



Tier I Site Assessment

Main CSJ: 1502-03-006

Form Prepared By: Nick Wallisch, Blanton & Associates

Date of Evaluation: September 27, 2019

Project is classified as a Categorical Exclusion

Proposed Letting Date: August 2020

Project not assigned to TxDOT under the NEPA Assignment MOU

District(s): Lubbock

County(ies): Lubbock

Roadway Name: Loop 88 Segment 4

Limits From: US 87

Limits To: US 84

Project Description: The Texas Department of Transportation (TxDOT) Lubbock District proposes to construct the second portion of Loop 88 in Lubbock County, Texas. The proposed project would construct a controlled access facility, consisting of a six-lane divided freeway (three lanes in each direction) with two-lane frontage roads, associated ramps, and grade separated diamond intersections. This portion, Segment 4 of Loop 88, connects with the currently-under-design Segment 3, continues east along Farm-to-Market (FM) 1585 before curving in a southeastern direction and then eastbound at County Road (CR) 2600 along CR 7500 to CR 3000, and then curving in a northeastern direction to the project end at United States Highway (US) 84. The logical termini for this project are US 87 to the west and US 84 to the east (Figures 1 and 2). Construction limits for the project are 0.5 mile east of US 87 and US 84. The project length is approximately 8.8 miles.

Portions of the proposed project follow existing facilities. From the western construction limit, the project follows FM 1585 for approximately 0.96 mile. The existing FM 1585 facility is a two-lane undivided roadway, with one 12-foot lane and an 8-foot shoulder in each direction. The existing right-of-way (ROW) width varies from approximately 80 to 120 feet. The proposed project also follows CR 7500 for approximately 3.98 miles. The existing CR 7500 is an unimproved dirt road approximately 24 feet wide. The remainder of the proposed project is on new location.

TxDOT Lubbock District is proposing to construct Segment 4 of Loop 88, from 0.5 mile east of US 87 to US 84 in Lubbock County, Texas. The proposed improvements would construct a six-lane divided freeway, three lanes in each direction, with two-lane frontage roads in each direction. The proposed mainlanes would consist of six (three in each direction) 12-foot-wide travel lanes with 10-foot-wide outside shoulders and 11-foot-wide inside shoulders. The proposed frontage roads consist of two 12-foot-wide travel lanes with 8-foot-wide outside shoulders and 4-foot-wide inside shoulders. The proposed ROW width is 400 feet. There are approximately 14.74 acres of existing ROW. The proposed project would require approximately 513.37 acres of proposed ROW, and approximately 51.45 acres of drainage easements.

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>



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- 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:**

There is potential habitat for one state-listed threatened species located within or directly adjacent to the proposed project area: Texas horned lizard (*Phrynosoma cornutum*).

There is also potential habitat for 14 species of greatest conservation need within or directly adjacent to the proposed project area: Woodhouse’s toad (*Anaxyrus woodhousii*), mountain plover (*Charadrius montanus*), western burrowing owl (*Athene cunicularia hypugaea*), American badger (*Taxidea taxus*), black-tailed prairie dog (*Cynomys ludovicianus*), eastern spotted skunk (*Spilogale putorius*), plains spotted skunk (*Spilogale putorius interrupta*), prairie vole (*Microtus ochrogaster taylori*), swift fox (*Vulpes velox*), western hog-nosed skunk (*Conepatus leuconotus*), western box turtle (*Terrapene ornata*), western hognose snake (*Heterodon nasicus*), western rattlesnake (*Crotalus viridis*), and Cory’s ephedra (*Ephedra coryi*).

Ditches and canals associated with roadways and agriculture and other low areas that collect rainwater could provide potential habitat for Woodhouse’s toad.

Shortgrass prairies and agricultural fields with bare ground within the proposed project area could provide suitable habitat for mountain plover. Shortgrass prairies and open areas such as vacant lots within the proposed project area could provide potential habitat for the western burrowing owl. Bird BMPs will be implemented to minimize potential impacts to these species.

Open grasslands and agricultural fields with relatively sparse vegetation may provide suitable habitat for the black-tailed prairie dog, and one black-tailed prairie dog colony is located within and adjacent to the project area. Contractors will be advised of the potential occurrence in the proposed project area and to coordinate with TPWD WHAB if burrows of the species are encountered during construction and implement BMPs that will prevent the movement of the species into the proposed project area to minimize potential impacts. Open fields, prairies, and croplands could provide suitable habitat for the American badger and eastern/plains spotted skunk. Contractors will be advised of the potential occurrence of the eastern/plains spotted skunk within the proposed project area, to avoid harming the species if encountered, and to avoid unnecessary impacts to dens. Open fields, croplands, and farm yards may provide suitable habitat for the prairie vole. Shortgrass prairie within and adjacent to the project area could provide suitable habitat for the swift fox. Grasslands located within and adjacent to the proposed project area may provide potential habitat for the western hog-nosed skunk.

Open areas with sparse vegetation within the proposed project area may provide suitable habitat for the Texas horned lizard. Terrestrial reptile BMPs will be implemented to minimize potential impacts to these species. For Texas horned lizards, contractors will be advised to avoid harvester ant mounds in the selection of Project Specific Locations (PSLs). Grasslands, pastures, and croplands located within the proposed project area may provide suitable habitat for the western box turtle. Prairies or Conservation Reserve Program (CRP) grasslands located throughout the proposed project area may provide suitable habitat for the western hognose snake. Grasslands within the proposed project area may provide suitable habitat for the western rattlesnake.

Dry grasslands within the project area could provide habitat for Cory's ephedra. The BMP Programmatic Agreement (PA) (revised in 2017) does not include BMPs for plant species.

While the BMP PA includes BMPs for entire taxa like amphibians or terrestrial reptiles, it does not cover species that were recently added to TPWD county lists in April 2019. These include Woodhouse’s toad, American badger, prairie vole, swift fox, western hog-nosed skunk, western box turtle, western hognose snake, and western rattlesnake.

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



Date TPWD County List Accessed: September 27, 2019

Date that the NDD was accessed: March 5, 2019

What agency performed the NDD search? TPWD

NDD Search Results for EOIDS and Tracked Managed Areas

EOID Number	Common Name	Scientific Name	Listing Status	Buffer Zone
1798	Swift Fox	<i>Vulpes velox</i>	ST	10 Mile
13882	Western hog-nosed skunk	<i>Conepatus leconotus</i>	SGCN	10 Mile
8176	Prairie Dog Town	NA	NA	10 Mile
523	Prairie Dog Town	NA	NA	10 Mile

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

Comments:

The proposed project contains potential habitat for one state-listed threatened species and 14 SGCN. BMPs are available and will be implemented for six of these species, but there are no approved BMPs for the Woodhouse's toad, American badger, swift fox, prairie vole, western hog-nosed skunk, western box turtle, western hognose snake, western rattlesnake, or Cory's ephedra. Therefore, coordination with TPWD will be required for potential impacts to these species.

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

Comments:

No native remnant vegetation is located within the proposed project area.

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

Comments:

No impacts to waters of the U.S. are anticipated. However, if impacts are required, it is anticipated that the proposed project would be authorized by a Nationwide Permit (NWP) 14, Linear Transportation Projects, without a Pre-construction Notification (PCN).

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:

The proposed project does not include 200 linear feet of channel realignment or stream bed/bank excavation.

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 up to 69.61 acres of Western Wetlands, Riparian MOU vegetation.

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 (assuming ROW to ROW permanent impacts) would exceed the impact threshold for the Agriculture MOU type, Disturbed Prairie MOU type, Mixed Arid Sand Grassland MOU type, and Western Wetland, Riparian MOU type, as indicated in the MOU Threshold Table Programmatic Agreement between TxDOT and TPWD. See attached Field-verified Vegetation MOU summary table.

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

Excel File Name:

EMST Vegetation Table

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

*Explain:

Figures 3.1 through 3.8 (attached) provide EMST mapped habitats and Figures 4.1 through 4.8 (attached) provide field-verified habitats.

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

File Name:

Figures 3.1 through 3.8 (attached) provide EMST mapped habitats and Figures 4.1 through 4.8 (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 (listed below) will be implemented for the mountain plover and the western burrowing owl.

For the black-tailed prairie dog, Fossorial Mammal BMPs (listed below) will be implemented. For the eastern/ plains spotted skunk, contractors will be advised of their potential occurrence in the project area, to avoid harming the species if encountered, to avoid unnecessary impacts to dens.

Terrestrial Reptile BMPs (listed below) will be implemented for the Texas horned lizard, and contractors will be advised of the potential occurrence in the project area, and to avoid harming the species if encountered. This should include avoiding harvester ant mounds in the selection of PSLs.

Bird BMPs:



- 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.

Fossorial Mammal BMPs:

- If black-tailed prairie dog (BTPD) burrows or pocket gopher mounds are to be excavated/directly impacted coordinate with TPWD WHAB.
- When a construction zone is adjacent to active BTPD burrows or pocket gopher mounds, erect barriers to discourage individuals moving through or into the construction area.
- When seeding or revegetation is planned in an area adjacent to BTPD burrows or pocket gopher mounds, a vegetative barrier should be considered in the planting to discourage dispersal into the ROW.

Terrestrial Reptile BMPs:

- 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 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.

TxDOT Contact Information

Name:

Phone Number:

E-mail:



Tier I Site Assessment



Suggested Attachments

Aerial Map (with delineated project boundaries)

USFWS T&E List

TPWD T&E List

Species Impact Table

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

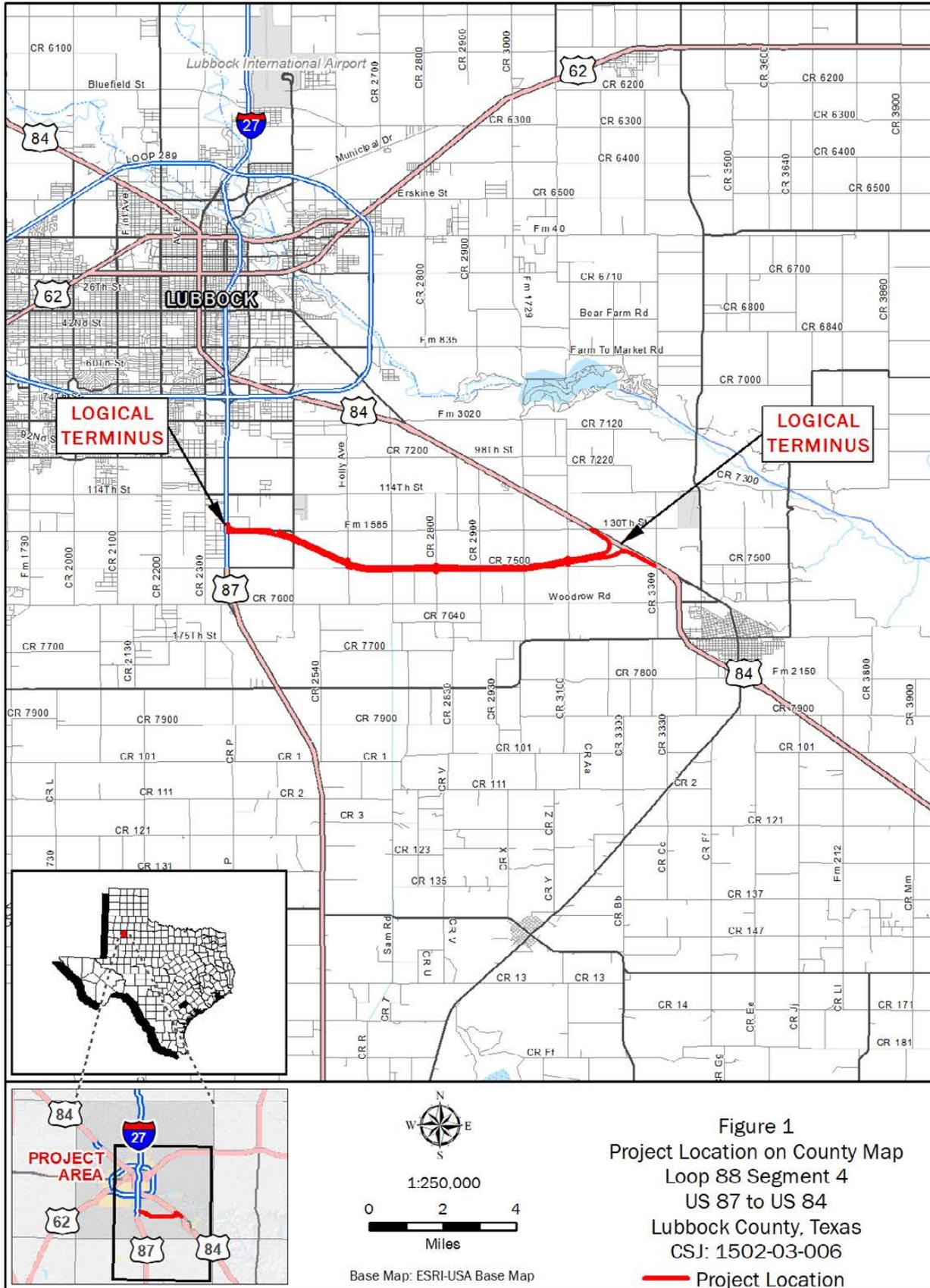
EMST Project MOU Summary Table (Required for TPWD Coordination)

TPWD SGCN List

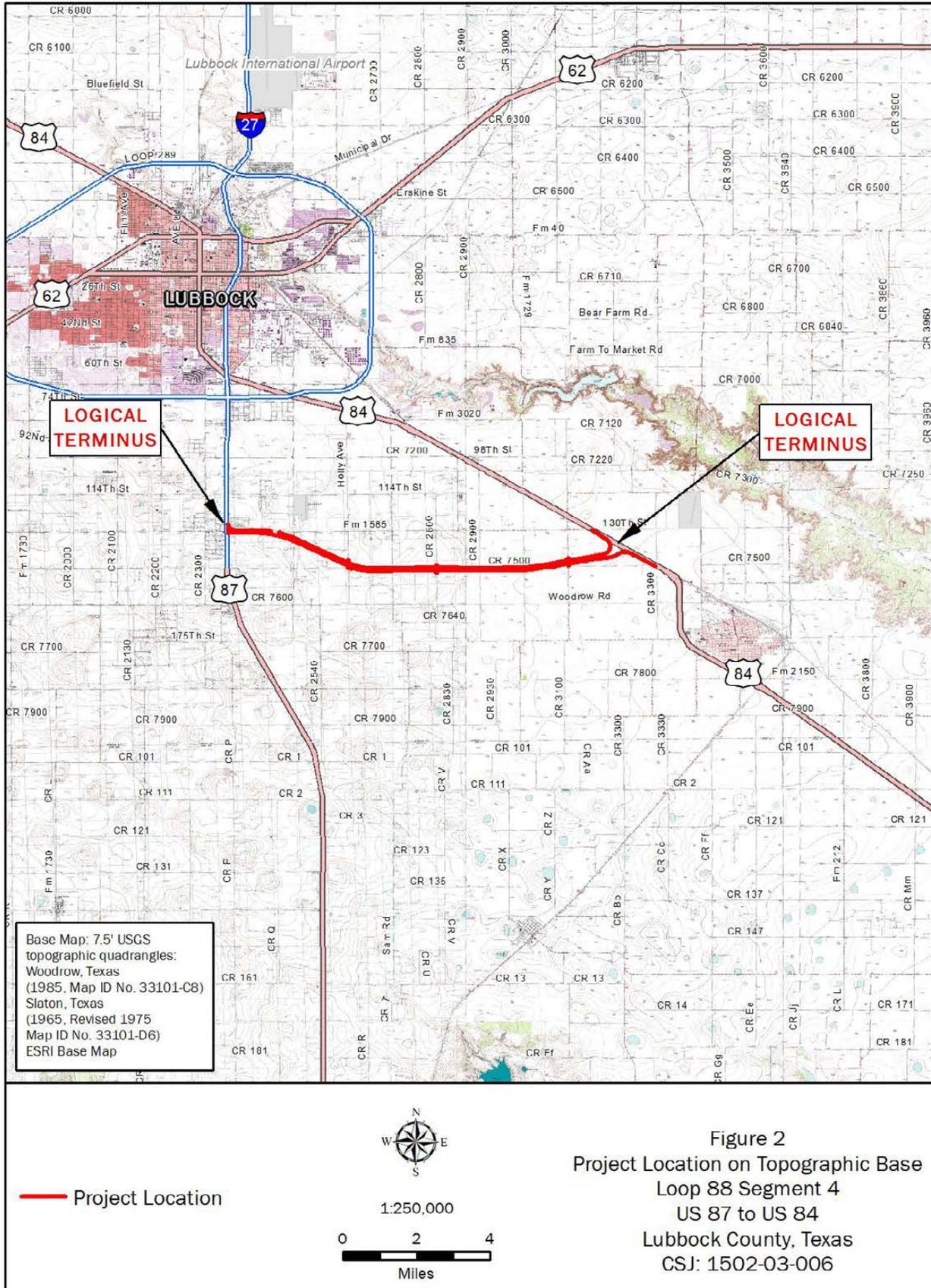
Photos (Required for TPWD Coordination)

Previous TPWD Coordination Documentation (if applicable)

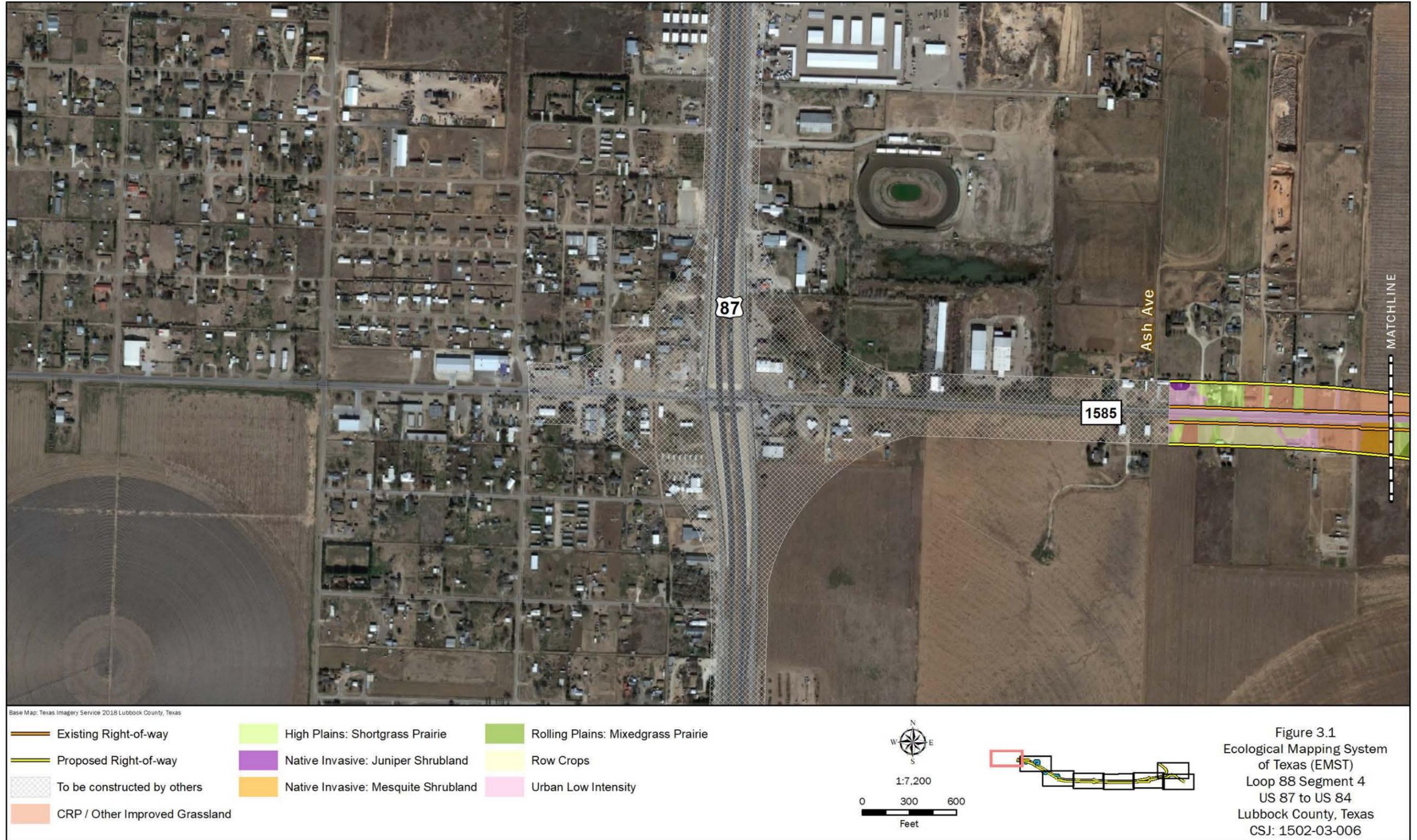
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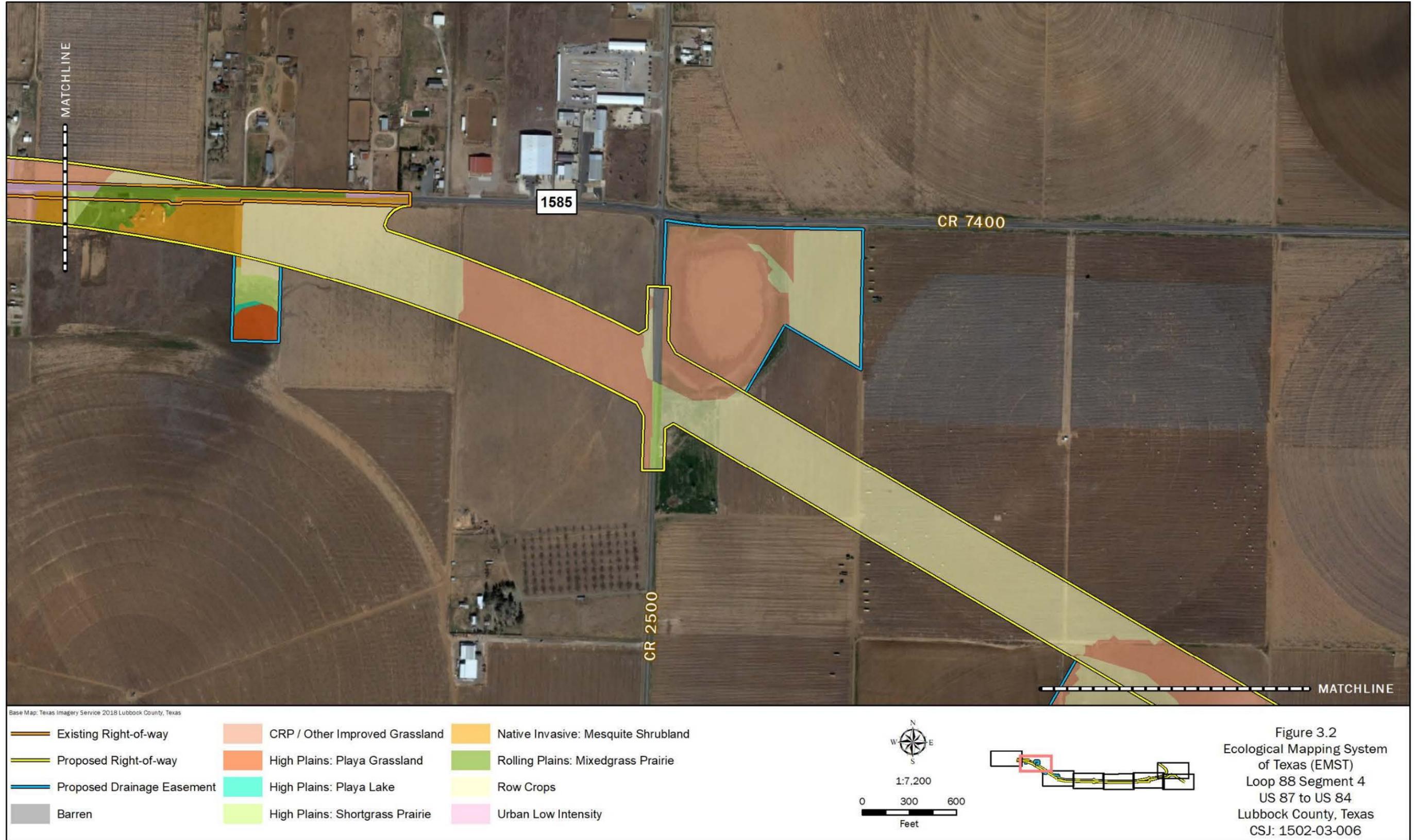
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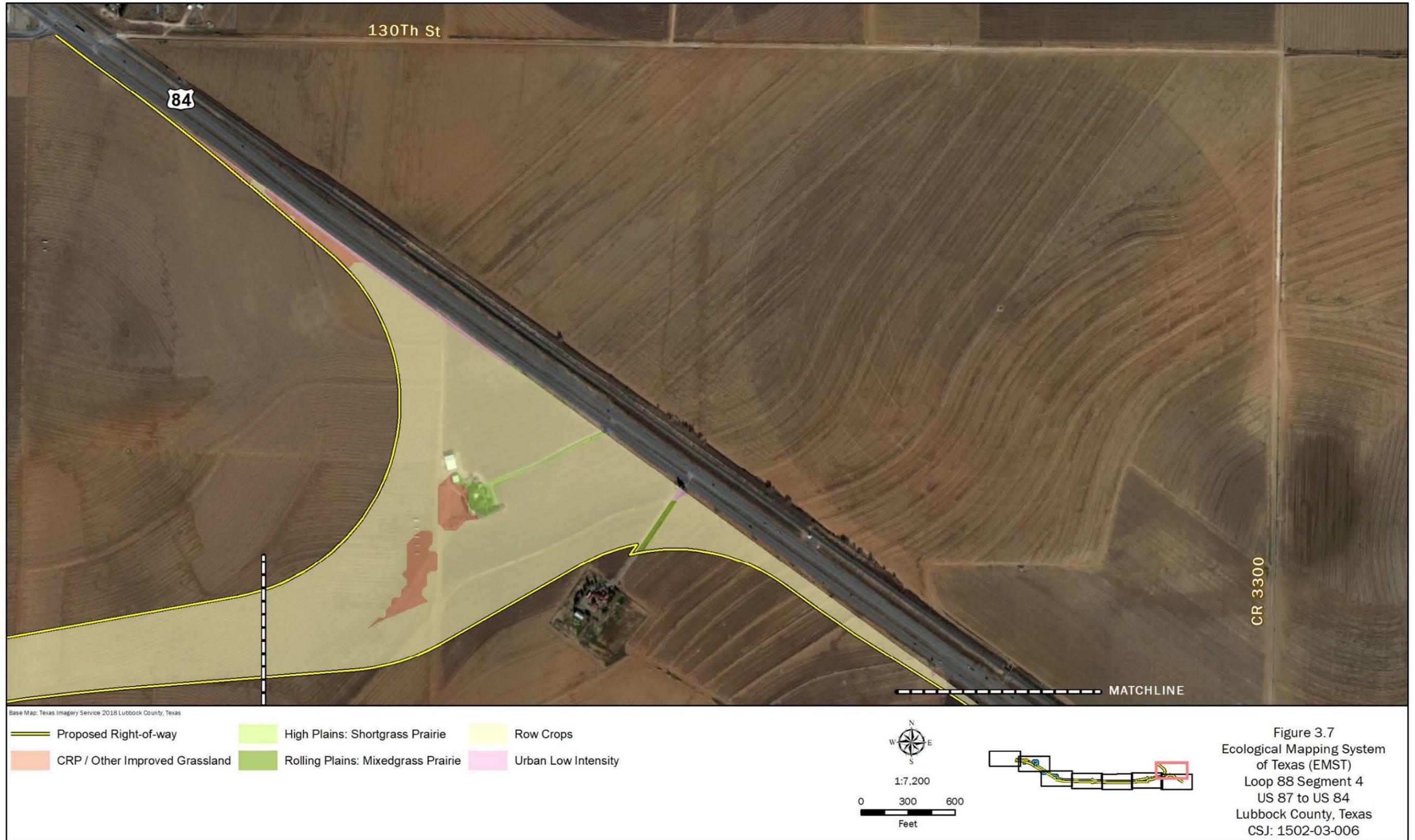
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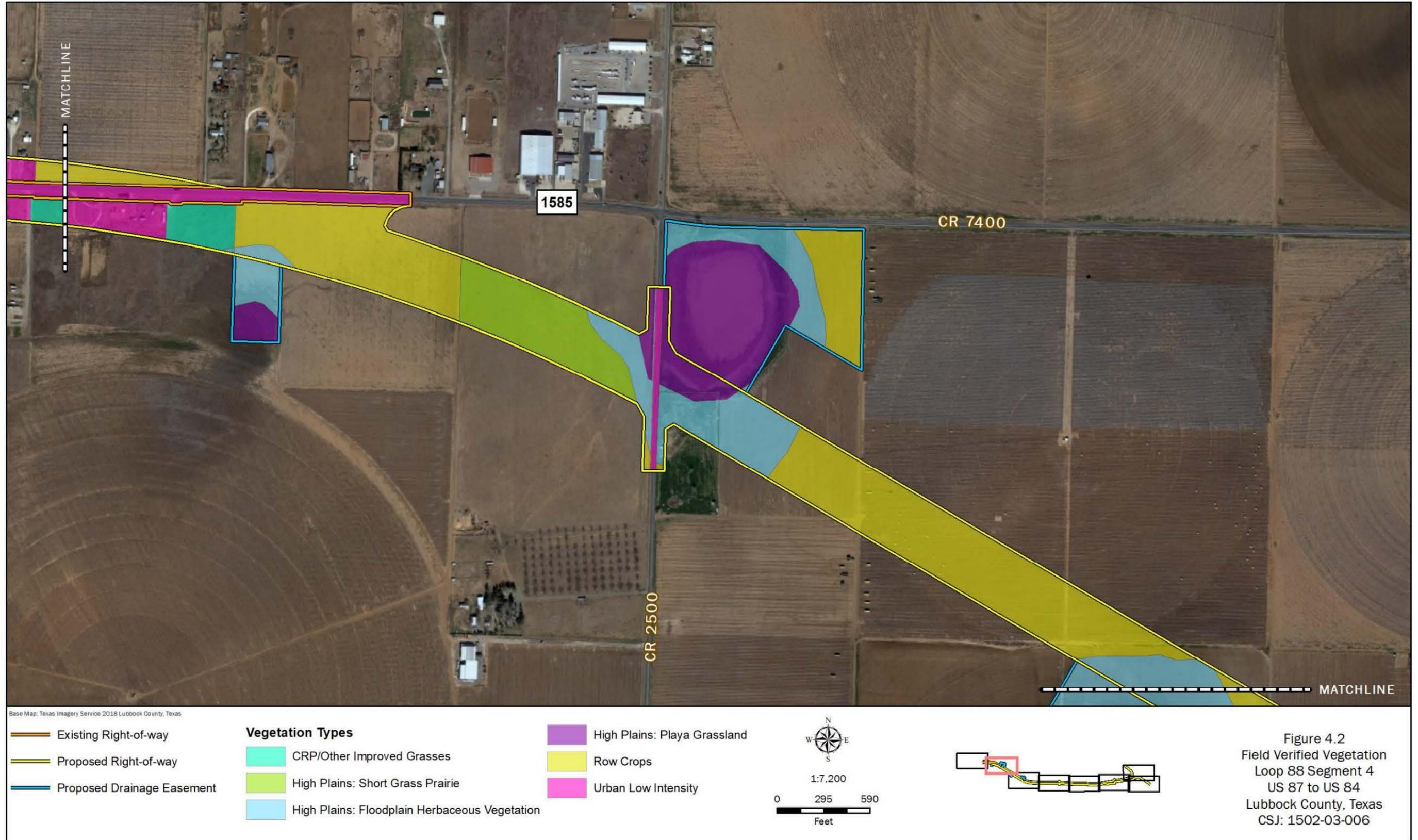
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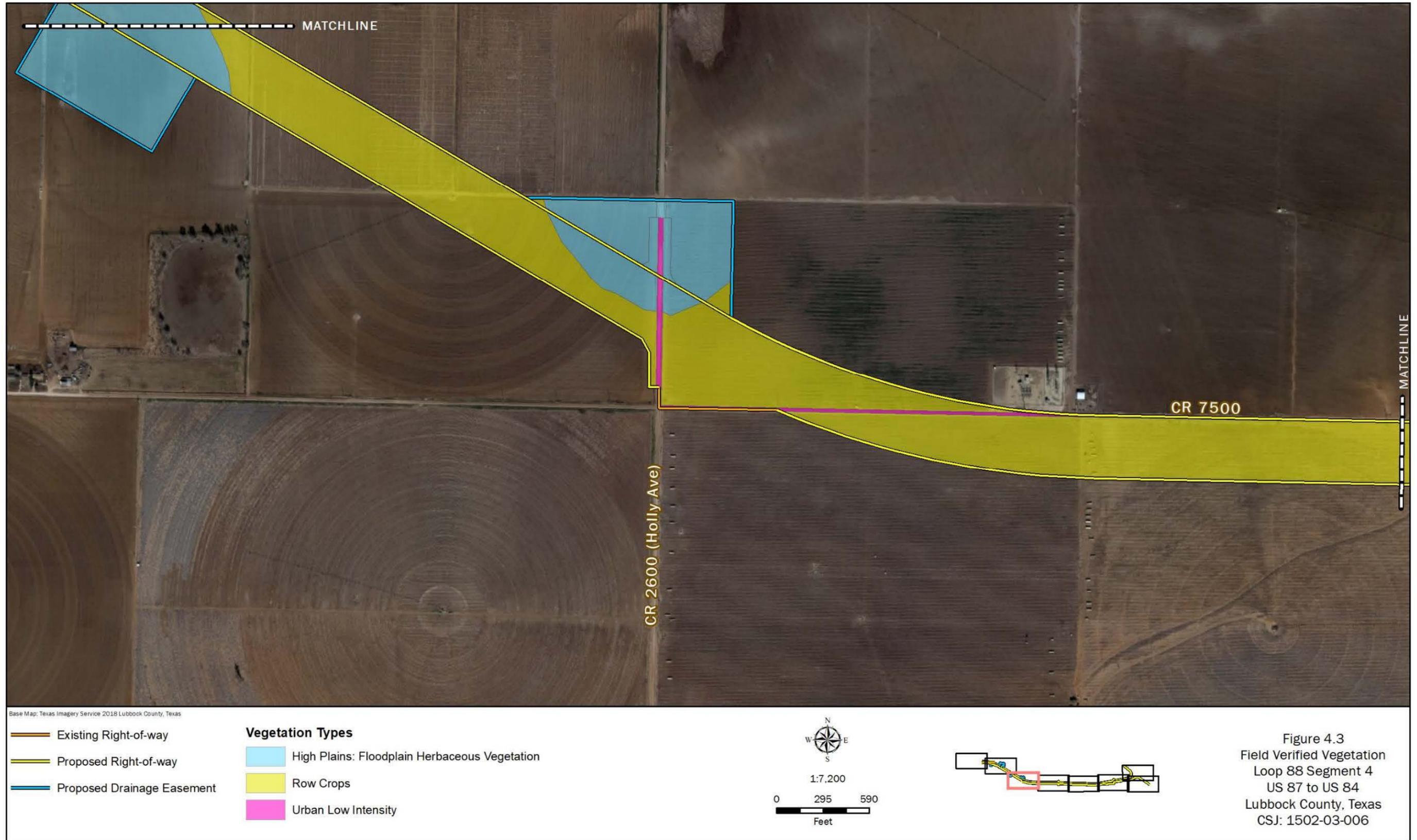
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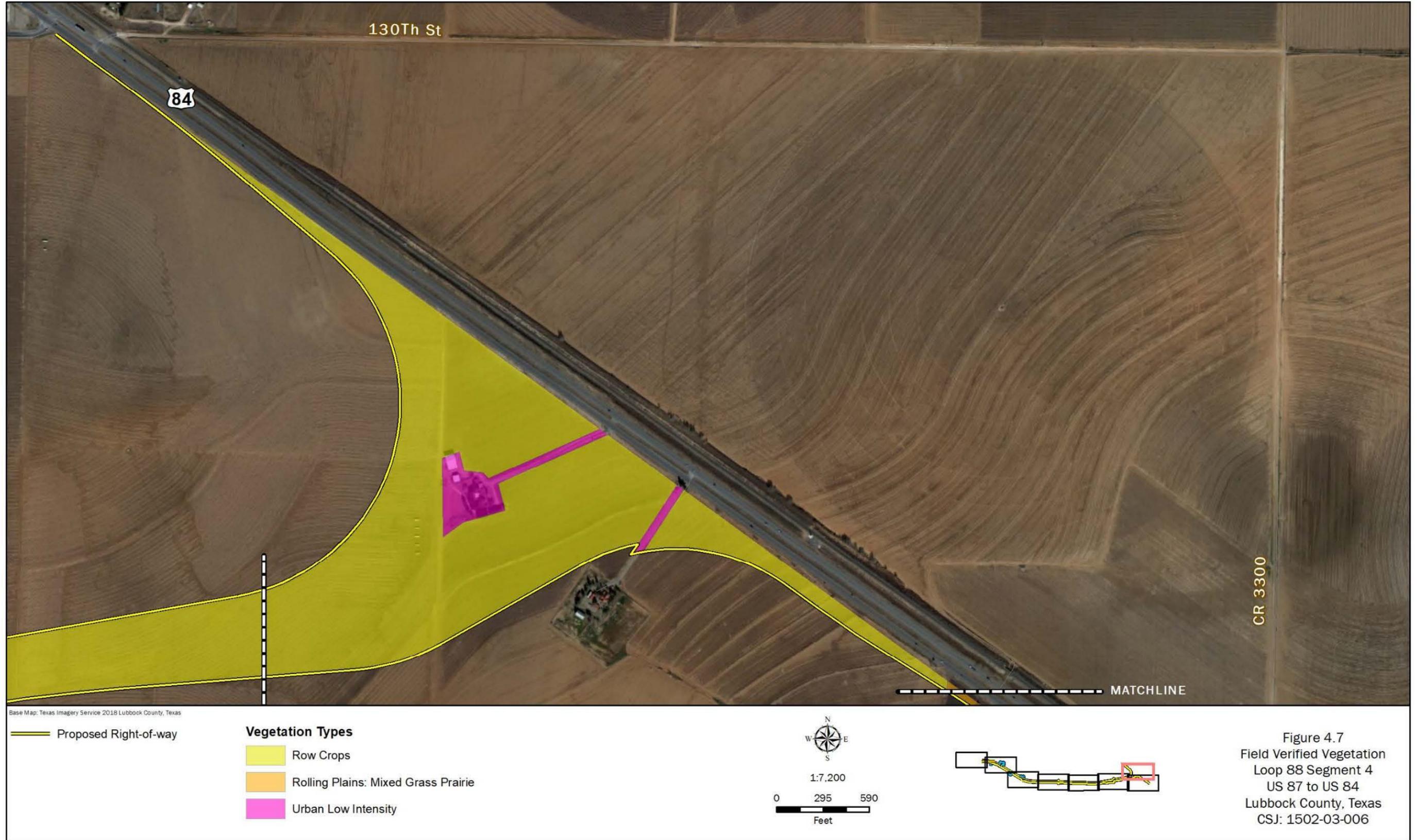
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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arlington Ecological Services Field Office
2005 Ne Green Oaks Blvd
Suite 140

Arlington, TX 76006-6247

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

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

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

In Reply Refer To:

September 27, 2019

Consultation Code: 02ETAR00-2019-SLI-0712

Event Code: 02ETAR00-2019-E-04964

Project Name: Loop 88 Seg 4

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

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

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

After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

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

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy

guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

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

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

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

Arlington Ecological Services Field Office

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

(817) 277-1100

Project Summary

Consultation Code: 02ETAR00-2019-SLI-0712

Event Code: 02ETAR00-2019-E-04964

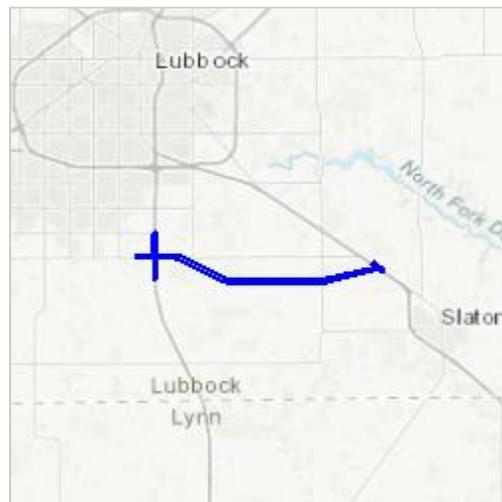
Project Name: Loop 88 Seg 4

Project Type: TRANSPORTATION

Project Description: New location outer loop around Lubbock.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/33.47596445905734N101.84204914807W>



Counties: Lubbock, TX

Endangered Species Act Species

There is a total of 6 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 Fisheries¹, 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.

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

Fishes

NAME	STATUS
<p>Sharpnose Shiner <i>Notropis oxyrhynchus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6492</p>	Endangered
<p>Smalleye Shiner <i>Notropis buccula</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1774</p>	Endangered

Critical habitats

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

Last Update: 7/17/2019

LUBBOCK COUNTY

AMPHIBIANS

Woodhouse's toad

Anaxyrus woodhousii

Extremely catholic up to 5000 feet, does very well (except for traffic) in association with man.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: SU

BIRDS

bald eagle

Haliaeetus leucocephalus

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

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3B,S3N

black rail

Laterallus jamaicensis

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: PT

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S2

common black-hawk

Buteogallus anthracinus

Cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S2B

Franklin's gull

Leucophaeus pipixcan

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S2N

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

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S2

DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

LUBBOCK COUNTY

BIRDS

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

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S2

white-faced ibis *Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4B

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G3G4 State Rank: SNR

No accepted common name *Eupseudomorpha brillians*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

MAMMALS

American badger *Taxidea taxus*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

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LUBBOCK COUNTY

MAMMALS

big free-tailed bat

Nyctinomops macrotis

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S3

black-tailed prairie dog

Cynomys ludovicianus

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

cave myotis bat

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.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S4

eastern red bat

Lasiurus borealis

Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk

Spilogale putorius

Catholic; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. *S.p. ssp. interrupta* found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat

Lasiurus cinereus

Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel

Mustela frenata

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

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LUBBOCK COUNTY

MAMMALS

Mexican free-tailed bat

Tadarida brasiliensis

Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mountain lion

Puma concolor

Rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

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

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S1S3

prairie vole

Microtus ochrogaster taylori

Extreme northern Panhandle; colonial; upland herbaceous fields; grasslands, old agricultural lands and thickets; places where there is suitable cover for runways; floodplains of rivers serve as dispersal routes; railroad and highway right-of-ways may serve as corridors for dispersal; nests in burrows, under boards or logs, and above ground in grassy clumps; breeds year-round, esp. spring/fall; peaks depend on availability of moisture

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3T4	State Rank: S1

pronghorn

Antilocapra americana

Prefers hilly & plateau areas of open grassland, desert-grassland, & desert-scrub, where it frequents south-facing slopes & other sheltered areas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

swift fox

Vulpes velox

Restricted to current and historic shortgrass prairie. Open deserts or grasslands; sparsely vegetated habitats; western and northern portions of Panhandle.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1

thirteen-lined ground squirrel

Ictidomys tridecemlineatus

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

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LUBBOCK COUNTY

MAMMALS

Townsend's big-eared bat *Corynorhinus townsendii*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3?

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S3S4

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

REPTILES

common garter snake *Thamnophis sirtalis*

Irrigation canals and riparian-corridor farmlands in west; marshy, flooded pastureland, grassy or brushy borders of permanent bodies of water; coastal salt marshes.

Federal Status:	State Status:	SGCN: N
Endemic:	Global Rank: G5	State Rank: S2

eastern box turtle *Terrapene carolina*

Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures. In Maryland bottomland forest, some hibernated in pits or depressions in forest floor (usually about 30 cm deep) usually within summer range; individuals tended to hibernate in same area in different years (Stickel 1989). Also attracted to farms, old fields and cut-over woodlands, as well as creek bottoms and dense woodlands. Egg laying sites often are sandy or loamy soils in open areas; females may move from bottomlands to warmer and drier sites to nest. In Maryland, females used the same nesting area in different years (Stickel 1989).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

keeled earless lizard *Holbrookia propinqua*

Coastal dunes, barrier islands, and other sandy areas; eats insects and likely other small invertebrates; eggs laid underground March-September (most May-August)

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

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LUBBOCK COUNTY

REPTILES

massasauga

Sistrurus tergeminus

Quite common in gently rolling prairie occasionally broken by creek valley or rocky hillside.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S3S4

Texas horned lizard

Phrynosoma cornutum

Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area. 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.

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S3

Texas map turtle

Graptemys versa

Rivers with moderate current, abundant aquatic vegetation, and basking logs; also associated oxbows and lakes (Bartlett and Bartlett 1999).

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G4

State Rank: SU

western box turtle

Terrapene ornata

Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species; winter burrow depth was 0.5-1.8 meters in Wisconsin (Doroff and Keith 1990), 7-120 cm (average depth 54 cm) in Nebraska (Converse et al. 2002). Eggs are laid in nests dug in soft well-drained soil in open area (Legler 1960, Converse et al. 2002). Very partial to sandy soil.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

western hognose snake

Heterodon nasicus

Habitat consists of areas with sandy or gravelly soils, including prairies, sandhills, wide valleys, river floodplains, bajadas, semiagricultural areas (but not intensively cultivated land), and margins of irrigation ditches (Degenhardt et al. 1996, Hammerson 1999, Werler and Dixon 2000, Stebbins 2003). Also thornscrub woodlands and chaparral thickets. Seems to prefer sandy and loamy soils, not necessarily flat. Periods of inactivity are spent burrowed in the soil or in existing burrows. Eggs are laid in nests a few inches below the ground surface (Platt 1969).

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4

western rattlesnake

Crotalus viridis

Grassland, both desert and prairie; shrub desert rocky hillsides; edges of arid and semi-arid river breaks.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

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LUBBOCK COUNTY

PLANTS

Cory's ephedra

Ephedra coryi

Dune areas and dry grasslands in the southern Plains Country; Perennial; Flowering April-Sept; Fruiting May-Sept

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3

State Rank: S3

Mexican mud-plantain

Heteranthera mexicana

Wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G2G3

State Rank: S1

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Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
AMPHIBIANS					
Woodhouse's Toad <i>Anaxyrus woodhousii</i>	—	SGCN	Extremely catholic up to 5000 feet, does very well (except for traffic) in association with man.	May impact	Based on the generalist nature of the species, presence of the species cannot be ruled out.
BIRDS					
Bald Eagle <i>Haliaeetus leucocephalus</i>	—	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 rivers or large lakes are present within or adjacent to the project area, and no suitable habitat is present.
Black Rail <i>Laterallus jamaicensis</i>	PT	SGCN	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia.	No effect	No marshes, pond borders, wet meadows, or grassy swamps occur in or adjacent to the project area.
Common Black-hawk <i>Buteogallus anthracinus</i>	—	T	Cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas.	No impact	No cottonwood-lined rivers or streams occur in or adjacent to the project area.
Franklin's Gull <i>Leucophaeus pipixcan</i>	—	SGCN	Nonbreeding: seacoasts, bays, estuaries, lakes, rivers, marshes, ponds, and irrigated fields; mudflats. Nests in fresh-water marshes, shores of inland lakes, in areas of prairie and steppe. Nest is made of dead marsh plants; it is often a floating structure anchored to a living plant stem.	No impact	No mudflats associated with seacoasts, bays, estuaries, lakes, rivers, marshes, ponds, or irrigated fields are present in or near the project area.
Interior Least Tern <i>Sternula antillarum athalassos</i>	E	E ¹	Nests on sand and gravel bars within braided streams and rivers; also known to nest on manmade structures (inland beaches, wastewater treatment plants, gravel mines).	No effect	No suitable water features are present within or adjacent to the project area. Additionally, this species only needs to be considered for wind energy projects according to USFWS.
Mountain Plover <i>Charadrius montanus</i>	—	SGCN	Shortgrass plains or prairies and bare, dirt fields. Nests on high plains or shortgrass prairie, on ground in shallow depression.	May impact	Shortgrass plains or prairies and bare, dirt fields are present in and adjacent to the project area.
Piping Plover <i>Charadrius melodus</i>	T	T ¹	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.	No effect	No beaches or bayside mud or salt flats occur within or adjacent to the project area. Additionally, this species only needs to be considered for wind energy projects according to USFWS.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Red Knot <i>Calidris canutus rufa</i>	T	SGCN ¹	The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (<i>Donax</i> spp.) on beaches and dwarf surf clam (<i>Mulinia lateralis</i>) 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. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and tidal flat/shore.	No effect	No suitable beaches, tidal flats, or other sea shoreline features occur within or adjacent to the project area. Additionally, this species only needs to be considered for wind energy projects according to USFWS.
Western Burrowing Owl <i>Athene cunicularia hypugaea</i>	—	SGCN	Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows.	May impact	Less disturbed areas (grasslands, prairies, and vacant lots) may provide potential habitat in project area. Bird BMPs will be implemented.
White-faced Ibis <i>Plegadis chihi</i>	—	T	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will use brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No impact	No marshes, sloughs or rice fields are located within or adjacent to the project area.
Whooping Crane <i>Grus americana</i>	E	E ¹	Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	No effect	No suitable migrant stopover habitat was identified in or adjacent to the project area.
FISHES					
Sharpnose Shiner <i>Notropis oxyrinchus</i>	E	E ¹	Endemic to Brazos River drainage; also, apparently introduced into adjacent Colorado River drainage; large turbid river, with bottom a combination of sand, gravel, and clay-mud.	No effect	There is no suitable aquatic habitat within the project area. Additionally, according to USFWS, this species only needs to be considered under the following conditions: reservoir projects; in-channel projects such as interbasin transfers, water diversions, small impoundments, etc. that may reduce flows of major tributaries eventually flowing into occupied habitat; and commercial/industrial well field projects.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Smalleye Shiner <i>Notropis buccula</i>	E	E ¹	Endemic to upper Brazos River system and its tributaries (Clear Fork and Bosque); apparently introduced into adjacent Colorado River drainage; medium to large prairie streams with sandy substrate and turbid to clear warm water; presumably eats small aquatic invertebrates.	No effect	According to USFWS, this species only needs to be considered under the following conditions: reservoir projects; in-channel projects such as interbasin transfers, water diversions, small impoundments, etc. that may reduce flows of major tributaries eventually flowing into occupied habitat; and commercial/industrial well field projects.
MAMMALS					
American Badger <i>Taxidea taxus</i>	—	SGCN	Found in cropland/hedgerow, desert, grassland/herbaceous, savanna, and shrubland/chaparral habitats. Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.	May impact	The project area contains croplands and other open areas within and adjacent to the project area.
Big Brown Bat <i>Eptesicus fuscus</i>	—	SGCN	Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.	No impact	No woodlands occur in the project area.
Big Free-tailed Bat <i>Nyctinomops macrotis</i>	—	SGCN	Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos.	No impact	No suitable roosting or hibernating habitat is located in or adjacent to the project area.
Black-tailed Prairie Dog <i>Cynomys ludovicianus</i>	—	SGCN	Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups.	May impact	There is suitable habitat and a black-tailed prairie dog colony is located within and adjacent to the project area. Fossorial Mammal BMPs will be implemented.
Cave Myotis Bat <i>Myotis velifer</i>	—	SGCN	Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned cliff swallow (<i>Petrochelidon pyrrhonota</i>) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter.	No impact	No suitable roosting or hibernating habitat is located in the project area, and no bats or evidence of bats were observed in or near the project area.
Eastern Red Bat <i>Lasiurus borealis</i>	—	SGCN	Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.	No impact	No woodlands or riparian areas occur in the project area.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Eastern Spotted Skunk <i>Spilogale putorius</i>	—	SGCN	Catholic; open fields prairies, croplands, fence rows, farmyards, forest edges; woodlands. Prefer wooded, brushy areas; tallgrass prairies. <i>S.p. ssp. interrupta</i> found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.	May impact	Potential habitat is located within project area in open fields and croplands. Individuals may be disturbed, if present, but population-level impacts are not expected. Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.
Hoary Bat <i>Lasiurus cinereus</i>	—	SGCN	Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.	No impact	No woodlands or riparian areas occur in the project area.
Long-tailed Weasel <i>Mustela frenata</i>	—	SGCN	Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges and rocky desert scrub. Usually live close to water.	No impact	The project area is near a developed urban area and is not near any perennial water bodies.
Mexican Free-tailed Bat <i>Tadarida brasiliensis</i>	—	SGCN	Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.	No impact	No known colonies occur in or near the project area.
Mountain Lion <i>Puma concolor</i>	—	SGCN	Rugged mountains and riparian zones.	No impact	The project area is near a developed urban area and primarily consists of maintained ROW and crops.
Plains Spotted Skunk <i>Spilogale putorius interrupta</i>	—	SGCN	Open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie.	May impact	Potential habitat is located within project area in open fields and croplands. Individuals may be disturbed, if present, but population-level impacts are not expected. Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Prairie Vole <i>Microtus ochrogaster taylori</i>	—	SGCN	Extreme northern Panhandle; colonial; upland herbaceous fields; grasslands, old agricultural lands and thickets; places where there is suitable cover for runways; floodplains of rivers serve as dispersal routes; railroad and highway right-of-ways may serve as corridors for dispersal; nests in burrows, under boards or logs, and above ground in grassy clumps; breeds year-round, esp. spring/fall; peaks depend on availability of moisture.	May impact	Herbaceous fields, grasslands, and old agricultural lands could provide suitable habitat, and the presence of the species cannot be ruled out.
Pronghorn <i>Antilocapra americana</i>	—	SGCN	Prefers hilly and plateau areas of open grassland, desert-grassland; desert-scrub, where it frequents south-facing slopes; other sheltered areas.	No impact	The project area does not contain hills, plateaus, or desert.
Swift Fox <i>Vulpes velox</i>	—	SGCN	Restricted to current and historic shortgrass prairie; western and northern portions of Panhandle	May impact	Relatively small areas of shortgrass prairie are present within the project area. Presence of the species cannot be ruled out.
Thirteen-lined Ground Squirrel <i>Ictidomys tridecemlineatus</i>	—	SGCN	Restricted to dry and sandy (and "tighter") soils of open areas, such as grasslands, cultivated fields, meadows, roadsides, airfields, shrublands, and suburb lawns. Beaches and dry pine barrens also used. Rests, gives birth, and hibernates in underground burrow.	No impact	No sandy soils occur in the project area.
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	—	SGCN	Found in a broad range of habitats, but most commonly in mesic coniferous and deciduous forests. In Texas, habitat ranges from desert scrub to pinyon-juniper woodland, consistently in areas with canyons or cliffs. They avoid grasslands and in the Great Plains usually only occur in riparian areas. Strongly correlated with caves and cave-like roosting habitat, including abandoned mines; population centers occur in areas dominated by exposed, cavity-forming rock and/or historic mining districts; may also use buildings, bridges, rock crevices and hollow trees.	No impact	No mesic forests, desert scrub, canyons, cliffs, caves, or riparian zones occur in or adjacent to the project area.
Tricolored Bat <i>Perimyotis subflavus</i>	—	SGCN	Forest, woodland and riparian areas are important. Caves are very important to this species.	No impact	No forest, woodland, riparian areas, or caves occur in or adjacent to the project area.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Western Hog-nosed Skunk <i>Conepatus leuconotus</i>	—	SGCN	Habitats include woodlands, grasslands, and deserts, to 7200 feet; most common in rugged, rocky canyon country; little is known about the habitat of the ssp. <i>telmalestes</i> .	May impact	Grasslands occur in or adjacent to the project area.
REPTILES					
Eastern Box Turtle <i>Terrapene carolina</i>	—	SGCN	Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enter pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures. Also attracted to farms, old fields and cut-over woodlands, as well as creek bottoms and dense woodlands. Egg laying sites often are sandy or loamy soils in open areas.	No impact	No forests, woodlands, forest-field ecotones, or aquatic habitats occur in or adjacent to the project area.
Keeled Earless Lizard <i>Holbrookia propinqua</i>	—	SGCN	Coastal dunes, barrier islands, and other sandy areas; eats insects and likely other small invertebrates; eggs laid underground March-September (most May-August).	No impact	No coastal dunes, barrier islands, or other sandy areas occur in or adjacent to the project area.
Massasauga <i>Sistrurus tergeminus</i>	—	SGCN	Habitats range from sphagnum bogs, swamps, marshes, shrub-dominated peatlands, wet meadows, and floodplains to dry woodland; prefers seasonal wetlands with a mixture of open grass-sedge areas and short closed canopy (edge situations). Quite common in gently rolling prairie occasionally broken by creek valley or rocky hillside.	No impact	No bogs, swamps, marshes, shrub-dominated peatlands, wet meadows, or woodlands occur in or adjacent to the project area.
Texas Horned Lizard <i>Phrynosoma cornutum</i>	—	T	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.	May impact	A few open areas with sparse vegetation are present in the project area. Terrestrial Reptile BMPs will be implemented, and contractors will be advised avoid harvester ant mounds in the selection of Project Specific Locations (PSLs).
Texas Map Turtle <i>Graptemys versa</i>	—	SGCN	Rivers with moderate current, abundant aquatic vegetation, and basking logs; also associated oxbows and lakes.	No impact	No rivers, oxbows, or lakes are present in or adjacent to the project area.

Species Impact Table

Federal and State-listed Threatened and Endangered Species and Species of Greatest Conservation Need (SGCN) in Lubbock County, Texas

Species	Federal Status	State Status	Description of Suitable Habitat	Species Impact/Effect	Specific Project Information
Western Box Turtle <i>Terrapene ornata</i>	—	SGCN	Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. Very partial to sandy soil.	May impact	Prairie grasslands or pastures could provide suitable habitat within or adjacent to the project area.
Western Hognose Snake <i>Heterodon nasicus</i>	—	SGCN	Habitat consists of areas with sandy or gravelly soils, including prairies, sandhills, wide valleys, river floodplains, bajadas, semiagricultural areas (but not intensively cultivated land), margins of irrigation ditches, thornscrub woodlands, and chaparral thickets. Seems to prefer sandy and loamy soils, not necessarily flat. Periods of inactivity are spent burrowed in the soil or in existing burrows. Eggs are laid in nests a few inches below the ground surface.	May impact	Prairies or Conservation Reserve Program (CRP) grasslands could provide suitable habitat within or adjacent to the project area.
Western Rattlesnake <i>Crotalus viridis</i>	—	SGCN	Grassland, both desert and prairie; shrub desert rocky hillsides; edges of arid and semi-arid river breaks.	May impact	Grassland could provide suitable habitat within or adjacent to the project area.
PLANTS					
Cory's Ephedra <i>Ephedra coryi</i>	—	SGCN	Dune areas and dry grasslands in the southern Plains Country; Perennial; Flowering April-Sept; Fruiting May-Sept.	May impact	Dry grasslands occur within the project area, and the presence of the species cannot be ruled out.
Mexican Mud-plantain <i>Heteranthera mexicana</i>	—	SGCN	Wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall	No impact	Playas that occur in or adjacent to the project area are plowed and/or farmed, and the species is not present.

E – Endangered; T – Threatened; PT – Proposed Threatened “—” – No designation occurring within identified county; SGCN – Species of Greatest Conservation Need: rare, but with no regulatory listing status

¹The USFWS lists these species for Lubbock County, but these species are not listed on the TPWD’s county list.

Sources: USFWS IPaC Resource Species List (accessed September 27, 2019); and TPWD, Rare, Threatened, and Endangered Species of Texas by County, Lubbock County (July 17, 2019 version, retrieved September 27, 2019), and Field Visit (March 2019).

EMST Vegetation Table

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	Acres	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Shape_STAr	Shape_STLe
118747	6900	High Plains: Playa Lake	R077CY022TX	Deep Hardland16-21 PZ	Playa	7-South	0.14801960	CES303.666	Western Great Plains Closed Depression Wetland	High Plains	25	VEGETATION	1951.19726563000	331.43073071400
121464	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	1.30266095	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	39904.65527340000	4115.43484614000
121493	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.26139582	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	3438.60058594000	559.44366710300
121508	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	2.79502545	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	28566.75390630000	4080.46206328000
121509	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	6.82446077	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	79978.80761720000	10111.22287230000
121510	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	1.32806163	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	5374.47460938000	1007.52472057000
121528	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.23344241	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	13254.38964840000	2042.70730708000
121539	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	1.30437715	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	14842.79101560000	646.46937863000
125898	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.00817809	TPW101.005	Agriculture	High Plains	25	VEGETATION	339465.50878900000	4132.58163391000
125900	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	16.07937864	TPW101.005	Agriculture	High Plains	25	VEGETATION	525899.19140600000	4632.78420578000
125901	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	4.81349393	TPW101.005	Agriculture	High Plains	25	VEGETATION	68974.27539060000	1088.06368494000
125903	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	3.35189503	TPW101.005	Agriculture	High Plains	25	VEGETATION	18353.02734380000	591.69655871400
125904	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	28.07174405	TPW101.005	Agriculture	High Plains	25	VEGETATION	1326551.04590000000	11086.10106770000
125910	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	8.50358978	TPW101.005	Agriculture	High Plains	25	VEGETATION	1366290.01758000000	9572.23170871000
125926	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	14.62635427	TPW101.005	Agriculture	High Plains	25	VEGETATION	168362.30371100000	1938.54937073000
125935	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.45088893	TPW101.005	Agriculture	High Plains	25	VEGETATION	76440.55859380000	2470.16120681000
125952	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.06537411	TPW101.005	Agriculture	High Plains	25	VEGETATION	546831.62793000000	3148.29990321000
125953	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	12.30679170	TPW101.005	Agriculture	High Plains	25	VEGETATION	69552.97558590000	1245.69372503000
125957	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.02810229	TPW101.005	Agriculture	High Plains	25	VEGETATION	262370.79394500000	5400.40598010000
125965	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	52.98440451	TPW101.005	Agriculture	High Plains	25	VEGETATION	356958.29101600000	3928.39105251000
125967	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.42288669	TPW101.005	Agriculture	High Plains	25	VEGETATION	347866.45312500000	3474.85652656000
125969	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	18.63897092	TPW101.005	Agriculture	High Plains	25	VEGETATION	395084.53710900000	4786.22542599000
125971	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.92383922	TPW101.005	Agriculture	High Plains	25	VEGETATION	119843.24316400000	2530.27832176000
125994	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.03027265	TPW101.005	Agriculture	High Plains	25	VEGETATION	161959.03222700000	2665.81523533000
126007	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	14.71769807	TPW101.005	Agriculture	High Plains	25	VEGETATION	970389.05761700000	7997.94346820000
127485	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.23994700	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	24036.86718750000	1262.52111309000
133106	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.03853192	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	20933.26171880000	808.95090482400
133111	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.33687675	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	3540.78027344000	343.16934902500
133124	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	2.73214060	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	35509.96289060000	1439.94758506000
133126	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	29.86639072	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	662776.62597700000	4950.67181641000
133137	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.40425412	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	89289.30664060000	1651.37022626000
133157	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	25.02713745	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	116008.51269500000	2107.37939533000
133183	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.01911178	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	131744.14257800000	1840.01401459000
133186	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	1.98778808	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	8044.29199219000	581.07528433300
133191	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	1.30491611	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	5280.80957031000	320.82024239900
133201	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	11.15048277	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	204549.34863300000	5389.85251418000
133207	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	1.95253020	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	60503.11328130000	3119.89666884000
133210	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.05404181	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	393203.27636700000	2702.87231207000
133233	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.53653127	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	2173.16210938000	302.81330636700
133242	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.34132392	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	128557.76562500000	3177.77473340000
133245	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.34905490	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	1162356.64453000000	5620.81664402000
137934	9000	Barren	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.31608592	TPW101.008	Barren	High Plains	25	VEGETATION	1478.10058594000	909.22808200300
139128	6907	High Plains: Playa Grassland	R077CY027TX	Playa 16-21 PZ	Playa	7-South	1.45515323	CES303.666	Western Great Plains Closed Depression Wetland	High Plains	25	VEGETATION	10914.71191410000	434.00155717200
140603	9307	Row Crops	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.85081314	TPW101.005	Agriculture	High Plains	25	VEGETATION	3443.11816406000	423.40480569800

EMST Vegetation Table

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	Acres	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Shape_STAr	Shape_STLe
141294	9307	Row Crops	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.50568375	TPW101.005	Agriculture	High Plains	25	VEGETATION	2166.02050781000	310.73894720200
141295	9307	Row Crops	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.03866419	TPW101.005	Agriculture	High Plains	25	VEGETATION	694.34375000000	144.01262994000
143088	9327	CRP / Other Improved Grassland	R077CY027TX	Playa 16-21 PZ	Disturbed Prairie	7-South	0.16329797	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	2399.85351563000	299.01725695100
143089	9327	CRP / Other Improved Grassland	R077CY027TX	Playa 16-21 PZ	Disturbed Prairie	7-South	15.15838537	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	62346.08496090000	959.72476170400
143878	9000	Barren	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	2.18402637	TPW101.008	Barren	High Plains	25	VEGETATION	21381.98730470000	1390.41429450000
145174	9106	Native Invasive: Mesquite Shrubland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.86754222	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	VEGETATION	9287.34570313000	567.43562753700
146138	9105	Native Invasive: Juniper Shrubland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.14995593	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	VEGETATION	4646.09570313000	495.85878297300
146744	9411	Urban Low Intensity	R077CY028TXS	Limy Upland 16-21 PZ S	Urban	7-South	0.53561559	TPW101.003	Urban	High Plains	25	VEGETATION	3225.94726563000	324.61539536400
146757	9411	Urban Low Intensity	R077CY028TXS	Limy Upland 16-21 PZ S	Urban	7-South	0.80941552	TPW101.003	Urban	High Plains	25	VEGETATION	63146.23339840000	4689.27894877000
149704	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	1.01737308	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	5504.52636719000	960.34650652600
149713	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	1.51019919	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	8627.67578125000	1159.75434341000
149714	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.38603294	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	1562.21875000000	339.40357286600
149720	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.43377185	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	11005.10937500000	837.62640738800
149728	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	5.24906567	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	32116.73339840000	2267.17681672000
149747	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	2.31000636	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	25308.11035160000	2859.32197186000
149827	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.00358924	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	7869.33691406000	639.23304577800
149833	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.39829219	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	1647.29003906000	204.29669199000
149834	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.47289662	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	3661.09570313000	549.37973653800
149846	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.23165211	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	2315.36718750000	280.27115694400
149863	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	1.02463958	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	17828.28613280000	1230.73044441000
149890	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.12137383	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	VEGETATION	7792.28125000000	1420.64725387000
153109	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	3.67693422	TPW101.005	Agriculture	High Plains	25	VEGETATION	134612.34277300000	2337.52389275000
153112	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	17.91517995	TPW101.005	Agriculture	High Plains	25	VEGETATION	437160.17675800000	3414.55578678000
153130	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	12.24746122	TPW101.005	Agriculture	High Plains	25	VEGETATION	137177.08398400000	2217.58973341000
153148	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	1.19702071	TPW101.005	Agriculture	High Plains	25	VEGETATION	308063.95410200000	4235.24951766000
153173	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	20.28243690	TPW101.005	Agriculture	High Plains	25	VEGETATION	1728079.39746000000	10915.23326720000
153175	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	1.93988110	TPW101.005	Agriculture	High Plains	25	VEGETATION	47969.37500000000	1818.38508208000
156889	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	3.38406889	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	13694.83593750000	1102.93954100000
156900	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.02511023	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	1763.90917969000	296.62877059100
156902	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	25.14928641	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	611074.15625000000	4571.98019827000
156903	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.51830739	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	29225.97851560000	742.19947376100
156953	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	1.10609725	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	16802.28613280000	606.97389815700
156954	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.34467058	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	491268.27929700000	4224.32910562000
156972	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.47037160	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	8289.55175781000	567.09339466200
157009	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	3.17736741	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	322747.58007800000	2984.86770230000
161226	9000	Barren	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.27547505	TPW101.008	Barren	High Plains	25	VEGETATION	1558.60546875000	570.78080358000
161772	9106	Native Invasive: Mesquite Shrubland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.08680236	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	VEGETATION	5129.02246094000	1034.81636430000
161785	9106	Native Invasive: Mesquite Shrubland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	4.48402976	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	VEGETATION	45350.61132810000	1651.60375944000

EMST Vegetation Table

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	Acres	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Shape_STAr	Shape_STLe
162357	9410	Urban High Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.33452706	TPW101.003	Urban	High Plains	25	VEGETATION	51793.57812500000	1243.24884507000
162910	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.00998157	TPW101.003	Urban	High Plains	25	VEGETATION	9207.16210938000	1203.58765899000
162913	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.01698872	TPW101.003	Urban	High Plains	25	VEGETATION	3533.91015625000	543.70210769400
162915	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.09128686	TPW101.003	Urban	High Plains	25	VEGETATION	8556.65722656000	1120.49060162000
162916	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.12797428	TPW101.003	Urban	High Plains	25	VEGETATION	6929.87792969000	1451.84394270000
162919	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.20829064	TPW101.003	Urban	High Plains	25	VEGETATION	2346.26367188000	1867.05132317000
165496	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	2.61584911	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	11021.31835940000	1291.88037568000
165497	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.00034855	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	9265.04199219000	1197.97265727000
165499	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.44269392	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	2548.46484375000	484.71468507200
165516	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	2.01981585	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	18992.44531250000	2838.55208677000
165531	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.30161751	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	19749.40332030000	906.70501653400
165550	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.87274675	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	39680.03906250000	3351.81404918000
165583	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.00107136	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	6776.02539063000	433.04004838700
165589	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.03319444	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	2620.29492188000	1129.62096259000
165592	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	1.96729205	CES303.659	Central Mixedgrass Prairie	High Plains	25	VEGETATION	32618.50781250000	1859.27192317000
168495	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	7.61235338	TPW101.005	Agriculture	High Plains	25	VEGETATION	63035.29003910000	1424.64721129000
168496	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	4.23155897	TPW101.005	Agriculture	High Plains	25	VEGETATION	306054.46386700000	3283.39858143000
168497	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	9.71030647	TPW101.005	Agriculture	High Plains	25	VEGETATION	1168958.58887000000	8572.04439039000
168498	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	7.73112534	TPW101.005	Agriculture	High Plains	25	VEGETATION	124487.20898400000	1743.14010319000
168499	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	5.76877863	TPW101.005	Agriculture	High Plains	25	VEGETATION	29252.05175780000	1252.20442386000
168502	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.04764689	TPW101.005	Agriculture	High Plains	25	VEGETATION	13427.17480470000	578.92356347900
168505	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.19440247	TPW101.005	Agriculture	High Plains	25	VEGETATION	24849.79003910000	824.62051784200
168511	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.42961301	TPW101.005	Agriculture	High Plains	25	VEGETATION	26766.67773440000	805.37560598700
168515	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.52382410	TPW101.005	Agriculture	High Plains	25	VEGETATION	21341.08496090000	1147.92303061000
168557	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	61.86681549	TPW101.005	Agriculture	High Plains	25	VEGETATION	1731756.07520000000	13691.48409890000
168573	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.00980916	TPW101.005	Agriculture	High Plains	25	VEGETATION	712736.60644500000	7671.76542064000
168575	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	10.70932324	TPW101.005	Agriculture	High Plains	25	VEGETATION	1042208.18457000000	5915.23217903000
168576	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	9.98328228	TPW101.005	Agriculture	High Plains	25	VEGETATION	68494.46093750000	1348.19139164000
168578	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	14.69619643	TPW101.005	Agriculture	High Plains	25	VEGETATION	1479014.79199000000	8882.40908198000
168594	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.60918458	TPW101.005	Agriculture	High Plains	25	VEGETATION	18100.23339840000	633.83484254600
168602	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.00207286	TPW101.005	Agriculture	High Plains	25	VEGETATION	47681.85253910000	1169.59493582000
169605	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	11.10129641	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	229833.71093800000	2390.68967447000
170060	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.28738339	TPW101.005	Agriculture	High Plains	25	VEGETATION	1163.00000000000	351.10560969100
173091	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.81892358	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	3314.07031250000	290.16020472700
173122	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.06542593	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	88512.59472660000	1581.18481892000
173156	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.94574248	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	15330.15917970000	1086.95318830000
173169	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.46208803	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	3201.95605469000	431.14002666600
173174	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	5.09844104	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	724067.32128900000	7559.71806366000
173190	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	2.56743923	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	10390.43652340000	957.06787739800
173200	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.00127054	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	3720.48046875000	384.71689869500
173205	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.00088452	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	4060.82910156000	277.89172517800
173209	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.00108640	TPW101.002	Disturbance Grassland	High Plains	25	VEGETATION	5325.24414063000	460.94383956000
118190	9411	Urban Low Intensity	R077CY022TX	Deep Hardland16-21 PZ	Urban	7-South	0.07798166	TPW101.003	Urban	High Plains	25	ROADWAY	32400.91699220000	6585.63364393000
121510	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.09358073	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROADWAY	2572.53417969000	542.94494569500
121528	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.25669400	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROADWAY	2848.70605469000	957.58887555800
125935	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.00039608	TPW101.005	Agriculture	High Plains	25	ROADWAY	6.61718750000	19.26139401230
125965	9307	Row Crops	R077CY022TX	Deep Hardland16-21 PZ	Agriculture	7-South	0.01737320	TPW101.005	Agriculture	High Plains	25	ROADWAY	87.11816406250	237.04856722500
133242	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.20645398	TPW101.002	Disturbance Grassland	High Plains	25	ROADWAY	1259.99316406000	930.10290389200
137934	9000	Barren	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.28094570	TPW101.008	Barren	High Plains	25	ROADWAY	1378.52441406000	465.07289263500
145174	9106	Native Invasive: Mesquite Shrubland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.01072531	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	ROADWAY	43.40429687500	115.61404455100
146757	9411	Urban Low Intensity	R077CY028TXS	Limy Upland 16-21 PZ S	Urban	7-South	1.42738804	TPW101.003	Urban	High Plains	25	ROADWAY	15901.45214840000	3054.93928114000

EMST Vegetation Table

FID_Distri	Veg_ID	Common	EcoClass_I	EcoSystem	MOU_Habita	Phase	Acres	NS_Number	TPWD_Ecosy	EcoRegion	EcoRegion_	Feature_Ty	Shape_STAr	Shape_STLe
149833	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.02919937	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROADWAY	118.16601562500	111.16926388500
149834	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.02034598	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROADWAY	82.33789062500	99.84668898030
161785	9106	Native Invasive: Mesquite Shrubland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.41944440	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	ROADWAY	4050.82910156000	1178.38369212000
162916	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.79734864	TPW101.003	Urban	High Plains	25	ROADWAY	9762.13476563000	1849.04971514000
162920	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.11480011	TPW101.003	Urban	High Plains	25	ROADWAY	477.92773437500	306.90739420900
165592	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	1.29032723	CES303.659	Central Mixedgrass Prairie	High Plains	25	ROADWAY	5221.76757813000	982.32587922200
168515	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.00141676	TPW101.005	Agriculture	High Plains	25	ROADWAY	2154.57324219000	422.79128036100
168557	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.04616262	TPW101.005	Agriculture	High Plains	25	ROADWAY	5112.26171875000	1533.69699842000
173156	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.01891824	TPW101.002	Disturbance Grassland	High Plains	25	ROADWAY	76.55859375000	394.12784542100
121528	2907	High Plains: Shortgrass Prairie	R077CY022TX	Deep Hardland16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.25284024	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	2593.11035156000	1820.73065865000
133233	9327	CRP / Other Improved Grassland	R077CY022TX	Deep Hardland16-21 PZ	Disturbed Prairie	7-South	0.00385355	TPW101.002	Disturbance Grassland	High Plains	25	ROW	15.59472656250	56.99992493640
137934	9000	Barren	R077CY027TX	Playa 16-21 PZ	Agriculture	7-South	0.28094826	TPW101.008	Barren	High Plains	25	ROW	1375.04687500000	915.73829600400
145174	9106	Native Invasive: Mesquite Shrubland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.09028369	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	ROW	365.36425781300	132.02925734300
146757	9411	Urban Low Intensity	R077CY028TXS	Limy Upland 16-21 PZ S	Urban	7-South	0.84816834	TPW101.003	Urban	High Plains	25	ROW	22704.05761720000	5531.13930182000
149833	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.07512529	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	304.02148437500	113.24934102600
149834	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.16390666	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	663.30761718800	248.12703278600
149846	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.00818051	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	33.10546875000	42.17307686310
149863	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.05884945	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	238.15527343800	149.76828525200
149890	2907	High Plains: Shortgrass Prairie	R077CY028TXS	Limy Upland 16-21 PZ S	Mixed, Arid, Sand Grassland	7-South	0.00574947	CES303.672	Western Great Plains Shortgrass Prairie	High Plains	25	ROW	23.26660156250	24.34435546380
153175	9307	Row Crops	R077CY028TXS	Limy Upland 16-21 PZ S	Agriculture	7-South	0.00188864	TPW101.005	Agriculture	High Plains	25	ROW	7.64160156250	69.65021870450
156953	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.07294739	TPW101.002	Disturbance Grassland	High Plains	25	ROW	295.20800781300	169.57518281600
156972	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.02426924	TPW101.002	Disturbance Grassland	High Plains	25	ROW	98.21484375000	80.51988513130
157009	9327	CRP / Other Improved Grassland	R077CY028TXS	Limy Upland 16-21 PZ S	Disturbed Prairie	7-South	0.13809457	TPW101.002	Disturbance Grassland	High Plains	25	ROW	558.85058593800	572.59465357600
161226	9000	Barren	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.00027403	TPW101.008	Barren	High Plains	25	ROW	1031.69335938000	654.76577507100
161785	9106	Native Invasive: Mesquite Shrubland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.52318522	TPW101.001	Native Invasive Shrub and Woodland	High Plains	25	ROW	2705.67089844000	1420.85115195000
162919	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.12054405	TPW101.003	Urban	High Plains	25	ROW	4370.57031250000	1815.36338880000
162920	9411	Urban Low Intensity	R077CY036TX	Sandy Loam 16-21 PZ	Urban	7-South	0.13255922	TPW101.003	Urban	High Plains	25	ROW	703.99609375000	335.98586047200
165583	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.02177269	CES303.659	Central Mixedgrass Prairie	High Plains	25	ROW	88.11132812500	109.01152736100
165589	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.00233731	CES303.659	Central Mixedgrass Prairie	High Plains	25	ROW	4906.79687500000	2492.28775121000
165592	307	Rolling Plains: Mixedgrass Prairie	R077CY036TX	Sandy Loam 16-21 PZ	Mixed, Arid, Sand Grassland	7-South	0.83753103	CES303.659	Central Mixedgrass Prairie	High Plains	25	ROW	3389.36914063000	1514.29825544000
168557	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.11189557	TPW101.005	Agriculture	High Plains	25	ROW	1482.07324219000	657.50386545800
168602	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.08079408	TPW101.005	Agriculture	High Plains	25	ROW	326.96386718800	192.63335565700
170060	9307	Row Crops	R077CY036TX	Sandy Loam 16-21 PZ	Agriculture	7-South	0.03948742	TPW101.005	Agriculture	High Plains	25	ROW	159.79882812500	225.37839021700
173190	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.00030127	TPW101.002	Disturbance Grassland	High Plains	25	ROW	292.63574218800	178.83546850900
173200	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.03265016	TPW101.002	Disturbance Grassland	High Plains	25	ROW	183.39941406300	191.52468065000
173205	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.01529279	TPW101.002	Disturbance Grassland	High Plains	25	ROW	61.88769531250	70.54687993260
173209	9327	CRP / Other Improved Grassland	R077CY036TX	Sandy Loam 16-21 PZ	Disturbed Prairie	7-South	0.02027118	TPW101.002	Disturbance Grassland	High Plains	25	ROW	82.03515625000	93.15207261170

Field-verified Vegetation MOU Summary

Potential Impacts¹ to Field-verified MOU Vegetation

EMST Vegetation Type	Ecological System Type	TxDOT/TPWD MOU Vegetation Type	MOU Threshold (acres)	Acres within Project Area
Row Crops	Agriculture	Agriculture	10	433.54
Total Potential Impacts to Agriculture MOU Vegetation				433.54
High Plains: Shortgrass Prairie	Western Great Plains Shortgrass Prairie	Mixed, Arid, Sand Grassland	2	24.28
Rolling Plains: Mixedgrass Prairie	Central Mixedgrass Prairie			0.59
Total Potential Impacts to Mixed, Arid, Sand, Grassland MOU Vegetation				24.87
CRP/Other Improved Grassland	Disturbance Grassland	Disturbed Prairie	3	3.60
Total Potential Impacts to Disturbed Prairie MOU				3.60
High Plains: Floodplain Herbaceous Vegetation	Western Great Plains Floodplain	Western Wetlands, Riparian	0.1	51.14
High Plains: Playa Grassland	Western Great Plains Closed Depression Wetland			18.47
Total Potential Impacts to Western Wetlands, Riparian MOU Vegetation				69.61
Urban Low Intensity	Urban	Urban	NA	40.78
Total Potential Impacts to Urban MOU Vegetation				40.78

¹Based on ROW to ROW impacts

Project Area Photographs



Photo 1. Existing Transportation and Urban Low Intensity vegetation type in the project area along FM 1585, facing southwest.



Photo 2. Row Crops vegetation type south of East 146th Street, facing east.

Project Area Photographs



Photo 3. High Plains: Shortgrass Prairie vegetation west of Martin Luther King Jr. Boulevard, facing west.



Photo 4. High Plains: Shortgrass Prairie vegetation and prairie dog burrows east of County Road 2800 and north of East 146th Street, facing north.

Project Area Photographs



Photo 5. High Plains: Shortgrass Prairie vegetation and prairie dog burrows in and adjacent to the project area north of East 146th Street, facing northeast.



Photo 6. High Plains: Shortgrass Prairie vegetation south of East 146th Street, facing west.

Project Area Photographs



Photo 7. Row Crops within the project area north of East 146th Street, facing northeast.



Photo 8. Rolling Plains: Mixedgrass Prairie vegetation within the project area along US 84, facing northwest.

Project Area Photographs



Photo 9. High Plains: Floodplain Herbaceous Vegetation and High Plains: Playa Grassland vegetation types within the project area east of Martin Luther King Jr. Boulevard, facing east.

Element Occurrence Record

Scientific Name: Athene cunicularia hypugaea

Occurrence #: 8

Eo Id: 7272

Common Name: Western Burrowing Owl

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4T4

State Rank: S2

Federal Status:

Location Information:

Directions

LUBBOCK LAKE LANDMARK STATE HISTORIC PARK; ON YELLOW HOUSE DRAW IN NORTHWEST LUBBOCK

Survey Information:

First Observation: 1996-01-19

Survey Date:

Last Observation: 1996-11-16

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments: COMMONLY SEEN ON EAST SIDE OF YELLOW HOUSE DRAW IN THE NORTHEAST PORTION OF PARK

Protection

Comments:

Management

Comments:

Data:

EO Data: TWO INDIVIDUALS OBSERVED 19 JANUARY 1996, 3 OBSERVED 23 FEBRUARY 1996, 5 OBSERVED 13/14 APRIL 1996, 2 OBSERVED 30 APRIL 1996, 2 OBSERVED 6 SEPTEMBER 1996, 7 OBSERVED 15/16 NOVEMBER 1996; ACTIVELY NESTS AT PARK

Community Information:

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

Reference:

Citation:

BRADLEY, ROBERT D. AND ROBERT J. BAKER. 1998. FINAL REPORT FOR THE FAUNAL SURVEY OF LUBBOCK LAKE LANDMARK STATE HISTORICAL PARK. FEBRUARY 5, 1998.

ANGULO, SAM. 1998. FAX TO DORINDA SCOTT PERTAINING TO ATHENE CUNICULARIA HYPUGAEA LOCATIONS AT LUBBOCK LAKE LANDMARK SHP. MAY 15, 1998.

Element Occurrence Record

Specimen:

Element Occurrence Record

Scientific Name: Conepatus leuconotus **Occurrence #:** 34 **Eo Id:** 13882
Common Name: Western hog-nosed skunk **Track Status:** Track all extant and selected historical EOs
Identification Confirmed: Y - Yes **TX Protection Status:**
Global Rank: G4 **State Rank:** S4 **Federal Status:**

Location Information:

Directions

Written directions stated that sight records of hog nosed skunks from 11 miles southwest of Lubbock, Lubbock County were documented.

Survey Information:

First Observation: no date **Survey Date:** no date **Last Observation:** no date
Eo Type: **Eo Rank:** H **Eo Rank Date:** no date

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: no date: Sight records of hog nosed skunks.

Community Information:

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

Reference:

Citation:

Manning, R. W., J. K. Jones, Jr., and R. R. Hollander. 1986. Northern limits of distribution of the hog-nosed skunk, Conepatus mesoleucus, in Texas. Texas Journal of Science 38(3):289-291.

Specimen:

Element Occurrence Record

Scientific Name: Cynomys ludovicianus

Occurrence #: 5

Eo Id: 9022

Common Name: black-tailed prairie dog

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S3

Federal Status:

Location Information:

Directions

From the junction of US62 and FM211, travel 5.80 miles east on FM211. Black-tailed prairie dog town is 0.15 miles south of FM211. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations. The directions will lead to an actual observation that is central to all other observations.

Survey Information:

First Observation: 200-00-00

Survey Date: 2005-00-00

Last Observation: 2005-00-00

Eo Type:

Eo Rank: E

Eo Rank Date: 2005-00-00

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 2000-2004: One black-tailed prairie dog town was digitized based on aerial imagery and observed during ground truthing. 2003-2005: 9 black-tailed dog towns were digitized based on aerial imagery.

Community Information:

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

Reference:

Citation:

Texas Parks and Wildlife. 2010. Texas Natural Diversity Database shapefiles, articles, information on black-tailed prairie dog colonies in Texas.

Specimen:

Element Occurrence Record

Scientific Name: Cynomys ludovicianus

Occurrence #: 9

Eo Id: 9026

Common Name: black-tailed prairie dog

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S3

Federal Status:

Location Information:

Directions

From the junction of fM1698 and US62, travel 0.88 miles north on 62. Black-tailed prairie dog town is 1.31 miles east of 62. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations. The directions will lead to an actual observation that is central to all other observations.

Survey Information:

First Observation: 2000-00-00

Survey Date: 2005-00-00

Last Observation: 2005-00-00

Eo Type:

Eo Rank: E

Eo Rank Date: 2005-00-00

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 2000-2004: 2 black-tailed prairie dog towns were digitized based on aerial imagery and observed during ground truthing. 2003-2005: one black-tailed prairie dog town was digitized based on aerial imagery

Community Information:

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

Reference:

Citation:

Texas Parks and Wildlife. 2010. Texas Natural Diversity Database shapefiles, articles, information on black-tailed prairie dog colonies in Texas.

Specimen:

Element Occurrence Record

Scientific Name: Cynomys ludovicianus

Occurrence #: 81

Eo Id: 9096

Common Name: black-tailed prairie dog

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S3

Federal Status:

Location Information:

Directions

From the junction of FM3112 and US38, travel 0.15 miles east on 38. The black-tailed prairie dog town is 0.06 miles north of US38. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations. The directions will lead to an actual observation that is central to all other observations.

Survey Information:

First Observation: 1994-00-00

Survey Date: 2004-02-16

Last Observation: 2004-02-16

Eo Type:

Eo Rank: E

Eo Rank Date: 2004-02-16

Observed Area:

Comments:

General Description: 11 February 2004: Two habitat types are represented by this record for these years, 1) playa and 2) mesquite shrubland/playa
16 February 2004: shortgrass prairie/mesquite shrubland

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 1994-1997: 17 black-tailed prairie dog towns were digitized based on aerial imagery. 11 & 16 February 2004: 7 black-tailed prairie dog towns were digitized based on aerial imagery and observed during ground truthing.

Community Information:

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

Reference:

Citation:

Texas Parks and Wildlife. 2010. Texas Natural Diversity Database shapefiles, articles, information on black-tailed prairie dog colonies in Texas.

Specimen:

Element Occurrence Record

Scientific Name: Cynomys ludovicianus

Occurrence #: 83

Eo Id: 9098

Common Name: black-tailed prairie dog

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S3

Federal Status:

Location Information:

Directions

From the junction of Country Road 272 and FM400, travel 0.74 miles northeast on FM400. The black-tailed prairie dog town is 0.10 miles northwest of 400. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations. The directions will lead to an actual observation that is central to all other observations.

Survey Information:

First Observation: 1994-00-00

Survey Date: 2004-02-11

Last Observation: 2004-02-11

Eo Type:

Eo Rank: E

Eo Rank Date: 2004-02-11

Observed Area:

Comments:

General 11 February 2004: shortgrass prairie

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 1994-1997: One black-tailed prairie dog town was digitized based on aerial imagery. 11 February 2004: 2 black-tailed prairie dog towns were digitized based on aerial imagery and observed during ground truthing.

Community Information:

Scientific Name:	Stratum:	Dominant:	Lifeform:	Composition Note:

Reference:

Citation:

Texas Parks and Wildlife. 2010. Texas Natural Diversity Database shapefiles, articles, information on black-tailed prairie dog colonies in Texas.

Element Occurrence Record

Specimen:

Element Occurrence Record

Scientific Name: Cynomys ludovicianus

Occurrence #: 114

Eo Id: 9129

Common Name: black-tailed prairie dog

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4

State Rank: S3

Federal Status:

Location Information:

Directions

From the junction of Owl and US62, travel 0.21 miles southwest on 62. The black-tailed prairie dog town is 0.57 miles north of US62. The directions were created by database staff. The directions are generalized as this record consists of multiple populations/observations. The directions will lead to an actual observation that is central to all other observations.

Survey Information:

First Observation: 1999-00-00

Survey Date: 2005-06-08

Last Observation: 2005-06-08

Eo Type:

Eo Rank: E

Eo Rank Date: 2005-06-08

Observed Area:

Comments:

General 8 June 2005: shortgrass prairie

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 1999-2004 and 8 June 2005: 6 black-tailed prairie dog towns were digitized based on aerial imagery and observed during ground truthing.

Community Information:

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

Reference:

Citation:

Texas Parks and Wildlife. 2010. Texas Natural Diversity Database shapefiles, articles, information on black-tailed prairie dog colonies in Texas.

Specimen:

Element Occurrence Record

Scientific Name: Heteranthera mexicana

Occurrence #: 1

Eo Id: 4401

Common Name: Mexican mud-plantain

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G2G3

State Rank: S1

Federal Status:

Location Information:

Directions

"FOUND ON MARGINS OF A PLAYA LAKE LOCATED ABOUT 3 MILES SOUTHWEST OF ROPESVILLE, JUST NORTH OF THE TERRY COUNTY LINE ON THE EAST SIDE OF HIGHWAY 62-82, 22 SEPTEMBER 1993, P.D. TURNER 52" (TEX)

Survey Information:

First Observation:

Survey Date:

Last Observation: 1993-09-22

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General Description: MARGIN OF PLAYA LAKE

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data:

Community Information:

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

Reference:

Citation:

TURNER, P.D. (52). 1993. SPECIMEN #?. TEX-LL.

Specimen:

TURNER, P.D. (52). 1993. SPECIMEN #?. TEX-LL. (S93TURTXTXUS)

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1993. PAUL D. TURNER #52, SPECIMEN # NONE TEX. 22 SEPTEMBER 1993.

Element Occurrence Record

Scientific Name: Phrynosoma cornutum

Occurrence #: 52

Eo Id: 8626

Common Name: Texas horned lizard

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status: T

Global Rank: G4G5

State Rank: S3

Federal Status:

Location Information:

Directions

LUBBOCK LAKE LANDMARK STATE HISTORIC PARK, ON YELLOW HOUSE DRAW IN NORTHWEST LUBBOCK

Survey Information:

First Observation: 1996-04-14

Survey Date:

Last Observation: 1996-04-14

Eo Type:

Eo Rank: E

Eo Rank Date: 1996-04-14

Observed Area:

Comments:

General Description: TRANSECT II - SHORTGRASS GRASSLAND; TRANSECT III - VARIED HABITATS, ENDS OF TRANSECT ON RIDGES WITH THE MIDDLE PORTION DISSECTING THE MAJOR NORTH-SOUTH DRAW

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: COLLECTED TWO SPECIMENS 14 APRIL 1996 ALONG TRANSECT II AND III

Community Information:

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

Reference:

Citation:

BRADLEY, ROBERT D. AND ROBERT J. BAKER. 1998. FINAL REPORT FOR THE FAUNAL SURVEY OF LUBBOCK LAKE LANDMARK STATE HISTORICAL PARK. FEBRUARY 5, 1998.

Specimen:

Element Occurrence Record

Scientific Name: Prairie Dog Town

Occurrence #: 3

Eo Id: 2997

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: GNR

State Rank: SNR

Federal Status:

Location Information:

Directions

FROM JUNCTION OF 597 AND 168 AT ANTON, GO SOUTH 6.85 MILES ON STATE ROUTE 168, TURN LEFT ON LIGHT DUTY ROAD (AT THE INTERSECTION WITH THE SUBSTATION AT THE NORTHWEST SIDE), GO 2.0 MILES WEST, ROAD ENDS AT THE "T", PRAIRIE DOG TOWN WEST OF ROAD

Survey Information:

First Observation:

Survey Date:

Last Observation: 1982

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area: 700.00

Comments:

General

Description:

Comments: CA. 700 ACRES

Protection

Comments:

Management

Comments:

Data:

EO Data:

Community Information:

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

Reference:

Citation:

LINAM, LEE ANN JOHNSON. 1992. ENDANGERED SPECIES ACT SECTION 6 PROJECT. JOB NO. 22: BLACK-FOOTED FERRET (MUSTELA NIGRIPES) REINTRODUCTION EVALUATION STATUS SURVEY. JANUARY 3, 1992.

Specimen:

Element Occurrence Record

Scientific Name: Prairie Dog Town

Occurrence #: 60

Eo Id: 523

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: GNR

State Rank: SNR

Federal Status:

Location Information:

Directions

FROM ROUTE 1730 WITH LOOP 289 PASSING ABOVE IT, GO SOUTH 3.9 MILES ON ROUTE 1730, TURN RIGHT AND GO SOUTH 3000 FEET ON UNIMPROVED ROAD, PRAIRIE DOG TOWN NORTH OF ROAD

Survey Information:

First Observation:

Survey Date:

Last Observation: 1978

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area: 165.20

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data:

Community Information:

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

Reference:

Citation:

LINAM, LEE ANN JOHNSON. 1992. ENDANGERED SPECIES ACT SECTION 6 PROJECT. JOB NO. 22: BLACK-FOOTED FERRET (MUSTELA NIGRIPES) REINTRODUCTION EVALUATION STATUS SURVEY. JANUARY 3, 1992.

Specimen:

Element Occurrence Record

Scientific Name: Prairie Dog Town

Occurrence #: 61

Eo Id: 8176

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: GNR

State Rank: SNR

Federal Status:

Location Information:

Directions

FROM JUNCTION OF LIGHT DUTY ROAD AT SLIDE, GO WEST 2.75 MILES, TURN RIGHT AND GO NORTH 1.5 MILES ON UNIMPROVED ROAD, PRAIRIE DOG TOWN WEST OF ROAD

Survey Information:

First Observation:

Survey Date:

Last Observation: 1978

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area: 295.50

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data:

Community Information:

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

Reference:

Citation:

LINAM, LEE ANN JOHNSON. 1992. ENDANGERED SPECIES ACT SECTION 6 PROJECT. JOB NO. 22: BLACK-FOOTED FERRET (MUSTELA NIGRIPES) REINTRODUCTION EVALUATION STATUS SURVEY. JANUARY 3, 1992.

Specimen:

Element Occurrence Record

Scientific Name: Prairie Dog Town

Occurrence #: 324

Eo Id: 8625

Common Name:

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: GNR

State Rank: SNR

Federal Status:

Location Information:

Directions

On Yellow House Draw in NW Lubbock; in Lubbock Lake Landmark SHP; The directions were created by database staff.

Survey Information:

First Observation: 1996

Survey Date: 1996

Last Observation: 1996

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General Description: Habitat described as short grass grassland.

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 1996; numerous sightings near transect 2

Community Information:

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

Reference:

Citation:

BRADLEY, ROBERT D. AND ROBERT J. BAKER. 1998. FINAL REPORT FOR THE FAUNAL SURVEY OF LUBBOCK LAKE LANDMARK STATE HISTORICAL PARK. FEBRUARY 5, 1998.

Specimen:

Element Occurrence Record

Scientific Name: Spilogale putorius interrupta

Occurrence #: 3

Eo Id: 7686

Common Name: plains spotted skunk

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G4T4

State Rank: S1S3

Federal Status:

Location Information:

Directions

These specimens are northwest of Lubbock, TX. Directions were created by database staff. The directions are generalized as this record consists of multiple observations.

Survey Information:

First Observation: 1963-04-29

Survey Date: Spring 1972

Last Observation: Spring 1972

Eo Type:

Eo Rank: E

Eo Rank Date: 1963-04-29

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 29 April 1963: Skin, skull, and skeleton of one adult female. This animal has been previously observed at night in a tree. Approximately 20 feet away from the base of this tree was a burrow opening 3-5 inches in diameter where the live trap was set and baited with peanut butter. Two nights later, the animal was captured.; 23 April 1970: Skin, skull, and skeleton of one male preserved specimen; Spring 1972: Skin and skull one preserved specimen of unknown sex.

Community Information:

Scientific Name:

Stratum:

Dominant:

Lifeform:

Composition Note:

Reference:

Element Occurrence Record

Citation:

Packard, Robert L., and H. W. Garner. 1964. Records of some mammals from the Texas High Plains. The Texas Journal of Science 16:387-390.

Williams, Stephen L. 1995. Letter and specimens list of 27 April to Peggy Horner, Texas Parks and Wildlife Department, Conservation Scientist, regarding Vulpes and Spilogale specimens from Museum of Texas Tech University, Lubbock, TX.

Ferguson, Adam. 2014. Texas Skunk Record Database regarding five species of skunk in Texas.

Specimen:

Museum of Texas Tech University, Texas Tech University, Lubbock, TX; L. Laws (#unknown), Catalog #793, Field #TK941434, 29 April 1963, TTU.

Museum of Texas Tech University, Texas Tech University, Lubbock, TX; R. Aucutt, S. L. Williams (#unknown), Catalog #17492, Field #TK937585, 23 April 1970, TTU.

[James Ford] Bell Museum of Natural History, University of Minnesota, St. Paul, MN; unknown (#unknown), Catalog #12567, Spring 1972, JFBM.

Element Occurrence Record

Scientific Name: Vulpes velox

Occurrence #: 9

Eo Id: 4119

Common Name: swift fox

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G3

State Rank: S1

Federal Status:

Location Information:

Directions

AIRPORT NEAR HIGHWAY (LUBBOCK AIRPORT)

Survey Information:

First Observation: 1971-06-05

Survey Date:

Last Observation: 1972-03-02

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: 2 MALES, PLUS 3 FEMALES

Community Information:

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

Reference:

Citation:

DRAGOO, JERRY W., JERRY R. CHOATE, TERRY L. YATES, AND THOMAS P. O'FARRELL. 1990. EVOLUTIONARY AND TAXONOMIC RELATIONSHIPS AMONG NORTH AMERICAN ARID-LAND FOXES. J. MAMM. 71(3):318-332.

DOWLER, ROBERT C. 1995. CORRESPONDENCE LETTER TO PEGGY HORNER OF JULY 21, 1995.

Specimen:

Element Occurrence Record

SAN ANGELO STATE UNIVERSITY, NATURAL HISTORY COLLECTION. 1971. W. THORNTON, CATALOG # 686, 687
ASNHC. 5 JUNE 1971.

SAN ANGELO STATE UNIVERSITY, NATURAL HISTORY COLLECTION. 1972. W. THORNTON, CATALOG # 696 ASNHC. 2
MARCH 1972.

Element Occurrence Record

Scientific Name: Vulpes velox

Occurrence #: 47

Eo Id: 1798

Common Name: swift fox

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status:

Global Rank: G3

State Rank: S1

Federal Status:

Location Information:

Directions

ONE MILE SOUTHEAST OF 19TH STREET AND LOOP 289

Survey Information:

First Observation:

Survey Date:

Last Observation: 1966-12-17

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments:

Protection

Comments:

Management

Comments:

Data:

EO Data: ONE FEMALE, SKIN ONLY

Community Information:

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

Reference:

Citation:

Williams, Stephen L. 1995. Letter and specimens list of 27 April to Peggy Horner, Texas Parks and Wildlife Department, Conservation Scientist, regarding Vulpes and Spilogale specimens from Museum of Texas Tech University, Lubbock, TX.

Specimen:

TEXAS TECH UNIVERSITY MUSEUM, LUBBOCK. 1966. H. GARNER, CATALOG # 3058 TTU. 17 DECEMBER 1966.