Tier I Site Assessment

Main CSJ: 0265-03-041

Form Prepared By: Blanton & Associates

Date of Evaluation: December 7, 2018

☐ *Project is classified as a Categorical Exclusion*

Proposed Letting Date: May 2021

☐ *Project not assigned to TxDOT under the NEPA Assignment MOU*

District(s): Austin

County(ies): Bastrop

Roadway Name: State Highway (SH) 71 at Farm-to-Market (FM) 1209

Limits From: County Road (CR) 206

Limits To: SH 21

Project Description: The Texas Department of Transportation (TxDOT) Austin District is proposing to add a grade separation and other roadway improvements to State Highway (SH) 71 from County Road (CR) 206 to SH 21 in Bastrop County, Texas. The proposed improvements would include constructing new frontage roads, a grade-separation over Farm-to-Market (FM) 1209, and shared use paths. FM 1209 would be widened to include a second travel lane, a right turn lane, and a 14-foot-wide left turn lane in each direction. East/west turnarounds would also be added on either side of the SH 71 and FM 1209 intersection and on the west side of the SH 71 intersection with SH 21.

The existing SH 71 facility consists of two 12-foot-wide travel lanes in each direction with 10-foot-wide outside shoulders and 4-foot-wide inside shoulders. Directions of travel are separated by a grassy depressed median, approximately 68 feet in width. The existing right-of-way (ROW) along SH 71 is approximately 240 feet wide. The existing FM 1209 facility consists of one 12-foot-wide travel lane in each direction. The existing ROW along FM 1209 is approximately 80 feet wide.

The proposed project would add a grade separation at FM 1209 and would maintain access to adjacent properties with new frontage roads. Access to FM 1209 would be provided via ramps to the anticipated signalized intersection. If completed, the mainlanes of the SH 71 facility would consist of two 12-foot-wide lanes in each direction with 4-foot-wide inside shoulders and 10- to 22-foot-wide outside shoulders. Directions of travel would be separated by a grassy median that would be approximately 64 feet in width. Each frontage road would consist of two 12-foot-wide travel lanes with 2-foot-wide inside and outside curb and gutter. Ramps would have a 14-foot-wide travel lane with a 4-foot-wide inside shoulder, a 6-foot-wide outside shoulder, and 2-foot-wide curb and gutter on both sides. The proposed improvements to FM 1209 at SH 71 includes the construction of one 12-foot-wide travel lane and a 12-foot-wide left turn lane in each direction. Twenty-four-foot-wide at-grade turnarounds for east/west traffic would be added at the SH 71/FM 1209 intersection, and an east/west turnaround would be added on the west side of the SH 71/SH 21 intersection. A 10-foot-wide shared-use path would be constructed on each side of SH 71 and FM 1209. Five detention ponds would be added along the north side of SH 71 east of the SH 71 and FM 1209 intersection.

The length of the proposed project is approximately 2.27 miles. It is anticipated that the project would require approximately 40 acres of additional right-of-way.

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. No — Is the project limited to a maintenance activity exempt from coordination?

http://txdot.gov/inside-txdot/division/environmental/maintenance-program.html

2. No — Has the project previously completed coordination with TPWD?

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

*Explain:

The project area contains potential suitable habitat for one state-listed threatened species, the timber rattlesnake (Crotalus horridus), and eight species of greatest conservation need (SGCN): western burrowing owl (Athene cunicularia hypugaea), cave myotis bat (Myotis velifer), plains spotted skunk (Spilogale putorius interrupta), Texas garter snake (Thamnophis sirtalis annectens), sandhill woollywhite (Hymenopappus carrizoanus), Texas fescue (Festuca versuta), Texas peachbush (Prunus texana), and Texas sandmint (Rhododon ciliatus).

Pasture, rangeland, and maintained ROW in the project area could provide suitable habitat for the western burrowing owl. Bird Best Management Practices (BMPs) will be implemented to minimize potential impacts to this species. Bridges in the project area could provide suitable habitat for cave myotis bat. Bat BMPs will be implemented to minimize potential impacts to the species. The plains spotted skunk could occur within and along woodlands and shrublands throughout the project area. Contractors will be advised of the potential occurrence of this species within the project area, to avoid harming them if encountered, and to avoid unnecessary impacts to dens. Drainages and other wet areas could provide habitat for the Texas garter snake. Terrestrial Reptile BMPs will be implemented for potential impacts to the species. Grasslands and oak woodlands in the project area provide potential habitat for the sandhill woollywhite and Texas peachbush. Woodlands on stream terraces in the project area could provide potential habitat for the Texas fescue. Open sandy areas in the project area provide potential habitat for the Texas sandmint.

See the attached Species Impact Table for more information about impact determinations.

Date TPWD County List Accessed: October 9, 2018

Date that the NDD was accessed: August 9, 2018

What agency performed the NDD search? TPWD

EOID Number	Common Name	Scientific Name	Listing Status	Buffer Zone
8713	Texas Fescue	*Festuca versuta*	SGCN	1.5 Mile
11119	Texas Fescue	*Festuca versuta*	SGCN	1.5 Mile
11681	Alfisol Coastal Prairie	*Schizachyrium scoparium - Paspalum plicatulum - Sorghastrum nutans - Dichanthelium oligosanthes - Paspalum setaceum - Symphyotrichum pratense Alfisol Grassland*	N/A	1.5 Mile

NDD Search Results for EOIDs and Tracked Managed Areas

EOID Number	Common Name	Scientific Name	Listing Status	Buffer Zone
11682	Alfisol Coastal Prairie	*Schizachyrium scoparium - Paspalum plicatulum - Sorghastrum nutans - Dichanthelium oligosanthes - Paspalum setaceum - Symphyotrichum pratense Alfisol Grassland*	N/A	1.5 Mile

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

Comments:

BMPs are available and will be implemented for the western burrowing owl, cave myotis bat, plains spotted skunk, Texas garter snake, and timber rattlesnake. However, the current 2017 revision of the BMP Programmatic Agreement (PA) does not specify BMPs for SGCN plants. Therefore, coordination with Texas Parks and Wildlife Department (TPWD) is required for potential impacts to the sandhill woollywhite, Texas fescue, Texas peachbush, and Texas sandmint.

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

Comments:

Texas NDD data indicates there is one patch of Alfisol Coastal Prairie within the project area at the southeast corner of the SH 71 and FM 1209 intersection. However, this patch has already been disturbed by the construction of an existing gas station. Therefore, no remnant vegetation would be impacted by the proposed project.

5. Yes — Does the project require a NWP with PCN or IP by USACE?

*Explain:

It is anticipated that the proposed project would be authorized by a Section 404 NWP 14 Linear Transportation Projects with a PCN, due to anticipated permanent impacts to wetlands.

6. 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:

Comments:

It is not anticipated that the proposed project would impact more than 200 linear feet of stream channel at any single and complete crossing.

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

Comments:

The proposed project would not impact known isolated wetlands outside of the TxDOT ROW.

8. Yes — Would the project impact at least 0.10 acre of riparian vegetation?

*Explain:

The proposed project would potentially impact 0.72 acre of riparian vegetation, based on assumed ROW to ROW impacts.

9. Yes — 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?

*Explain:

The proposed project would impact approximately 18.17 acres of Post Oak Savanna and 0.72 acre of Riparian MOU vegetation, both of which exceed the disturbance thresholds in the Threshold Table Programmatic Agreement. See the attached "Field-verified Vegetation MOU Summary Table" for more information on impacts to vegetation from the proposed project.

*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:

SH 71 at FM 1209 EMST

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

*Explain:

Figures 3.1 through 3.4 (attached) provide EMST mapped habitats and Figures 4.1 through 4.4 (attached) provide field-verified habitats.

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

Figures 3.1 through 3.4 (attached) provide EMST mapped habitats and Figures 4.1 through 4.4 (attached) provide field-verified habitats.

Is TPWD Coordination Required?

Yes

☒ Early Coordination

☐ Administrated Coordination - Must be conducted through ENV-NRM

BMPs Implemented or EPICs included (as necessary):

In addition to complying with the Migratory Bird Treaty Act (MBTA), Bird BMPs will be implemented for the western burrowing owl, and include:
• Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed.
• Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season;
• Avoid the removal of unoccupied, inactive nests, as practicable;
• Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair;
• Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.

Bat BMPs will be implemented for the cave myotis bat, and include:

To determine the appropriate best management practice to avoid or minimize impacts to bats, review the habitat description for the species of interest on the TPWD Rare, Threatened, and Endangered Species of Texas by County List or other trusted resources. All bat surveys and other activities that include direct contact with bats shall comply with TPWD -recommended white-nose syndrome protocols located on the TPWD Wildlife Habitat Assessment Program website under "Project Design and Construction".
The following survey and exclusion protocols should be followed prior to commencement of construction activities. For the purposes of this document, structures are defined as bridges, culverts (concrete or metal), wells, and buildings.
• For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.
• For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.
• If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.
• Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50°F AND minimum daytime temperatures are above 70°F. Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, installation of alternate roosts is recommended to replace the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area. See Section 2: Standard Recommendations for recommended acceptable methods for excluding bats from structures.
• If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat--friendly design or artificial roosts should be constructed to replace these features, as practicable.
• Conversion of property containing cave or cliff features to transportation purposes should be avoided where feasible.
• Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures 55°F for at least two consecutive nights), so bats can move away from the disturbance and find new roosts.
• Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.
• Retain mature, large diameter hardwood forest species and native/ornamental palm trees where feasible.
• In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.

Contractors will be advised of the potential occurrence of the plains spotted skunk within the project area, will avoid harming the species if encountered, and will avoid unnecessary impacts to dens.

Terrestrial Reptile BMPs will be implemented for the Texas garter snake, and timber rattlesnake. Terrestrial Reptile BMPs include:
• 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 excavated 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 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.

TxDOT Contact Information

Name: Jon Gieselbrecht

Phone Number: 512-832-7056

E-mail: Jon.Geiselbrecht@txdot.gov

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)

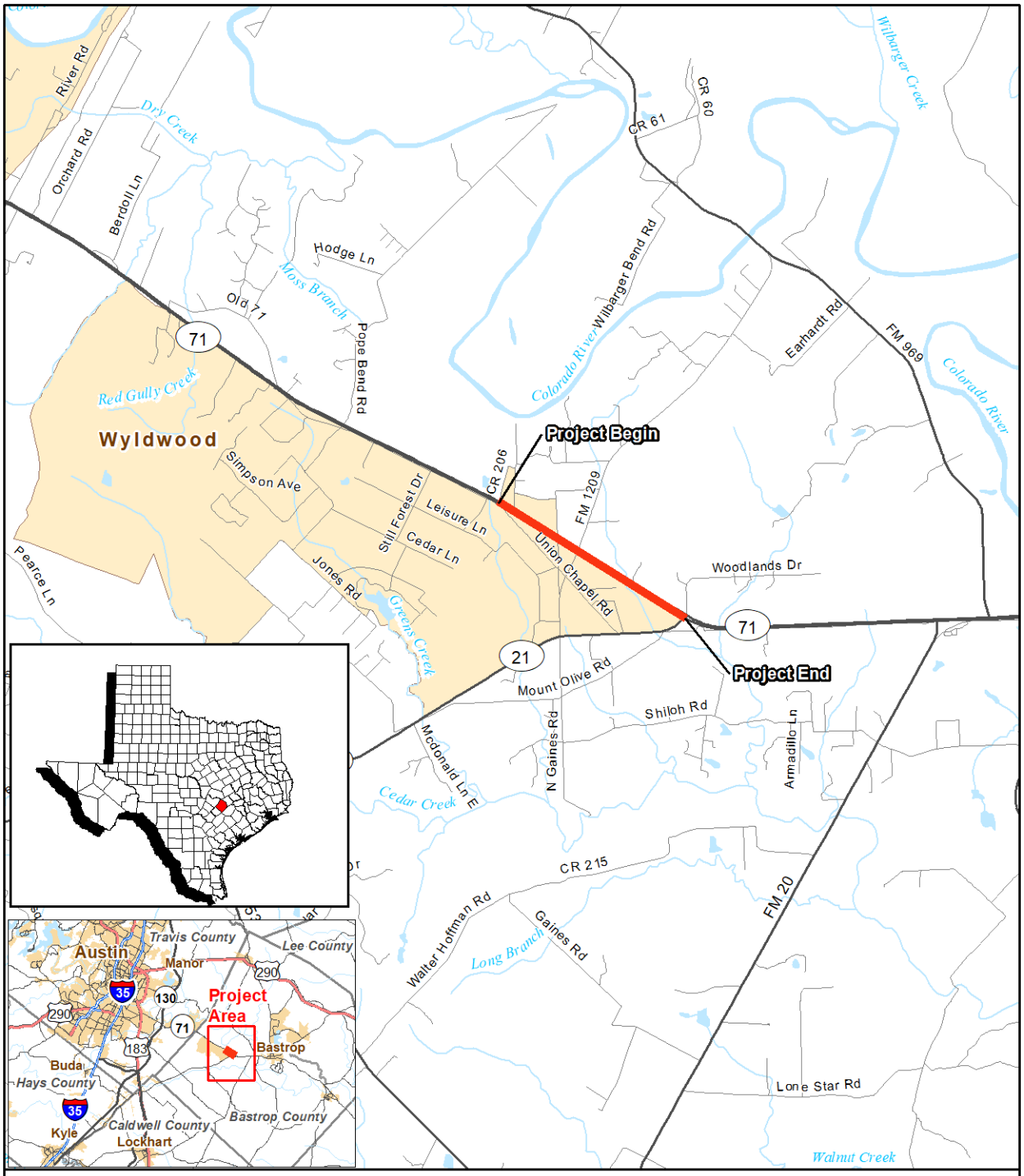
EMST Project MOU Summary Table (Required for TPWD Coordination)

TPWD SGCN List

Photos (Required for TPWD Coordination)

Previous TPWD Coordination Documentation (if applicable)

Figures



Base Map: ESRI- US Base Map;

Project Location

1:100,000

Miles

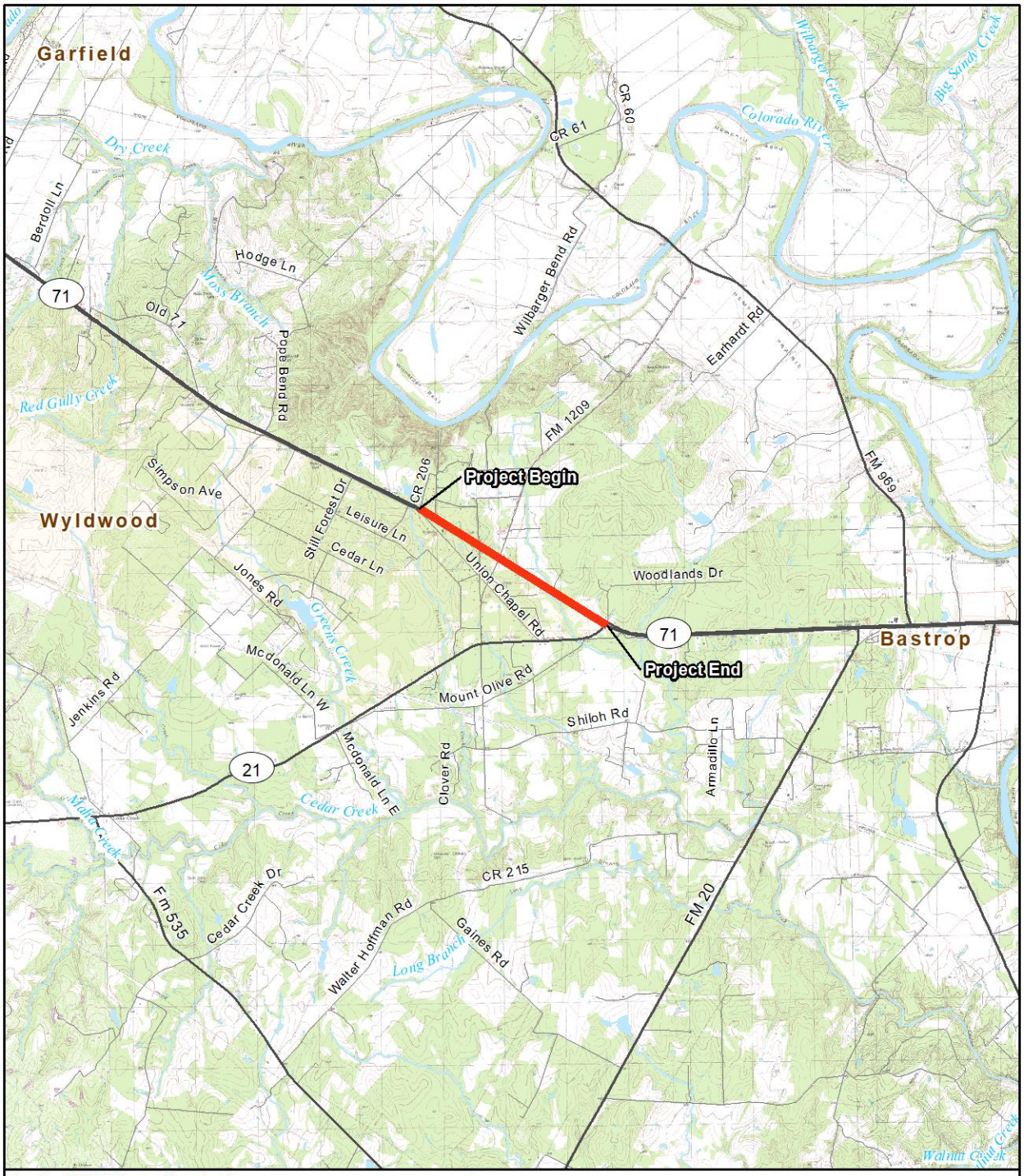
0 0.5 1 1.5 2

Kilometers

0 1 2 3 4

Figure 1
Project Location on County Map
SH 71 at FM 1209 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

Figures



Base Map: 7.5' USGS topographic quadrangle:
Webberville, Texas
(1987, Map ID No. 30097-B5)
Utley, Texas
(1982, Map ID No. 30097-B4)
Bastrop SW, Texas
(1982, Map ID No. 30097-A4)
Lytton Springs, Texas
(1968, Map ID No. 30097-A5)

Project Location

N
W E
S

1:100,000

Miles
0 0.5 1 1.5 2

Kilometers
0 1 2 3 4

Figure 2
Project Location on Topographic Map
SH 71 at FM 1209 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

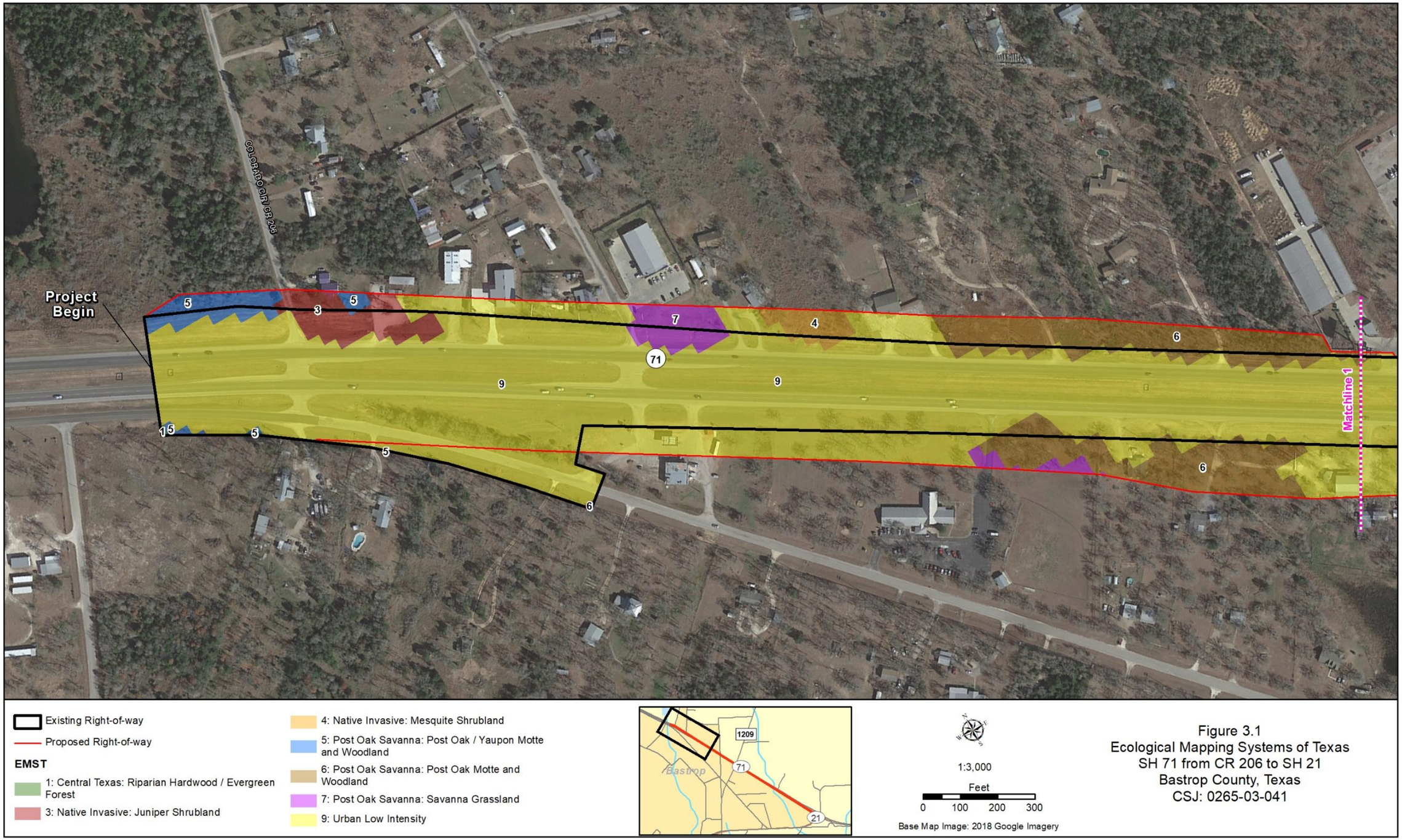
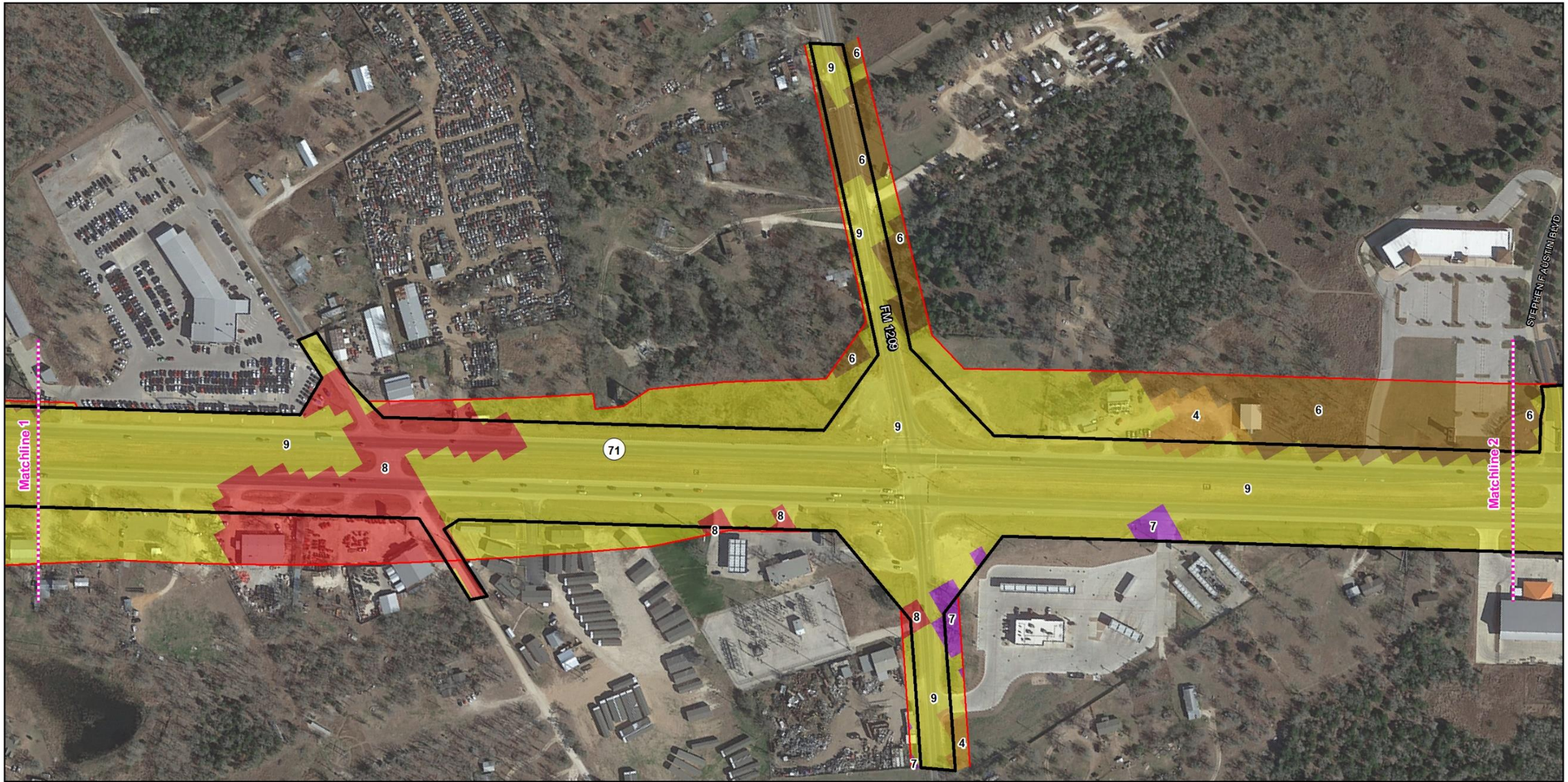


Figure 3.1
Ecological Mapping Systems of Texas
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041



Existing Right-of-way

Proposed Right-of-way

EMST

4: Native Invasive: Mesquite Shrubland

6: Post Oak Savanna: Post Oak Motte and Woodland

7: Post Oak Savanna: Savanna Grassland

8: Urban High Intensity

9: Urban Low Intensity

1:3,000

Feet

0 100 200 300

Base Map Image: 2018 Google Imagery

Figure 3.2
Ecological Mapping Systems of Texas
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

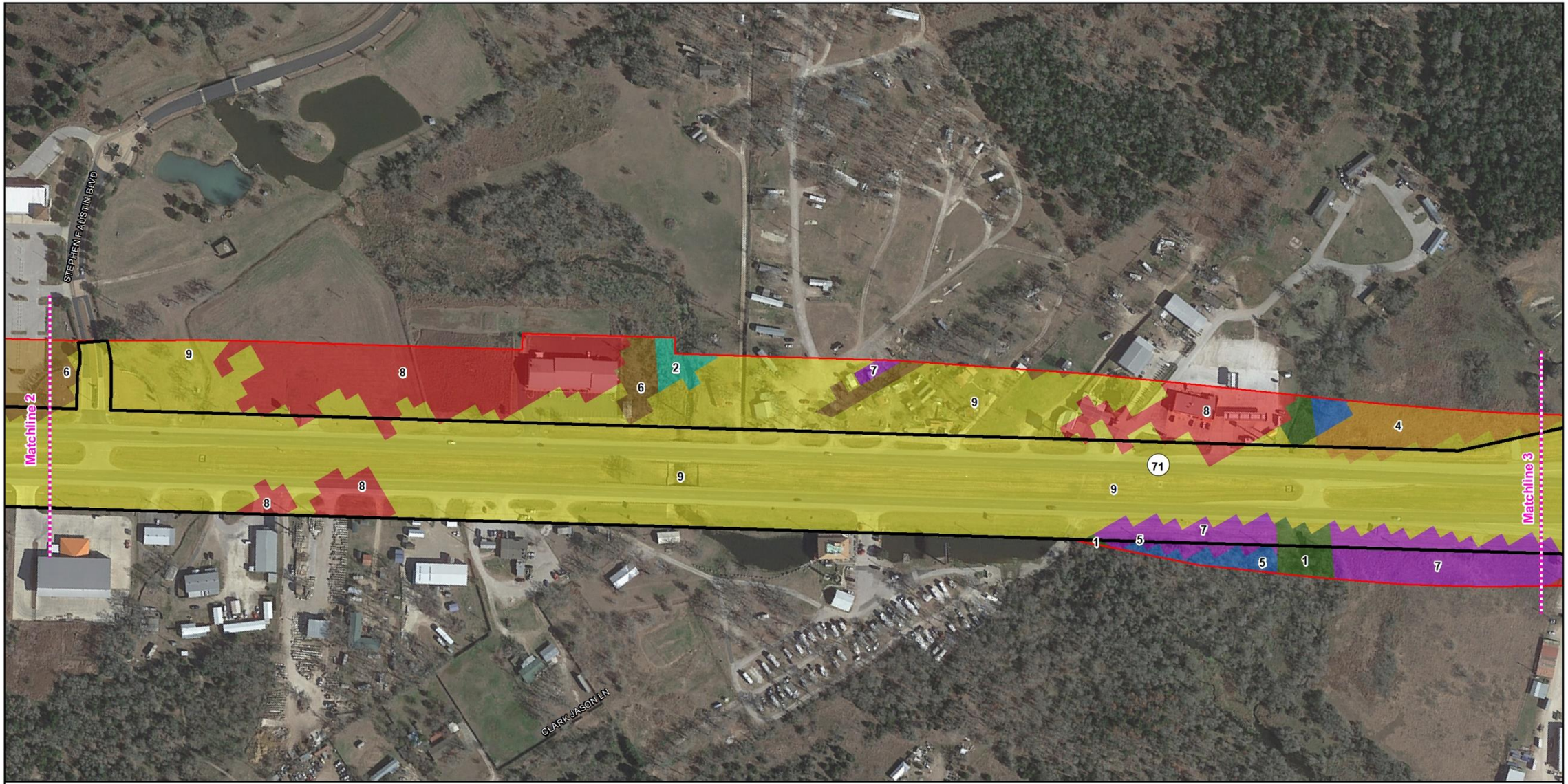
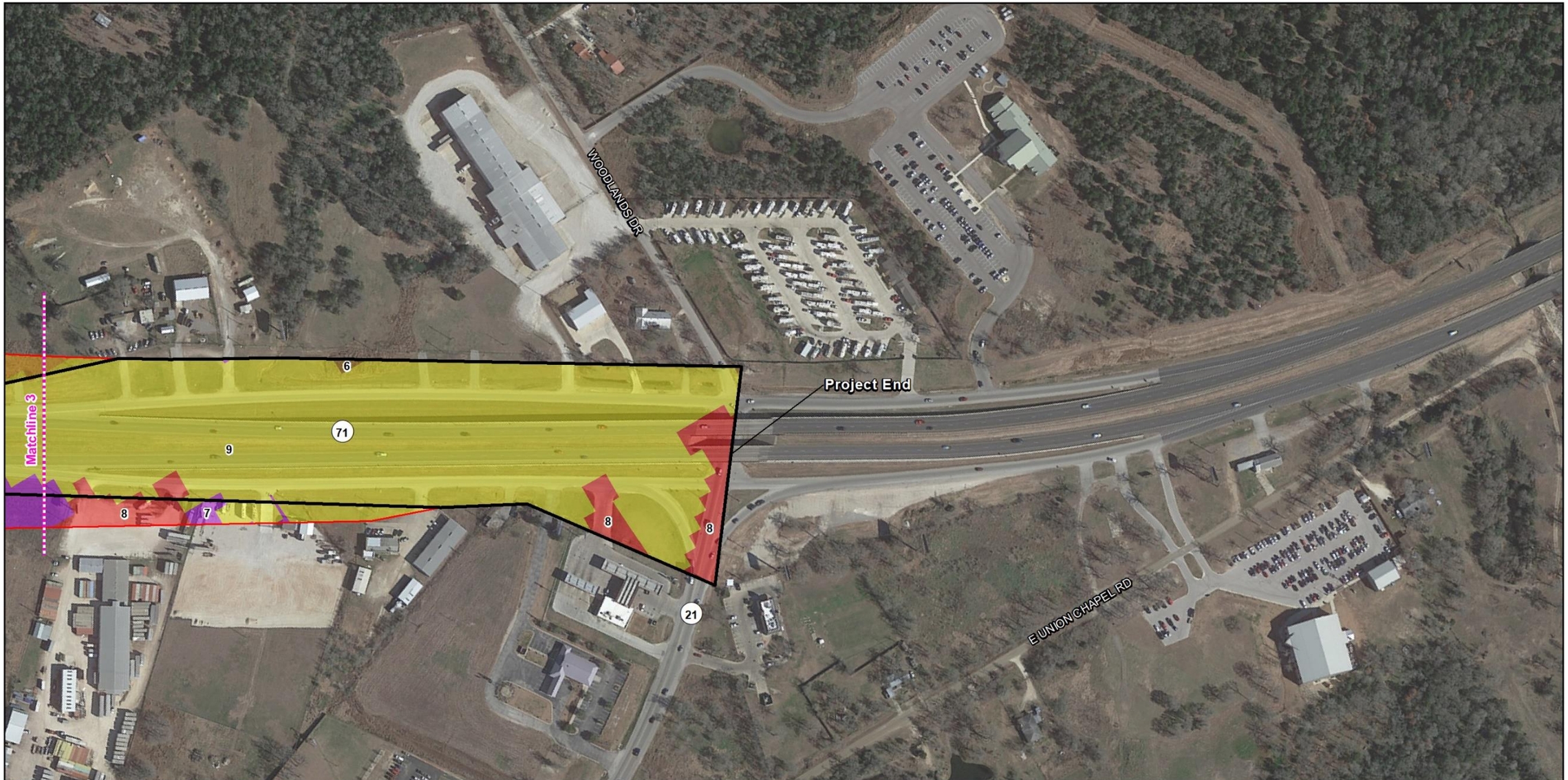


Figure 3.3
Ecological Mapping Systems of Texas
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041



Existing Right-of-way
Proposed Right-of-way

EMST

4: Native Invasive: Mesquite Shrubland
6: Post Oak Savanna: Post Oak Motte and Woodland
7: Post Oak Savanna: Savanna Grassland
8: Urban High Intensity
9: Urban Low Intensity

1:3,000

Feet

0 100 200 300

Base Map Image: 2018 Google Imagery

Figure 3.4
Ecological Mapping Systems of Texas
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

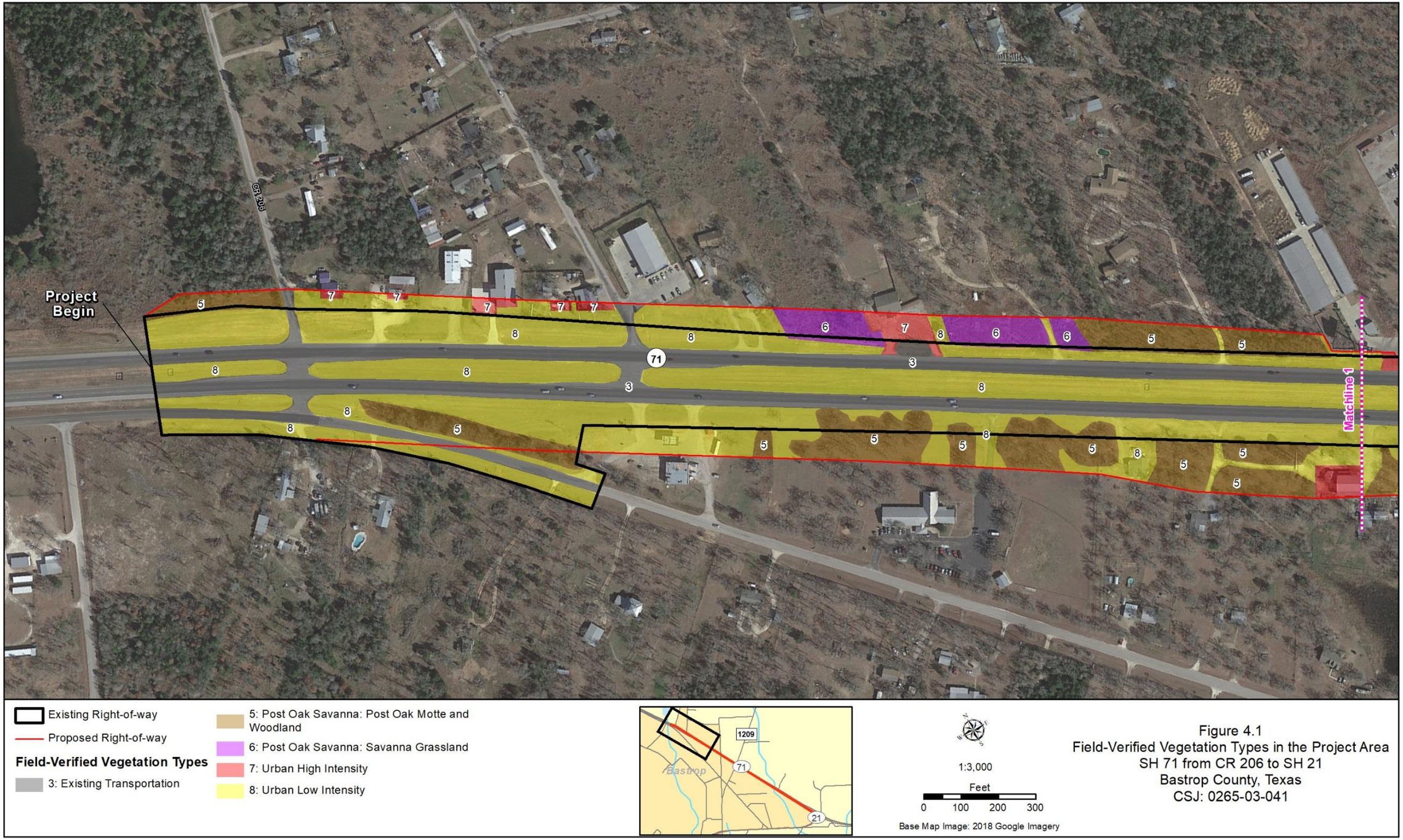


Figure 4.1
Field-Verified Vegetation Types in the Project Area
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

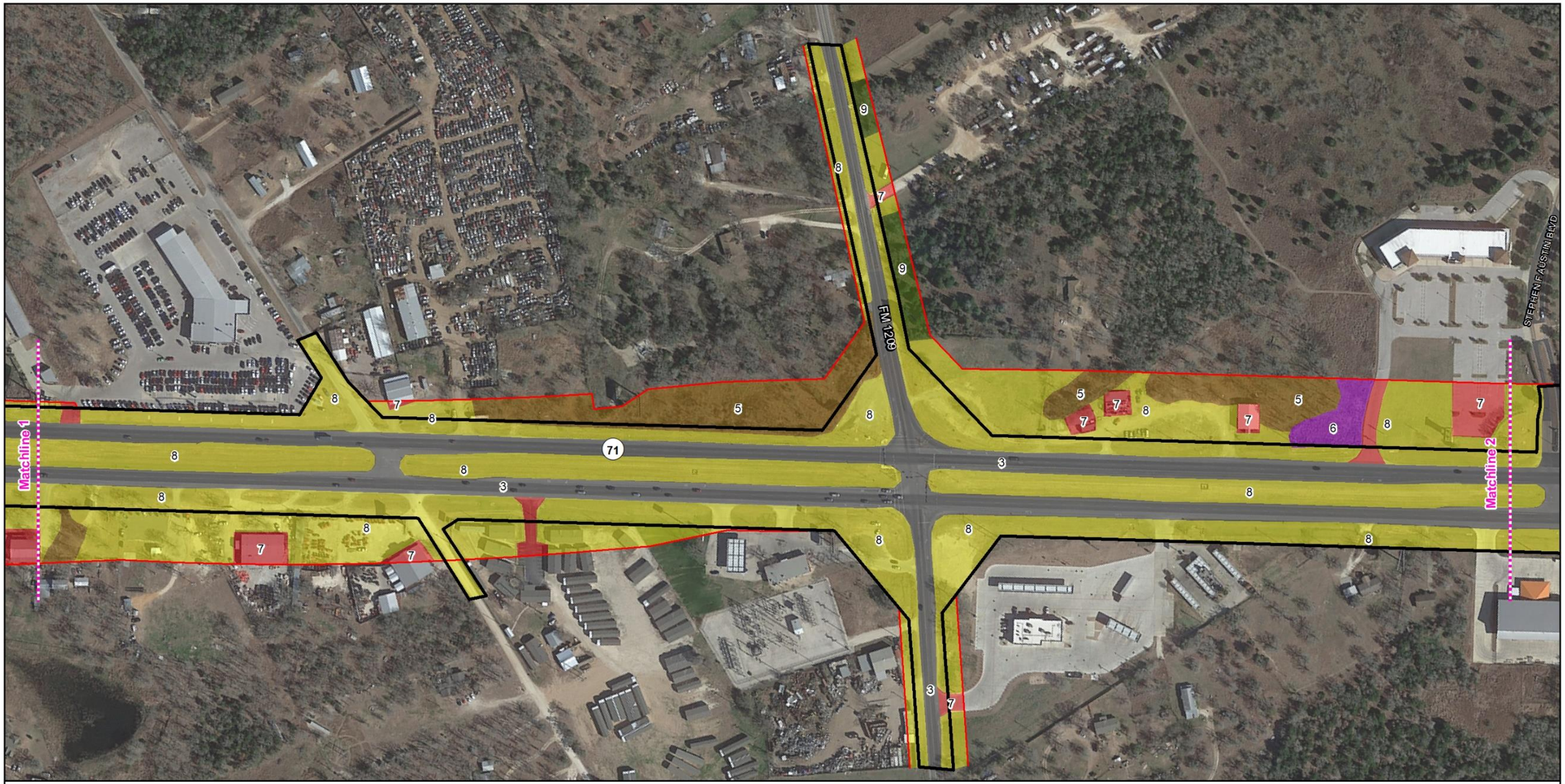


Figure 4.2
Field-Verified Vegetation Types in the Project Area
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

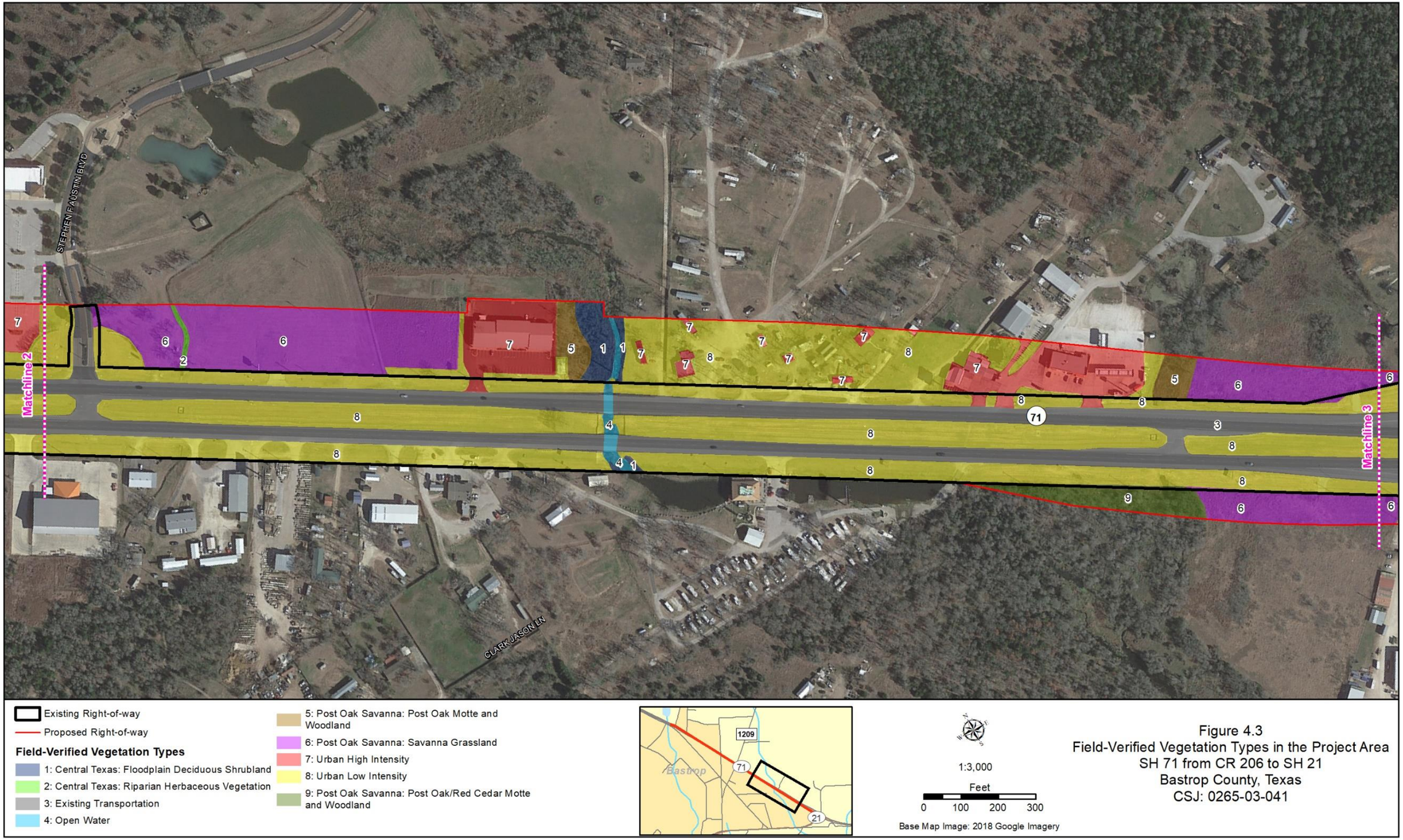


Figure 4.3
Field-Verified Vegetation Types in the Project Area
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

Existing Right-of-way
Proposed Right-of-way

Field-Verified Vegetation Types

- 2: Central Texas: Riparian Herbaceous Vegetation
- 3: Existing Transportation
- 6: Post Oak Savanna: Savanna Grassland
- 8: Urban Low Intensity

1:3,000

Feet

0 100 200 300

Base Map Image: 2018 Google Imagery

Figure 4.4
Field-Verified Vegetation Types in the Project Area
SH 71 from CR 206 to SH 21
Bastrop County, Texas
CSJ: 0265-03-041

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
Phone: (512) 490-0057 Fax: (512) 490-0974
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

In Reply Refer To: December 07, 2018
Consultation Code: 02ETAU00-2018-SLI-1316
Event Code: 02ETAU00-2019-E-00655
Project Name: SH 71 at FM 1209

Subject: Updated 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, that *may* occur within the county of your proposed project and/or may be affected by 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.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. 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. Also 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.

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 sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened

or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

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 projects 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.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* - the proposed action will not affect federally 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, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* - adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action “is likely to adversely affect” the listed species. The analysis should consider all interrelated and interdependent actions. An “is likely to adversely affect” determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. 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.

Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/communication-towers.php. Additionally, wind energy projects should follow the wind energy guidelines

https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php) for minimizing impacts to migratory birds and bats.

Finally, 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 https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php.

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:

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
(512) 490-0057

Project Summary

Consultation Code: 02ETAU00-2018-SLI-1316

Event Code: 02ETAU00-2019-E-00655

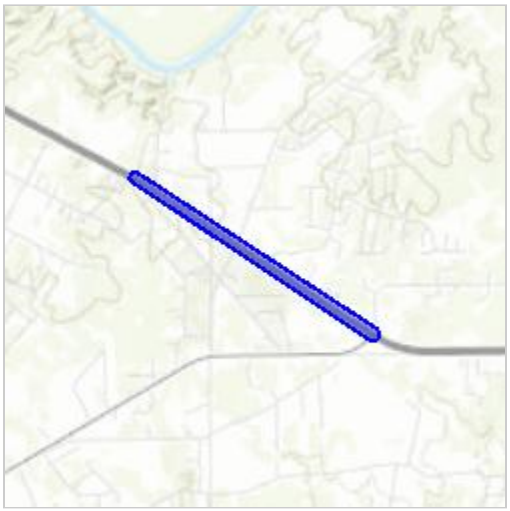
Project Name: SH 71 at FM 1209

Project Type: TRANSPORTATION

Project Description: Improvements to intersection of SH 71 and FM 1209

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/30.12103861324507N97.43044853210449W



Counties: Bastrop, TX

Endangered Species Act Species

There is a total of 9 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* 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: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* 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	Endangered

Amphibians

NAME	STATUS
Houston Toad *Bufo houstonensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2206	Endangered

Clams

NAME	STATUS
Smooth Pimpleback *Cyclonaias houstonensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8967	Candidate
Texas Fatmucket *Lampsilis bracteata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9041	Candidate
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate

Flowering Plants

NAME	STATUS
Navasota Ladies-tresses *Spiranthes parksii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1570	Endangered

Critical habitats

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

BASTROP COUNTY

AMPHIBIANS

		Federal Status	State Status
Houston toad	*Anaxyrus houstonensis*	LE	E

endemic; sandy substrate, water in pools, ephemeral pools, stock tanks; breeds in spring especially after rains; burrows in soil of adjacent uplands when inactive; breeds February-June; associated with soils of the Sparta, Carrizo, Goliad, Queen City, Recklaw, Weches, and Willis geologic formations

BIRDS

		Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*	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	*Falco peregrinus tundrius*	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	*Haliaeetus leucocephalus*	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

Henslow's Sparrow *Ammodramus henslowii*

wintering individuals (not flocks) found in weedy fields or cut-over areas where lots of bunch grasses occur along with vines and brambles; a key component is bare ground for running/walking

Interior Least Tern	*Sternula antillarum athalassos*	LE	E

The 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 *Charadrius montanus*

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	*Falco peregrinus*	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.

BASTROP COUNTY

BIRDS

		Federal Status	State Status
Red Knot	*Calidris canutus rufa*	LT	

Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot's prominent pale eyebrow and whitish flanks with dark barring. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (Donax spp.) on beaches and dwarf surf clam (Mulinia lateralis) in bays, at least in the Laguna Madre. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.

Sprague's Pipit *Anthus spragueii*

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.

Western Burrowing Owl *Athene cunicularia hypugaea*

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 *Grus americana* LE E

potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties

Wood Stork *Mycteria americana* T

forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

CRUSTACEANS

		Federal Status	State Status
A crayfish	*Procambarus texanus*		

ponds

FISHES

		Federal Status	State Status
Blue sucker	*Cycleptus elongatus*		T

larger portions of major rivers in Texas; usually in channels and flowing pools with a moderate current; bottom type usually of exposed bedrock, perhaps in combination with hard clay, sand, and gravel; adults winter in deep pools and move upstream in spring to spawn on riffles

BASTROP COUNTY

FISHES

		Federal Status	State Status
Guadalupe bass	*Micropterus treculii*		

endemic to perennial streams of the Edward's Plateau region; introduced in Nueces River system

MAMMALS

		Federal Status	State Status
Cave myotis	*Myotis velifer*		

colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore

Elliot's short-tailed shrew	*Blarina hylophaga hylophaga*		

sandy areas in live oak mottes, grassy areas with a Loblolly pine (Pinus taeda) overstory, and grassy areas near Post oak (Quercus stellata) stands; burrows extensively under leaf litter, logs, and into soil, but ground cover is not required; needs soft damp soils for ease of burrowing

Plains spotted skunk	*Spilogale putorius interrupta*		

catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

Red wolf	*Canis rufus*	LE	E

extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies

MOLLUSKS

		Federal Status	State Status
False spike mussel	*Fusconaia mitchelli*		T

possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins

Smooth pimpleback	*Quadrula houstonensis*	C	T

small to moderate streams and rivers as well as moderate size reservoirs; mixed mud, sand, and fine gravel, tolerates very slow to moderate flow rates, appears not to tolerate dramatic water level fluctuations, scoured bedrock substrates, or shifting sand bottoms, lower Trinity (questionable), Brazos, and Colorado River basins

Texas pimpleback	*Quadrula petrina*	C	T

mud, gravel and sand substrates, generally in areas with slow flow rates; Colorado and Guadalupe river basins

BASTROP COUNTY

REPTILES

		Federal Status	State Status
Texas garter snake	*Thamnophis sirtalis annectens*		

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	*Phrynosoma cornutum*		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	*Crotalus horridus*		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
Green beebalm	*Monarda viridissima*		

Endemic perennial herb of the Carrizo Sands; deep, well-drained sandy soils in openings of post oak woodlands; flowers white.

Navasota ladies'-tresses	*Spiranthes parksii*	LE	E

Texas endemic; openings in post oak woodlands in sandy loams along upland drainages or intermittent streams, often in areas with suitable hydrologic factors, such as a perched water table associated with the underlying claypan; flowering populations fluctuate widely from year to year, an individual plant does not flower every year; flowering late October-early November (-early December)

Sandhill woollywhite *Hymenopappus carrizoanus*

Texas endemic; disturbed or open areas in grasslands and post oak woodlands on deep sands derived from the Carrizo Sand and similar Eocene formations; flowering April-June

Shinner's sunflower *Helianthus occidentalis ssp plantagineus*

mostly in prairies on the Coastal Plain, with several slightly disjunct populations in the Pineywoods and South Texas Brush Country

Texas fescue *Festuca versuta*

GLOBAL RANK: G3; Occurs in mesic woodlands on limestone-derived soils on stream terraces and canyon slopes; Perennial; Flowering/Fruiting April-June

Texas peachbush *Prunus texana*

GLOBAL RANK: G3; Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Texas sandmint *Rhododon ciliatus*

BASTROP COUNTY

PLANTS

Federal Status State Status

GLOBAL RANK: G3; Open sandy areas in the Post Oak Belt of east-central Texas; Annual; Flowering April-Aug; Fruiting May-Aug

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
AMPHIBIANS					
Houston Toad *Anaxyrus houstonensis*	E	E	Endemic; found in sandy substrate, water in pools, ephemeral pools, stock tanks; breeds in spring especially after rains; burrows in soil of adjacent uplands when inactive; breeds February-June; associated with soils of the Sparta, Carrizo, Goliad, Queen City, Recklaw, Weches, and Willis geologic formations.	No effect	Suitable water features and soils do not occur within the project area.
BIRDS					
American Peregrine Falcon *Falco peregrinus anatum*	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 U.S. 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 impact	There are no lake shores, coastlines, or barrier islands in the vicinity of the project area, but peregrine falcons are a possible migrant and have been observed near the project area. However, the proposed construction activities are not expected to impact individuals of the species.
Arctic Peregrine Falcon *Falco peregrinus tundrius*	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 impact	There are no lake shores, coastlines, or barrier islands in the vicinity of the project area, but peregrine falcons are a possible migrant and have been observed near the project area. However, the proposed construction activities are not expected to impact individuals of the species.
Bald Eagle *Haliaeetus leucocephalus*	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.	No impact	No large rivers or lakes are located within or adjacent to the project area.
Henslow's Sparrow *Ammodramus henslowii*	–	SGCN	Wintering individuals (not flocks) found in weedy fields or cut-over areas where lots of bunch grasses occur along with vines and brambles; a key component is bare ground for running/walking.	No impact	No fields with lots of bunch grasses along with vines and brambles occur in or adjacent to the project area.

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Interior Least Tern *Sterna antillarum athalassos*	E	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 effect	There are no braided streams or rivers in the project area, and this species only needs to be considered for wind energy projects according to USFWS.
Mountain Plover *Charadrius montanus*	–	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 impact	There are no plowed, bare dirt fields in or adjacent to the project area.
Peregrine Falcon *Falco peregrinus*	DL	T	Both subspecies migrate across the state from more northern breeding areas in U.S. 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.	No impact	There are no lake shores, coastlines, or barrier islands in the vicinity of the project area, but peregrine falcons are a possible migrant and have been observed near the project area. However, the proposed construction activities are not expected to impact individuals of the species.
Piping Plover *Charadrius melodus*	T[1]	SGCN	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.	No effect	Potential migrant through the project area, however, any occurrence of this species would be considered incidental. Additionally, this species only needs to be considered for wind energy projects according to USFWS.

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Red Knot *Calidris canutus rufa*	T	SGCN	Migrates long distances in flocks northward through the contiguous U.S. mainly April-June and southward July-October; prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters; primary prey items include coquina clam (*Donax spp.*) on beaches and dwarf surf clam (*Mulinia lateralis*) in bays, at least in the Laguna Madre; wintering Range includes: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy counties; primarily seacoasts on tidal flats and beaches, and herbaceous wetlands.	No effect	No beaches, tidal flats, or other sea shoreline feature are located within or adjacent to the project area. Additionally, this species only needs to be considered for wind energy projects according to USFWS.
Sprague's Pipit *Anthus spragueii*	–	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 impact	No native upland prairie is present in or adjacent to the project area.
Western Burrowing Owl *Athene cunicularia hypugaea*	–	SGCN	Found in 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.	May impact	Pasture, rangeland, and maintained ROW in the project area may provide suitable owl habitat.
Whooping Crane *Grus americana*	E	E	Potential migrant via plains throughout most of State to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	No effect	No potential migrant stopover habitat is present within or adjacent to project area. This species is potential migrant in the area, but presence in the project area would be incidental and not likely.

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Wood Stork *Mycteria americana*	–	T	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e., active heronries); breeds in Mexico and birds move into Gulf states in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.	No impact	This species is a potential migrant in the area, but presence in the project area would be incidental and not likely.
CRUSTACEANS					
A Crayfish *Procambarus texanus*	–	SGCN	Found in ponds.	No impact	No ponds would be impacted by the proposed project.
FISHES					
Blue Sucker *Cycleptus elongatus*	–	T	Found in larger portions of major rivers in Texas; usually in channels and flowing pools with a moderate current; bottom type usually of exposed bedrock, perhaps in combination with hard clay, sand, and gravel; adults winter in deep pools and move upstream in spring to spawn on riffles.	No impact	There are no suitable sized rivers or streams within the project area.
Guadalupe Bass *Micropterus treculii*	–	SGCN	Endemic to perennial streams of the Edward's Plateau region; introduced in Nueces River system.	No impact	There are no perennial streams within the project area.
MAMMALS					
Cave Myotis Bat *Myotis velifer*	–	SGCN	Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Petrochelidon pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.	May impact	Potential suitable habitat is located in the project area under bridges. However, no documented occurrences are known from the project area, and no bats or evidence of bats were observed during the field visit. Bat BMPs will be implemented.
Elliot's Short-tailed Shrew *Blarina hylophaga hylophaga*	–	SGCN	Found in sandy areas in live oak mottes, grassy areas with a Loblolly pine (*Pinus taeda*) overstory, and grassy areas near Post oak (*Quercus stellata*) stands; burrows extensively under leaf litter, logs, and into soil, but ground cover is not required; needs soft damp soils for ease of burrowing.	No impact	This species is known from loblolly pine forests farther east in Bastrop County.

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Plains Spotted Skunk *Spilogale putorius interrupta*	–	SGCN	Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie.	May impact	The project area contains woodland/brush edges that could provide suitable habitat for the species.
Red Wolf *Canis rufus*	E[2]	E	Extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies.	No effect	This species is extirpated from Texas.
MOLLUSKS					
False Spike Mussel *Fusconaia* (SYN = *Quadrula*) *mitchelli*	–	T	Possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins.	No impact	Streams in the project area are intermittent; therefore, there is no suitable aquatic habitat within the project area.
Smooth Pimpleback *Cyclonaias* (SYN = *Quadrula*) *houstonensis*	C	T	Found in small to moderate streams and rivers as well as moderate size reservoirs; mixed mud, sand, and fine gravel; tolerates very slow to moderate flow rates, appears not to tolerate dramatic water level fluctuations, scoured bedrock substrates, or shifting sand bottoms; lower Trinity (questionable), Brazos, and Colorado River basins.	No impact	Streams in the project area are intermittent; therefore, there is no suitable aquatic habitat within the project area.
Texas Fatmucket *Lampsilis bracteata*	C[1]	T	Found in streams and rivers on sand, mud, and gravel substrates; intolerant of impoundment; broken bedrock and course gravel or sand in moderately flowing water; Colorado and Guadalupe River basins.	No impact	Streams in the project area are intermittent; therefore, there is no suitable aquatic habitat within the project area.
Texas Fawnsfoot *Truncilla macrodon*	C[1]	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 impact	Streams in the project area are intermittent; therefore, there is no suitable aquatic habitat within the project area.
Texas Pimpleback *Quadrula petrina*	C[2]	T	Found in mud, gravel and sand substrates, generally in areas with slow flow rates; Colorado and Guadalupe river basins.	No impact	Streams in the project area are intermittent; therefore, there is no suitable aquatic habitat within the project area.
REPTILES					

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Texas Garter Snake *Thamnophis sirtalis annectens*	–	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.	May impact	Wet or moist areas along streams could provide potential habitat.
Texas Horned Lizard *Phrynosoma cornutum*	–	T	Found in 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 impact	No arid or semi-arid areas with sparse vegetation are located within or adjacent to the project area.
Timber Rattlesnake *Crotalus horridus*	–	T	Found in 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.	May impact	Potential habitat occurs within woodland areas, particularly along drainages, throughout the project area.
PLANTS					
Green Beebalm *Monarda viridissima*	–	SGCN	Endemic perennial herb of the Carrizo Sands; deep, well-drained sandy soils in openings of post oak woodlands; flowers white.	No impact	The project area is not within the Carrizo Sands formation.
Navasota Ladies'-tresses *Spiranthes parksii*	E	E	Texas endemic; openings in post oak woodlands in sandy loams along upland drainages or intermittent streams, often in areas with suitable hydrologic factors, such as a perched water table associated with the underlying claypan; flowering populations fluctuate widely from year to year, an individual plant does not flower every year; flowering late October to November or early December).	No effect	Although post oak woodlands occur within the project area, they are not considered of high quality woodlands for this species, and combinations of suitable hydrologic factors and soils are not present within the project area.
Sandhill Woollywhite *Hymenopappus carrizoanus*	–	SGCN	Texas endemic; disturbed or open areas in grasslands and post oak woodlands on deep sands derived from the Carrizo Sand and similar Eocene formations; flowering April-June.	May impact	Potential suitable habitat occurs within grassland and woodland areas in the project area.
Shinner's Sunflower *Helianthus occidentalis ssp plantagineus*	–	SGCN	Found mostly in prairies on the Coastal Plain, with several slightly disjunct populations in the Pineywoods and South Texas Brush Country.	No impact	No coastal plains or pinewoods occur within the project area.

Species Impact Table

Federal and State-listed Threatened, Endangered, and Rare Species of Potential Occurrence in Bastrop County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/ Effect	Specific Project Information
Texas Fescue *Festuca versuta*	–	SGCN	Occurs in mesic woodlands on limestone-derived soils on stream terraces and canyon slopes; perennial; flowering/fruiting April-June.	May impact	Woodlands on stream terraces occur within the project area, the Texas NDD data shows historic occurrences of the species within 1.5 mile of the project area.
Texas Peachbush *Prunus texana*	–	SGCN	Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 meters in elevation; perennial; flowering February-March; fruiting April-June.	May impact	Potential habitat occurs in grasslands and woodlands in the proposed ROW.
Texas Sandmint *Rhododon ciliatus*	–	SGCN	Open sandy areas in the Post Oak Belt of east-central Texas; annual; flowering April-August; fruiting May-August.	May impact	Potential suitable habitat occurs within woodland areas throughout the project area.

E – Endangered; T – Threatened; C – Candidate; DL – Delisted taxon; "—" – Rare, but with no regulatory listing status; SGCN – Species of Greatest Conservation Need in Texas;

[1] The TPWD does not list these species for Bastrop County; however, these species are listed on the USFWS's Official Species List.

[2] The USFWS does not list these species for Bastrop County; however, these species are listed on TPWD's Bastrop County Species List.

Sources: USFWS IPaC Official Species List, Generated August 2, 2018; TPWD Rare, Threatened, and Endangered Species of Texas by County, Bastrop County (revised August 8, 2018 and retrieved on October 9, 2018); and Field Visit (August 2018).

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Acres
536138	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	1.08048762984
536241	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.37218117780
536252	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	1.24258124549
536257	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.35631063087
537438	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.23551601204
537475	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.27971136096
537476	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.13539736490
537529	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.17067237075
537544	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.98429103441
537546	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.15460731168
537559	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	2.14907445837
537561	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.59875601799
537571	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.04313165862
537610	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.21950010315
537614	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.06694197121
537626	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	VEGETATION	0.24717862412
537627	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	VEGETATION	0.15485606767
537838	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.08519124469
537840	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.33297696129
537843	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.03234300404
537844	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.45841625796
538061	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.03663095365
538068	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.21792959824
538286	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.74207889600
538298	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.34737059444
538321	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.01797934130
538323	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.02689974096
538324	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	2.03880714119
538325	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.03617058463
538357	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.01644612456
538360	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.48543985236
538369	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.46381075620
538373	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.84104751741
538377	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.24916610374
538380	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.06245997626
538386	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	2.92562710969
538405	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.01356615283
538407	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.00457696370
538597	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	1.16396981540
538614	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.18868954841
538617	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.38622166269
538687	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	VEGETATION	0.00819522489
538782	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY229TX	Gravelly PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.01126334984
538815	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY229TX	Gravelly PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.00001054747
538817	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY229TX	Gravelly PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.02130061427
538822	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY229TX	Gravelly PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.41805761048
538867	9411	Urban Low Intensity	R087AY229TX	Gravelly PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	3.75316457546
538883	9105	Native Invasive: Juniper Shrubland	R087AY229TX	Gravelly PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.56899786368
538966	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.35358402703
538999	1904	Central Texas: Riparian Hardwood Forest	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	VEGETATION	0.23196639068
539027	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.07912823347
539029	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.74733620859
539034	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.00199722901
539037	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.73672169449
539038	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.29160774548
539045	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.40266542140
539083	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	VEGETATION	0.01849939659
539519	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.10148239328
539520	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	2.00319147910
539530	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	1.44241343963
539549	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	1.56735896860
539872	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.10080669797
539873	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	VEGETATION	0.46847646377
539913	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.05843011645
539914	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	2.02810585150
539957	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	0.28061758741
539962	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	3.83587140669
539976	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	VEGETATION	3.88668210313
540129	607	Post Oak Savanna: Savanna Grassland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.01195131804
540130	607	Post Oak Savanna: Savanna Grassland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	VEGETATION	0.18963036215
536138	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00022120362
536252	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	1.69728089781
536257	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.39364090442
537544	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.00322926143
537557	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.43442889621
537559	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	1.46709290775

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Acres
537571	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.40204379039
537610	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.01880861918
537626	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	MEDIAN	0.00201310986
537844	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00160555763
538320	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.61035279562
538321	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.00272407437
538323	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.19991171308
538324	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.00052881827
538357	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	1.01480378478
538360	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	2.87776941854
538369	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	2.61468935145
538373	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.85249622390
538380	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.35427410715
538386	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	3.50128087433
538405	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.06343607874
538597	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00055544720
538617	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00646332021
538867	9411	Urban Low Intensity	R087AY229TX	Gravelly PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	3.17546943186
538883	9105	Native Invasive: Juniper Shrubland	R087AY229TX	Gravelly PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	MEDIAN	0.01053400950
539034	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	1.75685102608
539037	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	2.64608229044
539038	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.30611388947
539044	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.27044901053
539045	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.47587850000
539520	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00005243054
539549	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.00057518738
539913	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.00053330171
539914	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	0.99244655202
539962	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	4.84924682550
539976	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	MEDIAN	6.64007514378
540130	607	Post Oak Savanna: Savanna Grassland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	MEDIAN	0.02624899322
536138	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.12446763788
536252	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.85453623351
536257	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.19799014675
537529	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.03406115017
537544	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.07968496105
537557	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.27547635818
537559	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.51037511606
537570	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.02169226946
537571	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.15115915445
537610	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.30704927369
537626	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	ROADWAY	0.08631187503
537627	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	ROADWAY	0.00036899057
537838	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.01298854115
537840	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.10307565905
537843	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.00491138749
537844	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.07821386585
538068	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.00132969920
538286	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.03780170599
538298	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.02737848873
538320	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.04455601333
538321	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.07119154435
538323	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.25622060479
538324	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.04199843230
538325	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.02408319288
538357	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.02871585568
538360	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.40396851640
538369	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.33764738341
538373	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.47645170849
538377	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.19134336735
538380	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.20608896452
538386	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.78308834454
538405	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.08817689038
538407	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.00149373204
538597	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.20046189995
538617	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.16715575340
538867	9411	Urban Low Intensity	R087AY229TX	Gravelly PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.62446125395
538883	9105	Native Invasive: Juniper Shrubland	R087AY229TX	Gravelly PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.25572134465
539027	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.02934821465
539034	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	1.48538453804
539037	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.87511767956
539038	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.21328466806
539044	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.20352318346
539045	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.90943684930
539520	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.15888622385
539530	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.00237315152

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Acres
539549	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.29691187248
539872	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.00255628932
539873	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROADWAY	0.06689604050
539913	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.04007049589
539914	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.85033144064
539957	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	0.18908571008
539962	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	2.87055467121
539976	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROADWAY	3.33960679239
540130	607	Post Oak Savanna: Savanna Grassland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROADWAY	0.09855881637
536138	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.07423769480
536241	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.00122787350
536252	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.21497752027
536257	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.05228718157
537475	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.00000488529
537529	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.02640319831
537543	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.00260283307
537544	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.05770466830
537557	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.26538891414
537559	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.11047601636
537570	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.07468514098
537571	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.02979155161
537607	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.11974234991
537610	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.11996504239
537626	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	ROW	0.03596676399
537627	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R087AY237TX	Sandy Loam PE 48-68	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	ROW	0.00603164596
537813	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.00566786355
537838	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.04325036333
537840	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.28378538291
537843	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.03795125823
537844	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.04320184340
538068	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.01502117603
538286	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.03848245560
538298	9106	Native Invasive: Mesquite Shrubland	R087AY237TX	Sandy Loam PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.03873729230
538320	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.00010313231
538321	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.46509419582
538323	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.08593410875
538324	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.03752700860
538325	9410	Urban High Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.02138874099
538357	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	1.54719255029
538360	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.74846527953
538369	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.36251761505
538373	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.12876229566
538377	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.36609608879
538380	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.04589637069
538386	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.45793692717
538405	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.03443638624
538407	9411	Urban Low Intensity	R087AY237TX	Sandy Loam PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.00159216417
538596	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.00298906066
538597	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.11447679234 2
538617	607	Post Oak Savanna: Savanna Grassland	R087AY237TX	Sandy Loam PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.07395249708
538822	613	Post Oak Savanna: Post Oak / Yaupon Motte and Woodland	R087AY229TX	Gravelly PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.00036619209
538867	9411	Urban Low Intensity	R087AY229TX	Gravelly PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.45847718865
538883	9105	Native Invasive: Juniper Shrubland	R087AY229TX	Gravelly PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.10516461576
538963	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.03220101171
538966	604	Post Oak Savanna: Post Oak Motte and Woodland	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.00001397749
539027	9410	Urban High Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.17887166180
539034	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	1.36738754361
539037	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.19612758713
539038	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.07058278282
539044	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.42328815172
539045	9411	Urban Low Intensity	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.30989577179
539083	1903	Central Texas: Riparian Hardwood / Evergreen Forest	R086AY200TX	CLAYPAN PRAIRIE PE 44-64	Riparian	1-South	CES205.709	Southeastern Great Plains Riparian Forest	East Central Texas Plains	33	ROW	0.00247072228
539520	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.16607871034
539530	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.03077171923
539549	604	Post Oak Savanna: Post Oak Motte and Woodland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.25448691035
539872	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.05286611413
539873	9106	Native Invasive: Mesquite Shrubland	R087AY221TX	Claypan Savannah PE 48-68	Disturbed Prairie	1-South	TPW101.001	Native Invasive Shrub and Woodland	East Central Texas Plains	33	ROW	0.05768041125
539913	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.05707406287
539914	9410	Urban High Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.25740927259
539942	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.08829602375
539957	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.36358866807
539962	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	1.28816441717
539976	9411	Urban Low Intensity	R087AY221TX	Claypan Savannah PE 48-68	Urban	1-South	TPW101.003	Urban	East Central Texas Plains	33	ROW	0.74119586198
540130	607	Post Oak Savanna: Savanna Grassland	R087AY221TX	Claypan Savannah PE 48-68	Post Oak Savanna	1-South	CES205.679	East-Central Texas Plains Post Oak Savanna and Woodland	East Central Texas Plains	33	ROW	0.09750605689

Field-verified Vegetation MOU Summary Table

Potential Impacts to Field-verified MOU Vegetation within the Project Area

EMST Vegetation Type	Ecological System Type	TxDOT/TPWD MOU Vegetation Type	MOU Thresholds (acres)	Potential Impacts (acres)*
Central Texas: Floodplain Deciduous Shrubland	Southeastern Great Plains Floodplain Forest	Riparian	0.1	0.46
Central Texas: Riparian Herbaceous Vegetation	Southeastern Great Plains Riparian Forest			0.26
Total Potential Impacts to Riparian MOU Vegetation				**0.72**
Post Oak Savanna: Post Oak Motte and Woodland	East-Central Texas Plains Post Oak Savanna and Woodland	Post Oak Savanna	2	9.65
Post Oak Savanna: Post Oak/Redcedar Motte and Woodland				1.28
Post Oak Savanna: Savanna Grassland				7.24
Total Potential Impacts to Post Oak Savanna MOU Vegetation				**18.17**
Open Water	Open Water	Open Water	None	0.24
Total Potential Impacts to Open Water MOU Vegetation				**0.24**
Urban High Intensity	Urban	Urban	None	5.0
Urban Low Intensity				63.4
Total Potential Impacts to Urban MOU Vegetation				**68.4**

*Based on ROW-to-ROW impacts

Project Area Photographs

Photo 1: General view of existing transportation facility at the western project limit, facing southeast from the intersection of CR 206 and SH 71.

Photo 2: General view of existing transportation and Urban Low Intensity vegetation type, facing northwest from the eastern project limit.

Photo 3: Urban High Intensity vegetation type in proposed ROW north of SH 71 and east of FM 1209, facing northwest.

Photo 4: Urban Low Intensity vegetation in existing ROW and Post Oak Savanna: Post Oak Motte and Woodland vegetation in proposed ROW, north of SH 71 and west of FM 1209, facing southeast.

Project Area Photographs

Photo 5: Post Oak Savanna: Post Oak/Redcedar Motte and Woodland vegetation in proposed ROW, south of SH 71 and east of FM 1209, facing southwest.

Photo 6: Post Oak Savanna: Savanna Grassland vegetation within proposed ROW, north of SH 71, facing northeast.

Project Area Photographs

Photo 7: Post Oak Savanna: Savanna Grassland vegetation and a narrow strip of Central Texas: Riparian Herbaceous Vegetation north of SH 71 and east FM 1209, facing northeast.

Photo 8: Open Water and Central Texas: Floodplain Deciduous Shrubland vegetation north of SH 71 and east of FM 1209, facing northeast.

Photo 9: Central Texas: Floodplain Deciduous Shrubland vegetation south of SH 71 and east of FM 1209, facing north.

Photo 10: Cliff Swallow nests observed under the SH 71 bridge shown in **Photo 9**.

ELEMENT OF OCCURRENCE RECORDS HAVE BEEN REDACTED TO PROTECT LOCATIONS OF SENSITIVE SPECIES