORE AND O'KENNON COUND NOT RELOCATE IN AUGUST 2003

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

McLemore, Caren and R. J. O'Kennon. 2003. Dalea reverchonii (S. Watson) Shinners status survey. Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.

MAHLER, WM. F. 1984. STATUS REPORT FOR DALEA REVERCHONII.

Element Occurrence Record

Specimen:

SOUTHERN METHODIST UNIVERSITY HERBARIUM. 1983. WM.F. MAHLER #9597, SPECIMEN # NONE SMU. 16 MAY 1983

SOUTHERN METHODIST UNIVERSITY HERBARIUM. 1984. WM.F. MAHLER #9805, SPECIMEN # NONE SMU. 11 JUNE 1984.

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 12 **Eo Id:** 2518
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

CA 0.5 MILES NORTH OF HIGHLAND CHURCH; ON HIGHLAND ROAD BETWEEN SPRINGTOWN AND HIGHLAND ADDITION CA 3.5 AIR MILES SOUTHEAST OF SPRINGTOWN OR 1.4 AIR MILES SOUTHWEST OF HIGHLAND ADDITION

Survey Information:

First Observation: 1987-06-25 **Survey Date:** 1987-06-25 **Last Observation:** 2003-08
Eo Type: **Eo Rank:** B **Eo Rank Date:** 1987-06-25
Observed Area: 2.00

Comments:

General Description: ALONG R-O-W THROUGH RELATIVELY FLAT GOODLAND LIMESTONE (CRETACEOUS AGE) GLADES; PLANTS IN OPEN GLADES AND ON RIMS OF OLD GRAVEL PITS

Comments: ORZELL #5571 TO BE DEPOSITED AT UNIVERSITY OF TEXAS, AUSTIN

Protection Comments:

Management Comments:

Data:

EO Data: SEVERAL HUNDRED PLANTS IN FLOWER AND FRUIT MOSTLY IN FRUIT 6-25-87; ASSOCIATES INCLUDE DALEA TENUIS, MINUARTIA MICHAUXII, HELIOTROPIUM TENELLUM, HEDEOMA DRUMMONDII AND OTHER DRY CALCIPHILIC PLANTS; 14 JUNE 2001, 162 PLANTS OBSERVED; AUGUST 2003, >300 PLANTS

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.
McLemore, Caren and R. J. O'Kennon. 2003. Dalea reverchonii (S. Watson) Shinnery status survey. Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).
SINGHURST, JASON. 2003. E-MAIL FORWARDED FROM LAILAH REICH WHICH INCLUDED LAT/LONG LOCATION INFORMATION FOR DALEA REVERCHONII FROM A 2001 SURVEY. DECEMBER 10, 2003.

Element Occurrence Record

Specimen:

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1987. S.L. ORZELL #5571, SPECIMEN # ? TEX. 25 JUNE 1987.

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 14 **Eo Id:** 5004
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

1.0-1.3 MILES NORTH OF CARTER (COMMUNITY) ON HUTCHISON HILL ROAD; CA. 4.2 AIR MILES SOUTHWEST OF SPRINGTOWN

Survey Information:

First Observation: 1987-06-25 **Survey Date:** 1987-06-25 **Last Observation:** 2003-08
Eo Type: **Eo Rank:** C **Eo Rank Date:** 1987-06-25
Observed Area: 1.00

Comments:

General Description: SLOPING GOODLAND LIMESTONE (CRETACEOUS AGE) GLADES

Comments: ORZELL # 5576 TO BE DEPOSITED AT UNIVERSITY OF TEXAS, AUSTIN

Protection Comments:

Management Comments:

Data:

EO Data: 25 JUNE 1987, APPROXIMATELY 50 CLUMPS GROWING WITH MINUARTIA MICHAUXII, THELESERMA SP, ARISTIDA SP, HELIOTROPIUM TENELLUM, AND OTHER DRY ADAPTED CALCIPHILIC PLANTS; 14 JUNE 2001, 24 PLANTS; AUGUST 2003, CA. 46 PLANTS

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.
McLemore, Caren and R. J. O'Kennon. 2003. Dalea reverchonii (S. Watson) Shinnery status survey. Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).
SINGHURST, JASON. 2003. E-MAIL FORWARDED FROM LAILAH REICH WHICH INCLUDED LAT/LONG LOCATION INFORMATION FOR DALEA REVERCHONII FROM A 2001 SURVEY. DECEMBER 10, 2003.

Element Occurrence Record

Specimen:

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1987. S.L. ORZELL #5576, SPECIMEN # ? TEX. 25 JUNE 1987.

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 15 **Eo Id:** 540
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

CA. 5 MILES SOUTHWEST OF SPRINGTOWN ON TX 51, THEN WEST 0.3 TO 0.5 MILES ON CARTER ROAD; CA 0.5 AIR MILES SOUTHEAST OF CARTER

Survey Information:

First Observation: 1987-06-25 **Survey Date:** 1987-06-25 **Last Observation:** 2003-08
Eo Type: **Eo Rank:** B **Eo Rank Date:** 1987-06-25
Observed Area: 3.00

Comments:

General Description: FLAT TO GENTLY SLOPING GOODLAND LIMESTONE (CRETACEOUS AGE) GLADES AROUND STREAMHEAD RAVINE

Comments: ORZELL #5574 TO BE DEPOSITED AT UNIVERSITY OF TEXAS, AUSTIN

Protection Comments:

Management Comments:

Data:

EO Data: APPROXIMATELY 1000 CLUMPS IN FRUIT AND FLOWER ON 6-25-87; 14 JUNE 2001, 12 PLANTS, WITH A FEW IN PASTURE BEYOND; AUGUST 2003, >150 PLANTS, ABUNDANT ALONG ROAD

Community Information:

<u>Scientific Name</u>	<u>Stratum</u>	<u>Dominant</u>	<u>Lifeform</u>	<u>Composition Note</u>

Reference:

Citation:

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.

McLemore, Caren and R. J. O'Kennon. 2003. Dalea reverchonii (S. Watson) Shinnery status survey. Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).

SINGHURST, JASON. 2003. E-MAIL FORWARDED FROM LAILAH REICH WHICH INCLUDED LAT/LONG LOCATION INFORMATION FOR DALEA REVERCHONII FROM A 2001 SURVEY. DECEMBER 10, 2003.

Element Occurrence Record

Specimen:

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1987. S. ORZELL #5574, SPECIMEN # ? TEX. 25 JUNE 1987.

Element Occurrence Record

Scientific Name: Dalea reverchonii **Occurrence #:** 19 **Eo Id:** 5372
Common Name: Comanche Peak prairie clover **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G2 **State Rank:** S2 **Federal Status:**

Location Information:

Directions

CA. 5.3-5.7 MILES SOUTH-SOUTHWEST OF SPRINGTOWN ON HIGHWAY 51; CA. 0.3-0.7 MILE SOUTH OF CARTER ROAD; IN UPPER REACHES OF MCKNIGHT BRANCH AND ALONG HIGHWAY 51

Survey Information:

First Observation: 1987-06-25 **Survey Date:** 1987-06-25 **Last Observation:** 2003-08
Eo Type: **Eo Rank:** C **Eo Rank Date:** 1987-06-25
Observed Area: 1.00

Comments:

General Description: PLANTS SCATTERED ALONG ROADSIDE AND IN FORMERLY GRAZED PASTURE, SANDY CALCAREOUS SOIL

Comments: ORZELL #5580 TO BE DEPOSITED AT UNIVERSITY OF TEXAS, AUSTIN; 2003, NUMBER OF PLANTS DESTROYED BY TXDOT ROAD WORK; PLANTS OBSERVED IN AND BEYOND FENCELINE IN THIS AREA

Protection Comment

Management Comments:

Data:

EO Data: PLANTS OBSERVED IN FRUIT ON 6-25-87; 26 JUNE 2001, 250 PLANTS OBSERVED; AUGUST 2003, CA. 9 PLANTS IN SAME AREA WHERE 250 WERE PREVIOUSLY SEEN, HOWEVER ANOTHER SUBPOPULATION JUST OFF OF FM 51 DISCOVERED WITH CA. 150 PLANTS

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

ORZELL, STEVE. 1987. FIELD SURVEY OF NORTH-CENTRAL TEXAS, 18 JUNE-2 JULY 1987.

McLemore, Caren and R. J. O'Kennon. 2003. Dalea reverchonii (S. Watson) Shinners status survey. Prepared for The Nature Conservancy's Texas Conservation Data Center, San Antonio, Texas. (Minor revision June 2007).

SINGHURST, JASON. 2003. E-MAIL FORWARDED FROM LAILAH REICH WHICH INCLUDED LAT/LONG LOCATION INFORMATION FOR DALEA REVERCHONII FROM A 2001 SURVEY. DECEMBER 10, 2003.

Element Occurrence Record

Specimen:

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1987. S.L. ORZELL #5580, SPECIMEN # ? TEX. 25 JUNE 1987.

Element Occurrence Record

Scientific Name: Dalea reverchonii

Occurrence #: 36

Eo Id: 4062

Common Name: Comanche Peak prairie clover

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G2

State Rank: S2

Federal Status:

Location Information:

Directions

FM 51, CA. 0.5 MILE SOUTH OF SPRINGTOWN

Survey Information:

First Observation: 2001-06-13

Survey Date:

Last Observation: 2001-06-13

Eo Type:

Eo Rank: E

Eo Rank Date: 2001-06-13

Observed Area:

Comments:

General

Description:

Comments: SPECIMEN, HOLMES 11653, CORRELATES TO THIS RECORD

Protection

Comments:

Management

Comments:

Data:

EO Data: 13 JUNE 2001, SPECIMEN COLLECTED

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation

SINGHURST, JASON. 2003. E-MAIL LISTING THE DALEA REVERCHONII SPECIMENS AT BAYLOR UNIVERSITY HERBARIUM. DECEMBER 3, 2003.

Specimen:

BAYLOR UNIVERSITY HERBARIUM. 2001. W. HOLMES #11653 AND L. REICH, SPECIMEN # NONE BAYLU. 13 JUNE 2001.

Element Occurrence Record

Scientific Name: Schizachyrium scoparium - Bouteloua
curtipendula - Nassella leucotricha Herbaceous
Vegetation

Occurrence #: 8 **Eo Id:** 12003

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: GNR **State Rank:** SNR

Federal Status:

Location Information:

Directions

The site is located approximately 5.5 air miles almost directly south of Springtown, and 7.5 air miles almost directly west of Sanctuary. The directions were created by database staff.

Survey Information:

First Observation: 2008-05-14 **Survey Date:** 2008-05-14 **Last Observation:** 2008-05-14

Eo Type: **Eo Rank:** E **Eo Rank Date:** 2008-05-14

Observed Area:

Comments:

General Description: 14 May 2008: This site is well drained and the hydrology includes Dobbs Branch, Beene Branch, Wood Creek, Lick Branch, and Browders Creek, It has thin, gravelly soil and small prairie islands over limestone outcrops in the Western Cross Timbers; See the Composition Tab for other species within the area.

Comments: 14 May 2008: The first observation was made on 11 May 2008.

Protection

Comments:

Management

Comments:

Data:

EO Data: 14 May 2008: One plant community of medium quality consisting of mixed grass species; Forb species are of medium quality, very high diversity, and low density; There are a few exotic species inside the fenceline; Woody cover is between the ranges of less than 1 percent to 6-25 percent.

Community Information:

Element Occurrence Record

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>
Bifora americana	Herb (field)	N	Forb	SFID: 25014
Bouteloua curtipendula	Herb (field)	Y	Graminoid	SFID: 25013
Callirhoe pedata	Herb (field)	N	Forb	SFID: 25014
Echinacea angustifolia	Herb (field)	N	Forb	SFID: 25014
Gaura coccinea	Herb (field)	N	Forb	SFID: 25014
Liatris aestivalis	Herb (field)	N	Forb	SFID: 25014
Nassella leucotricha	Herb (field)	Y	Graminoid	SFID: 25013
Petalostemon tenuis	Herb (field)	N	Forb	SFID: 25014
Prosopis glandulosa	Tree (canopy & subcanopy)	N	Thorn tree	SFID: 25014
Schizachyrium scoparium	Herb (field)	Y	Graminoid	SFID: 25013
Silphium albiflorum	Herb (field)	N	Forb	SFID: 25014

Reference:

Citation:

Native Prairies Association of Texas. 2011. Tallgrass prairie survey project that includes shapefiles , excel files, documents, images, and protocol for multiple counties in Texas (2000-2013).

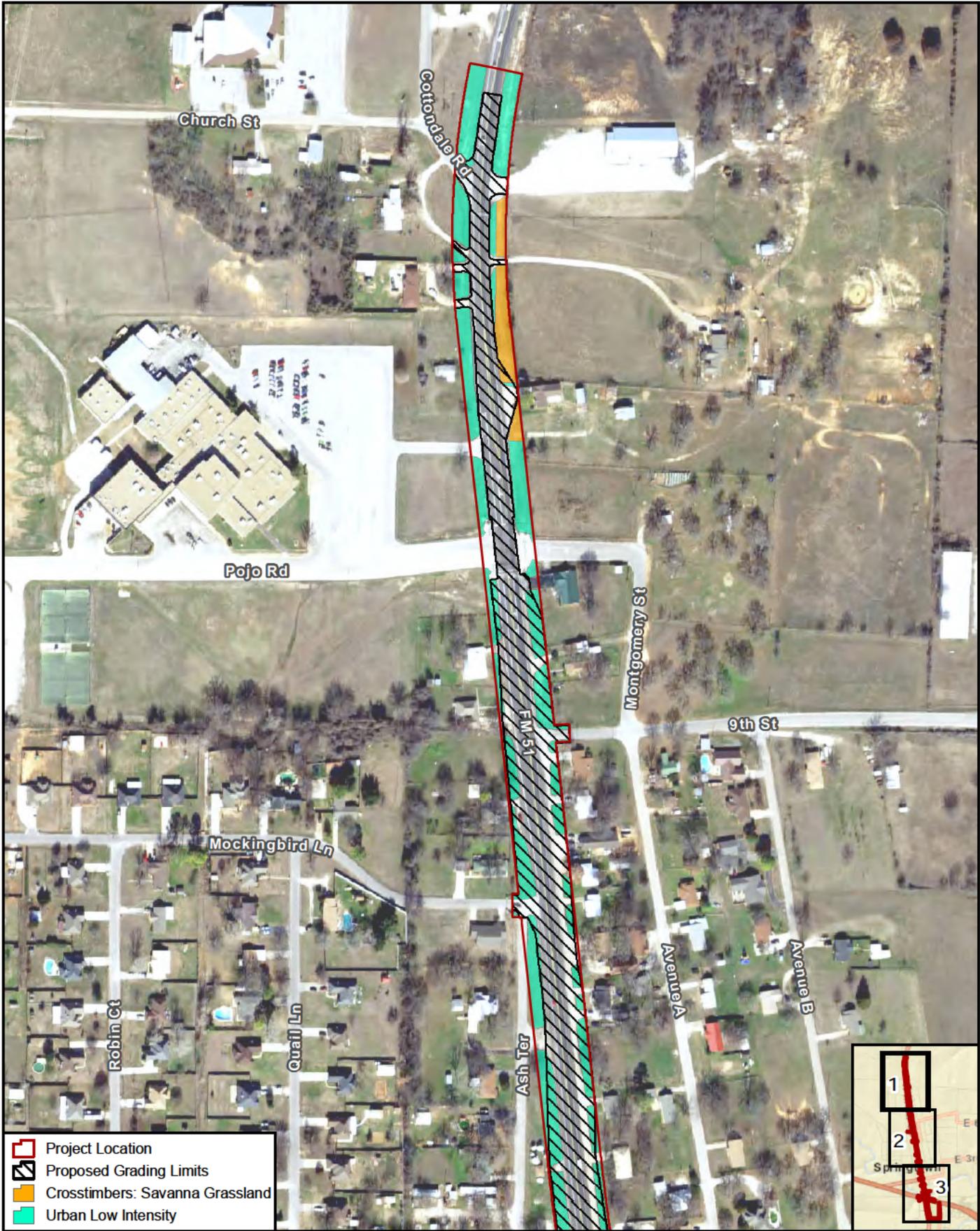
Specimen:

ATTACHMENT 7: PROJECT EMST VEGETATION TYPES

Project EMST Vegetation Types

MOU Habitat	Ecosystem Name	Common Name	acres
Crosstimbers Woodland and Forest			
	Crosstimbers Oak Forest and Woodland		
		Crosstimbers: Savanna Grassland	0.021
MOU Habitat Sum acres			0.021
Urban			
	Urban		
		Urban High Intensity	0.321
		Urban Low Intensity	3.664
MOU Habitat Sum acres			3.985
Sum acres			4.006

ATTACHMENT 8: EMST MAPPED VEGETATION TYPES FIGURE



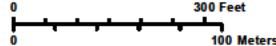
-  Project Location
-  Proposed Grading Limits
-  Crosstimbers: Savanna Grassland
-  Urban Low Intensity

EMST Mapped Vegetation Types

Sheet 1 of 3

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Source: TxDOT/TPWD EMST/MoRAP (2013)
Aerial Source: TNRIS (2015)



Prepared for: TxDOT	1 in = 300 feet
CSJ: 0313-02-057, 0171-03-070	Scale: 1:3,600
	Date: 1/8/2018

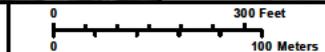


EMST Mapped Vegetation Types

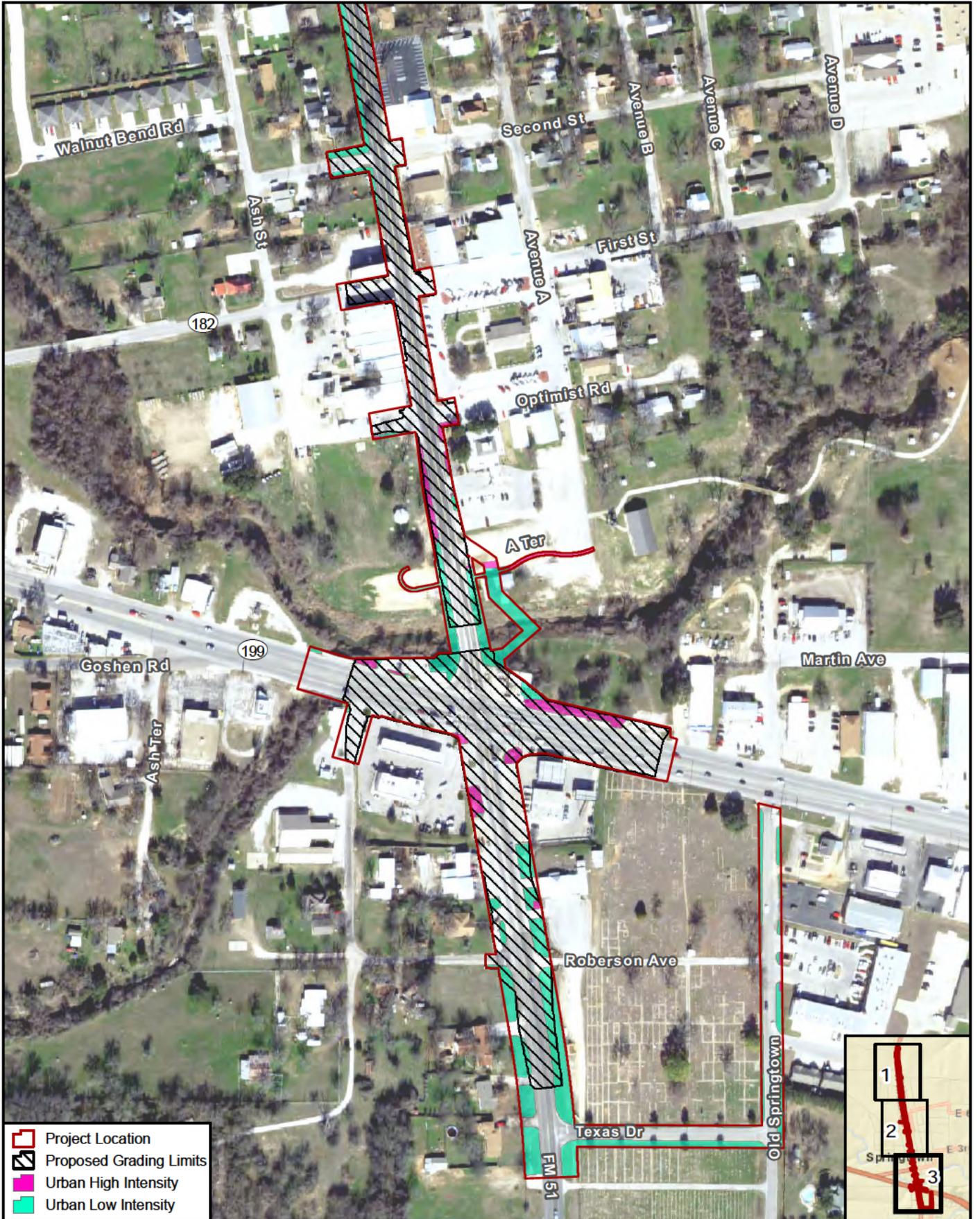
Sheet 2 of 3

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Source: TxDOT/TPWD EMST/MoRAP (2013)
Aerial Source: TNRIS (2015)



Prepared for: TxDOT	1 in = 300 feet
Scale: 1:3,600	Date: 1/8/2018
CSJ: 0313-02-057, 0171-03-070	



- Project Location
- Proposed Grading Limits
- Urban High Intensity
- Urban Low Intensity

EMST Mapped Vegetation Types

Sheet 3 of 3

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Source: TxDOT/TPWD EMST/MoRAP (2013)
Aerial Source: TNRIS (2015)

Prepared for: TxDOT	
Scale: 1:3,600	
Date: 1/8/2018	
CSJ: 0313-02-057, 0171-03-070	

ATTACHMENT 9: OBSERVED VEGETATION TYPES

Description of Observed Vegetation

Vegetation observed within the project area is not accurately represented by the mapped EMST. Observed vegetation generally consists of two observed vegetation types within the proposed project area. Existing vegetation within the project area, as observed during the October 2017 field investigation, is described below.



Photo 1: Observed Vegetation Type 1: Urban Low Intensity

Observed Vegetation Type 1: Urban Low Intensity (corresponds with MOU Urban habitat type), is dominated by a thick herbaceous layer of Bermudagrass (*Cynodon dactylon*), common yellow oxalis (*Oxalis stricta*), and Johnsongrass (*Sorghum halepense*). Encroaching mustang grape (*Vitis mustangensis*) and trumpet creeper (*Campsis radicans*) are located along fence lines. The canopy cover is patchy and is comprised of mostly planted and ornamental species which have been pruned and maintained. Woody species include American elm (*Ulmus americana*), crape myrtle (*Lagerstroemia indica*), and live oak (*Quercus virginiana*). The diameter at breast height (DBH) of woody species ranged from 4 inches to 18 inches. This observed vegetation type is located along the majority of the project area which is located in existing medians and along the shoulders of SH 199 and FM 51. Residential maintained yards, and Springtown Park was also covered by Urban Low Intensity vegetation. These areas are highly disturbed and were likely seeded at one time. Approximately 7.411 acres of Observed Vegetation Type 1 is located within the project area and approximately 3.980 acres would be potentially impacted by the proposed project.

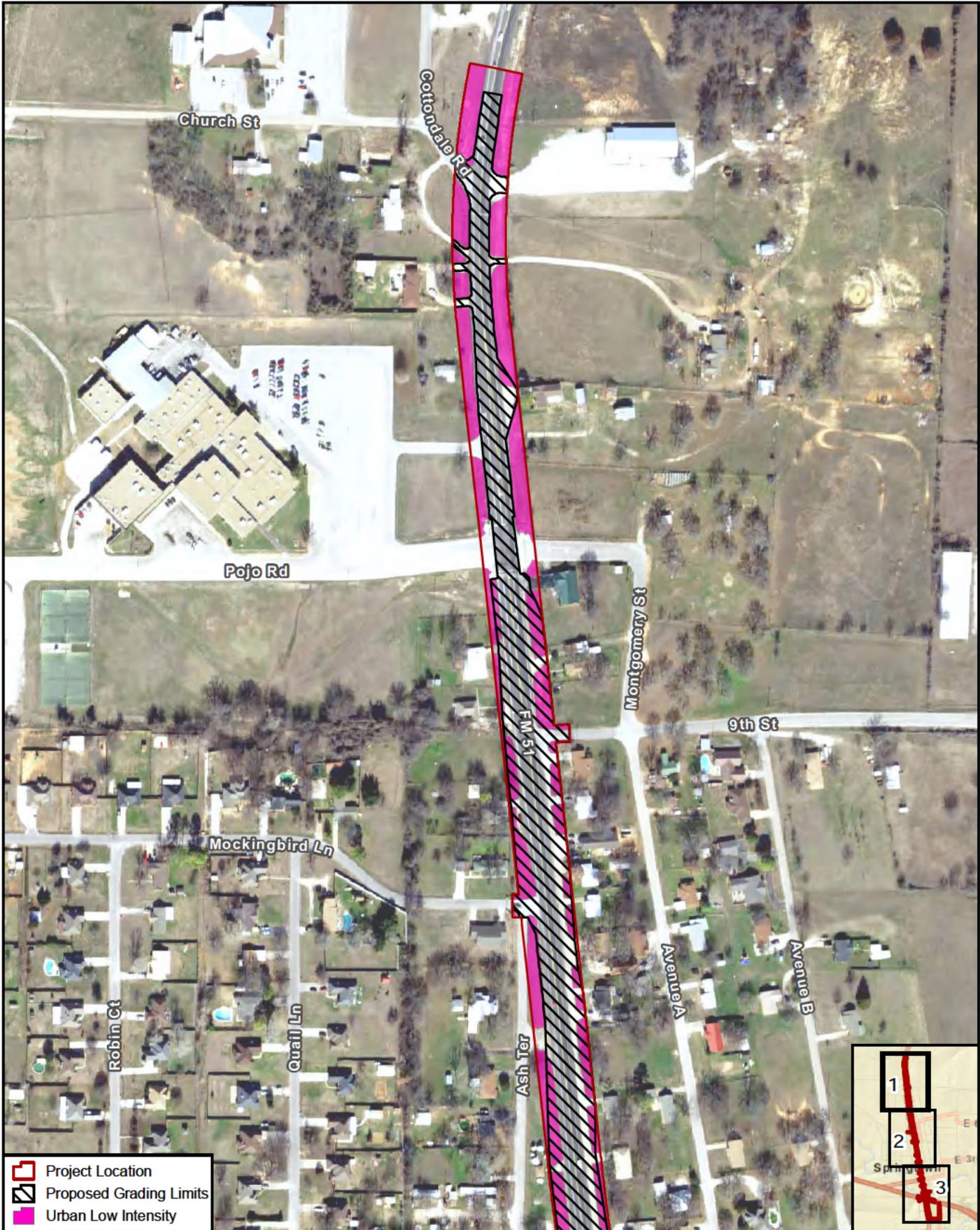


Photo 2: Observed Vegetation Type 2: Central Texas: Herbaceous Riparian Vegetation

Observed Vegetation Type 2: Central Texas: Herbaceous Riparian Vegetation (corresponds with MOU Riparian habitat type), is dominated by thick herbaceous groundcover comprised of rough cocklebur (*Xanthium strumarium*), Johnsongrass, great ragweed (*Ambrosia trifida*), black willow saplings (*Salix nigra*), common spikerush (*Eleocharis palustris*), and annual bastardcabbage (*Rapistrum rugosum*). Thick mats of mustang grape and tall morning-glory (*Ipomoea purpurea*) are also located throughout this observed vegetation type. Observed Vegetation Type 2 is located along the banks of Walnut Creek. These areas are small remnant pockets of unmaintained native vegetation which have significant encroachment of introduced/invasives. Approximately 0.111-acre of Observed Vegetation Type 2 is located within the project area and approximately 0.026- acre would be potentially impacted by the proposed project.

Impacts to Vegetation Types Observed within the Project Area				
Observed Vegetation Type	Impacts (acres)	Corresponding MOU Type	MOU Threshold (acres)	Threshold Exceeded?
Urban Low Intensity	3.980	Urban	None	No
Central Texas: Herbaceous Riparian Vegetation	0.026	Riparian	0.10	No
Total	3.077			

ATTACHMENT 10: OBSERVED VEGETATION TYPES FIGURE



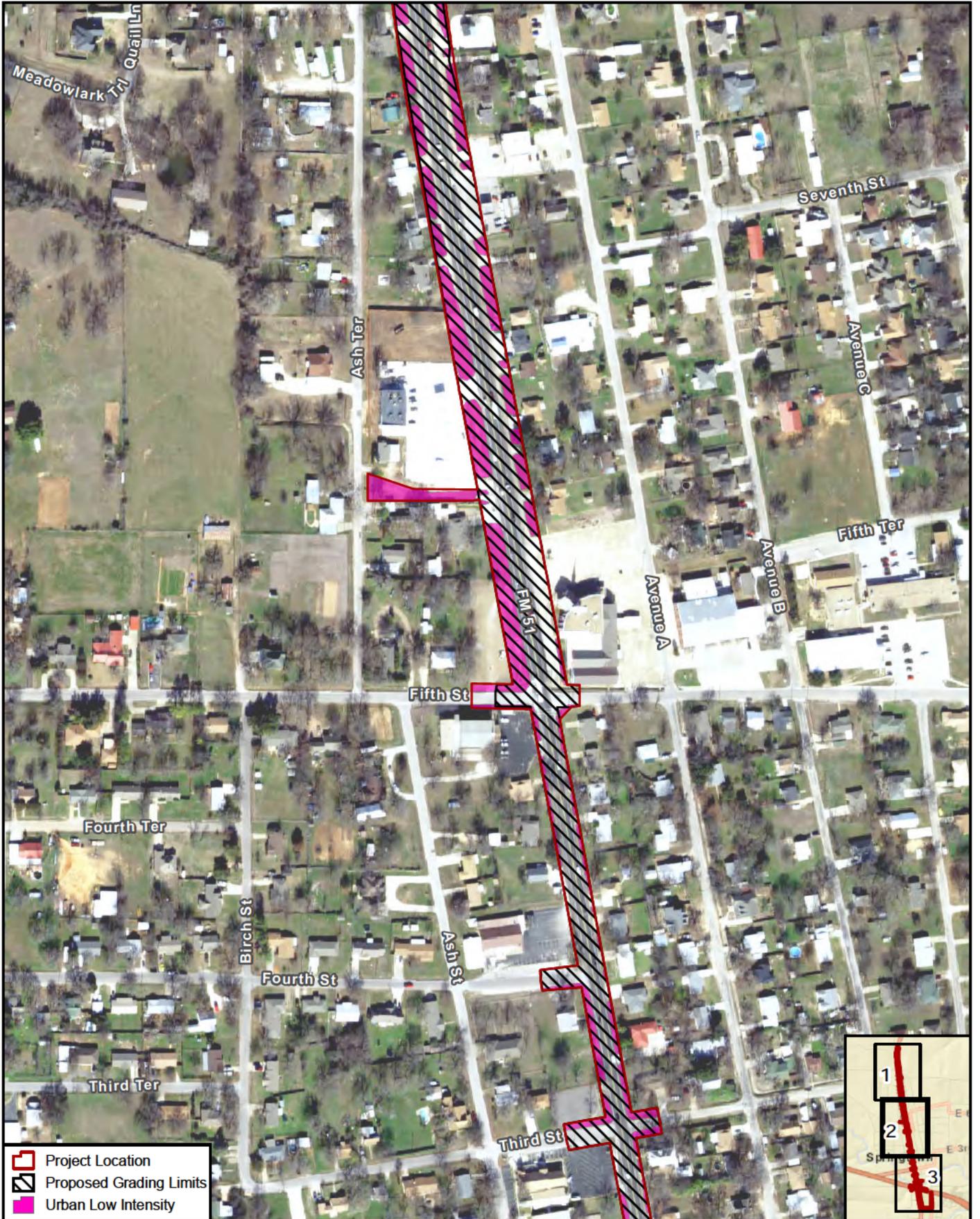
Observed Vegetation Types

Sheet 1 of 3

SH 199 and FM 51 Intersection and Roadway Reconstruction

G:\Projects\Parker County\FM51_SH199\BEF_Observed Vegetation_20180108.mxd

	0 300 Feet
	0 100 Meters
Prepared for: TxDOT	1 in = 300 feet
Data Source: CMEC (2017)	Scale: 1:3,600
Aerial Source: TNRIS (2015)	Date: 1/8/2018
CSJ: 0313-02-057, 0171-03-070	



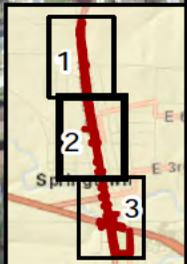
-  Project Location
-  Proposed Grading Limits
-  Urban Low Intensity

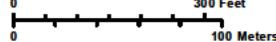
Observed Vegetation Types

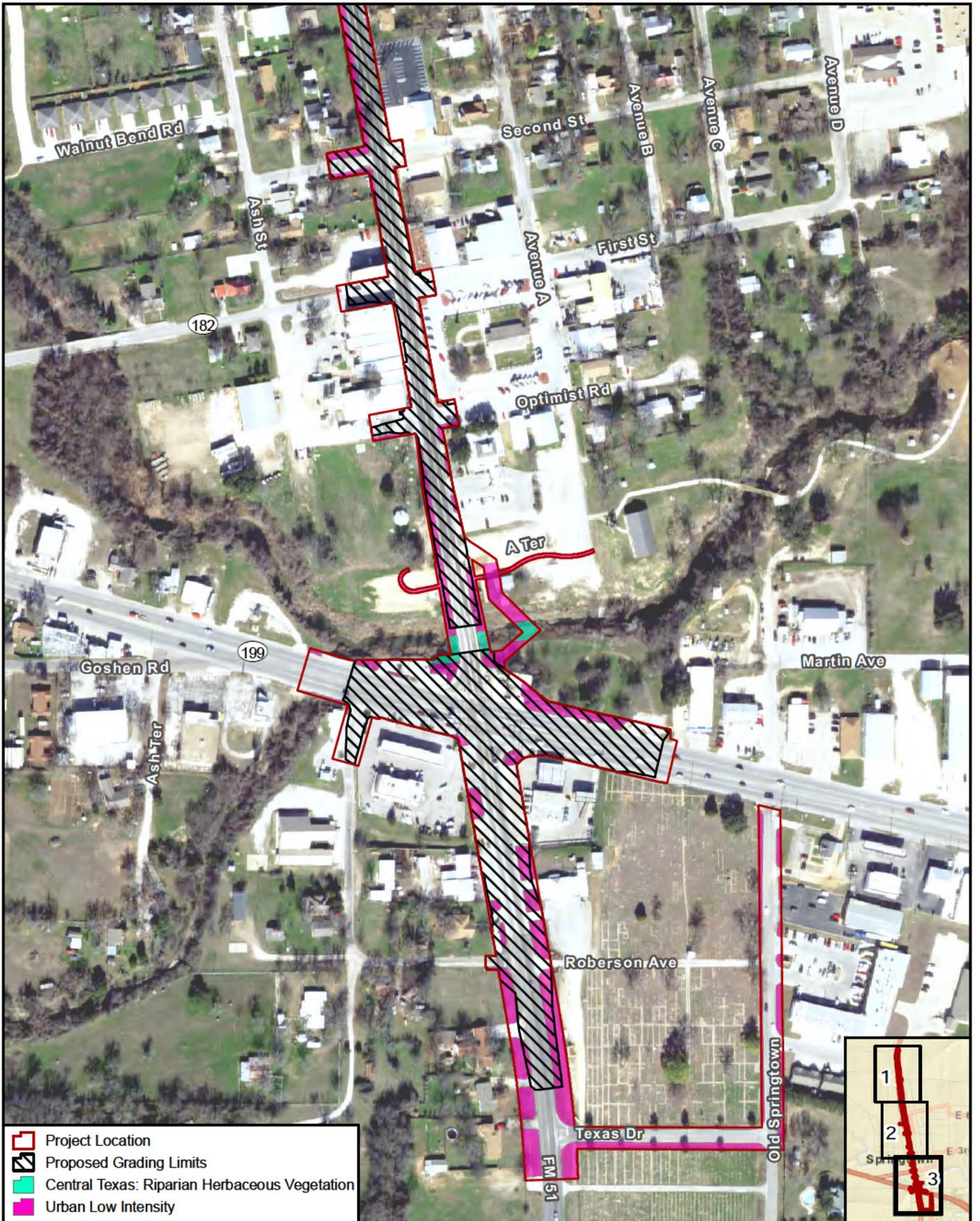
Sheet 2 of 3

SH 199 and FM 51 Intersection and Roadway Reconstruction

G:\Projects\Parker County\FM51_SH199\BEF_Observed Vegetation_20180108.mxd



	
	1 in = 300 feet Scale: 1:3,600 Date: 1/8/2018
Prepared for: TxDOT Data Source: CMEC (2017) Aerial Source: TNRIS (2015) CSJ: 0313-02-057, 0171-03-070	



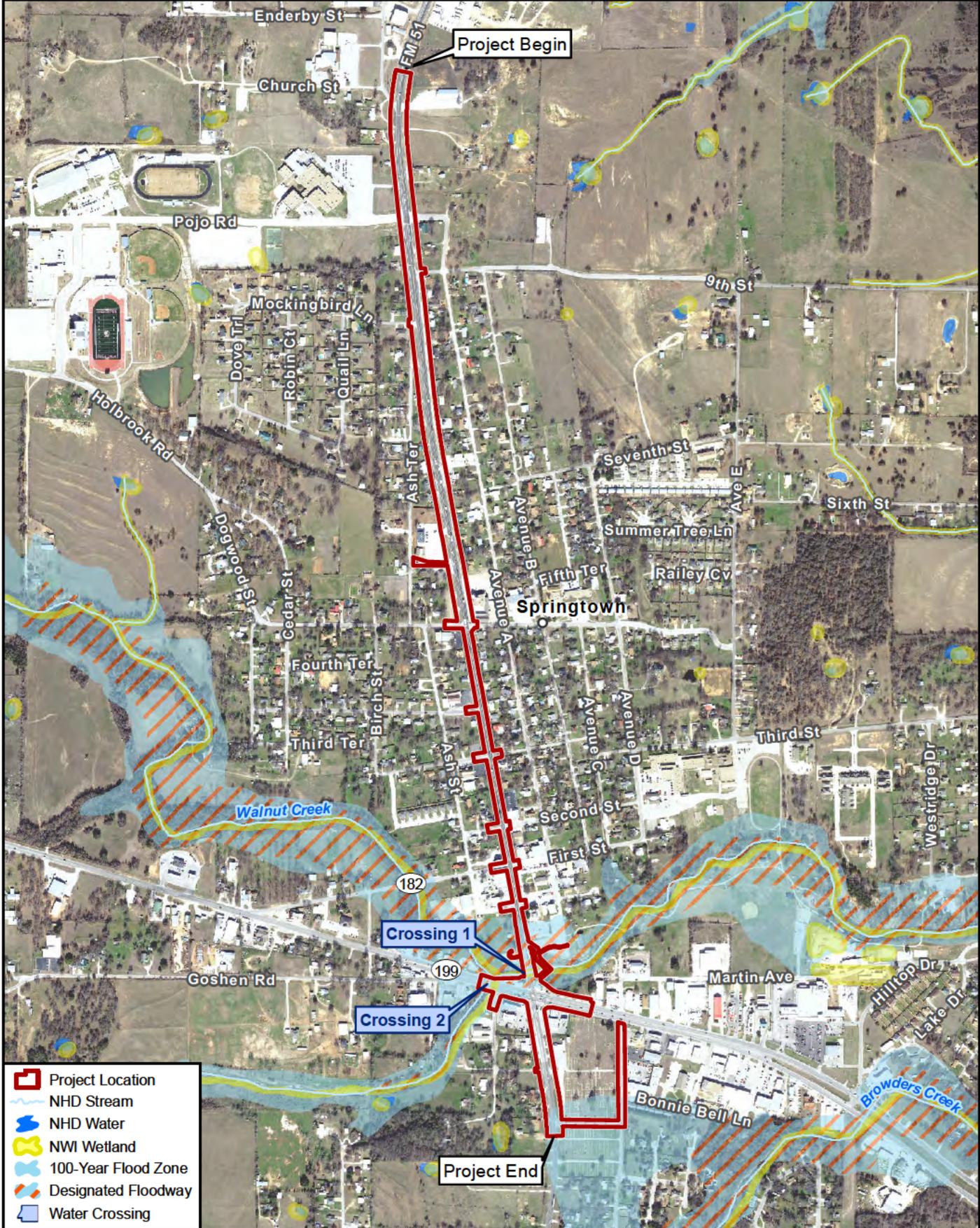
- Project Location
- Proposed Grading Limits
- Central Texas: Riparian Herbaceous Vegetation
- Urban Low Intensity



Observed Vegetation Types
 Sheet 3 of 3
SH 199 and FM 51 Intersection and Roadway Reconstruction

	0 300 Feet 0 100 Meters
Prepared for: TxDOT	1 in = 300 feet
Data Source: CMEC (2017) Aerial Source: TNRIS (2015)	Scale: 1:3,600
CSJ: 0313-02-057, 0171-03-070	Date: 1/8/2018

ATTACHMENT 11: WATER RESOURCES FIGURE

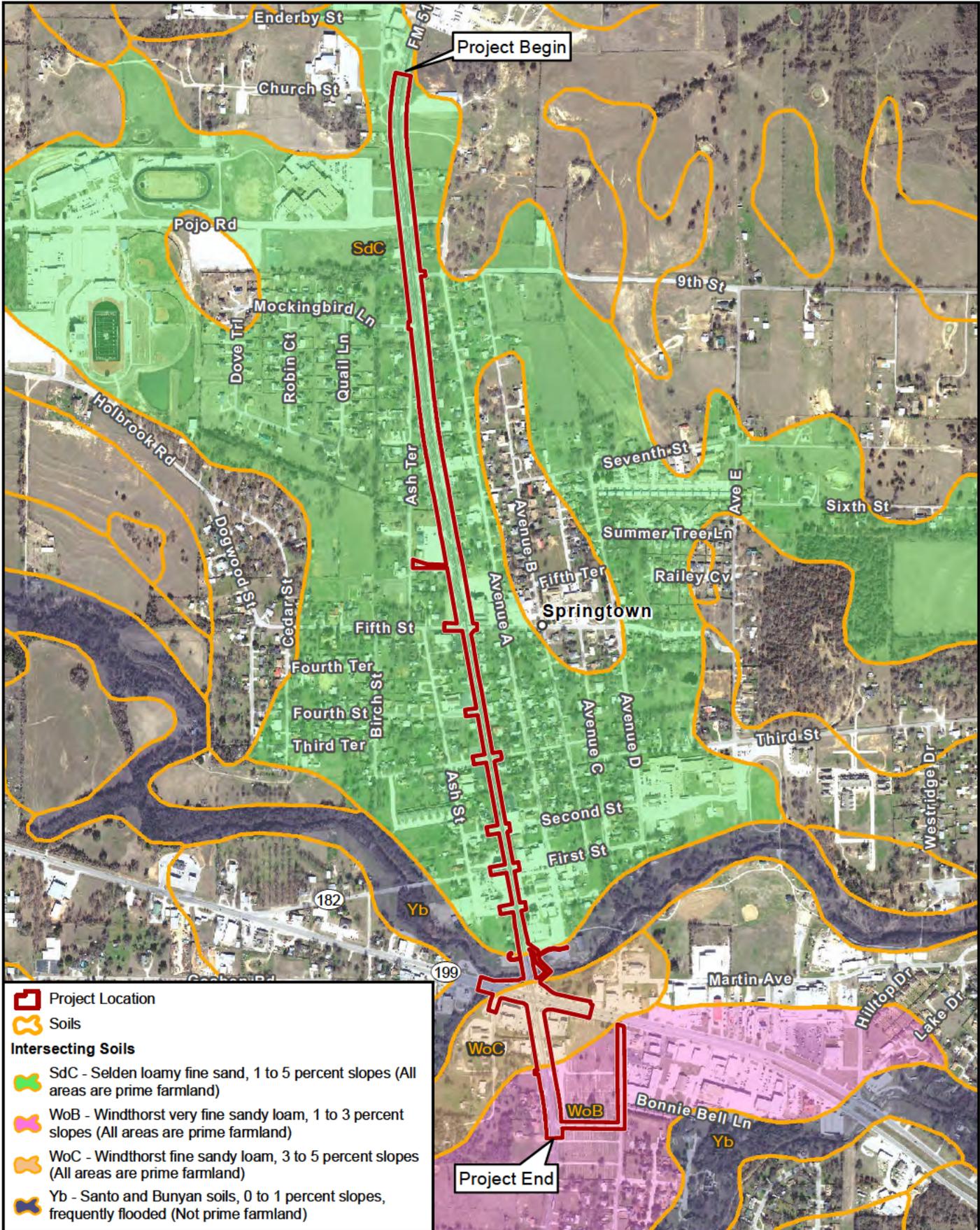


- Project Location
- NHD Stream
- NHD Water
- NWI Wetland
- 100-Year Flood Zone
- Designated Floodway
- Water Crossing

Water Resources
 In the Project Vicinity
SH 199 and FM 51 Intersection and Roadway Reconstruction

	0 1,000 Feet
	0 300 Meters
Data Sources: CMEC (2017), NHD (2014), NWI (2016), FEMA NFHL (2017) Aerial Source: TNRIS (2015)	Prepared for: TxDOT 1 in = 1,000 feet Scale: 1:12,000 Date: 10/30/2017
CSJ: 0313-02-057, 0171-03-070	

ATTACHMENT 12: SOILS IN THE PROJECT AREA FIGURE



Project Location

Soils

Intersecting Soils

- SdC - Selden loamy fine sand, 1 to 5 percent slopes (All areas are prime farmland)
- WoB - Windthorst very fine sandy loam, 1 to 3 percent slopes (All areas are prime farmland)
- WoC - Windthorst fine sandy loam, 3 to 5 percent slopes (All areas are prime farmland)
- Yb - Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded (Not prime farmland)

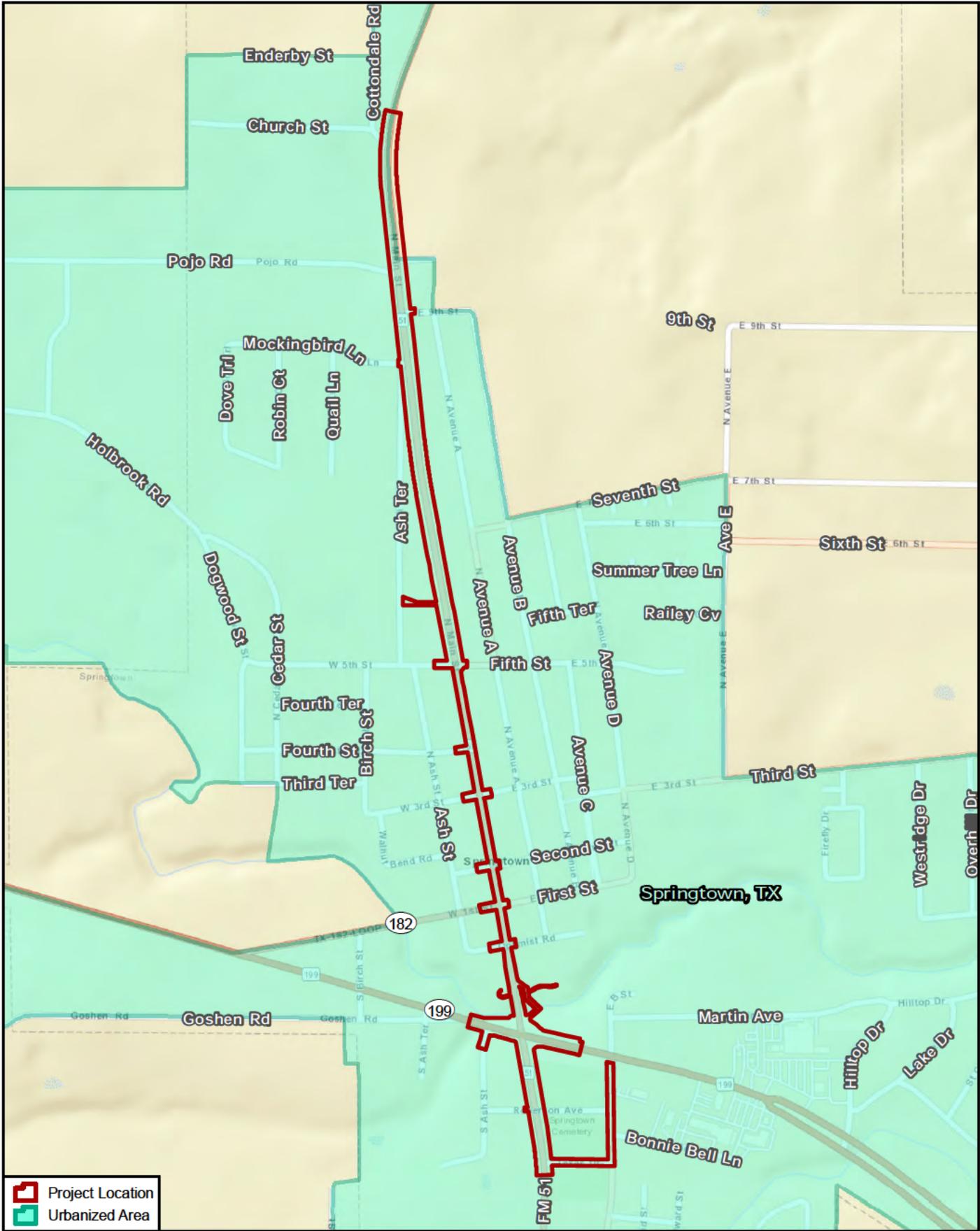
Soils
 In the Project Vicinity
SH 199 and FM 51 Intersection and Roadway Reconstruction

0 1,000 Feet
 0 300 Meters

Prepared for: TxDOT 1 in = 1,000 feet
 Scale: 1:12,000
 Date: 1/8/2018

Data Source: NRCS (2016)
 Aerial Source: TNRIS (2015)
 CSJ: 0313-02-057, 0171-03-070

ATTACHMENT 13: URBANIZED AREA FIGURE



- Project Location
- Urbanized Area

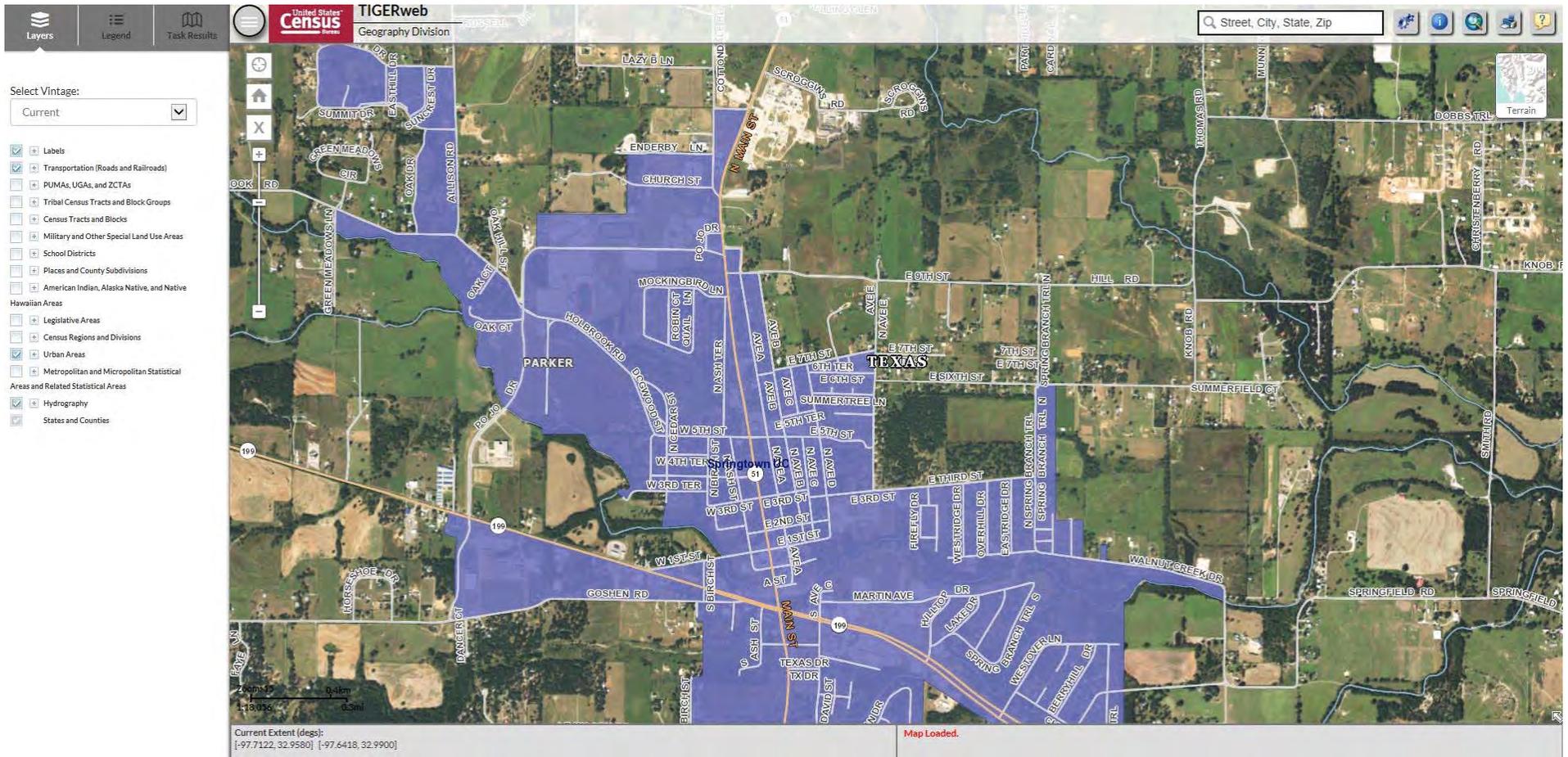
Urbanized Area
in the Project Vicinity

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Source: U.S. Census Bureau (2010)
Basemap Source: ESRI (2017)

	Prepared for: TxDOT Scale: 1:12,000 Date: 9/15/2017

ATTACHMENT 14: 2010 CENSUS URBANIZED AREA SCREENSHOT



Accessed on October 24, 2017.
<https://tigerweb.geo.census.gov/tigerweb/>

ATTACHMENT 15: PROJECT AREA PHOTOGRAPHS



Photo 1: Northern terminus of the project area along FM 51. Viewing north.



Photo 2: Northern terminus of the project area along FM 51. Viewing south.



Photo 3: EMST mapped Crosstimbers: Savanna Grassland vegetation type near the northern terminus of the project area. Field verified as Urban Low Intensity vegetation type. Viewing northeast.



Photo 4: Typical roadway conditions along the northern extent of the project area. Viewing south at the US 51 and Pojo Road intersection.



Photo 5: Typical Urban Low Intensity observed vegetation along US 51 near the Mockingbird Lane intersection. Viewing south.



Photo 6: Typical grasslined swale and roadside ditch network along US 51 near the W. 5th Street intersection. Viewing south.



Photo 7: Typical grasslined swale and roadside ditch network along US 51 near the W. 5th Street intersection. Viewing south.



Photo 8: Typical road conditions within the project area. Viewing west at the US 51 and W. 3rd Street intersection.



Photo 9: Typical roadway and right-of-way conditions in the urban center (near the US 51 and SH 199 intersection). Viewing south along US 51.



Photo 10: Typical roadway and right-of-way conditions in the urban center (near the US 51 and SH 199 intersection). Viewing north along US 51.



Photo 11: Typical Urban Low Intensity vegetation within the project area. Viewing south along US 51 at Springtown Park.



Photo 12: The existing sidewalk at US 51 at Walnut Creek bridge. Viewing east.



Photo 13: The location of the proposed sidewalk. Located in existing Parker County right-of-way and Urban Low Intensity observed vegetation. Viewing east.



Photo 14: The existing US 51 at Walnut Creek bridge. Viewing south along US 51.



Photo 15: Central Texas: Herbaceous Riparian Vegetation observed along Walnut Creek from the US 51 bridge. Viewing upstream.



Photo 16: The US 51 at Walnut Creek bridge deck surface. Viewing south along US 51.



Photo 17: The US 51 and SH 199 intersection. Viewing south along US 51.



Photo 18: The SH 199 western terminus. Viewing west along SH 199.



Photo 19: The SH 199 eastern terminus. Viewing west along SH 199.



Photo 20: Springtown Cemetery located near the southern terminus of the project area. Viewing east.



Photo 21: Proposed detour route along Texas Drive. Viewing east.



Photo 22: Proposed detour route at Texas Drive and the Old Springtown Road intersection. Viewing north along Old Springtown Road.



Photo 23: Proposed detour route at Old Springtown Road and SH 199 intersection. Viewing north.



Photo 24: Northern terminus of the project area along FM 51. Viewing south.



Photo 25: Cliff swallow nests located in the box culverts under SH 199 (Crossing 2).



Photo 26: Wetland Determination Data Point WDP1 (upland). Located along the northern bank of Walnut Creek at Crossing 1.



Photo 27: Crossing 1 (Walnut Creek). Viewing upstream.



Photo 28: Crossing 1 (Walnut Creek). Viewing downstream.



Photo 29: Wetland Determination Data Point WDP2 (wetland). Located within a marginal emergent wetland (Wetland 1) along the banks of Walnut Creek at Crossing 1.



Photo 30: Crossing 1 (Walnut Creek) at the existing US 51 bridge. Viewing downstream.



Photo 31: Wetland 1 located at Crossing 1 (Walnut Creek).



Photo 32: Wetland Determination Data Point WDP3 (upland). Located along the southern bank of Walnut Creek at Crossing 1.



Photo 33: Wetland Determination Data Point WDP4 (upland). Located along the eastern bank of an unnamed tributary to Walnut Creek at Crossing 2.



Photo 34: Wetland Determination Data Point WDP5 (upland). Located along the eastern bank of an unnamed tributary to Walnut Creek at Crossing 2.

FARM-TO-MARKET ROAD 51 AND STATE HIGHWAY 199: RARE PLANT SURVEY REPORT



6/15/2018

Prepared for Freese and Nichols, Inc.
and
Texas Department of Transportation—Fort Worth District



COX | McLAIN
Environmental Consulting

FARM-TO-MARKET ROAD 51 AND STATE HIGHWAY 199: RARE PLANT SURVEY REPORT

TABLE OF CONTENTS

1.0 INTRODUCTION AND PURPOSE.....	1
2.0 METHODS	2
2.1 DATA REVIEW	2
2.2 REFERENCE POPULATIONS	2
2.3 FIELD SURVEY	3
3.0 RESULTS.....	4
4.0 CONCLUSIONS	5
5.0 REFERENCES	6
ATTACHMENT A: FIGURE AND TABLE	7
ATTACHMENT B: PROJECT AREA PHOTOGRAPHS.....	10

LIST OF ATTACHMENTS

Attachment A Figure and Table

Figure 1 a–1 c. Habitat Quality

Table 1. Plant Species Observed within the Project Area, Including Species Associated with Comanche Peak Prairie Clover Occurrence.

Attachment B Project Area Photographs

Photo 1: The northern extent of the project area, viewing south.	11
Photo 2: The vegetative community in an area described as “no habitat” within the project area.....	11
Photo 3: The vegetative community in an area described as “low quality” habitat within the project area.	12
Photo 4: The vegetative community in an area described as “medium quality” habitat within the project area.	12
Photo 5: The southern extent of the project area, viewing north.	13
Photo 6: Comanche Peak prairie clover found at the reference population in Parker County, Texas (May 2018).....	14
Photo 7: Comanche Peak prairie clover habitat at the reference population in Parker County, Texas (May 2018).....	15

1.0 Introduction and Purpose

The Texas Department of Transportation (TxDOT), Parker County, and the City of Springtown propose to improve Farm-to-Market Road 51 (FM 51) from 1,100 feet north of Pojo Road to 100 feet south of Texas Drive and replace pavement along State Highway 199 (SH 199) from 400 feet west to 450 feet east of the SH 199/FM 51 intersection. Additionally, the bridge over Walnut Creek would be replaced and elevated and storm water, water, and sewer improvements are planned along FM 51. Sidewalk replacement and new construction of a trail and retaining wall would take place along SH 199 and within existing Parker County right-of-way to connect the existing sidewalk in Optimist Park to the new trail system to be constructed in portions of Optimist Park and Springtown Park. Pavement improvements are also proposed along Texas Drive and Old Springtown Road to facilitate a temporary detour which would be utilized during the construction phase of the proposed project. Temporary construction licenses would be used to reconstruct residential driveways that connect to FM 51.

The proposed project is approximately 1.49 miles long and is located on approximately 23.094 acres of existing right-of-way. Approximately 0.812 acres of new right-of-way and 0.561 acres of permanent drainage easement are proposed. Portions of the proposed sidewalk and the entirety of the trail and associated retaining wall would be constructed in approximately 0.130 acres of existing Parker County right-of-way. The project would also include approximately 0.056 acres of temporary construction easements and 0.233 acres of temporary construction licenses. Two commercial displacements would occur as a result of the proposed project. Maximum depth of impacts is expected to be 1.0 foot for roadways and the trail and a maximum of 20.0 feet at the bridge substructure.

Cox | McLain Environmental Consulting, Inc. (CMEC) prepared the Tier I Site Assessment Form submitted to TxDOT on January 8, 2018. During preparation of that assessment, CMEC determined that the project area may contain habitat suitable for a Species of Greatest Conservation Need (SGCN): the Comanche Peak prairie clover (*Dalea reverchonii*). TxDOT subsequently initiated coordination with Texas Parks and Wildlife Department (TPWD). In April 2018, as part of the on-going coordination effort between TxDOT and TPWD, TPWD requested an additional survey for the Comanche Peak prairie clover during the flowering season (approximately May–June) because the original survey date (October 2017) occurred outside the flowering season. Coordination with TPWD for this project is ongoing as part of the Tier I Site Assessment.

In order to fulfill TxDOT and TPWD requirements for the project, Freese and Nichols, Inc. (the design engineer) contracted with CMEC on May 24, 2018, to survey the project area for the presence/absence of the Comanche Peak prairie clover. This Rare Plant Survey Technical Report presents the methods used to conduct the survey and the results of that survey, which was conducted in May 2018.

2.0 Methods

2.1 Data Review

Attachment A includes all project figures and tables. **Figure 1a–1c** depicts the project location on an aerial base image and graphically represents the quality of Comanche Peak prairie clover habitat within the project area. **Table 1** presents a list of plant species observed during the survey. **Attachment B** includes project area and reference population photographs.

A desktop database review of known occurrences of the Comanche Peak prairie clover was conducted prior to the field survey. A known readily accessible population of this species was identified within Parker County and was used as a reference population to assist with species identification. Life history traits and habitat preferences were also researched prior to conducting the field survey. A summary of this research is presented below:

Comanche Peak Prairie Clover

The Comanche Peak prairie clover (*Dalea reverchonii*) is a perennial flowering plant in the Fabaceae family (National Plant Database, 2018). It is endemic to north-central Texas, where it is found in grasslands or openings in post oak (*Quercus stellata*) woodlands, often among sparse vegetation in barren, exposed sites with calcareous clay to sandy clay soils over limestone. Most known sites are underlain by Goodland Limestone and on roadway right-of-ways (TPWD, 2016). The Comanche Peak prairie clover has many stems, grows close to the ground, and can grow in dense mats up to 15 inches in diameter. This species has pinnately compound leaves and purple flowers with bright orange anthers (Rare Plants of Texas, 2008). This species is listed as an SGCN by TPWD (2016) but is not listed as threatened or endangered by the U.S. Fish and Wildlife Service.

Known associates of the species include threeawn (*Aristida* spp.), Texas grama (*Bouteloua rigidisetata*), golden prairie clover (*Dalea aurea*), nineanther prairie clover (*Dalea enneandra*), pinkglobe prairie clover (*Dalea tenuis*), shaggy dwarf morning-glory (*Evolvulus nuttallianus*), Drummond's false pennyroyal (*Hedeoma drummondii*), diamondflower (*Stenaria nigricans*), pasture heliotrope (*Heliotropium tenellum*), western indigo (*Indigofera miniata* var. *leptosepala*), yellow nailwort (*Paronychia virginica*), rock Indian breadroot (*Pediomelum reverchonii*), Texas sage (*Salvia texana*), and stiff greenthread (*Thelesperma filifolium*).

2.2 Reference Populations

The Comanche Peak prairie clover was initially discovered in 1882 on Comanche Peak in Hood County, Texas. The species then went undetected in this location until researchers rediscovered it in 2003 (Center for Plant Conservation, 2018). In 2012, the Comanche Peak prairie clover distribution was expanded to include Bosque, Erath, Hood, Johnson, Parker, Somervell, Tarrant, and Wise Counties (Taylor and O'Kennon, 2013). Element Occurrence Records were obtained from the Texas Natural Diversity Database (TXNDD) describing locations where observations have been made near the project area (TXNDD, 2018).

Prior to initiating the May 2018 surveys within the proposed project area, CMEC biologists visited a reference population of the Comanche Peak prairie clover in Parker County, Texas, which had multiple identifiable individuals of this species. The reference plants were erect, visible, and prominent. This allowed the CMEC biologists to observe a known population of the Comanche Peak prairie clover species before the survey effort to ensure accurate identification of the SGCN in the project area.

Photographs of the reference populations are included in Attachment B. Although not required for plant surveys, CMEC holds U.S. Fish and Wildlife Threatened and Endangered Species Permit #TE16185-4 and TPWD Scientific Permit #SPR-0691-409.

2.3 Field Survey

CMEC biologists initially surveyed the project area in August and October 2017, outside the flowering season for this species (approximately May–June). TPWD requested an additional survey be conducted within the flowering season to assess presence/absence of the SGCN within the limits of the proposed project area. Two qualified biologists surveyed the project area for a survey time of approximately 3 hours and 30 minutes for a total survey effort time of 7 person-hours.

Methods used to conduct the rare plant presence/absence survey included a pedestrian survey of the project area. Two qualified biologists began the survey at the northern terminus of the project area (along FM 51) and walked south along the northbound right-of-way limits to the southern terminus of the project area (along FM 51). After reaching the southern terminus of the project area, the surveyors crossed FM 51 and continued to the northern terminus of the project area (along FM 51) while walking along the southbound right-of-way limits. The existing SH 199 right-of-way, the proposed right-of-way, proposed drainage easements, and limits of the project within Optimist Park and Springtown Park were also surveyed for the presence/absence of the Comanche Peak prairie clover. Each biologist walked at approximately the same pace, and the biologists were spaced approximately 10–15 feet apart while following a northeast-southwest loop.

While surveying the project area, habitat suitability was quantified and ranked as “no habitat,” “low quality,” or “medium quality” habitat. The areas were assessed based on visual observations. “No habitat” areas were dominated with introduced and invasive herbaceous species that made the area unsuitable for the Comanche Peak prairie clover. “Low quality” habitat areas had some native herbaceous plant species but also had an abundance of introduced and invasive turf grasses that would make it difficult for the Comanche Peak prairie clover to become established in the area. “Medium quality” habitat areas included areas in a mostly native plant community with some open and barren areas (primarily of caliche rock or exposed limestone) similar to the preferred habitat for this species. No “high quality” habitat or “preferred habitat” was observed within the project area due to the proliferation of invasive and introduced turf grasses, continual maintenance (mowing), and the urban nature of the project area.

3.0 Results

No occurrence of the Comanche Peak prairie clover was observed within the project area during the May 2018 survey. The reference population was located in an area with less than 20 percent ground cover and rocky exposed soils, reflecting suitable habitat for the Comanche Peak prairie clover as described in literature. The project area did not contain any areas exhibiting similar qualities. A list of herbaceous plant species observed within the project site was generated. Although no occurrence of the Comanche Peak prairie clover was observed within the project area, several species of known associates were observed within the project area (**Table 1**). These include threeawn (*Aristida* spp.), Texas grama (*Bouteloua rigidiseta*), and Texas sage (*Salvia texana*).

4.0 Conclusions

A presence/absence survey for the SGCN Comanche Peak prairie clover was conducted by CMEC in May 2018, within the typical flowering season for this species. A reference population of the Comanche Peak prairie clover was visited prior to the survey of the project area. The entire project area was surveyed. No occurrence of the SGCN plant was observed within the limits of the project area during the May 2018 survey (**Figure 1**).

Because no occurrence of the Comanche Peak prairie clover was observed within the project area, the project is not likely to impact this species, as presence of the species could not be confirmed. Coordination with TPWD for this project is on-going.

5.0 References

Center for Plant Conservation. 2018. Plant Profile: *Dalea reverchonii*. Accessed on 5 June 2018 at: <https://saveplants.org/national-collection/plant-search/plant-profile-2/?CPCNum=1353>.

National Plant Database. 2014. *Dalea reverchonii* (Comanche Peak prairie clover). Accessed on 5 June 2018 at: https://www.wildflower.org/plants/result.php?id_plant=DARE2.

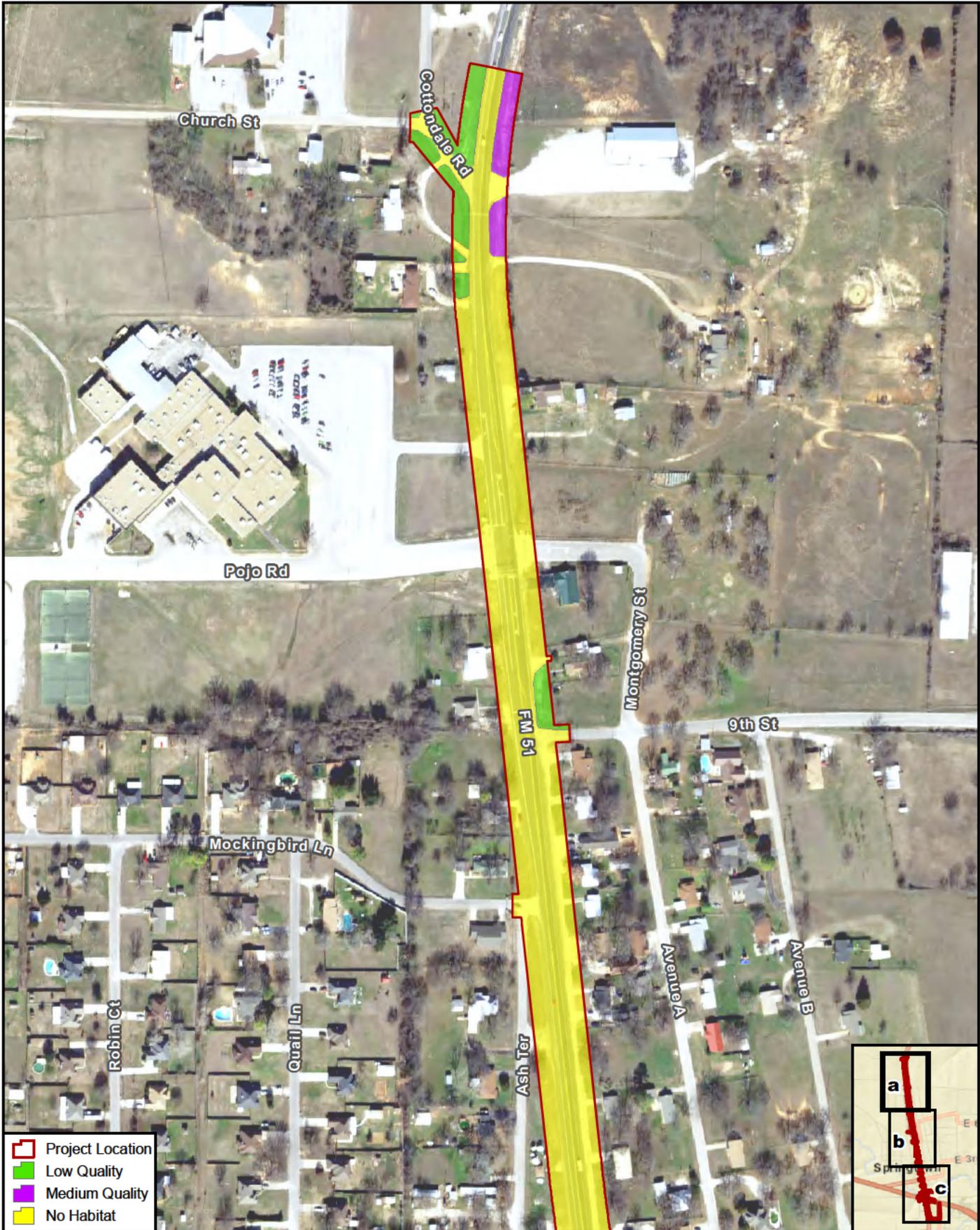
Rare Plants of Texas. 2008. Accessed on 5 June 2018 at: <http://www.tamupress.com/product/Rare-Plants-of-Texas,1812.aspx>.

Kimberly Norton Taylor and Robert J. O'Kennon. 2013. Ecology and distribution of the north central Texas endemic *Dalea reverchonii* (Fabaceae). *Journal of the Botanical Research Institute of Texas* Vol. 7, No. 1:603–610.

Texas Natural Diversity Database. 2018. Element Occurrence data export. Wildlife Diversity Program of Texas Parks & Wildlife Department. Accessed on 11 December 2017.

Texas Parks and Wildlife Department. 2016. Annotated County Lists of Rare Species for Parker County, Texas. Last updated 12/30/2016. Accessed on 7/31/2017 at: <https://tpwd.texas.gov/gis/rtest/>.

Attachment A: Figure and Table



- Project Location
- Low Quality
- Medium Quality
- No Habitat

Figure 1a
Habitat Quality
 SH 199 and FM 51 Intersection and Roadway Reconstruction

Prepared for: TxDOT	
Scale: 1:3,600	
Date: 6/8/2018	

Data Source: CMEC (2018)
 Aerial Source: TNRIS (2015)

CSJ: 0313-02-057, 0171-03-070

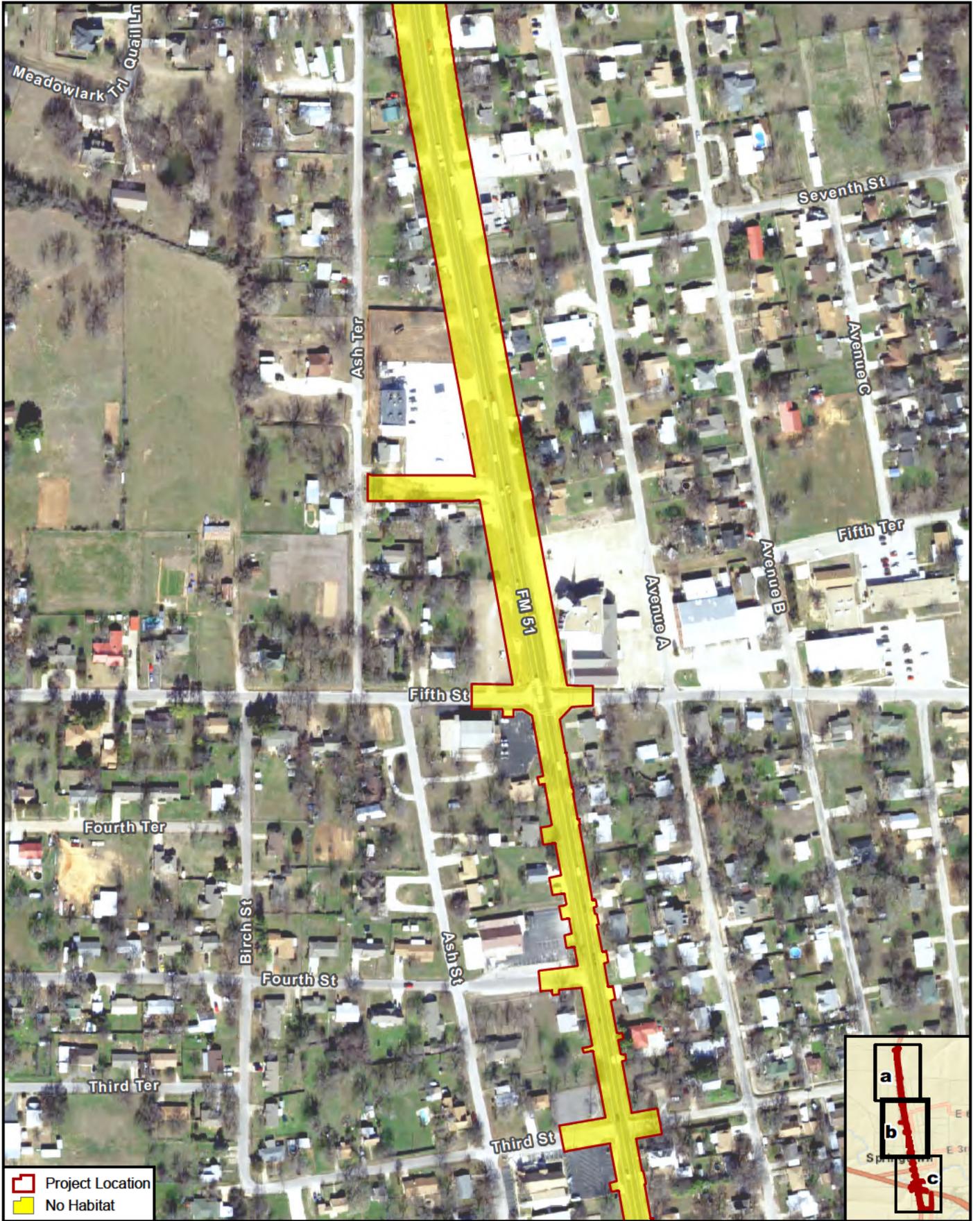


Figure 1b
Habitat Quality
 SH 199 and FM 51 Intersection and Roadway Reconstruction

G:\Projects\Parker County\FM51_SH199\SGCN_Figure 1 Habitat Quality_20180607.mxd

	0	100 Meters	300 Feet
	Prepared for: TxDOT 1 in = 300 feet Scale: 1:3,600 Date: 6/8/2018		
Data Source: CMEC (2018)		CSJ: 0313-02-057, 0171-03-070	
Aerial Source: TNRIS (2015)			

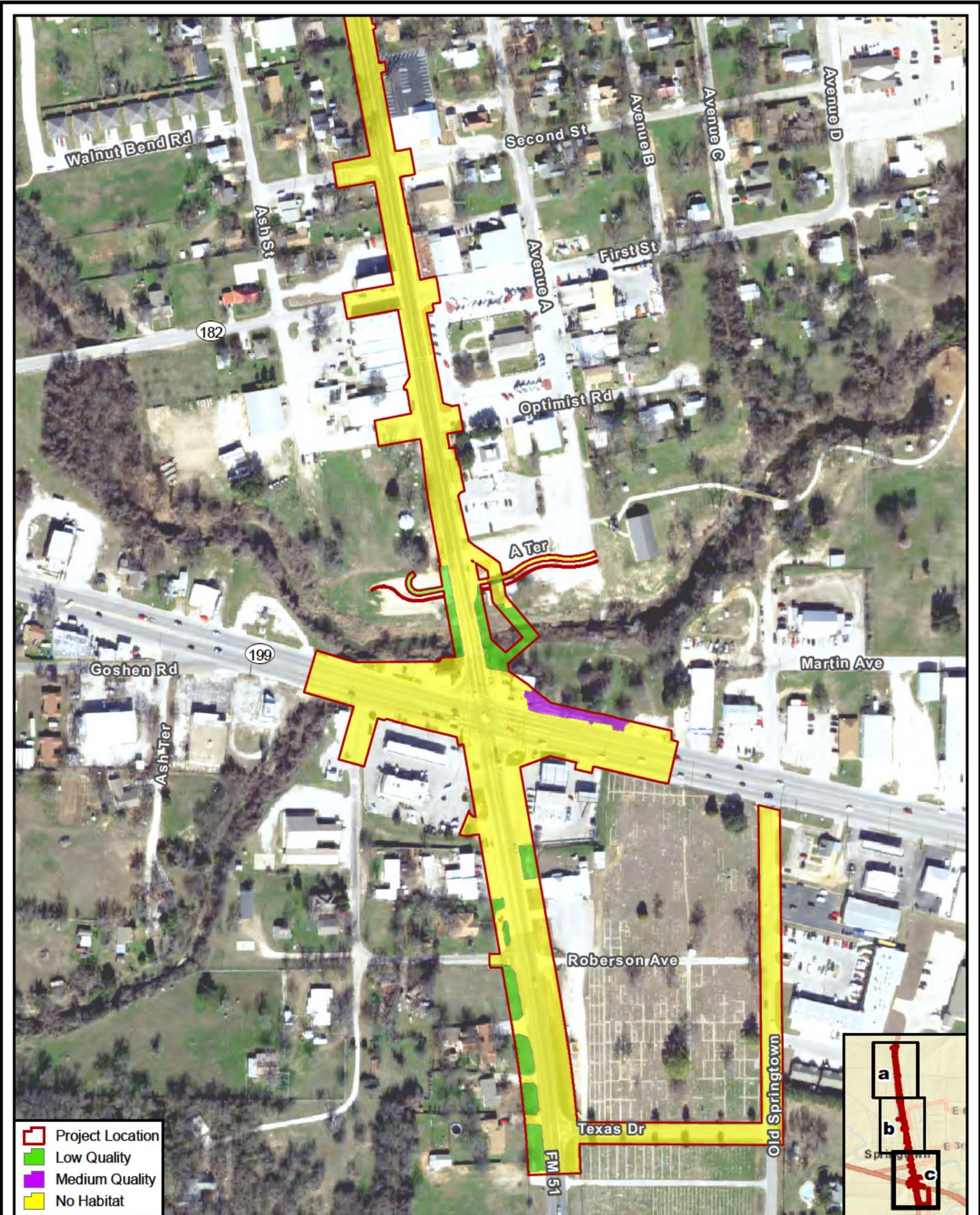


Figure 1c
Habitat Quality
 SH 199 and FM 51 Intersection and Roadway Reconstruction

	0 100 200 300 Feet
	0 100 Meters
Prepared for: TxDOT	1 in = 300 feet
Data Source: CMEC (2018) Aerial Source: TNRIS (2015)	Scale: 1:3,600
CSJ: 0313-02-057, 0171-03-070	Date: 6/8/2018

Table 1: Plant Species Observed within the Project Area, Including Species Associated with Comanche Peak Prairie Clover Occurrence

Common name	Scientific name	Known associate (Y/N)
Annual bastardcabbage	<i>Rapistrum regosum</i>	N
Annual ragweed	<i>Ambrosia artemisiifolia</i>	N
Bearded skeletongrass	<i>Gymnopogon ambiguus</i>	N
Bermudagrass	<i>Cynodon dactylon</i>	N
Blackdisk medick	<i>Medicago orbicularis</i>	N
Buffalograss	<i>Bouteloua dactyloides</i>	N
Burclover	<i>Medicago polymorpha</i>	N
Cheatgrass	<i>Bromus tectorum</i>	N
Coastal sandbur	<i>Cenchrus spinifex</i>	N
Cocklebur	<i>Xanthium sp.</i>	N
Common dandelion	<i>Taraxacum officinale</i>	N
Common mare's-tail	<i>Hippuris vulgaris</i>	N
Common sneezeweed	<i>Helenium autumnale</i>	N
Common sowthistle	<i>Sonchus oleraceus</i>	N
Cuman ragweed	<i>Ambrosia trifida</i>	N
Curly dock	<i>Rumex crispus</i>	N
Dakota mock vervain	<i>Glandularia bipinnatifida</i>	N
Diamond-flowers	<i>Stenaria nigricans</i>	N
Evening primrose	<i>Oenothera sp.</i>	N
Florida paspalum	<i>Paspalum floridanum</i>	N
Foxtail	<i>Alopecurus sp.</i>	N
Green antelopehorn	<i>Asclepias viridis</i>	N
Greenbrier	<i>Smilax bona-nox</i>	N
Hogwort	<i>Croton capitatus</i>	N
Hooded windmill grass	<i>Chloris cucullata</i>	N
Illinois bundleflower	<i>Desmanthus illinoensis</i>	N
Indian blanket	<i>Gaillardia pulchella</i>	N
Indian paintbrush	<i>Castilleja sp.</i>	N
Johnsongrass	<i>Sorghum halepense</i>	N
Lemon beebalm	<i>Monarda citriodora</i>	N
Little barley	<i>Hordeum pusillum</i>	N
Little hogweed	<i>Portulaca sp.</i>	N
Meadow garlic	<i>Allium canadense</i>	N
Oval-leaf knotweed	<i>Polygonum arenastrum</i>	N
Prairie spiderwort	<i>Tradescantia occidentalis</i>	N
Prairie threeawn	<i>Aristida oligantha</i>	Y
Purple poppymallow	<i>Callirhoe involucrata</i>	N
Purple threeawn	<i>Aristida purpurea</i>	Y
Queen Anne's lace	<i>Daucus carota</i>	N
Queen's-delight	<i>Stillingia sylvatica</i>	N
Redseed plantain	<i>Plantago rhodosperma</i>	N
Roundleaf greenbrier	<i>Smilax rotundifolia</i>	N
Scarlet pimpernel	<i>Anagallis arvensis</i>	N
Shepherd's purse	<i>Capsella bursa-pastoris</i>	N
Silver bluestem	<i>Bothriochloa saccharoides</i>	N
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>	N
Sixweeks fescue	<i>Vulpia octoflora</i>	N

Table 1: Plant Species Observed within the Project Area, Including Species Associated with Comanche Peak Prairie Clover Occurrence

Common name	Scientific name	Known associate (Y/N)
Slender greenthread	<i>Thelesperma simplicifolium</i>	N
Slender yellow woodsorrel	<i>Oxalis stricta</i>	N
Smut grass	<i>Sporobolus indicus</i>	N
Southern dewberry	<i>Rubus trivialis</i>	N
Spreading hedgeparsley	<i>Torilis arvensis</i>	N
Spurge	<i>Euphorbia</i> sp.	N
St. Augustine grass	<i>Stenotaphrum secundatum</i>	N
Straggler daisy	<i>Calyptocarpus vialis</i>	N
Texas bluebonnet	<i>Lupinus subcarinosus</i>	N
Texas bullnettle	<i>Cnidocolus texanus</i>	N
Texas grama	<i>Bouteloua rigidiseta</i>	Y
Texas sage	<i>Salvia texana</i>	Y
Texas thistle	<i>Cirsium texanum</i>	N
Texas vervain	<i>Verbena halei</i>	N
Trailing krameria	<i>Krameria lanceolata</i>	N
Turkey tangle fogfruit	<i>Phyla nodiflora</i>	N
Upright prairie coneflower	<i>Ratibida columnifera</i>	N
Virginia creeper	<i>Parthenocissus quinquefolia</i>	N
Western ragweed	<i>Ambrosia psilostachya</i>	N
Wild oat	<i>Avena fatua</i>	N
Yarrow	<i>Achillea</i> sp.	N
Yellow bluestem	<i>Bothriochloa ischaemum</i> var. <i>songarica</i>	N
Yucca	<i>Yucca</i> sp.	N

Attachment B: Project Area Photographs



Photo 1: The northern extent of the project area, viewing south.



Photo 2: The vegetative community in an area described as "no habitat" within the project area.



Photo 3: The vegetative community in an area described as “low quality” habitat within the project area.



Photo 4: The vegetative community in an area described as “medium quality” habitat within the project area.



Photo 5: The southern extent of the project area, viewing north.



Photo 6: Comanche Peak prairie clover found at the reference population in Parker County, Texas (May 2018).



Photo 7: Comanche Peak prairie clover habitat at the reference population in Parker County, Texas (May 2018).

Chad Putnam

From: Chad Putnam
Sent: Wednesday, March 07, 2018 10:43 AM
To: WHAB_TxDOT
Subject: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

Categories: 0313-02-057

The TxDOT Fort Worth District would like to request early coordination for a minor roadway widening and pedestrian enhancements project located in Parker County. The Tier I Site Assessment and other supporting documentation have been uploaded into TXECOS under CSJ: 0313-02-0057. Alternatively, you can retrieve the drop-off by clicking the following link (or copying and pasting it into your web browser) within 21 days:

["https://ftp.dot.state.tx.us/dropbox/pickup.php?claimID=YuHQyMnN2W4ctDMN&claimPasscode=NFbVRsYGnK7y6av3&emailAddr=chad.putnam%40txdot.gov"](https://ftp.dot.state.tx.us/dropbox/pickup.php?claimID=YuHQyMnN2W4ctDMN&claimPasscode=NFbVRsYGnK7y6av3&emailAddr=chad.putnam%40txdot.gov)

Full information for the drop-off:

Claim ID: YuHQyMnN2W4ctDMN
Claim Passcode: NFbVRsYGnK7y6av3

Thanks,

Chad Putnam
Environmental Specialist
TxDOT FTW District
817-370-6567
Chad.Putnam@txdot.gov

Work Schedule: Monday - 6AM to 4:30PM
Tuesday - 6AM to 1:30PM
Wednesday - 6AM to 4:30PM
Thursday - 6AM to 4PM
Friday - 6AM to 12:30PM

From: Chad Putnam
To: Sue Reilly §552.137(a)
Subject: RE: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County
Date: Monday, June 18, 2018 1:20:00 PM
Attachments: [Rare Plant Survey Report - 20180618 \(0313-02-057 & 0171-03-070\).pdf](#)
[Design Revision Figure - 20180905 \(0313-02-057 & 0171-03-070\).pdf](#)

Sue,

The project sponsor has completed a survey for the Comanche-Peak prairie clover, see attached. I have also attached a figure that illustrates the proposed design changes from what was previously submitted to your office.

Thanks,

Chad Putnam

From: Chad Putnam
Sent: Wednesday, May 30, 2018 5:10 PM
To: Sue Reilly
Subject: Re: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

I was unofficially informed that the footprint will be changing from what was submitted to you. That being said, I will be having the sponsor update the biology documentation once I am "formally" made aware of the changes. One of the updates I will be requesting is a survey for the Comanche-Peak prairie clover during the flowering season. If needed, we can suspend the current coordination until the revised documentation is ready.

Sent from my iPhone

On May 30, 2018, at 4:59 PM, Sue Reilly §552.137(a) wrote:

Hey Chad,

Any word from the sponsor? No rush, just checking.

Thanks,

Sue

From: Chad Putnam [<mailto:Chad.Putnam@txdot.gov>]
Sent: Tuesday, March 27, 2018 5:59 PM
To: Sue Reilly §552.137(a)
Subject: Re: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

I will check with the project sponsor to see if they are willing to conduct a survey during the blooming period.

Thanks,

Chad Putnam

Sent from my iPhone

On Mar 27, 2018, at 5:38 PM, Sue Reilly §552.137(a) wrote:

Chad,

So it looks like there was a survey done for Comanche Peak prairie clover in October 2017 but that plant is not likely to be seen at that time of year. Is there any plan to do a survey during

the blooming period of April-June?

Thank you,

Sue Reilly
Transportation Assessment Liaison
TPWD Wildlife Division
512-389-8021

From: WHAB_TxDOT
Sent: Wednesday, March 07, 2018 5:07 PM
To: Chad Putnam <Chad.Putnam@txdot.gov>
Cc: Sue Reilly §552.137(a)
Subject: RE: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

The TPWD Wildlife Habitat Assessment Program has received your request and has assigned it project ID # 39481. The Habitat Assessment Biologist who will complete your project review is copied on this email.

Thank you,

John Ney
Administrative Assistant
Texas Parks & Wildlife Department
Wildlife Diversity Program - Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744
Office: (512) 389-4571

From: Chad Putnam [<mailto:Chad.Putnam@txdot.gov>]
Sent: Wednesday, March 07, 2018 10:43 AM
To: WHAB_TxDOT §552.137(a)
Subject: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

The TxDOT Fort Worth District would like to request early coordination for a minor roadway widening and pedestrian enhancements project located in Parker County. The Tier I Site Assessment and other supporting documentation have been uploaded into [TXECOS](#) under CSJ: 0313-02-0057. Alternatively, you can retrieve the drop-off by clicking the following link (or copying and pasting it into your web browser) within 21 days:

["https://ftp.dot.state.tx.us/dropbox/pickup.php?claimID=YuHQyMnN2W4ctDMN&claimPasscode=NFbVRsYGnK7y6av3&emailAddr=chad.putnam%40txdot.gov"](https://ftp.dot.state.tx.us/dropbox/pickup.php?claimID=YuHQyMnN2W4ctDMN&claimPasscode=NFbVRsYGnK7y6av3&emailAddr=chad.putnam%40txdot.gov)

Full information for the drop-off:

Claim ID: YuHQyMnN2W4ctDMN
Claim Passcode: NFbVRsYGnK7y6av3

Thanks,

Chad Putnam

Environmental Specialist

TxDOT FTW District

817-370-6567

Chad.Putnam@txdot.gov

Work Schedule: Monday - 6AM to 4:30PM

Tuesday - 6AM to 1:30PM

Wednesday - 6AM to 4:30PM

Thursday - 6AM to 4PM

Friday - 6AM to 12:30PM



Chad Putnam

From: Chad Putnam
Sent: Tuesday, March 27, 2018 5:59 PM
To: Sue Reilly
Subject: Re: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

Categories: 0313-02-057

I will check with the project sponsor to see if they are willing to conduct a survey during the blooming period.

Thanks,

Chad Putnam

Sent from my iPhone

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Full information for the drop-off:

Claim ID: YuHQyMnN2W4ctDMN
Claim Passcode: NFbVRsYGnK7y6av3

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Friday - 6AM to 12:30PM



Chad Putnam

From: Sue Reilly §552.137(a)
Sent: Monday, June 18, 2018 2:52 PM
To: Chad Putnam
Subject: RE: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

Categories: 0313-02-057

Chad,

Thank you for sending the survey and the design changes. I do not have any further comments or questions on this project.

Thank you for submitting the following project for early coordination: FM 51 and SH 199 in Springtown (CSJs 0313-02-057 and 0171-03-070). TPWD appreciates TxDOT's commitment to implement the practices listed on the Tier I Site Assessment Form submitted on March 7, 2018. Based on a review of the documentation, the avoidance and mitigation efforts described, and provided that project plans do not change, TPWD considers coordination to be complete. However, please note it is the responsibility of the project proponent to comply with all federal, state, and local laws that protect plants, fish, and wildlife.

According to §2.204(g) of the 2013 TxDOT-TPWD MOU, TxDOT agreed to provide TXNDD reporting forms for observations of tracked SGCN (which includes federal- and state-listed species) occurrences within TxDOT project areas. Please keep this mind when completing project due diligence tasks. For TXNDD submission guidelines, please visit the following link: http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/submit.phtml

Thank you,

Sue Reilly
Transportation Assessment Liaison
TPWD Wildlife Division
512-389-8021

From: Chad Putnam [mailto:Chad.Putnam@txdot.gov]
Sent: Monday, June 18, 2018 1:21 PM
To: Sue Reilly §552.137(a)
Subject: RE: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

Sue,

The project sponsor has completed a survey for the Comanche-Peak prairie clover, see attached. I have also attached a figure that illustrates the proposed design changes from what was previously submitted to your office.

Thanks,

Chad Putnam

From: Chad Putnam
Sent: Wednesday, May 30, 2018 5:10 PM
To: Sue Reilly
Subject: Re: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

I was unofficially informed that the footprint will be changing from what was submitted to you. That being said, I will be having the sponsor update the biology documentation once I am "formally" made aware of the changes. One of the updates I will be requesting is a survey for the Comanche-Peak prairie clover during the flowering season. If needed, we can suspend the current coordination until the revised documentation is ready.

Sent from my iPhone

On May 30, 2018, at 4:59 PM, Sue Reilly §552.137(a) wrote:

Hey Chad,

Any word from the sponsor? No rush, just checking.

Thanks,
Sue

From: Chad Putnam [<mailto:Chad.Putnam@txdot.gov>]
Sent: Tuesday, March 27, 2018 5:59 PM
To: Sue Reilly §552.137(a)
Subject: Re: Early Coordination Request - CSJ: 0313-02-057 & 0171-03-070; FM 51 & SH 199 in Springtown, TX; Parker County

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Claim ID: YuHQyMnN2W4ctDMN
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Thanks,

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Environmental Specialist

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-  Project Location
-  NHD Stream
-  NHD Water
-  NWI Wetland
-  100-Year Flood Zone
-  Designated Floodway

Water Resources
in the Project Vicinity
 FM 51 & SH 199

	 1,000 Feet
	 300 Meters
Data Sources: NHD (2014), NWI (2014), FEMA NFHL (2015) Aerial Source: TNRIS (2015)	Prepared for: TxDOT Scale: 1:12,000 Date: 10/20/2016
CSJ: 0313-02-900	



Summary Table of Impacts to Potentially Jurisdictional Waters of the U.S.

Project Name: FM 51 and SH 199

CSJ: 0313-02-057,
0171-03-070

County: Parker

District: Fort Worth

Date Completed: 07.31.2018

Please include, as an attachment, all supporting documentation that was used to populate the information in the table.

Waterbody ID ¹	Location Description (Ex: Lat. and Long.; Intersection, Station Number; etc.)	Resource Type ²	Linear Feet in Project Area	Acres in Project Area	Permanent Fill		Temporary Fill		Permit Type	Pre-Construction Notification	
					Linear Feet	Acres	Linear Feet	Acres		Required	If Yes, Reason ³
Crossing 1 – Walnut Creek	32.963550, -97.683313	PS	126	0.059	0	0.000	126*	0.059*	NWP-14	No	N/A
Crossing 1 – Walnut Creek	32.963529, -97.683470	NFW	N/A	0.003**	N/A	0.000	N/A	0.00	N/A	N/A	N/A
Crossing 2 – Unnamed Tributary to Walnut Creek	32.963303, -97.684311	IS	100	0.064	0	0.000	0	0.000	N/A	N/A	N/A

¹ Waterbody ID may be the name of a feature or an assigned label such as "W-1" for a wetland.

² Resource Types: NFW – Non-forested wetland, FW – Forested wetland, PS – Perennial Stream, IS – Intermittent Stream, ES – Ephemeral Stream, I – Impoundment

³ Reasons for PCN requirement:

- A – The loss of waters of the U.S. exceeds 1/10 acre
- B – There is a discharge in a special aquatic site (e.g., wetlands)
- C – Potential endangered species
- D – Potential historic properties
- E – Discharge into pitcher plant bog or bald cypress-tupelo swamp
- F – Discharge into the area of Caddo Lake within Texas that is designated as a "Wetland of International Importance" under the Ramsar Convention
- G – Required by Louisiana Regional Conditions
- H – Other

N/A – Not Applicable

*Based on the current plans, impacts to Crossing 1 are limited to temporary fill from grading activities and removal and demolition of the existing bridge. Temporary fills will be removed in their entirety and preconstruction contours will be restored. The proposed project also includes grading outside the



ordinary high water mark of these two potentially jurisdictional crossings of waters of the U.S. Additionally, at Crossing 1, the proposed project includes a bridge which will entirely span the ordinary high water mark of Walnut Creek and the adjacent emergent wetland (Wetland 1).

** Qualified wetland ecologists conducted field investigations within the existing and proposed project ROW in October 2017. The routine method of wetland delineation outlined in the *Field Guide for Wetland Delineation – 1987 Corps of Engineers Manual* (Environmental Laboratory, 1987) and updated in the *Great Plains Regional Supplement* (USACE, 2010) were utilized for wetland determinations within the project area. Field activities focused on wetland and water of the U.S. delineation and description. Following the completion of preliminary data gathering and synthesis, the routine method of wetland determination was used to identify jurisdictional areas within the proposed project ROW. Potential wetland sites were evaluated in the field and localized hydrologic characteristics and the dominant vegetative species observed at the site were described. Boundaries of potential waters of the U.S., including wetlands, were recorded using a handheld Trimble GeoXT Global Positioning System (GPS) unit and confirmed using aerial photography; these are shown on **Figure 2**. GPS data was post-processed using Trimble Pathfinder Office software to achieve sub-meter accuracy.

SUPPORTING ATTACHMENTS:

ATTACHMENT 1: FIGURE 1-WATER RESOURCES

ATTACHMENT 2: FIGURE 2-CROSSING FIGURE

ATTACHMENT 3: WETLAND DETERMINATION DATA FORMS

ATTACHMENT 4: PROJECT AREA PHOTOGRAPHS

ATTACHMENT 5: PROJECT LAYOUT

ATTACHMENT 6: WETLAND PROTECTION AT WALNUT CREEK EXHIBIT

ATTACHMENT 1: FIGURE 1-WATER RESOURCES

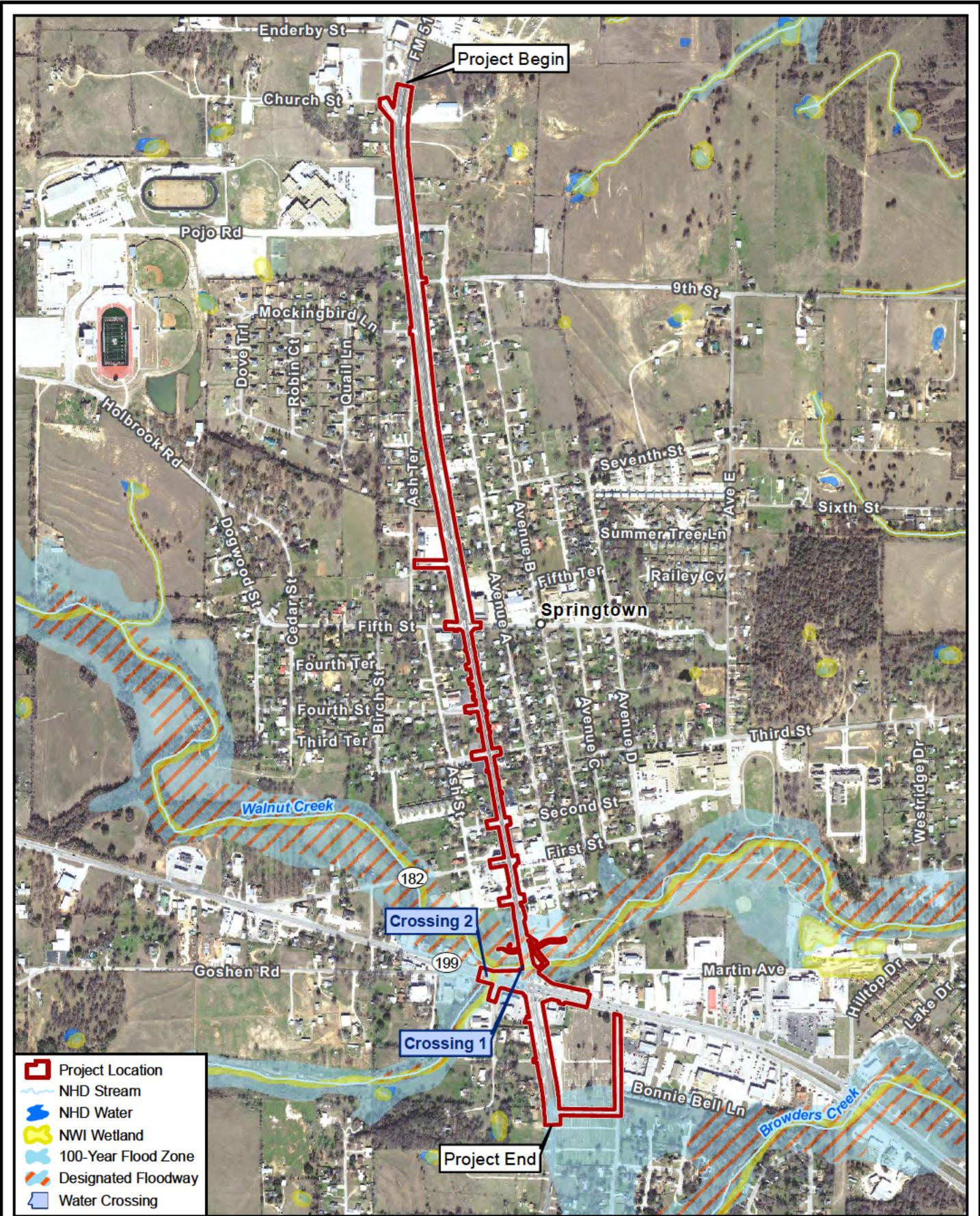


Figure 1
Water Resources

SH 199 and FM 51 Intersection and Roadway Reconstruction

	0	1,000 Feet
	0	300 Meters
Data Sources:	CMEC (2017), NHD (2014), NWI (2016), FEMA NFHL (2017)	Prepared for: TxDOT
Aerial Source: TNRIS (2015)		Scale: 1:12,000
		Date: 7/25/2018

ATTACHMENT 2: FIGURE 2-CROSSING FIGURE

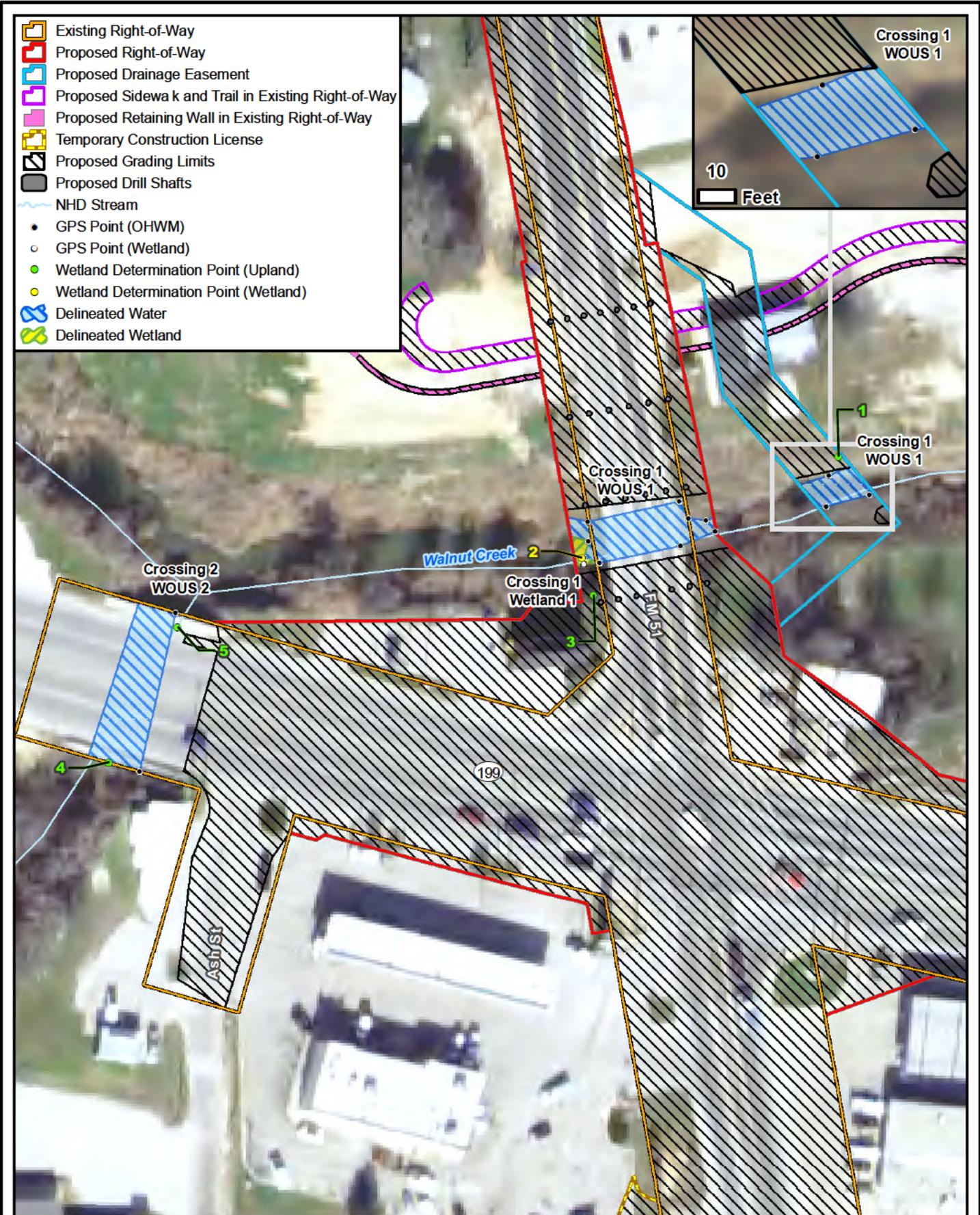


Figure 2

Potential Waters of the U.S.

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Sources: NHD (2014), CMEC (2017)
Aerial Source: TNRIS (2015)

	0 80 Feet
	0 25 Meters
Prepared for: TxDOT	1 in = 80 feet
CSJ: 0313-02-057, 0171-03-070	Scale: 1:960
	Date: 7/26/2018

ATTACHMENT 3: WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: FM 51 & SH 199 Springtown (0313-02-057, 0171-03-070) City/County: Springtown/Parker Sampling Date: 10.12.2017
 Applicant/Owner: Texas Department of Transportation- Fort Worth District State: TX Sampling Point: WDP1
 Investigator(s): Ryan Blankenship, Garrett Weiberg Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR): LRRJ Lat: 32.963676 Long: -97.682898 Datum: NAD 83
 Soil Map Unit Name: Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only two out of the three necessary indicators are present. The WDP is not located within a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Sesbania drummondii</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
	<u>5</u>	= Total Cover		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Xanthium strumarium</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Sorghum halapense</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Paspalum setaceum</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
4. <u>Salix nigra</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
5. <u>Ambrosia psilostachya</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
6. <u>Andropogon glomeratus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u>Eleocharis palustris</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
8. _____				
9. _____				
10. _____				
	<u>135</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u>None</u>				
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:
 The vegetative community passed the dominance test.

SOIL

Sampling Point: WDP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 6/4	100	None				sandy loam	
2-8	10 YR 5/6	50	None				sandy loam	
2-8	10 YR 6/4	50	None				sandy loam	
8-18	10 YR 6/4	60	None				sandy clay loam	
8-18	7.5 YR 4/1	40	None				sandy clay loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
Water Table Present? Yes _____ No Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No Depth (inches): _____

Wetland Hydrology Present? Yes No _____

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

Remarks:

One primary and one secondary hydrology indicator are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: FM 51 & SH 199 Springtown (0313-02-057, 0171-03-070) City/County: Springtown/Parker Sampling Date: 10.12.2017
 Applicant/Owner: Texas Department of Transportation- Fort Worth District State: TX Sampling Point: WDP2
 Investigator(s): Ryan Blankenship, Garrett Weiberg Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): convex Slope (%): 0-1
 Subregion (LRR): LRRJ Lat: 32.963509 Long: -97.683413 Datum: NAD 83
 Soil Map Unit Name: Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Three of the three necessary indicators are present. The WDP is located within a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Platanus occidentalis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Sesbania drummondii</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Ambrosia trifida</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Salix nigra</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Xanthium strumarium</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Eleocharis palustris</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
5. <u>Sorghum halapense</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
6. <u>Andropogon glomeratus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>Platanus occidentalis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
8. <u>Ulmus americana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
9. <u>Iva annua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
10. _____	_____	_____	_____	
<u>240</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>Vitis mustangensis</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
<u>20</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: The vegetative community passed the dominance test.				

SOIL

Sampling Point: WDP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 6/4	100	None				sandy loam	
1-8	10 YR 4/2	90	5 YR 5/6	10	C	PL	clay loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Rock
 Depth (inches): 8

Hydric Soil Present? Yes No

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

One primary and one secondary hydrology indicator are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: FM 51 & SH 199 Springtown (0313-02-057, 0171-03-070) City/County: Springtown/Parker Sampling Date: 10.12.2017
 Applicant/Owner: Texas Department of Transportation- Fort Worth District State: TX Sampling Point: WDP3
 Investigator(s): Ryan Blankenship, Garrett Weiberg Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): none Slope (%): 30
 Subregion (LRR): LRRJ Lat: 32.963445 Long: -97.68339 Datum: NAD 83
 Soil Map Unit Name: Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: None of the three necessary indicators are present. The WDP is not located within a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Ulmus americana</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Cynodon dactylon</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Oxalis stricta</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Sorghum halapense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>Vitis mustangensis</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Campsis radicans</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
<u>80</u> = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks:
No hydrophytic vegetation indicators are present.

SOIL

Sampling Point: WDP3

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(MLRA 72 & 73 of LRR H)</p>	<p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: <u>Rip-rap</u></p> <p>Depth (inches): <u>At surface</u></p>	<p>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/></p>
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Remarks:

The WDP is located on a stream bank with rip-rap. No soil pit was excavated.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p>	<p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>		

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

Remarks:

No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: FM 51 & SH 199 Springtown (0313-02-057, 0171-03-070) City/County: Springtown/Parker Sampling Date: 10.12.2017
 Applicant/Owner: Texas Department of Transportation- Fort Worth District State: TX Sampling Point: WDP4
 Investigator(s): Ryan Blankenship, Garrett Weiberg Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): convex Slope (%): 1-3
 Subregion (LRR): LRRJ Lat: 32.963171 Long: -97.684361 Datum: NAD 83
 Soil Map Unit Name: Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only one out of the three necessary indicators are present. The WDP is not located within a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Rapistrum rugosum</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Ambrosia trifida</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Celtis laevigata</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
4. <u>Xanthium strumarium</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>104</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>Ipomoea purpurea</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Vitis mustangensis</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
<u>40</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:
No hydrophytic vegetation indicators are present.

SOIL

Sampling Point: WDP4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 6/4	100	None				sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Rock
Depth (inches): 4

Hydric Soil Present? Yes No

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

One primary and one secondary hydrology indicator are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: FM 51 & SH 199 Springtown (0313-02-057, 0171-03-070) City/County: Springtown/Parker Sampling Date: 10.12.2017
 Applicant/Owner: Texas Department of Transportation- Fort Worth District State: TX Sampling Point: WDP5
 Investigator(s): Ryan Blankenship, Garrett Weiberg Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): LRRJ Lat: 32.963397 Long: -97.684222 Datum: NAD 83
 Soil Map Unit Name: Santo and Bunyan soils, 0 to 1 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only one out of the three necessary indicators are present. The WDP is not located within a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Morus rubra</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Pistacia chinensis</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Salix nigra</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
4. <u>Ulmus americana</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5. _____				
14 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ambrosia trifida</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Xanthium strumarium</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Celtis laevigata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Oxalis stricta</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
95 = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Vitis mustangensis</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2. _____				
10 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

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

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:
No hydrophytic vegetation indicators are present.

SOIL

Sampling Point: WDP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 5/3	100	None				sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer (if present): Type: <u>Rock</u> Depth (inches): <u>16</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:

No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

One primary and one secondary hydrology indicator are present.

ATTACHMENT 4: PROJECT AREA PHOTOGRAPHS



Photo 1: The existing sidewalk at US 51 at Walnut Creek bridge. Viewing east.



Photo 2: The existing US 51 at Walnut Creek bridge. Viewing south along US 51.



Photo 3: Central Texas: Herbaceous Riparian vegetation observed along Walnut Creek from the US 51 bridge. Viewing upstream.



Photo 4: The US 51 at Walnut Creek bridge deck surface. Viewing south along US 51.



Photo 5: Wetland Determination Data Point WDP1 (upland). Located along the northern bank of Walnut Creek at Crossing 1.



Photo 6: Crossing 1 (Walnut Creek). Viewing upstream.



Photo 7: Crossing 1 (Walnut Creek). Viewing downstream.



Photo 8: Wetland Determination Data Point WDP2 (wetland). Located within a marginal emergent wetland (Wetland 1) along the banks of Walnut Creek at Crossing 1.



Photo 9: Crossing 1 (Walnut Creek) at the existing US 51 bridge. Viewing downstream.



Photo 10: Wetland 1 located at Crossing 1 (Walnut Creek).



Photo 11: Wetland Determination Data Point WDP3 (upland). Located along the southern bank of Walnut Creek at Crossing 1.



Photo 12: Wetland Determination Data Point WDP4 (upland). Located along the eastern bank of an unnamed tributary to Walnut Creek at Crossing 2.



Photo 13: Wetland Determination Data Point WDP5 (upland). Located along the eastern bank of an unnamed tributary to Walnut Creek at Crossing 2.

ATTACHMENT 5: PROJECT LAYOUT

SH 199 and FM 51 Intersection and Roadway Reconstruction

Project Layout

CSJ: 0313-02-057, 0171-03-070

Sheet 1 of 3

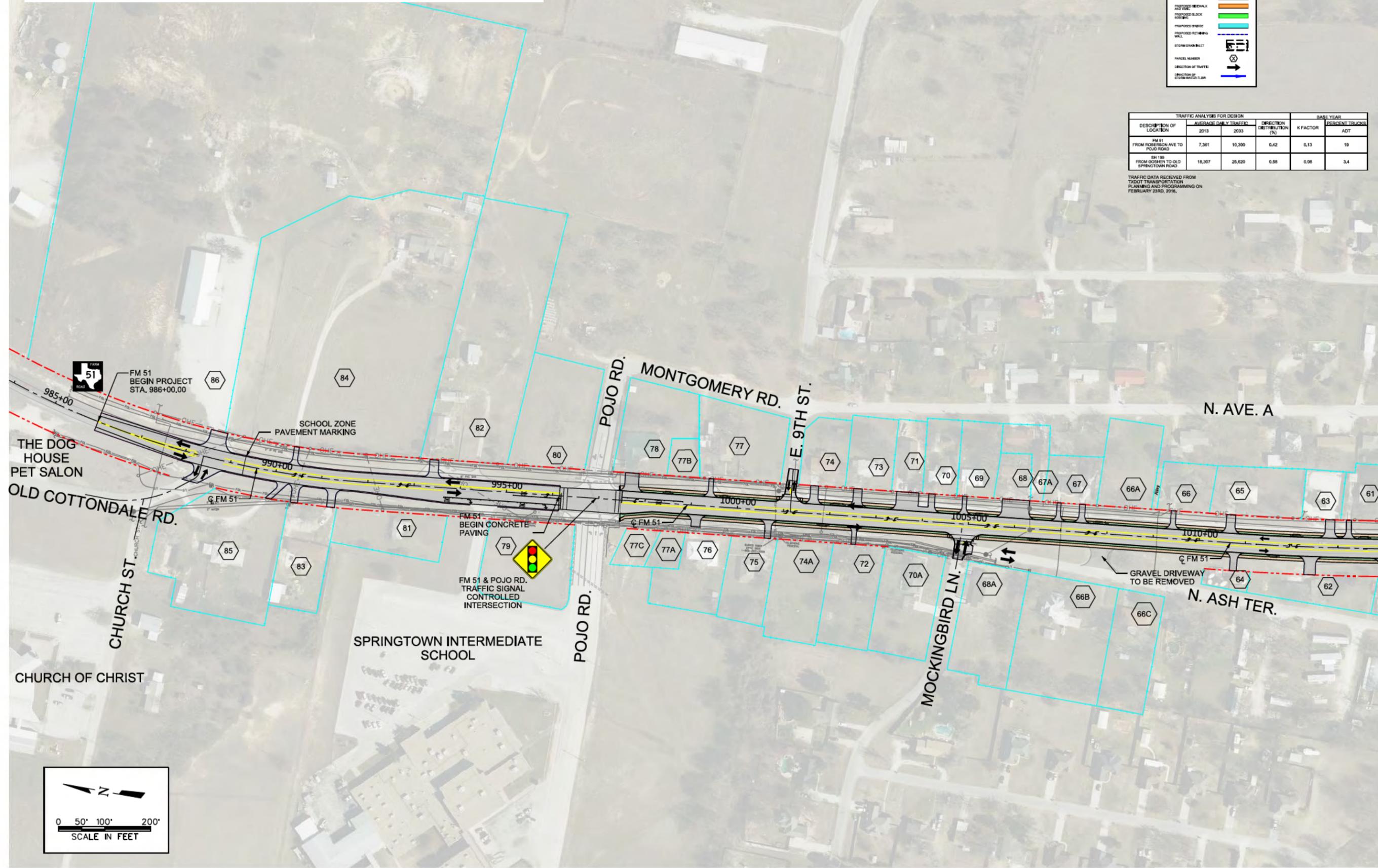
PLAN LEGEND

- EXISTING RIGHT-OF-WAY LIMITS:
- PROPOSED RIGHT-OF-WAY LIMITS:
- PROPOSED CURB:
- PROPOSED DRAINAGE CASING:
- PROPOSED FLOW:
- PROPOSED FOR DEMOLITION:
- PROPOSED PAVEMENT:
- PROPOSED SIDEWALK AND BIKEWAY:
- PROPOSED BLOCK:
- PROPOSED INTERSECTING:
- PROPOSED RETAINING WALL:
- STORM DRAINAGE:
- RAILROAD:
- PACKET NUMBER:
- DIRECTION OF TRAFFIC:
- DIRECTION OF STORM WATER FLOW:

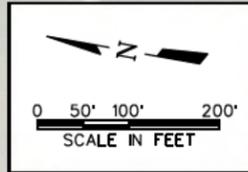
TRAFFIC ANALYSIS FOR DESIGN

DESCRIPTION OF LOCATION	AVERAGE DAILY TRAFFIC		DIRECTION DISTRIBUTION (%)	BASE YEAR	
	2013	2033		K FACTOR	PERCENT TRUCKS ADT
FM 51 FROM ROBERSON AVE TO POJO RD.	7,361	10,300	0.42	0.13	19
SH 199 FROM OSBORN TO OLD SPRINGTOWN ROAD	18,307	25,620	0.58	0.08	3.4

TRAFFIC DATA RECEIVED FROM TxDOT TRANSPORTATION PLANNING AND PROGRAMMING ON FEBRUARY 23RD, 2016.



MATCHLINE STA 1014+00



SH 199 and FM 51 Intersection and Roadway Reconstruction

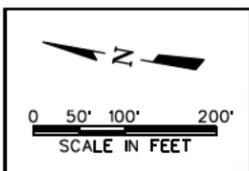
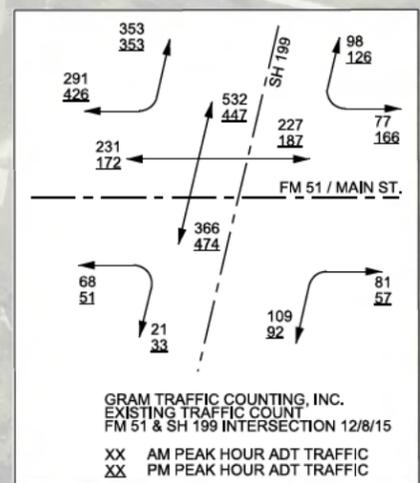
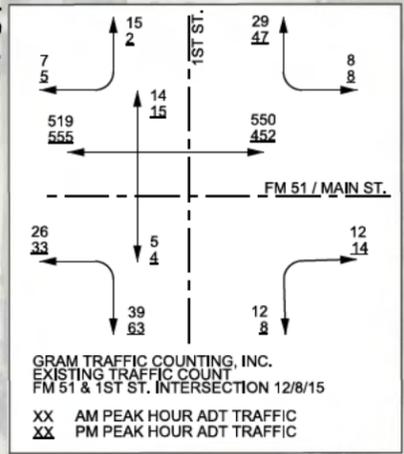
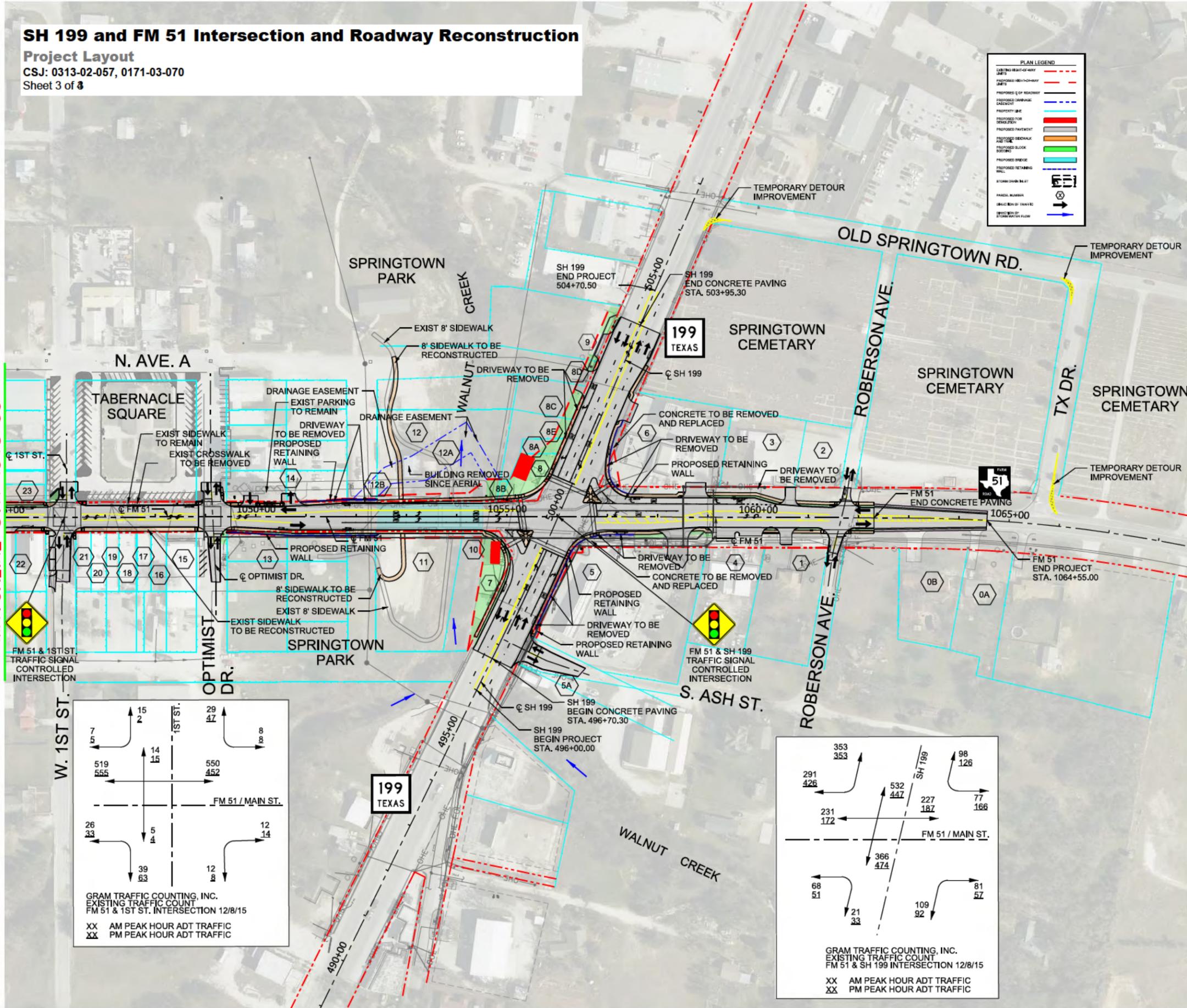
Project Layout

CSJ: 0313-02-057, 0171-03-070

Sheet 3 of 3

PLAN LEGEND	
EXISTING RIGHT-OF-WAY LINE	---
PROPOSED RIGHT-OF-WAY LINE	---
PROPOSED EASEMENT	---
PROPOSED DRAINAGE CASSEMENT	---
PROPOSED CURB	---
PROPOSED FOR DEMOLITION	---
PROPOSED PAVEMENT	---
PROPOSED SIDEWALK	---
PROPOSED BLOCK	---
PROPOSED BLOCK	---
PROPOSED DRIVE	---
PROPOSED RETAINING WALL	---
STORM DRAIN INLET	---
PARALLEL ROADWAY	---
ORIGIN OF TRAFFIC	---
DIRECTION OF TRAVEL	---

MATCHLINE STA 1045+00



SCHEMATIC PARCEL #	PROPERTY OWNER	IMPACT
0A	TOBY W. ALSIP, JR.	
0B	FEDERAL NATIONAL MORTGAGE ASSOCIATION	
1	J.A. & DORTHA MAE ROBERSON	DRIVEWAY RECONSTRUCTION
2	SPRINGTOWN CEMETERY	DRIVEWAY RECONSTRUCTION
3	HILLTOP BAPTIST CHURCH OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
4	JAMES M. RAE	DRIVEWAY RECONSTRUCTION
5	JERRY MCCARTY - JUDE MANAGEMENT L.L.C.	DRIVEWAY RECONSTRUCTION, GRADING, ROW
5A	ROY MANESS, & LARRY W. MANESS	
6	WASEEM ARSHAD & JOINT SPRINGTOWN INVESTMENTS INC.	DRIVEWAY RECONSTRUCTION, ROW
7	MAYO REAL ESTATE, INC.	GRADING, ROW
8	NORMAN G. & DIANNA KIRK	GRADING, ROW
8A	SMITH, HENRY WAYNE	DRIVEWAY REMOVAL, GRADING, ROW
8B		ROW
8C	SCOTT, MARGARET ANN	DRIVEWAY REMOVAL, GRADING, ROW
8D	EPISCOPAL METHODIST CHURCH	DRIVEWAY RECONSTRUCTION, GRADING, ROW
8E		ROW
9	THOMPSON WILLIAMS C. & SCOTT MARGARET	DRIVEWAY RECONSTRUCTION, ROW
10	SPRINGFIELD W. HENDRIX	ROW
11	CITY OF SPRINGTOWN	ROW, SIDEWALK RECONSTRUCTION
12	PARKER COUNTY	ROW, SIDEWALK RECONSTRUCTION
12A	PARKER COUNTY	DRAINAGE EASEMENT
12B	PARKER COUNTY	DRAINAGE EASEMENT
13	CITY OF SPRINGTOWN	ROW
14	CONTINENTAL STATE BANK - THOMAS TAX & ACCOUNTING	DRIVEWAY RECONSTRUCTION, SIDEWALK RECONSTRUCTION
15	SAVAGE TY & MARIE	SIDEWALK CONSTRUCTION
16	FOSTER KANDY	SIDEWALK RECONSTRUCTION
17	SINGER FAMILY TRUST	SIDEWALK RECONSTRUCTION
18	SPRINGTOWN CHAMBER OF COMMERCE	SIDEWALK RECONSTRUCTION
19	TALIAFERRO KENNETH R.	SIDEWALK RECONSTRUCTION
20	DIESON DAVID & NEWTON JAMES	SIDEWALK RECONSTRUCTION
21	SLAP INVESTMENTS	SIDEWALK RECONSTRUCTION
22	EUREKA LODGE NO. 371	DRIVEWAY RECONSTRUCTION, SIDEWALK RECONSTRUCTION
23	BRAY ENTERPRISES L.L.C.	DRIVEWAY RECONSTRUCTION, SIDEWALK RECONSTRUCTION
24	CITY OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION, SIDEWALK RECONSTRUCTION
24A	JAMES & KIMBERLY SPOON	
24B	CONTINENTAL TELEPHONE CO.	
25	CITY OF SPRINGTOWN	
25A	MELVIN & KAREN TUTTLE	
26	CITY OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
27	LOWE JONATHAN & RACHEL	DRIVEWAY RECONSTRUCTION

SH 199 and FM 51 Intersection and Roadway Reconstruction

Impacted Parcel List

CSJ: 0313-02-057, 0171-03-070

SCHEMATIC PARCEL #	PROPERTY OWNER	IMPACT
27A	STEVENS J & MATHENY N & CULWELL B TRUSTEE FOR FIRST UNITED METHODIST	
28	FIRST UNITED METHODIST CHURCH OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
29	FOWLER CHAS JR & MARYANNE BYPASS CREDIT SHELTER TRUST	DRIVEWAY RECONSTRUCTION
29A	FIRST UNITED METHODIST CHURCH	DRIVEWAY RECONSTRUCTION
29B	BLAIR CUSTOM HOMES INC.	
30	SULLIVAN JACKIE D.	DRIVEWAY RECONSTRUCTION
31	ANDRESS MARIA M.	DRIVEWAY RECONSTRUCTION
31A	WILLIAM K & LINDA CLARY	DRIVEWAY RECONSTRUCTION
32	SWOFFORD JOHNATHAN J. & CATHY D.	DRIVEWAY RECONSTRUCTION
33	SWOFFORD ROBERT J. & RENEE	DRIVEWAY RECONSTRUCTION
34	WHITES FUNERAL HOME	DRIVEWAY RECONSTRUCTION
35	BASALDUA MICHAEL BRIAN	DRIVEWAY RECONSTRUCTION
36	BASALDUA MICHAEL BRIAN	DRIVEWAY RECONSTRUCTION
37	DAMON LILES INSURANCE AGENCY INC	DRIVEWAY RECONSTRUCTION
38	M & G CAPITAL L.L.C.	DRIVEWAY RECONSTRUCTION
38A	BROOKS DEBRA S	
39	COOPER CLIF D. & TERRY N	DRIVEWAY RECONSTRUCTION
40	FORD LINDA ANN	DRIVEWAY RECONSTRUCTION
41	BETTY NONA D.	DRIVEWAY RECONSTRUCTION
42	FUNDAMENTAL BAPTIST CHURCH	DRIVEWAY RECONSTRUCTION
42A	WORKMAN DAVID & JUDY	
43	FIRST BAPTIST CHURCH OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
44	FIRST BAPTIST CHURCH OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
45	FIRST BAPTIST CHURCH OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION
46	COBURN JUANITY	DRIVEWAY RECONSTRUCTION
46A	RICKETT COREY & CHRISTINA	
47	BURNS FAMILY REVOCABLE LIVING TRUST	DRIVEWAY RECONSTRUCTION
48A	SADASH CORP.	DRAINAGE EASEMENT
48B	SADASH CORP.	DRAINAGE EASEMENT
48C	STACKS AND EVANS ADDITION	DRIVEWAY RECONSTRUCTION
49	GEIB JAMES	DRIVEWAY RECONSTRUCTION
49A	HARRIS	
50	FARRIS LOLA	DRIVEWAY RECONSTRUCTION
51	SMITH TONY D & PAMELA	DRIVEWAY RECONSTRUCTION
52	SNODGRASS MILDRED	DRIVEWAY RECONSTRUCTION
53	HEATH JENNIFER M	DRIVEWAY RECONSTRUCTION
54	FINLEY	
54A	CALLAWAY PAT	DRIVEWAY RECONSTRUCTION
55	SADASH CORP.	DRIVEWAY RECONSTRUCTION
56	WASEEM ARSHAD & JOINT SPRINGTOWN INVESTMENTS INC.	DRIVEWAY RECONSTRUCTION

SH 199 and FM 51 Intersection and Roadway Reconstruction

Impacted Parcel List

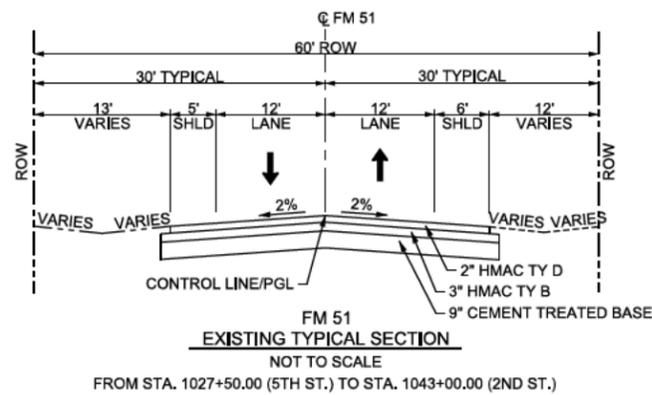
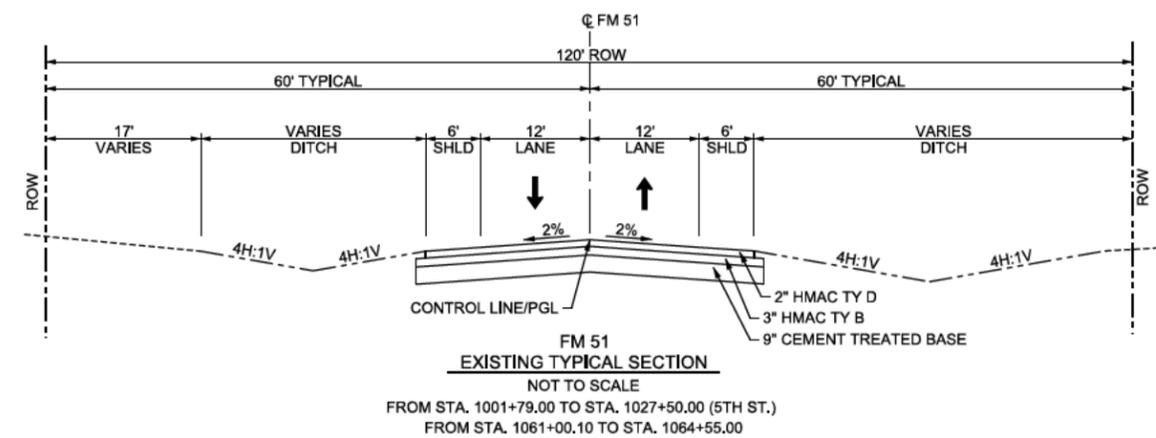
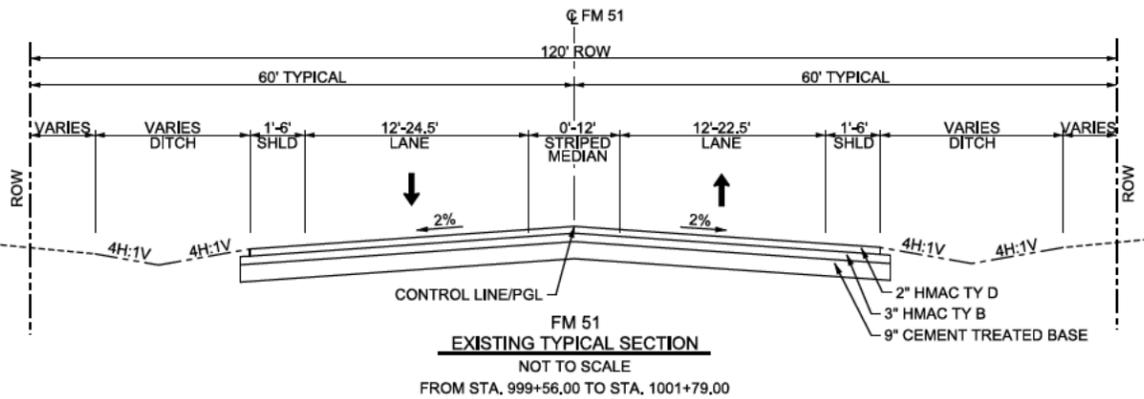
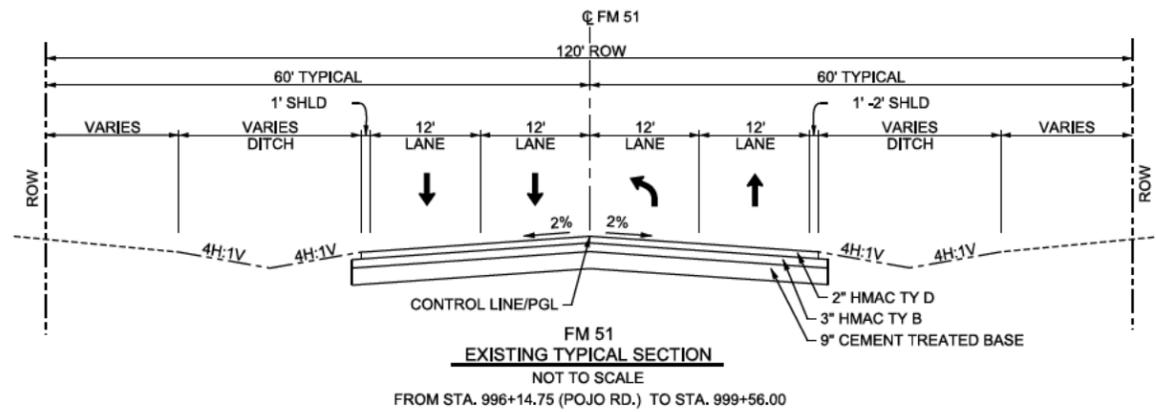
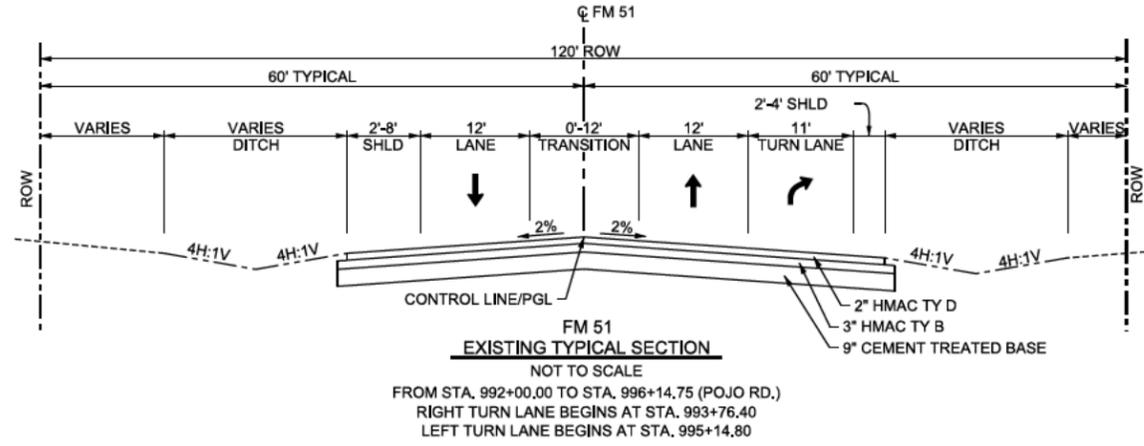
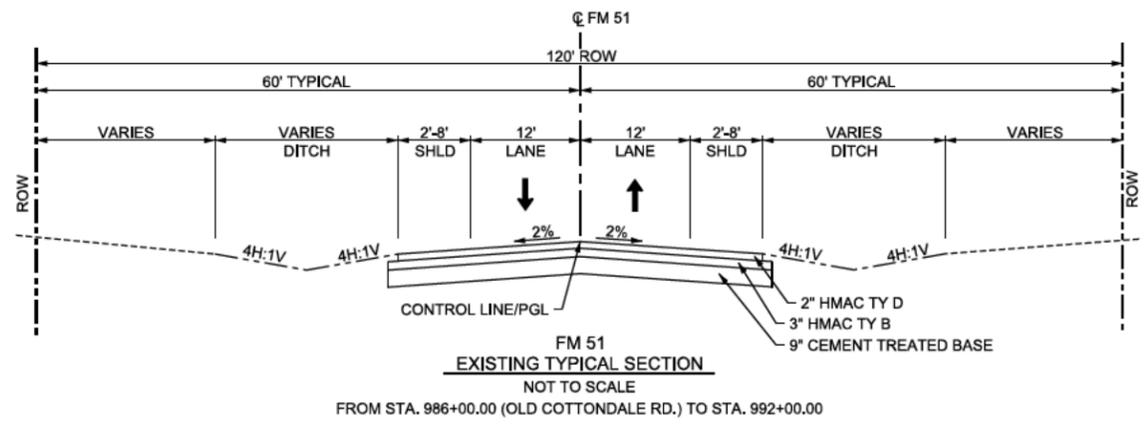
CSJ: 0313-02-057, 0171-03-070

SCHEMATIC PARCEL #	PROPERTY OWNER	IMPACT
57	SADASH CORP.	DRIVEWAY RECONSTRUCTION
58	SPRINGTOWN ISD	DRIVEWAY RECONSTRUCTION
59	MEDINA & WELLS	DRIVEWAY RECONSTRUCTION
60	GELLER & WILKERSON	DRIVEWAY RECONSTRUCTION
61	COWDEN	DRIVEWAY RECONSTRUCTION
62	CALLAWAY	DRIVEWAY RECONSTRUCTION
63	SWEIDAN & SALAS	DRIVEWAY RECONSTRUCTION
64	BCI JAMES CABLE, LLC	DRIVEWAY RECONSTRUCTION
65	ANDERSON	DRIVEWAY RECONSTRUCTION
66	BRYANT	DRIVEWAY RECONSTRUCTION
66A	DAUENHAUER	
67	FERNANDEZ	DRIVEWAY RECONSTRUCTION
67A	TRIPLE J USA 2008 LLC	
68	TRIPLE J USA 2008 LLC	DRIVEWAY RECONSTRUCTION
68A	TIDEWELL	
69	EDDY	DRIVEWAY RECONSTRUCTION
70	TIDWELL	DRIVEWAY RECONSTRUCTION
70A	HUDDLESTON	
71	GUTIERREZ	DRIVEWAY RECONSTRUCTION
72	MOSELEY	DRIVEWAY RECONSTRUCTION
73	WELLS & MEDINA	DRIVEWAY RECONSTRUCTION
74	HORTON	DRIVEWAY RECONSTRUCTION
74A	GILLILAND	
75	RC RESIDENTIAL	DRIVEWAY RECONSTRUCTION
76	LIPSTREU	DRIVEWAY RECONSTRUCTION
77	SEGURA	DRIVEWAY RECONSTRUCTION
77A	SPRINGTOWN ISD ADDITION	
77B	MONTGOMERY	
77C	POJO RD.	
78	MONTGOMERY	DRIVEWAY RECONSTRUCTION
79	SPRINGTOWN ISD ADDITION	
80	SULLIVAN	
81	JH & NELDA ROSS	
82	TRACY LYNN SLATE	DRIVEWAY RECONSTRUCTION
83	BRIAN BASULDUA	DRIVEWAY RECONSTRUCTION
84	PLASCENCIA-MARTINEZ ROMEO & LEONCIO	DRIVEWAY RECONSTRUCTION
85	SAMANTHA GRAY	DRIVEWAY RECONSTRUCTION
86	CITY OF SPRINGTOWN	DRIVEWAY RECONSTRUCTION

SH 199 and FM 51 Intersection and Roadway Reconstruction

Impacted Parcel List

CSJ: 0313-02-057, 0171-03-070



NOT FOR CONSTRUCTION
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF TIMOTHY SANSONE, P.E., TEXAS NO. 116017 DATE: JUNE 2018. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

_____, P.E.
Signature of Registrant & Date
Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE

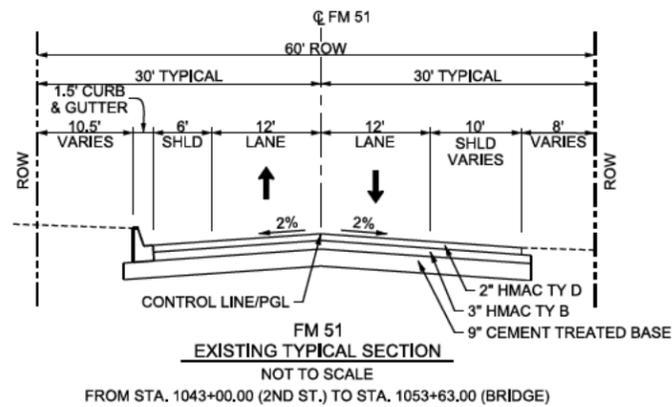
FREASE NICHOLS
4055 International Plaza, Suite 400
Fort Worth, TX 76105-4895
Phone - (817) 735-1200
Fax - (817) 735-7481
Web - www.freese.com

Texas Department of Transportation
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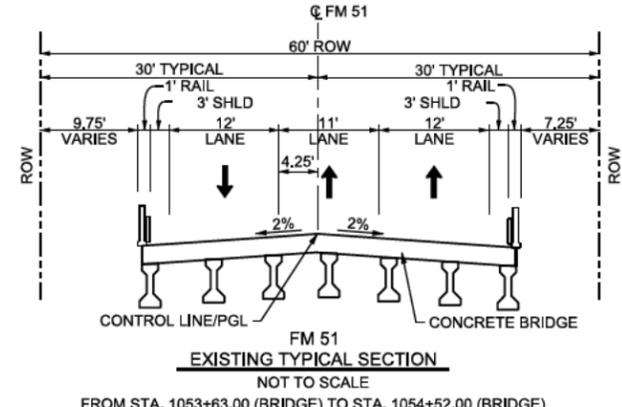
FM 51
EXISTING TYPICAL SECTIONS

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DN:	CK:			FM 51	
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY
0313	02	057	6	FTW	PARKER
SHEET NO.					5

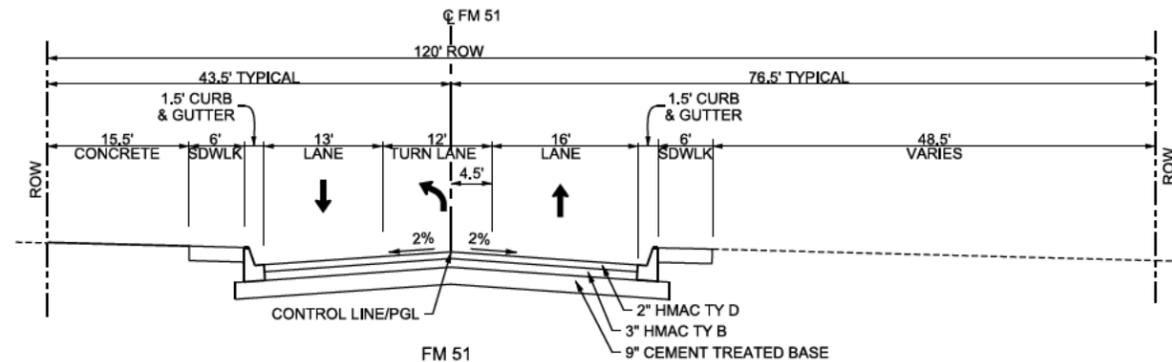
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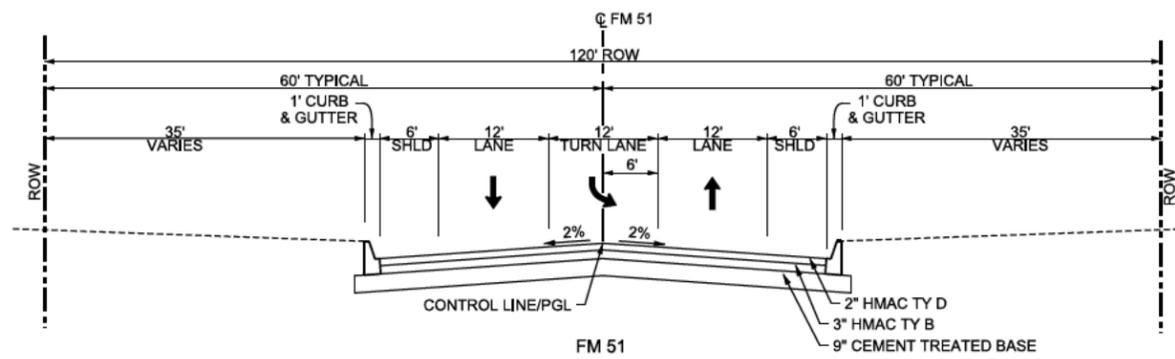
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NOT TO SCALE
FROM STA. 1043+00.00 (2ND ST.) TO STA. 1053+63.00 (BRIDGE)



EXISTING TYPICAL SECTION
NOT TO SCALE
FROM STA. 1053+63.00 (BRIDGE) TO STA. 1054+52.00 (BRIDGE)



EXISTING TYPICAL SECTION
NOT TO SCALE
FROM STA. 1054+52.00 (BRIDGE) TO STA. 1055+00.75 (FM51 / SH199 INTERSECTION)



EXISTING TYPICAL SECTION
NOT TO SCALE
FROM STA. 1057+00.75 (FM51 / SH199 INTERSECTION) TO STA. 1061+00.00

TYPICAL SECTION DOES NOT APPLY THROUGH INTERSECTION
FROM STA 1055+50.00 TO STA 1056+50.00

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_____, P.E.
Signature of Registrant & Date
Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE

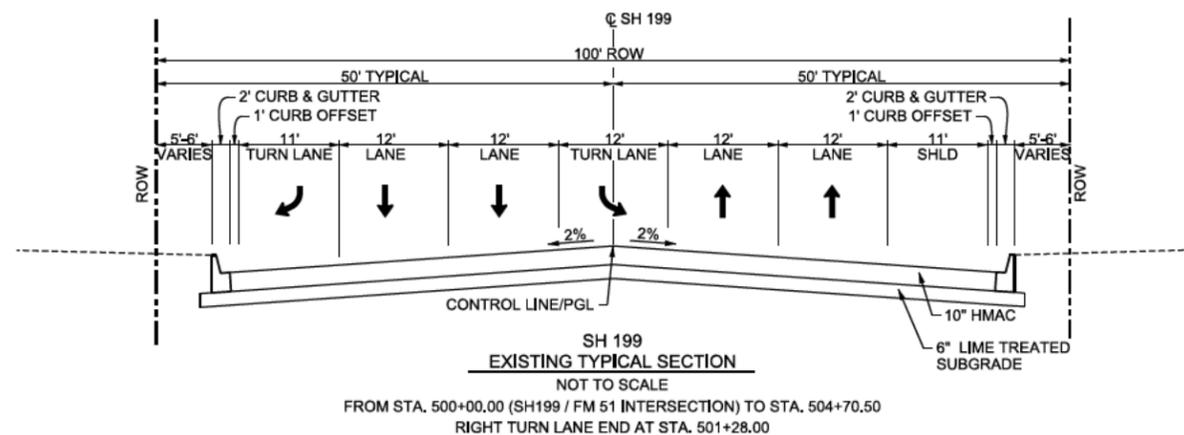
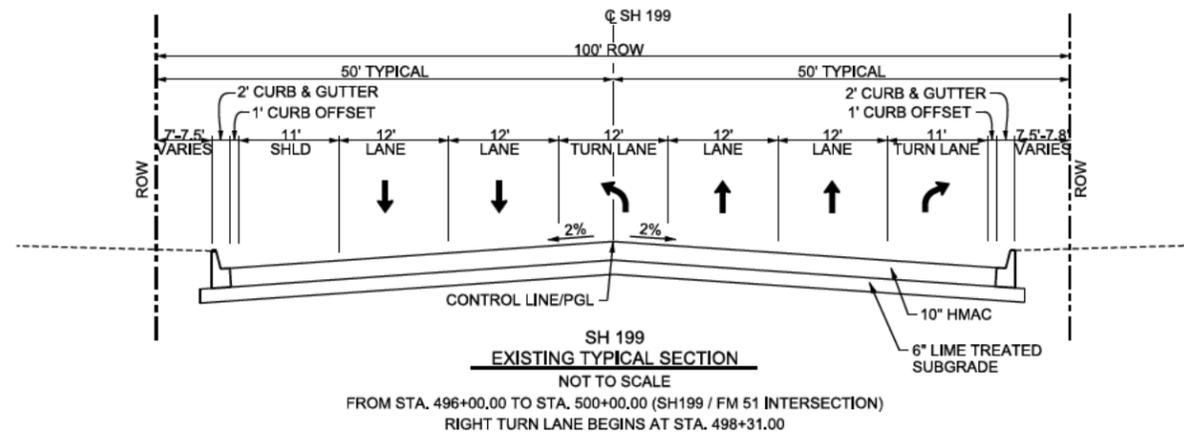


FM 51
EXISTING TYPICAL SECTIONS

FILE:	cv-trt-dt-typ-FM51-01.sht				
DW:	CK:	FEDERAL AID PROJECT NO.		HWYWAY	
DN:	CK:			FM 51	
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY
0313	02	057	6	FTW	PARKER
SHEET NO.					6

SH 199 and FM 51 Intersection and Roadway Reconstruction

Typical Sections
CSJ: 0313-02-057, 0171-03-070
Sheet 2 of 6



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Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE

**FREASE
&
NICHOLS**

4055 International Plaza, Suite
Fort Worth, TX 76109-4895
Phone - (817) 735-7300
Fax - (817) 735-7481
Web - www.freese.com



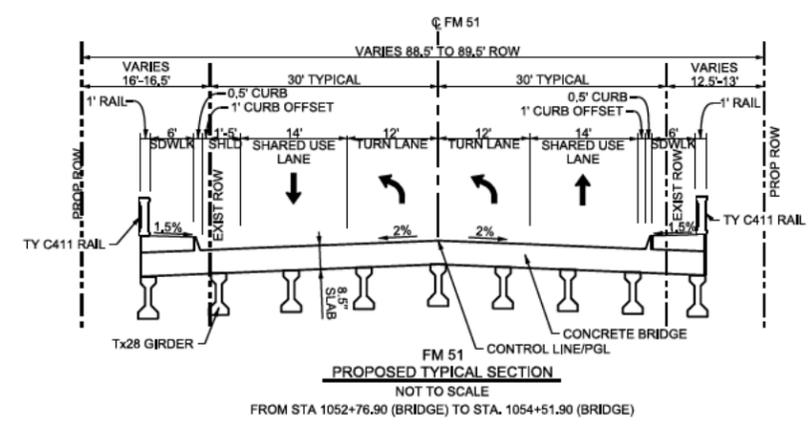
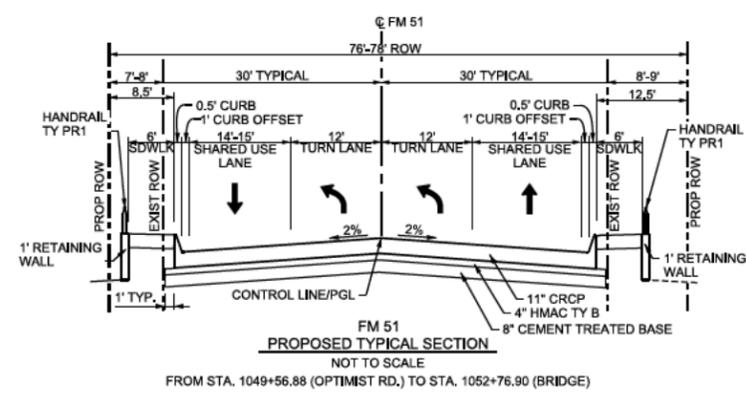
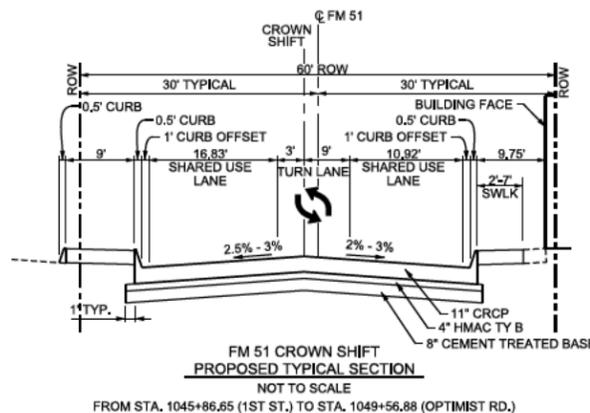
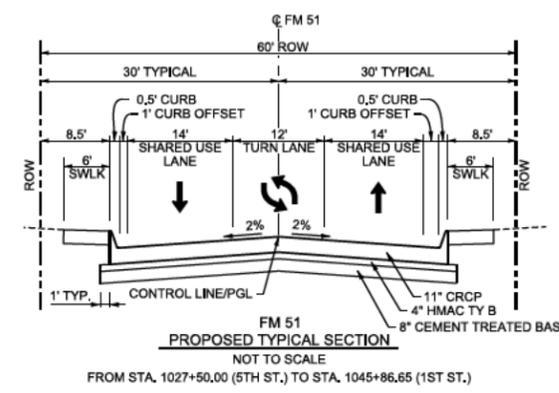
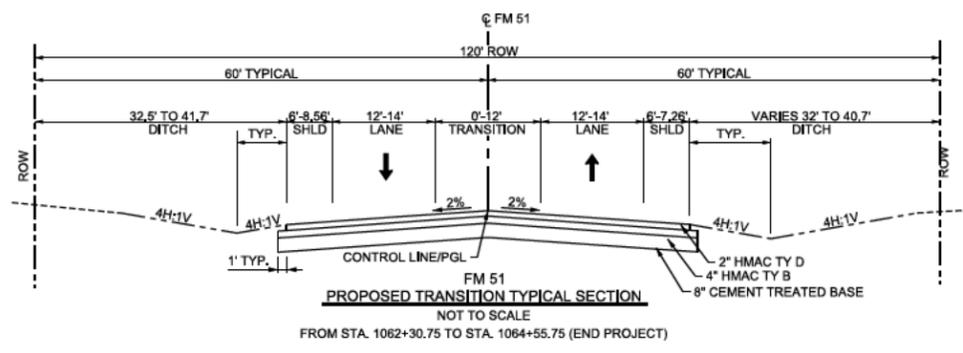
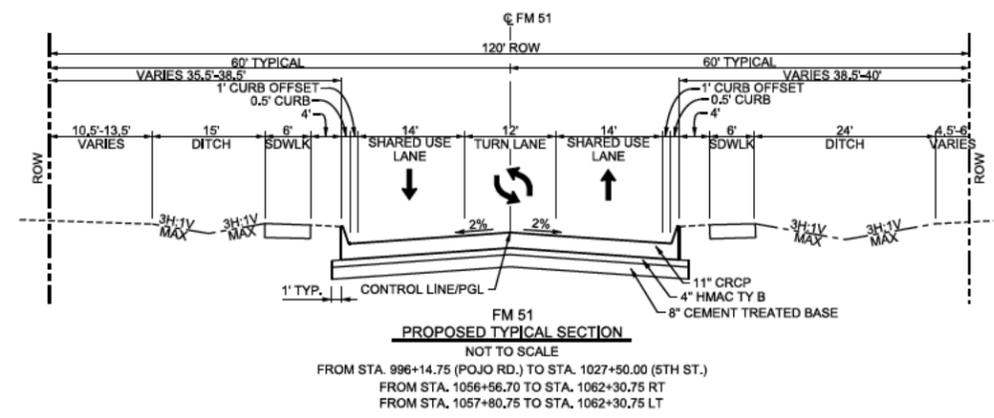
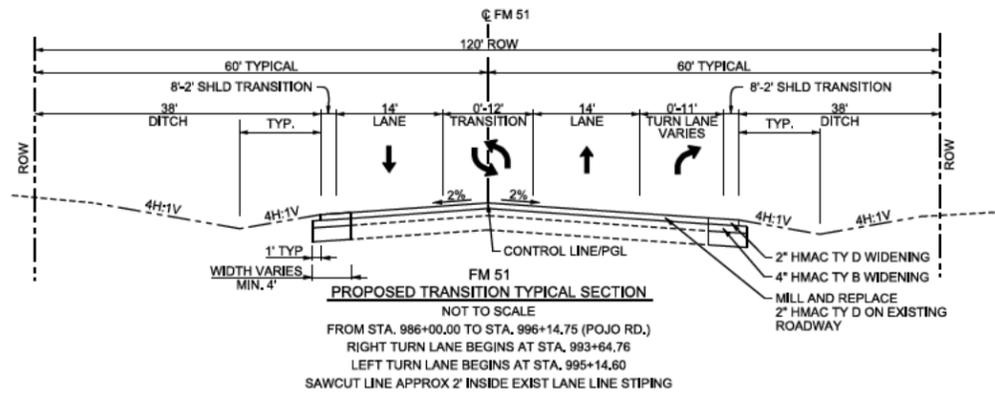
SH 199
EXISTING TYPICAL SECTIONS

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DN: _____		CK: _____		SH 199	
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY
0313	02	057	6	FTW	PARKER
					SHEET NO. 7

SH 199 and FM 51 Intersection and Roadway Reconstruction

Typical Sections
CSJ: 0313-02-057, 0171-03-070
Sheet 3 of 6

MicroStation V8i Use: 02/13/2018 10:00:00 AM Project: Freese and Nichols, Inc. Date: Jul 13, 2018 10:00:00 AM



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Signature of Registrant & Date
 Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE

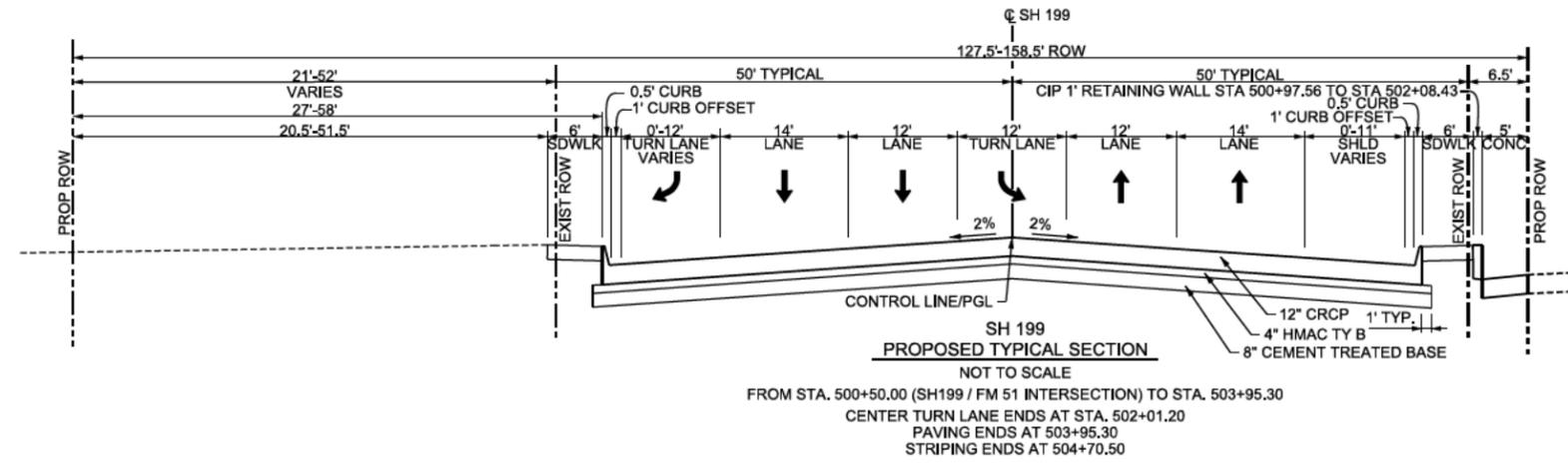
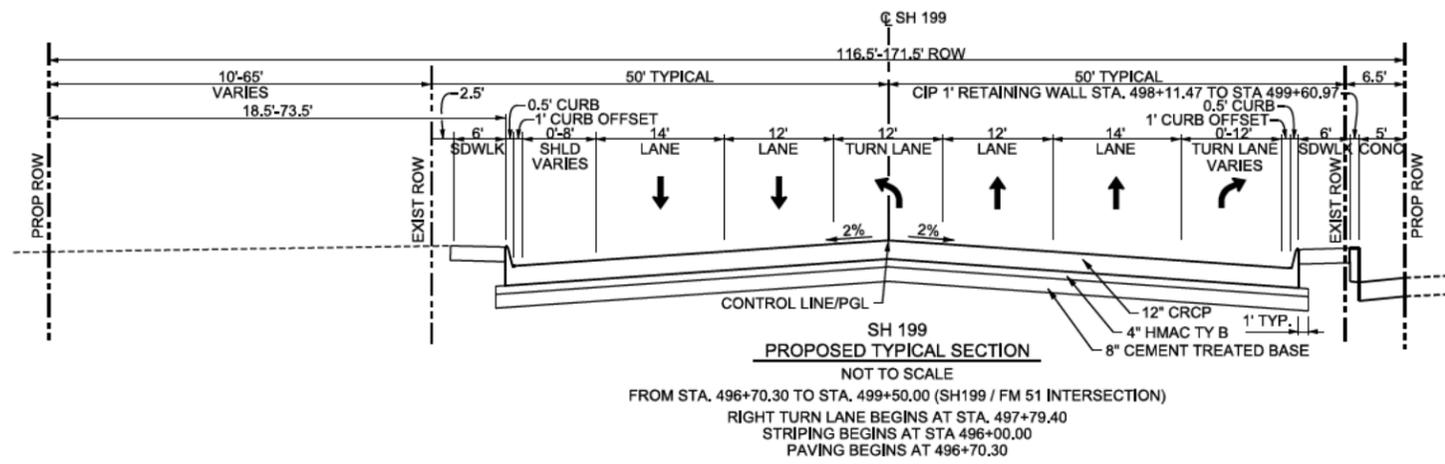
FREES & NICHOLS
 4055 International Plaza, Suite 400
 Fort Worth, TX 76109-4895
 Phone - (817) 735-1200
 Fax - (817) 735-7491
 Web - www.freese.com

Texas Department of Transportation
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FM 51
PROPOSED TYPICAL SECTIONS

FILE:	cv-trt-dt-typ-FM51-02.sht				
DW:	CK:	FEDERAL AID PROJECT NO.		HWY:	
DN:	CK:			FM	51
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY
0313	02	057	6	FTW	PARKER
SHEET NO.					8

MicroStation V8i Use as PDF from Fort Worth
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 Plot File: C:\Users\jgibson\OneDrive\Documents\Drawings\cv-trt-dt-typ-FM51-02.sht
 Date: Jul 13, 2018 11:01:10 AM
 Project: Freese and Nichols, Inc.

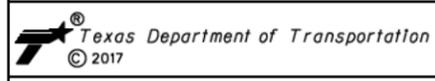


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Signature of Registrant & Date
Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE

FREES & NICHOLS
4055 International Plaza, Suite 400
Fort Worth, TX 76109-4895
Phone - (817) 735-7300
Fax - (817) 735-7481
Web - www.freese.com

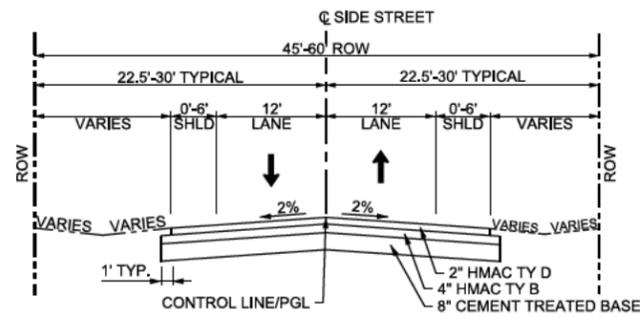


SH 199
PROPOSED TYPICAL SECTIONS

FILE:	cv-trt-dt-typ-SH199-02.sht				
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DN:	CK:			SH 199	
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY
0313	02	057	6	FTW	PARKER
					SHEET NO.
					9

SH 199 and FM 51 Intersection and Roadway Reconstruction
Typical Sections
CSJ: 0313-02-057, 0171-03-070
Sheet 5 of 6

MicroStation V8i Use as PDF from Fort Worth
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 Date: Jul 13, 2018 10:11:07 AM
 Project: Freese and Nichols, Inc.



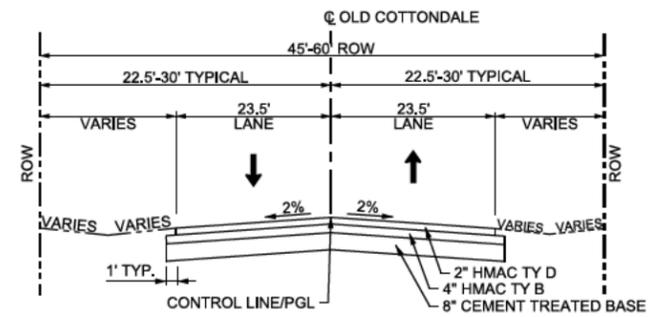
EXISTING TYPICAL SECTION

NOT TO SCALE

- 1ST ST.
- 2ND ST.
- 3RD ST.
- 4TH ST.
- 5TH ST.
- ASH ST.
- OPTIMIST RD.
- ROBERSON AVE.

NOTE:

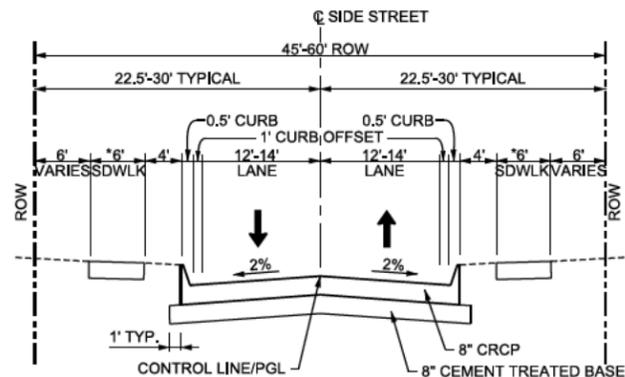
1. EAST OPTIMIST, 1ST, AND 2ND ST ARE CONCRETE FOR EXISTING CONDITIONS.



PROPOSED TYPICAL SECTION

NOT TO SCALE

OLD COTTONDALE RD.

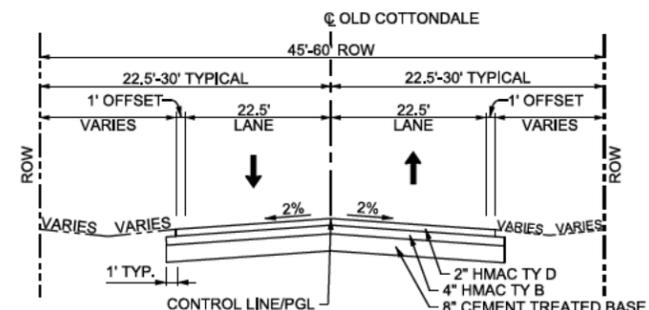


PROPOSED TYPICAL SECTION

NOT TO SCALE

- *1ST ST.
- *2ND ST.
- 3RD ST.
- 4TH ST.
- *5TH ST.
- ASH ST.
- *OPTIMIST RD.
- ROBERSON AVE.

*SIDEWALK PROPOSED



PROPOSED TYPICAL SECTION

NOT TO SCALE

OLD COTTONDALE RD.

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 Signature of Registrant & Date
 Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE



SIDE STREETS

EXISTING AND PROPOSED TYPICAL SECTIONS

FILE:		cv-trt-dt-typ-SIDE-01.sht				
DW:	CK:	FEDERAL AID PROJECT NO.		HIGHWAY		
DN:	CK:			SH 199		
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY	SHEET NO.
0313	02	057	6	FTW	PARKER	10

SH 199 and FM 51 Intersection and Roadway Reconstruction

Typical Sections

CSJ: 0313-02-057, 0171-03-070

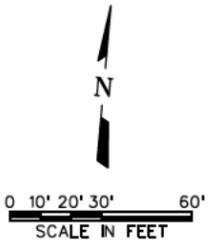
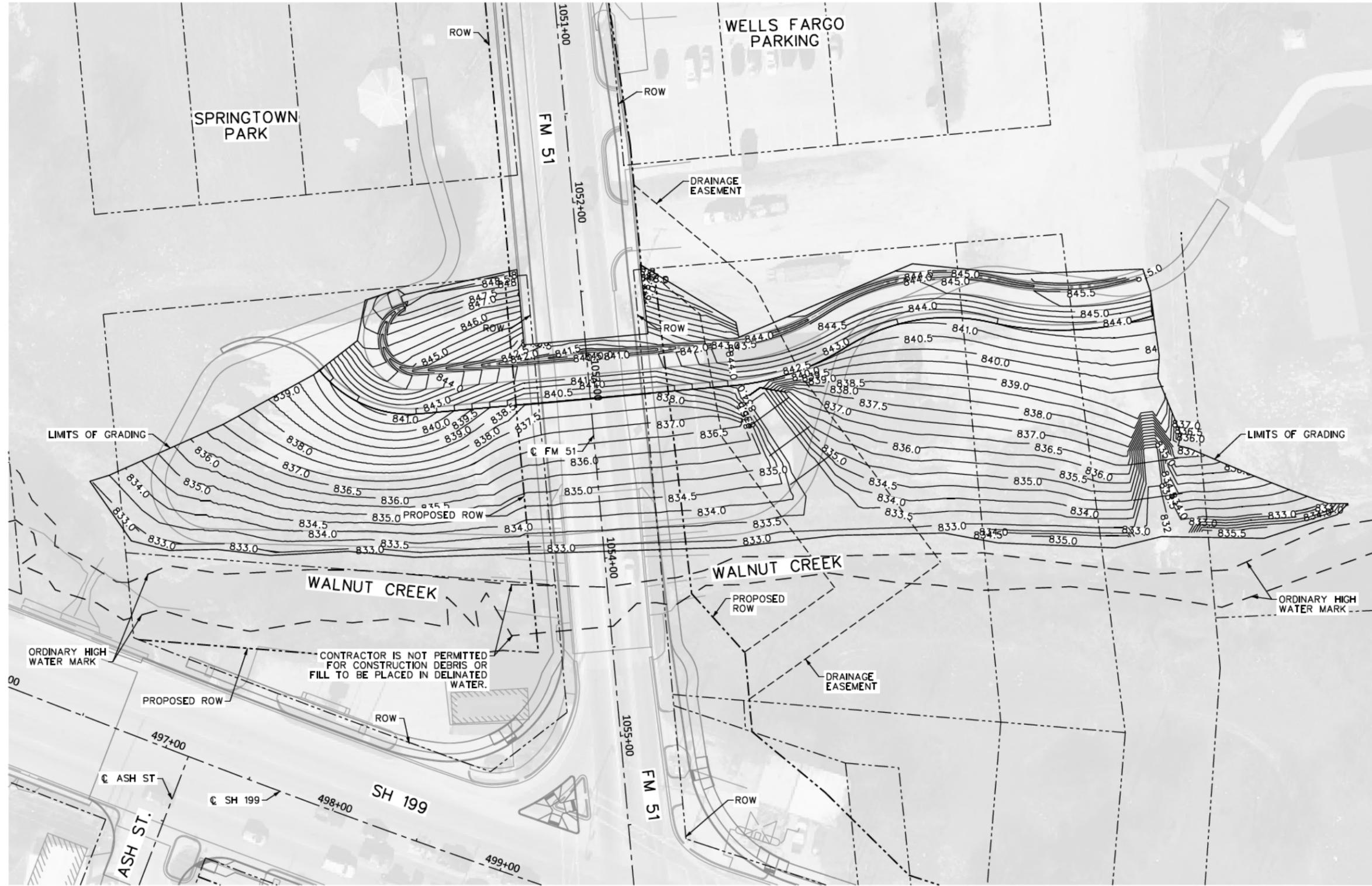
Sheet 6 of 6

MicroStation V8i Use: 02447071 Fort Worth, March 13, 2018 10:58:11 AM
 Plot: SH 199 and FM 51 Intersection and Roadway Reconstruction.dwg
 Date: Jul 13, 2018 10:58:11 AM Project: Freese and Nichols, Inc.

ATTACHMENT 6: WETLAND PROTECTION AT WALNUT CREEK EXHIBIT

LEGEND

- ORDINARY HIGH WATER MARK
- PROTECTED WETLAND
- DRAINAGE EASEMENT
- PROP RIGHT-OF-WAY
- RIGHT-OF-WAY
- PROP MAJOR CONTOUR
- PROP MINOR CONTOUR



_____, P.E.
 Signature of Registrant & Date
 Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

NO.	ISSUES	BY	DATE



FM 51
 WETLAND PROTECTION AT
 WALNUT CREEK

FILE:	Wetland.sht				
DW:	CK:	FEDERAL AID PROJECT NO.		HIGHWAY	
DN:	CK:			FM 51	
CONT	SECT	JOB	FED. RD. DIV. NO.	DIST	COUNTY SHEET NO.
0313	02	057	6	FTW	PARKER 1

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 User: jkennedy

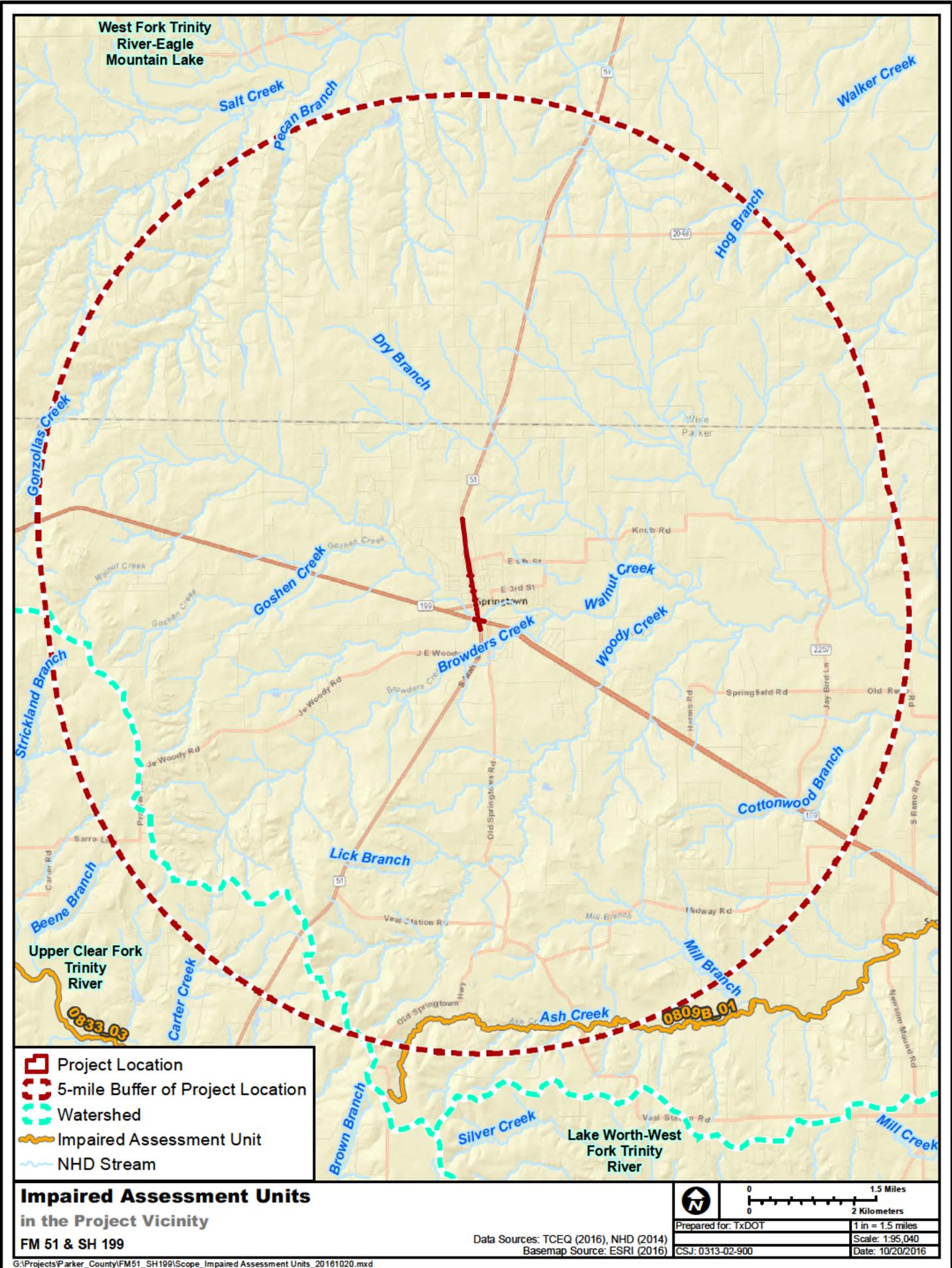




Table of Impacts for TCEQ Stream Segments

Project Name: SH 199 and FM 51

CSJ: 0313-02-057,
0171-03-070

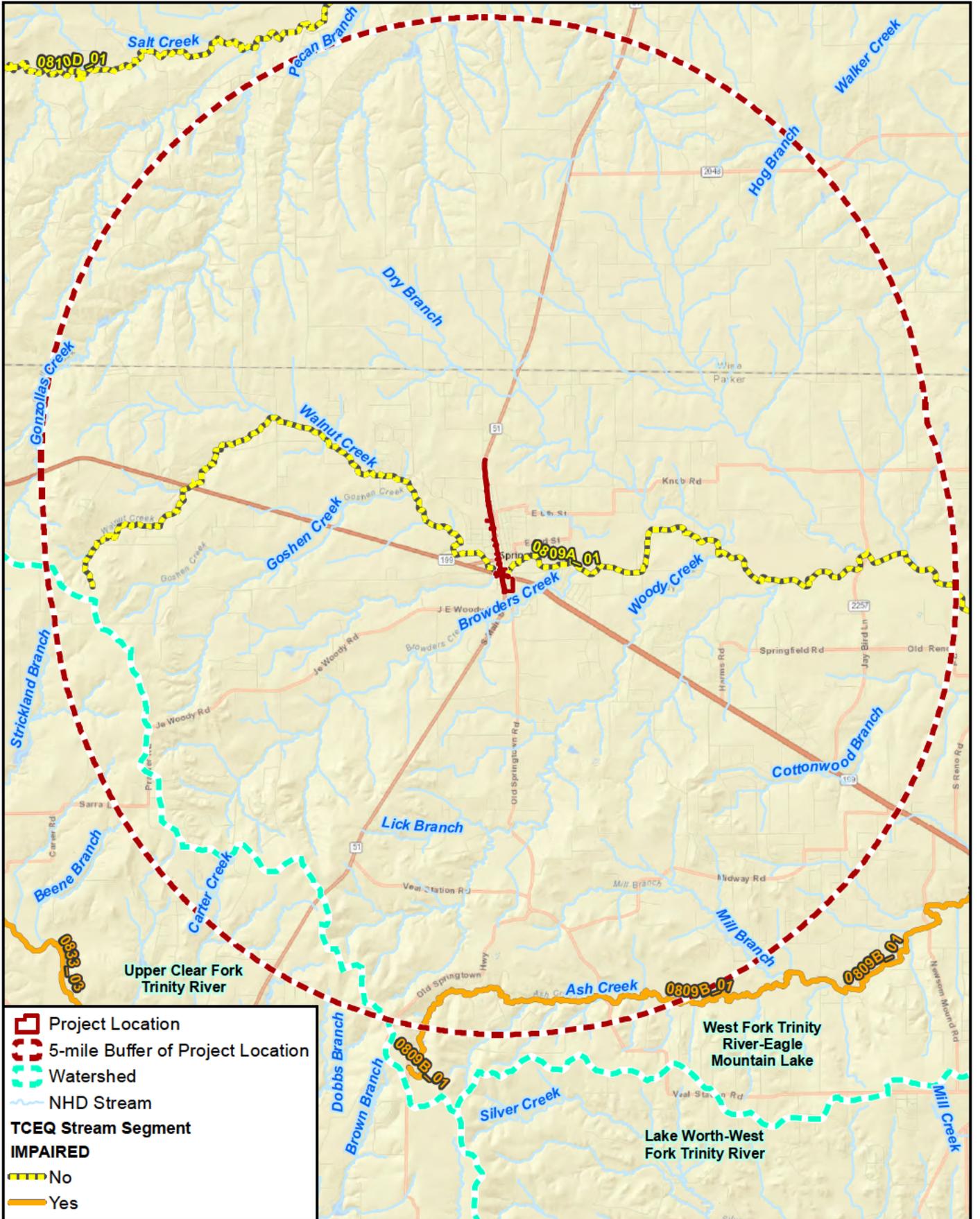
County: Parker

District: Fort Worth

Date Completed: 02.02.2018

Please include, as an attachment, a map illustrating all TCEQ Segments within 5 miles of the project area and the applicable pages from the most current version of the Texas 303(d) List.

Segment ID	Name	Impaired (Y/N)	Complete the columns below if the Segment is impaired.			
			Assessment Unit ID	Impairment(s)	Would the project contribute to the constituent of concern? (Y/N)	Complete the column below if the project will contribute to the constituent of concern.
						Explain measures that would be taken to minimize impacts.
0809A	Walnut Creek	N				
0809B	Ash Creek	Y	01	Bacteria	N	



■ Project Location
- - - 5-mile Buffer of Project Location
- - - Watershed
— NHD Stream
TCEQ Stream Segment
IMPAIRED
- - - No
— Yes

TCEQ Stream Segments in the Project Vicinity

SH 199 and FM 51 Intersection and Roadway Reconstruction

Data Sources: TCEQ (2016), NHD (2014)
 Basemap Source: ESRI (2017)

0 1.5 Miles
0 2 Kilometers
 Prepared for: TxDOT
 Scale: 1 in = 1.5 miles
 CSJ: 0313-02-057, 0171-03-070
 Date: 10/11/2017

2014 Texas Integrated Report - Texas 303(d) List (Category 5)

SegID: 0806 West Fork Trinity River below Lake Worth
 from a point immediately upstream of the confluence of Village Creek in Tarrant County to Lake Worth Dam
 in Tarrant County

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
dioxin in edible tissue	5a	2010
0806_01	From confluence of Village Creek upstream to confluence of Clear Fork Trinity River	
0806_02	From confluence of Clear Fork Trinity River upstream to Lake Worth Dam	

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
PCBs in edible tissue	5a	1996
0806_01	From confluence of Village Creek upstream to confluence of Clear Fork Trinity River	
0806_02	From confluence of Clear Fork Trinity River upstream to Lake Worth Dam	

SegID: 0806E Sycamore Creek
 Five mile stretch of Sycamore Creek running upstream from confluence with the W. Fork of Trinity River to
 confluence with Echo Lake Tributary in Fort Worth.

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
bacteria	5b	2006
0806E_01	Five mile stretch of Sycamore Creek running upstream from confluence with the W. Fork of Trinity River to confluence with Echo Lake Tributary in Fort Worth	

SegID: 0808 West Fork Trinity River Below Eagle Mountain Reservoir
 From a point 4.0 km (2.5 miles) downstream of Eagle Mountain Dam in Tarrant County to Eagle Mountain
 Dam in Tarrant County

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
PCBs in edible tissue	5a	2012
0808_01	Entire segment	

SegID: 0809B Ash Creek
 From the normal pool elevation of Eagle Mountain Reservoir up to the headwaters at Upper Denton Road in
 Parker County

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
bacteria	5c	2014
0809B_01	Entire Segment	

SegID: 0810 West Fork Trinity River Below Bridgeport Reservoir
 From a point 0.6 km (0.4 miles) downstream of the confluence of Oates Branch in Wise County to Bridgeport
 Dam in Wise County

<u>Parameter(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>
bacteria	5c	1998
0810_01	Lower 25 miles of segment	