Tier I Site Assessment

Main CSJ: 0015-10-062
Form Prepared By: Melissa Cross (CP&Y, Inc.)
Date of Evaluation: January 26, 2021
Proposed Letting Date: March 2022
☐ *Project not assigned to TxDOT under the NEPA Assignment MOU*
District(s): Austin
County(ies): Travis, Williamson
Roadway Name: I-35
Limits From: SH 45N
Limits To: US 290E
Project Description: The project would add one non-tolled managed lane in each direction, and improve bicycle and pedestrian accommodations along the frontage roads and at east/west crossings.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

1. No — Is the project limited to a maintenance activity exempt from coordination?
http://txdot.gov/inside-txdot/division/environmental/maintenance-program.html

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

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

*Explain:

Suitable habitat for three state listed mussel species, the false spike (Fusconaia mitchelli), Texas fatmucket (Lampsilis bracteata), and Texas fawnsfoot (Truncilla macrodon), occurs within the project area. A presence/absence survey for mussels was conducted in 2015 with no recorded observations of these species within the project area. Therefore, impacts to these species are not anticipated.

The following 7 SGCN species have suitable habitat within the project area and may be impacted by the proposed project: cave myotis bat (Myotis velifer), eastern spotted skunk (Spilogale putorius), Mexican free-tailed bat (Tadarida brasiliensis), Woodhouse's toad (Anaxyrus woodhousii), Texas shiner (Notropis amabilis), tree dodder (Cuscuts axaltata), and Correll's false dragonhead (Physostegia correllii). SGCN were analyzed and only those included on the Tier 1 form may be impacted. All other SGCN will not be impacted by the project.

A presence/absence survey performed on August 16, 2019 was completed by a CP&Y biologist to determine the presence of bats beneath bridges in the project area. Unknown species of bats were determined to be present at the following bridges: Wells Branch, Howard Lane, and Walnut Creek. No signs of bats were observed at the remaining bridges within the project area during the 2019 survey. Additional surveys have been conducted by TxDOT that documented the Mexican free-tailed bat on bridges in the project area.

Date TPWD County List Accessed: January 26, 2021

Date that the NDD was accessed: January 21, 2021

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
13944	Guadalupe Bass	*Micropterus treculiiuadalupe*	SGCN	1.5 Mile
6994	Texas Garter Snake	*Thamnophis sirtalis annectens*	SGCN	1.5 Mile
6167	Texas Garter Snake	*Thamnophis sirtalis annectens*	SGCN	1.5 Mile
11359	Correll's false dragon-head	*Physostegia correllii*	SGCN	1.5 Mile
11065	Texas fescue	*Festuca versuta*	SGCN	1.5 Mile
3207	Colonial Wading Bird Colony	*Rookery*	Protected in State	1.5 Mile
3192	Heller's marbleseed	*Onosmodium helleri*	SGCN	1.5 Mile
10554	Texas almond	*Prunus minutiflora*	SGCN	1.5 Mile
10725	Texas almond	*Prunus minutiflora*	SGCN	1.5 Mile
6206	Heller's marbleseed	*Onosmodium helleri*	SGCN	1.5 Mile
2528	Buckley tridens	*Tridens buckleyanus*	SGCN	1.5 Mile
2399	Glass Mountain coral root	*Hexalectris nitida*	SGCN	1.5 Mile
11976	Vertisol Blackland Prairie	*Schizachyrium scoparium - Sorghastrum nutans - Andropogon gerardii - Bifora Americana*	Protected in State	1.5 Mile
11975	Vertisol Blackland Prairie	*Schizachyrium scoparium - Sorghastrum nutans - Andropogon gerardii - Bifora Americana*	Protected in State	1.5 Mile
11974	Vertisol Blackland Prairie	*Schizachyrium scoparium - Sorghastrum nutans - Andropogon gerardii - Bifora Americana*	Protected in State	1.5 Mile
SF 38021	Texas Garter Snake	*Thamnophis sirtalis annectens*	SGCN	1.5 Mile
SF 38798	Mexican free-tailed bat	*Tadarida brasiliensis*	SGCN	1.5 Mile

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

Comments:

All bat, skunk, amphibian, and fish species are adequately covered in the BMP PA. Bat BMPs are being coordinated with TPWD and bat conservation groups.

No species specific BMPs exist for the tree dodder and Correll's false dragonhead.

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

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

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:

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

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

*Explain:

The project area was field verified to contain 4.0 acres of riparian vegetation within easements.

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 project area was verified to contain 4.0 acres of riparian vegetation along intermittent and perennial creeks within the project area. This exceeds the Riparian Vegetation threshold as indicated in the Threshold Table Programmatic Agreement.

*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:

CapExNorth_EMSTVeg_Summary.xls

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

*Explain:

The project area was mapped as having 0.1 acre of Agriculture MOU Vegetation type, 4.5 acres of Edwards Plateau, Savannah, Woodland, and Shrubland MOU Vegetation type, 0.9 acre of Tallgrass Prairie, Grassland MOU Vegetation type, 4.0 acres of Riparian MOU Vegetation type, 2.1 acres of Disturbed Prairie MOU Vegetation type, and 688.3 acres of Urban MOU Vegetation type. The project area was field verified to have 0.0 acre of Agriculture MOU Vegetation type, 1.9 acres of Edwards Plateau, Savannah, Woodland, and Shrubland MOU Vegetation type, 0.01 acre of Tallgrass Prairie, Grassland MOU Vegetation type, Grassland MOU Vegetation type, 4.0 acres of Riparian Vegetation MOU type, 1.0 acre of Disturbed Prairie MOU Vegetation type, and 693.0 acres of Urban Vegetation MOU Vegetation type.

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

CapExNorth_EMSTVeg_Summary.xls, Figure 6, Figure 7

Is TPWD Coordination Required?

Yes

- [x] Early Coordination
- [ ] Administrated Coordination - Must be conducted through ENV-NRM

BMPs Implemented or EPICs included (as necessary):

Bat BMPs (cave myotis bat, Mexican free-tailed bat):
• For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.
• For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.
• If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.
• Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50°F AND minimum daytime temperatures are above 70°F. Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, installation of alternate roosts is recommended to replace the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area. See Section 2: Standard Recommendations for recommended acceptable methods for excluding bats from structures.
• If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features, as practicable.
• In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.

Amphibian BMPs (Woodhouse's Toad)
• Contractors will be advised of potential occurrence in the project area and to avoid harming the species if encountered.
• Minimize impacts to wetland, temporary and permanent open water features, including depressions and riverine habitats.
• Maintain hydrologic regime and connections between wetlands and other aquatic features.
• Apply hydromulching and/or hydroseeding in areas for soil stabilization and/pr re-vegetation of disturbed areas where feasible. If hydro mulching and/or hydroseeding area not feasible due to site conditions, using erosion control blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.
• Project specific locations (PSLs) proposed within state-owned ROW should be located in upland away from aquatic features.
• Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter, which may be refugia for terrestrial amphibians, where feasible.

Fish BMPs (Texas Shiner)
Because work will occur within the OHWM of Little Walnut Creek coordination with TPWD will be required. The following Water Quality BMPs should be implemented:
• Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
• When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.

For the eastern spotted skunk, tree dodder and Correll's false dragonhead contractors will be advised of potential occurrence in the project area and to avoid harming the species if encountered.

TxDOT Contact Information

Name:

Phone Number:

E-mail:

Suggested Attachments

Aerial Map (with delineated project boundaries)

USFWS T&E List

TPWD T&E List

Species Analysis Summary

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)

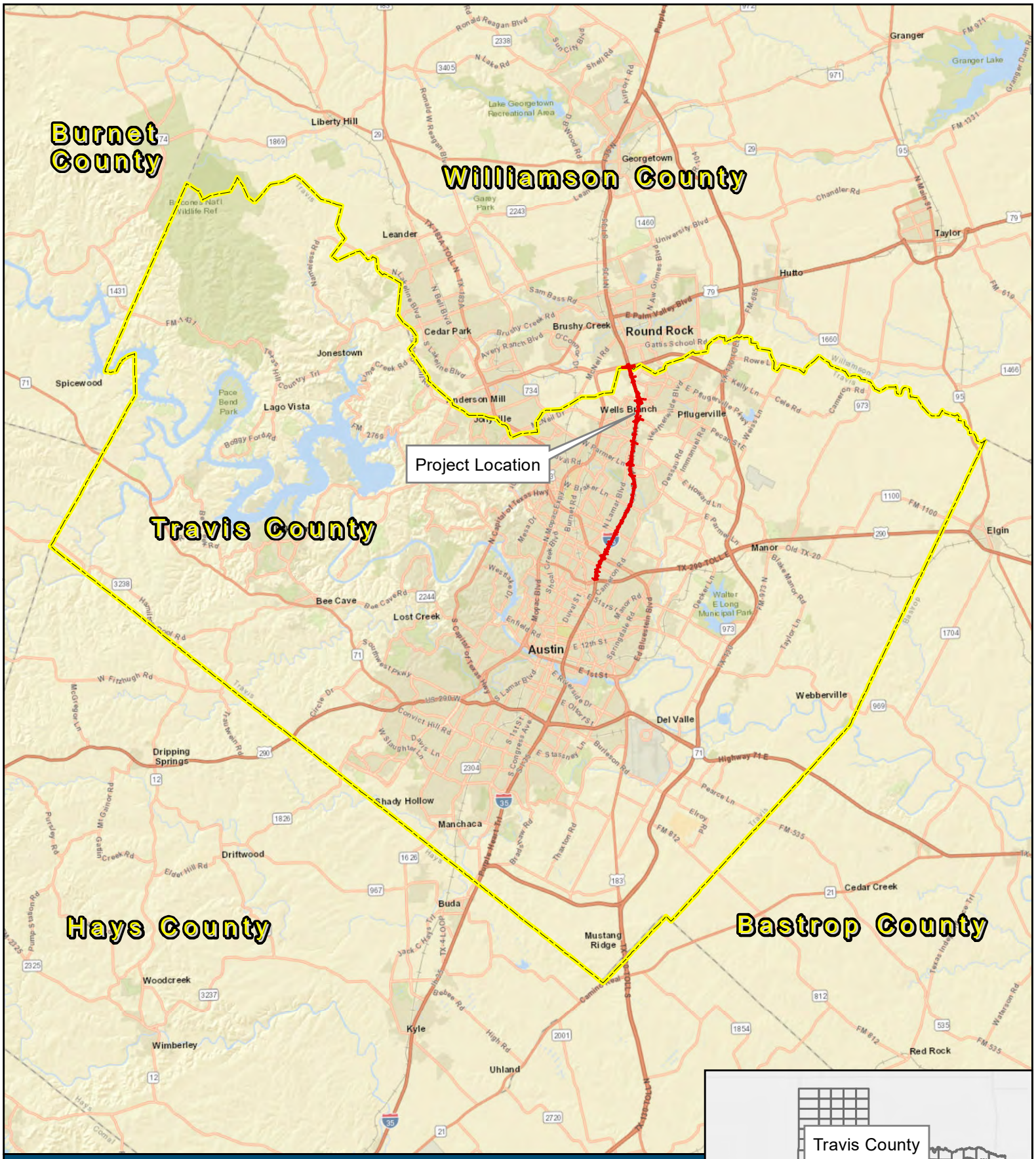


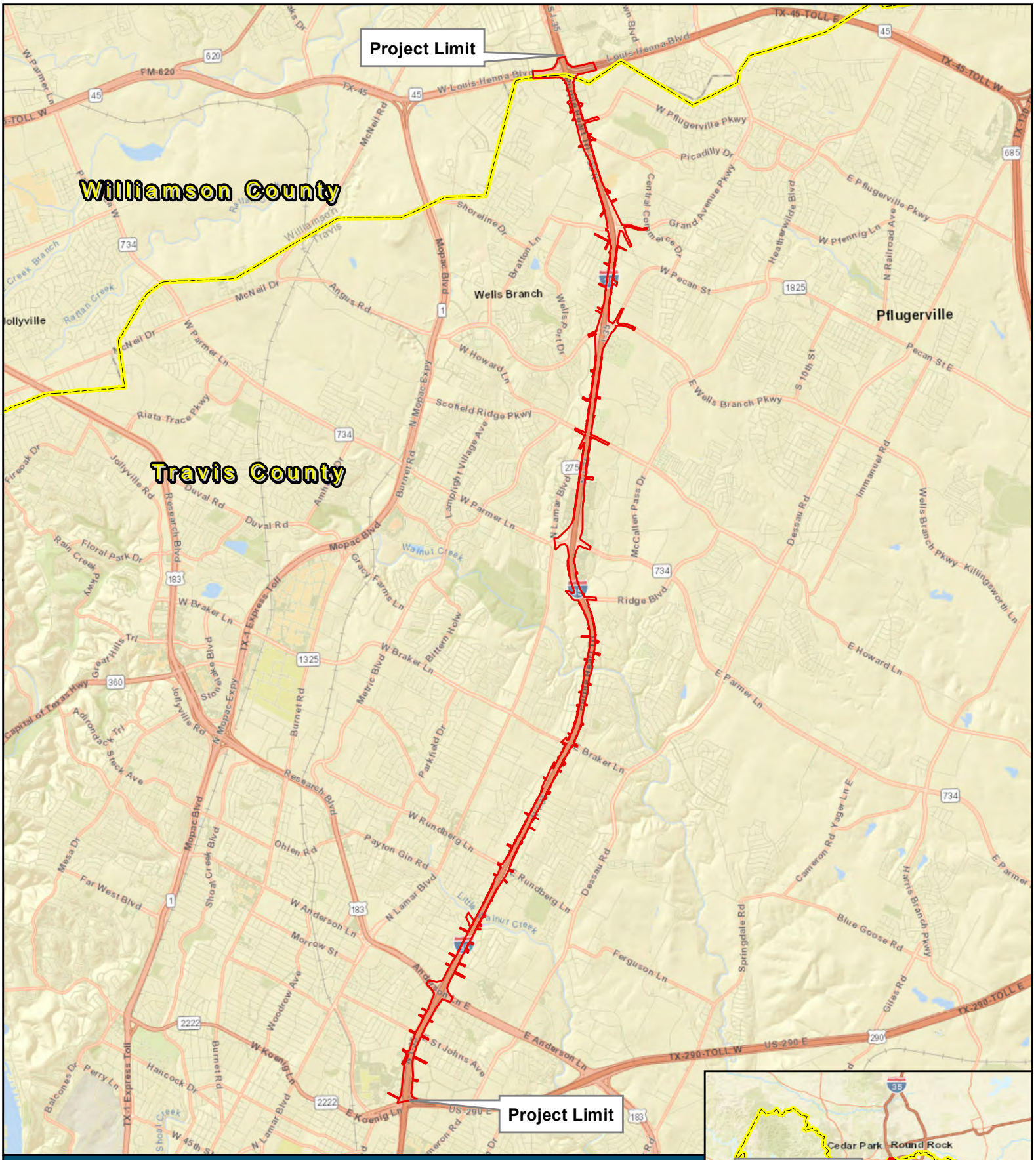
Figure 1: Project Vicinity

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Project Area
County Boundary

0 5.5 11 Miles

Source: ESRI Street Map 2019



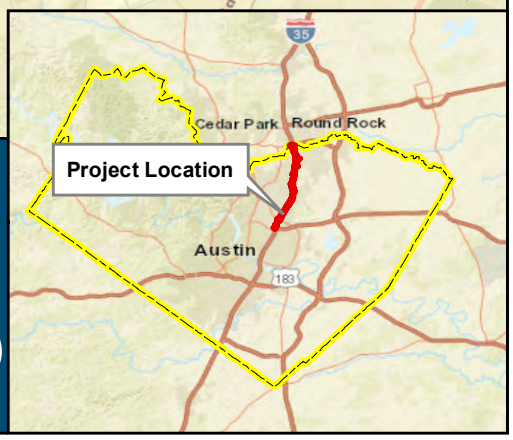


Figure 2: Project Location

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Project Area

County Boundary

0 0.85 1.7 Miles

Source: ESRI Street Map 2019

Figure 3: Project Location (Aerial)

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Existing ROW
Proposed ROW
Existing Drainage Easement
Proposed Drainage Easement
Driveway License Area
County Boundary

0 500 1,000 Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019

Figure 3: Project Location (Aerial)

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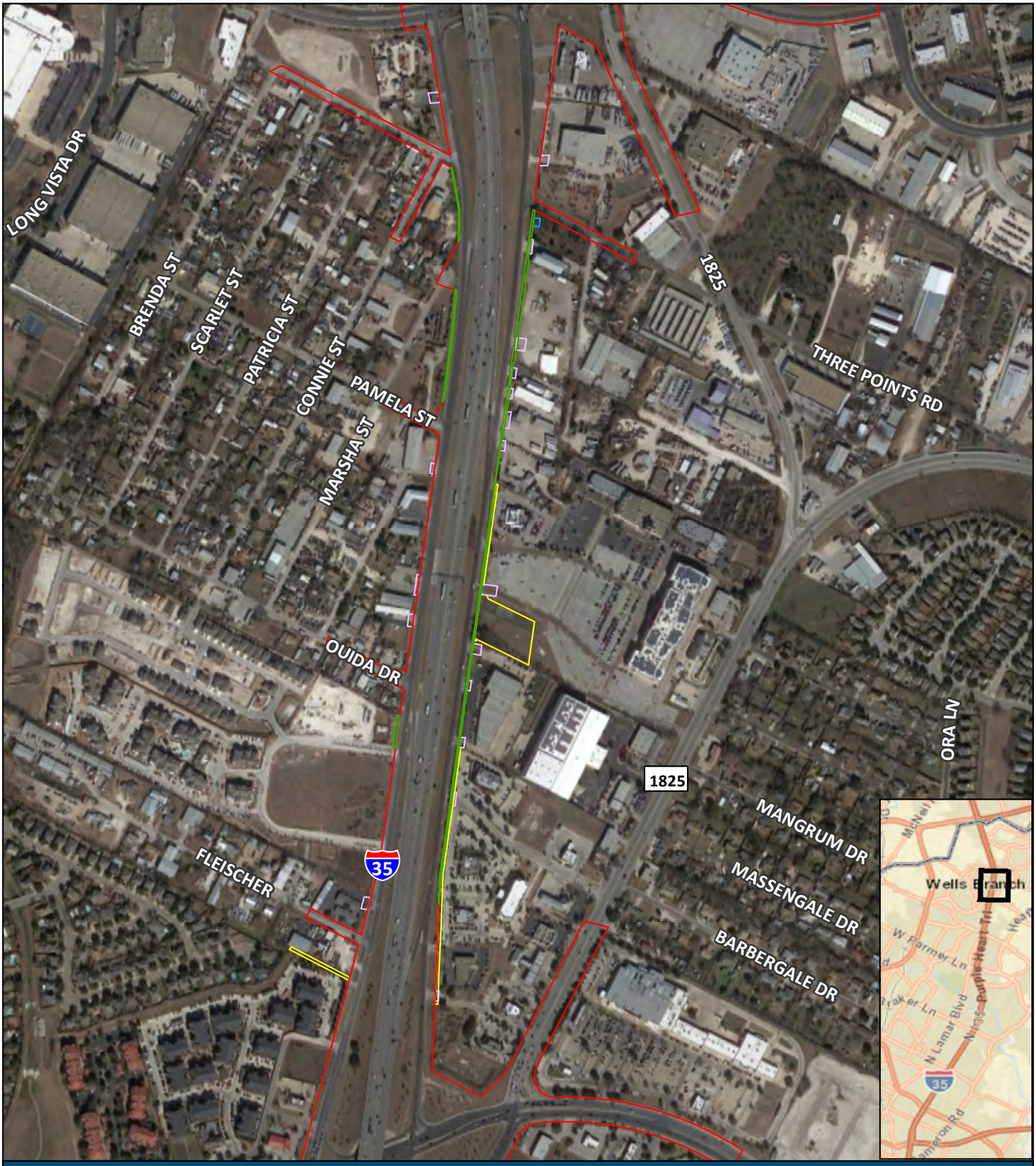
Driveway License Area
County Boundary

0 500 1,000 Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019



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From SH 45N to US 290E
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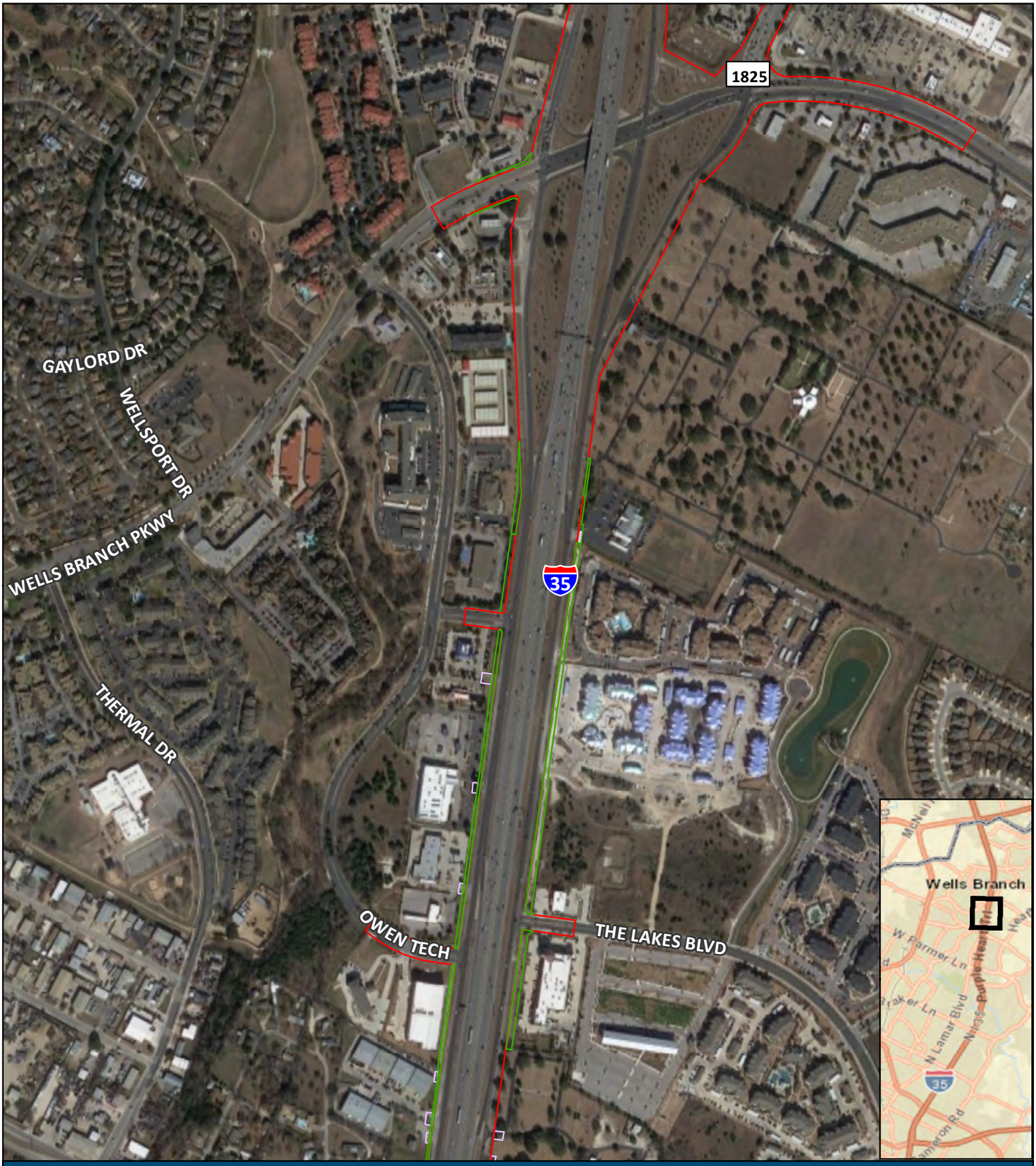
Existing ROW
Proposed ROW
Existing Drainage Easement
Proposed Drainage Easement
Driveway License Area
County Boundary

0 500 1,000 Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019



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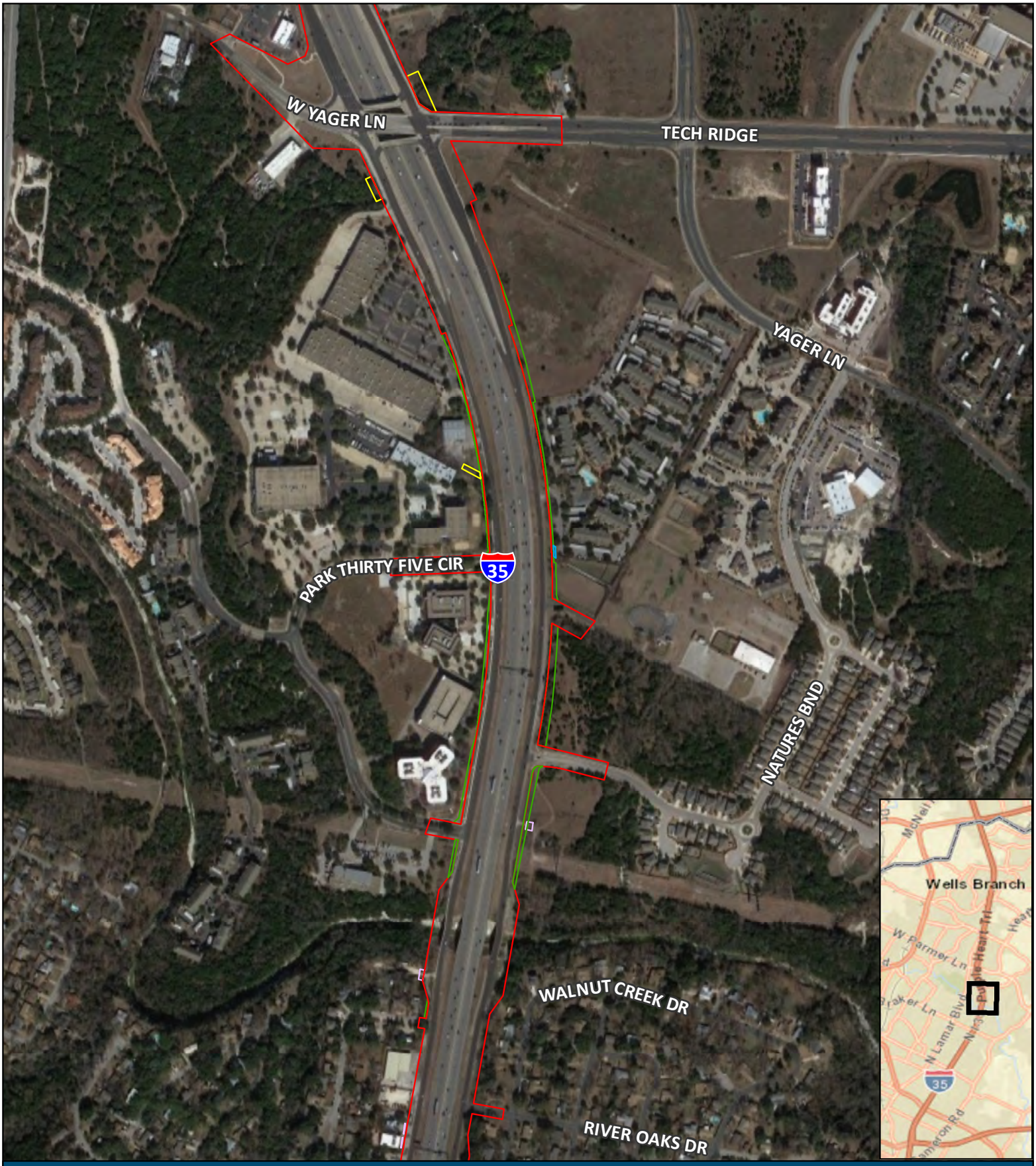

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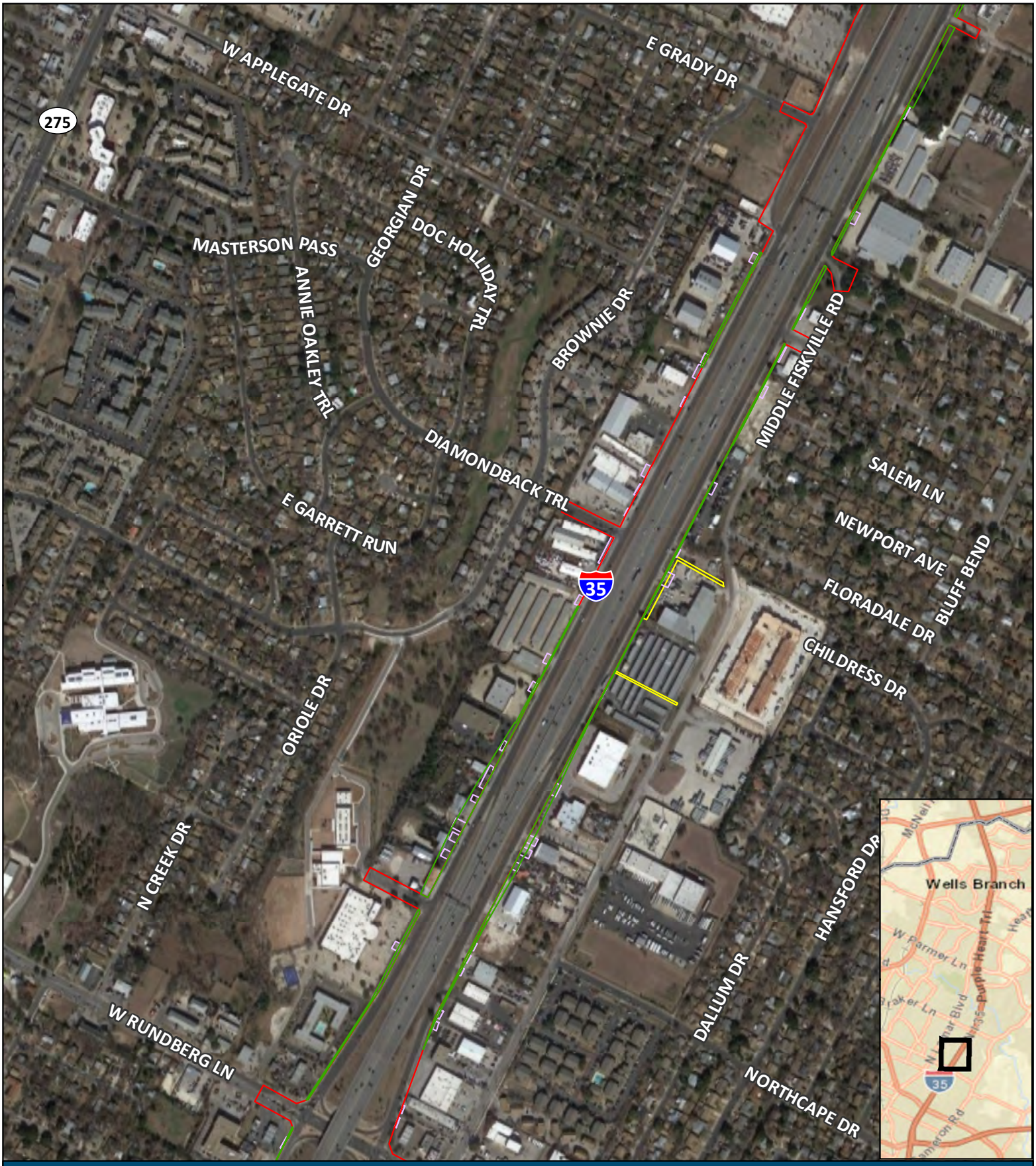

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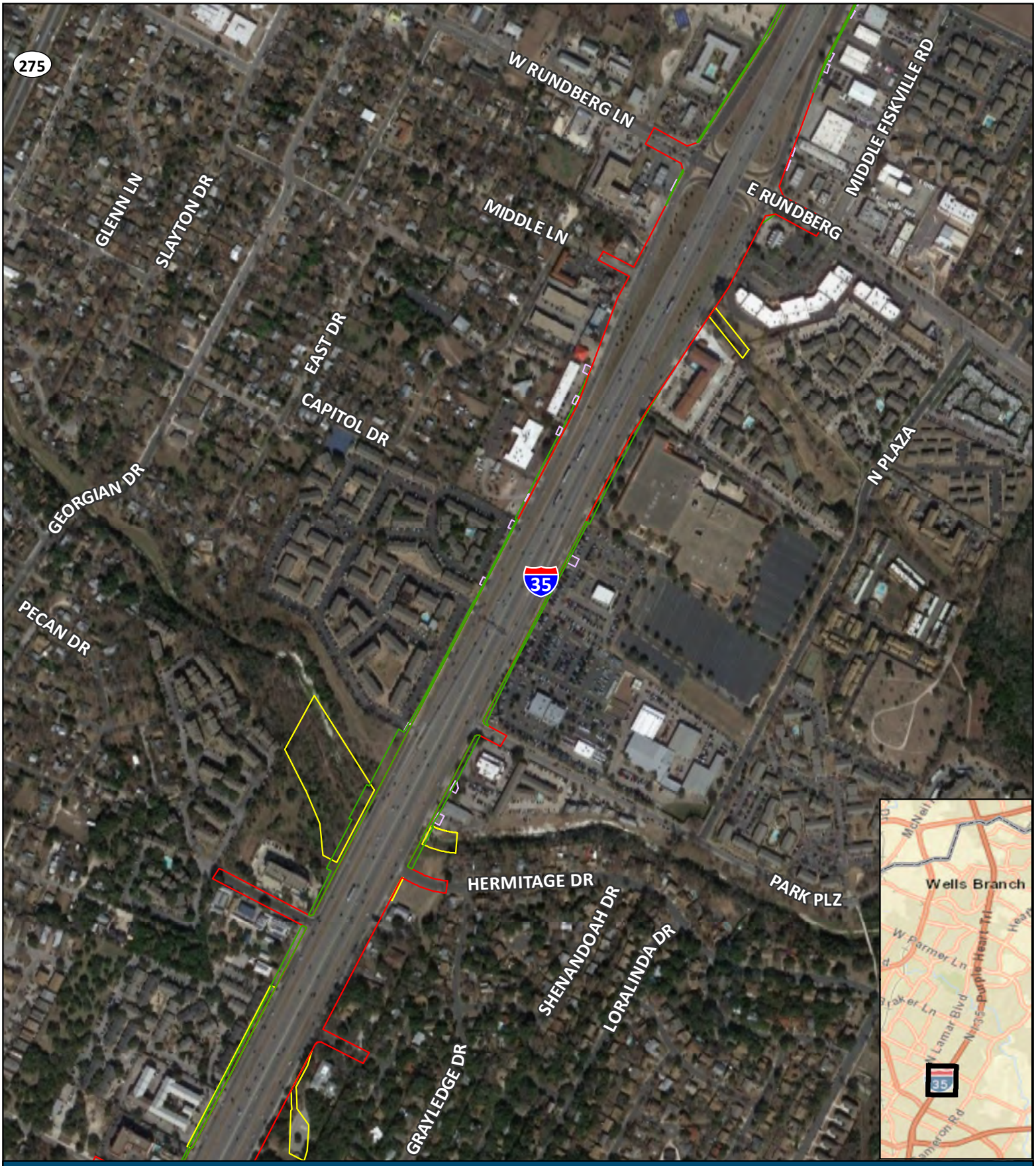

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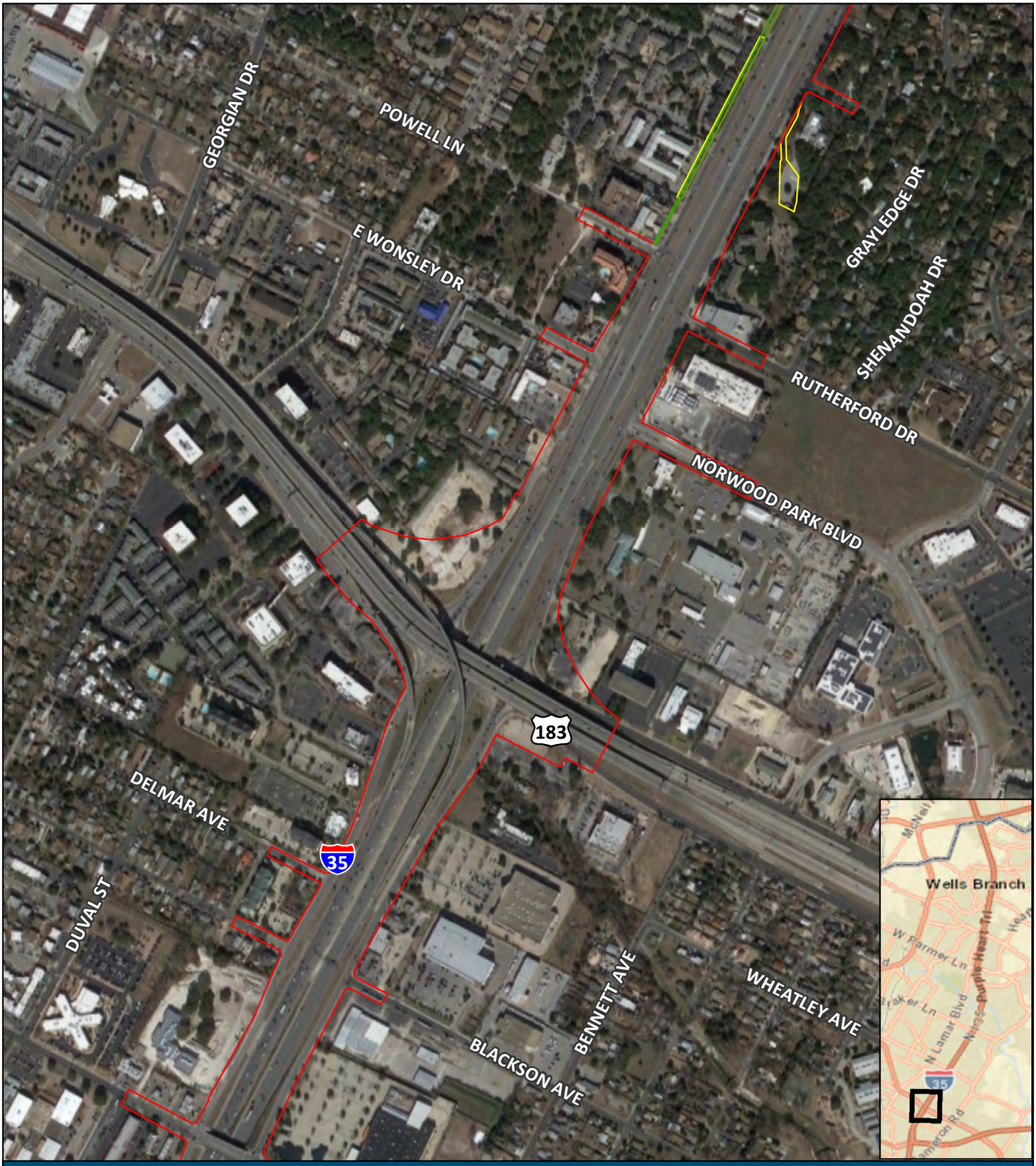

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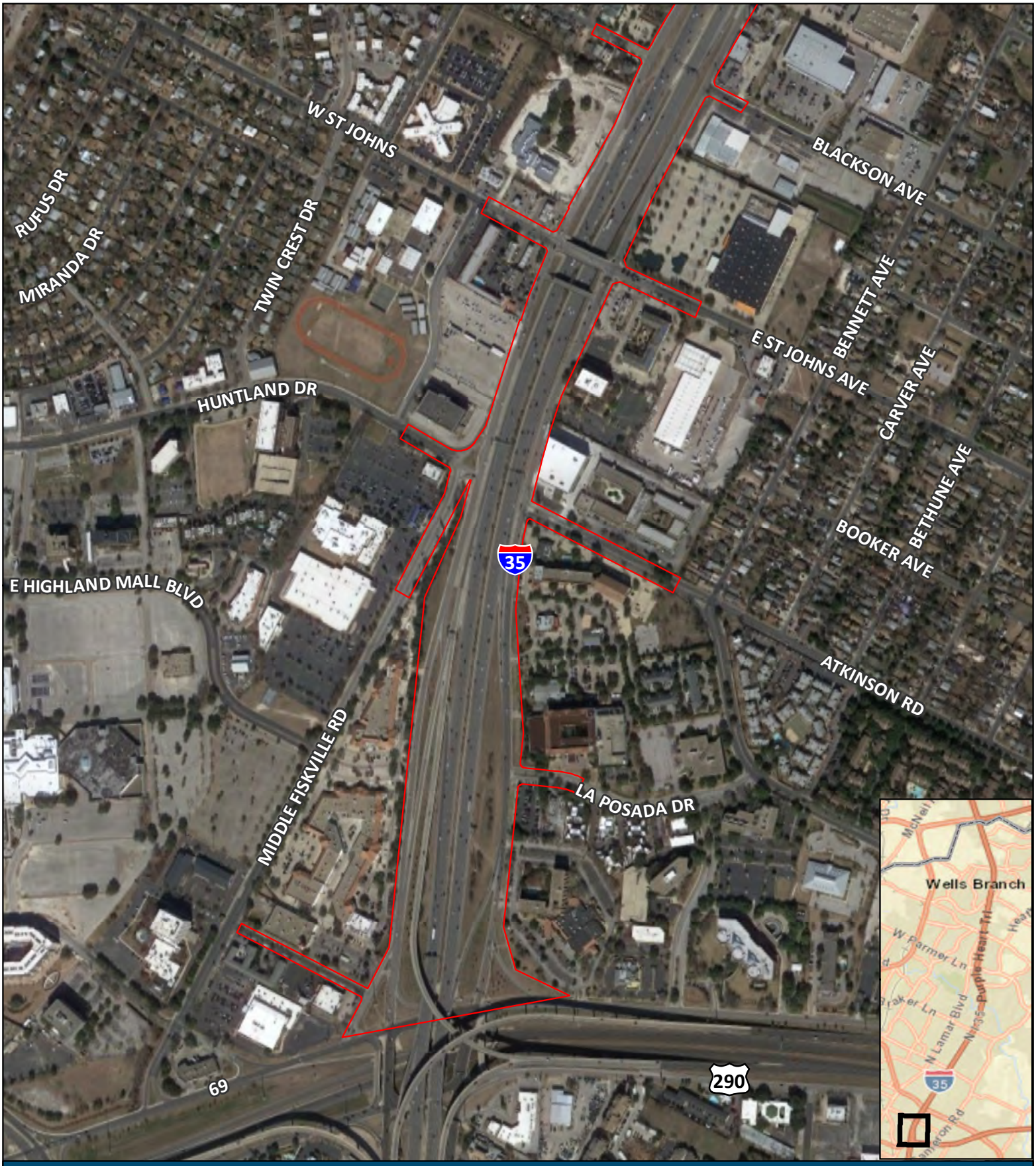

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Figure 4: Water Resources

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
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Source: Texas Google Imagery 2018, ESRI Street Map 2019, TPWD 2019

- Existing ROW
- Proposed ROW
- Existing Drainage Easement
- Proposed Drainage Easement
- Driveway License Area
- 100-Yr Floodplain
- Creek or Stream
- NHD Waterbody
- NWI
- County Boundary

0 400 800
Feet

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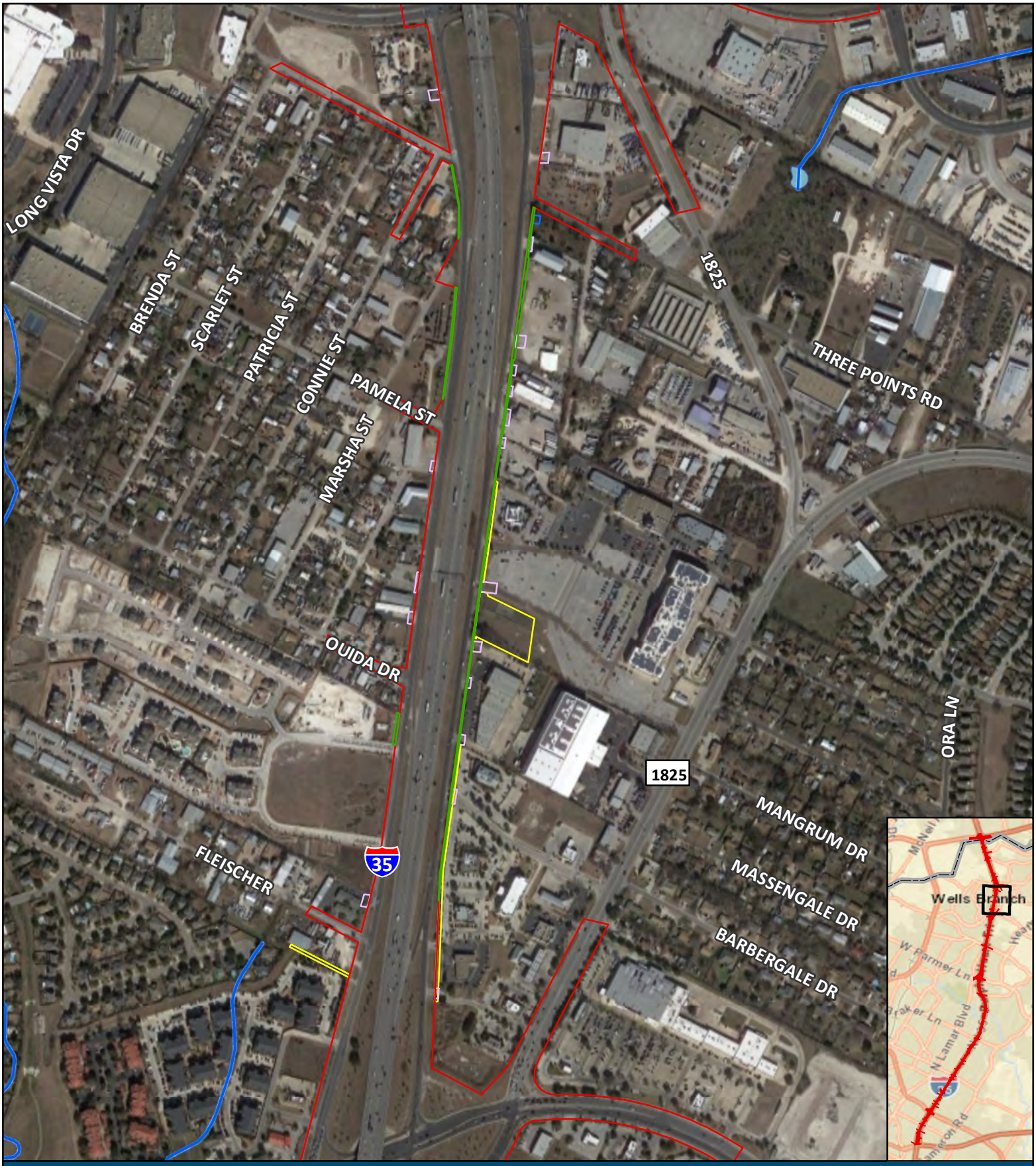

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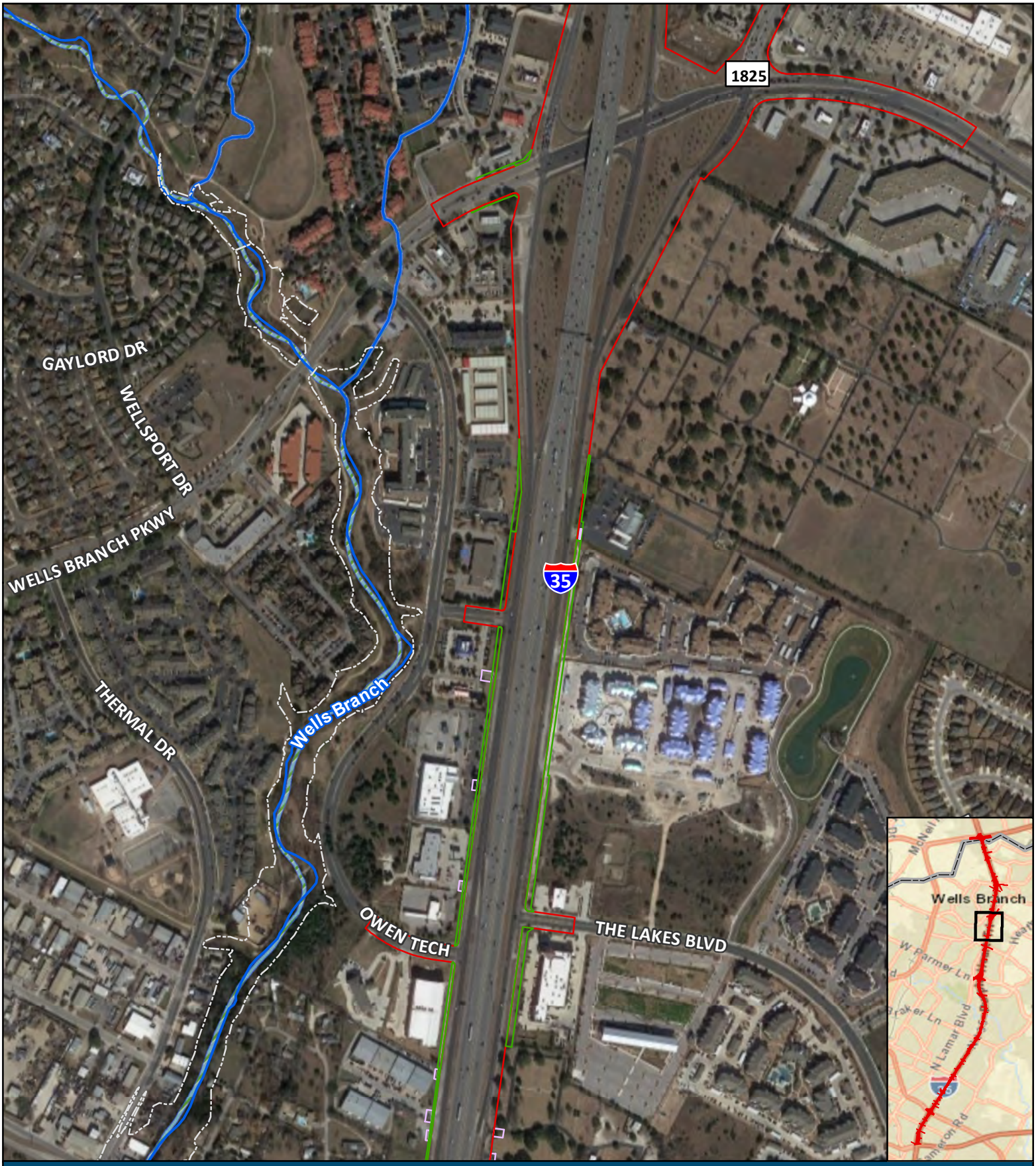

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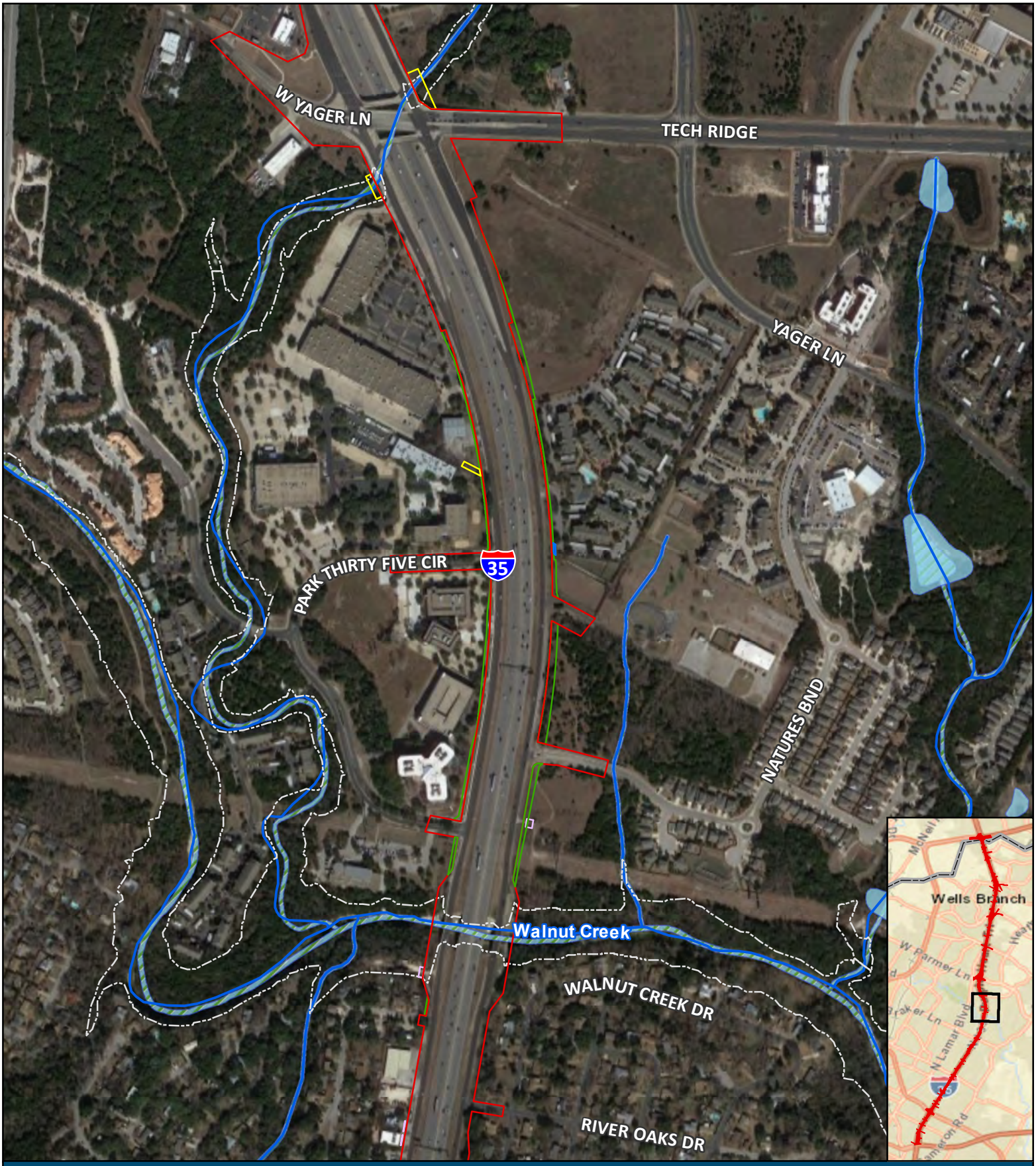

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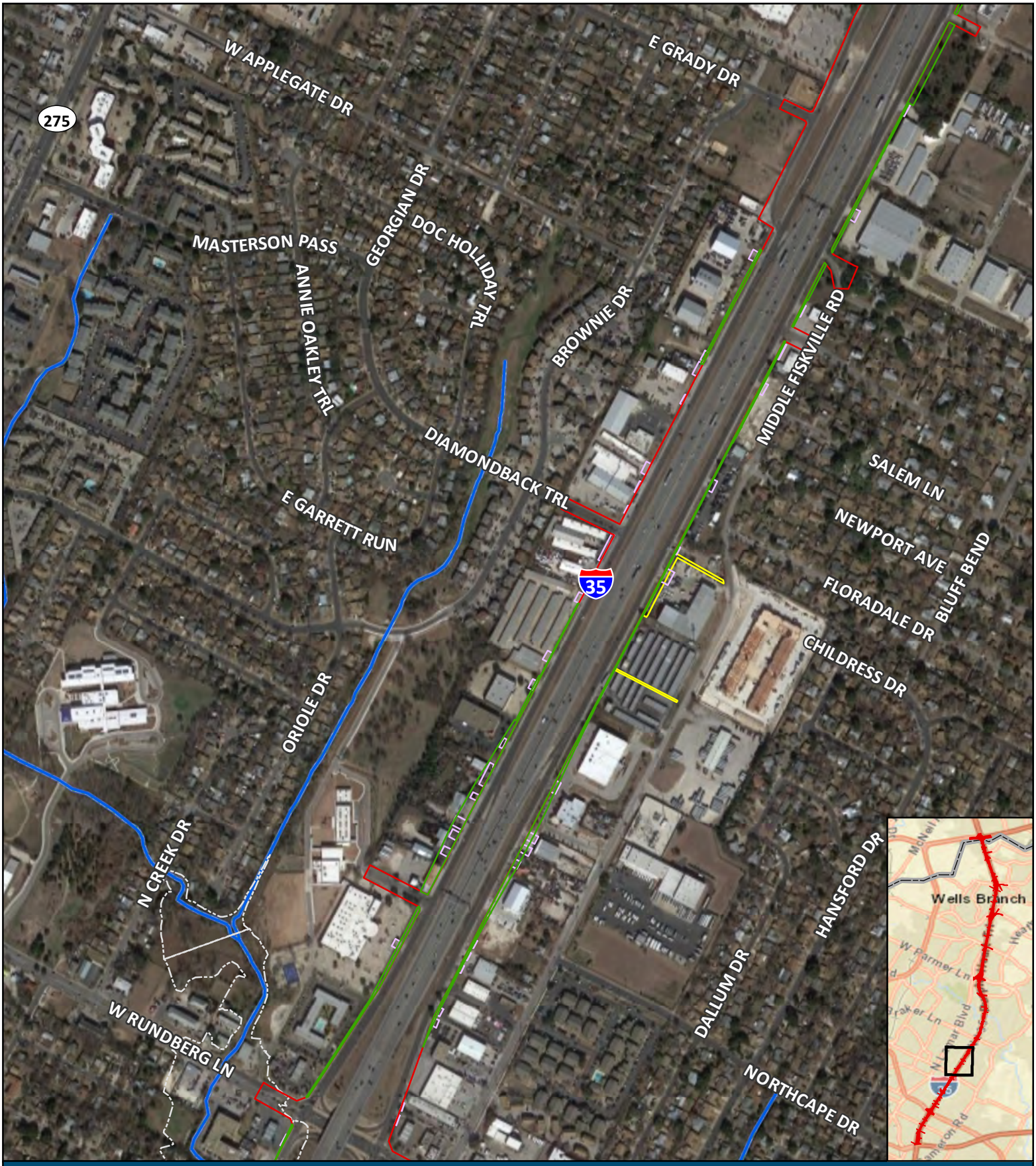

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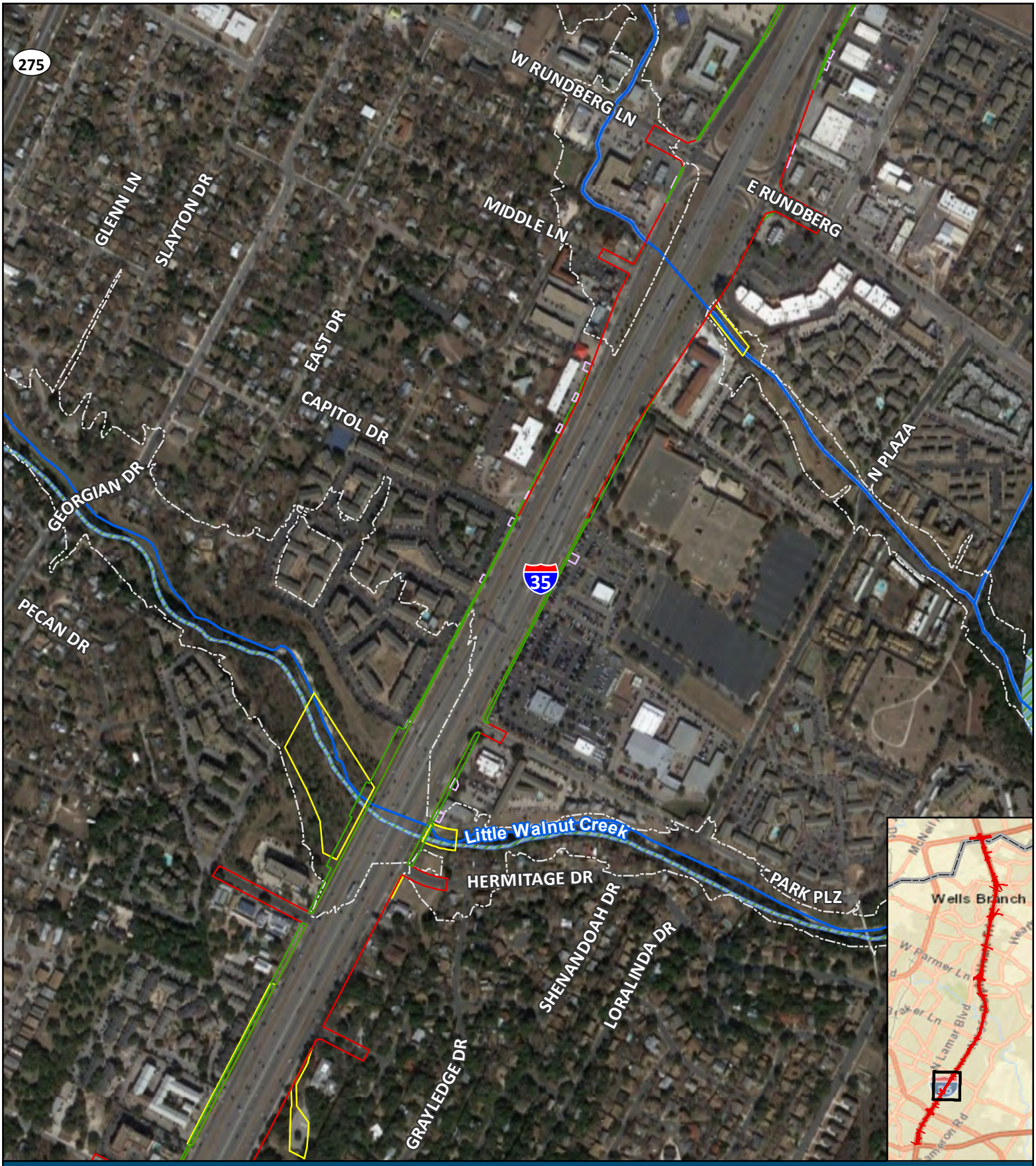

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0015-13-389

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TPWD 2019

- Existing ROW
- Proposed ROW
- Existing Drainage Easement
- Proposed Drainage Easement
- Driveway License Area
- 100-Yr Floodplain
- Creek or Stream
- NHD Waterbody
- NWI
- County Boundary

0 400 800
Feet

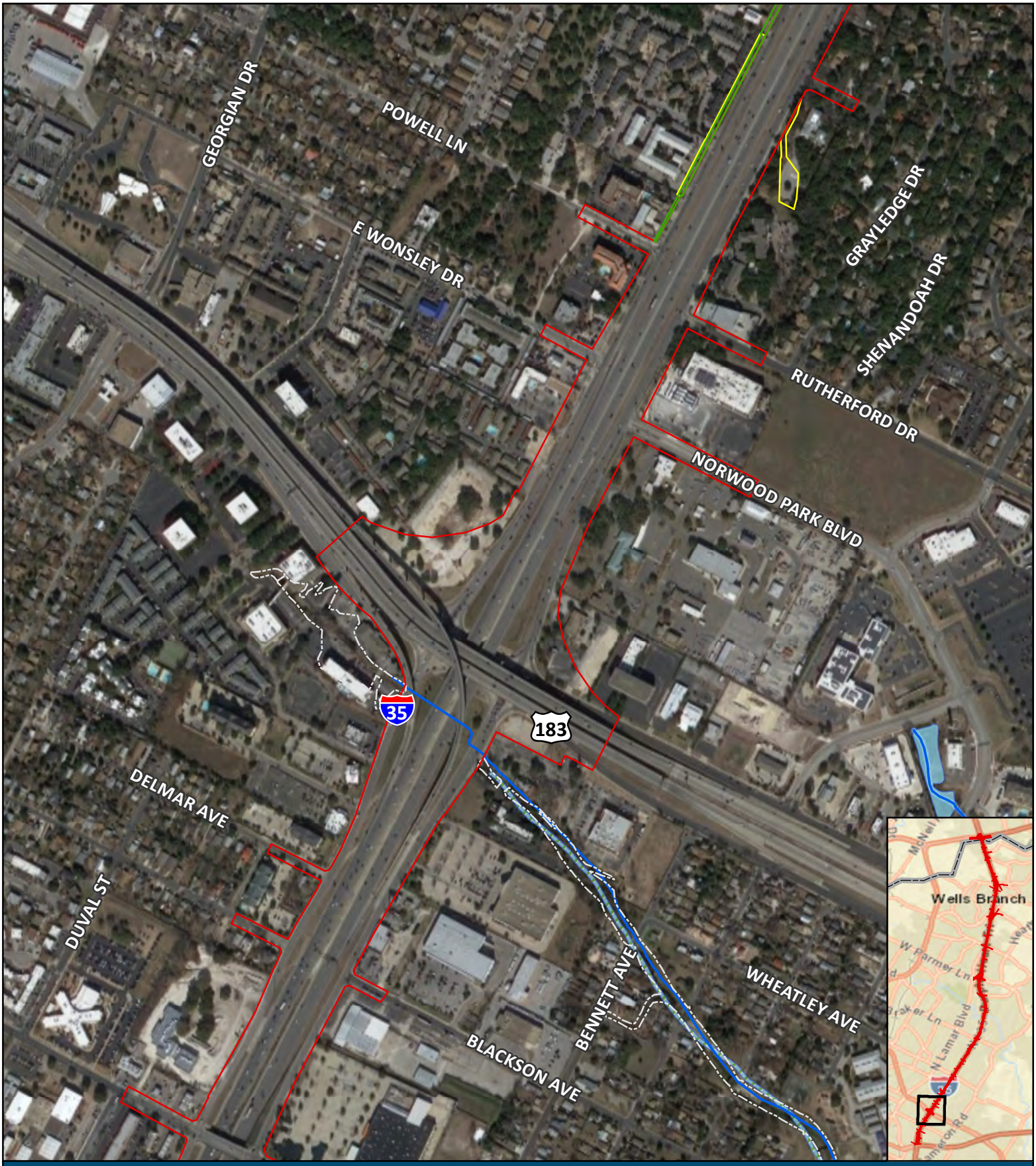

Figure 4: Water Resources

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TPWD 2019

- Existing ROW
- Proposed ROW
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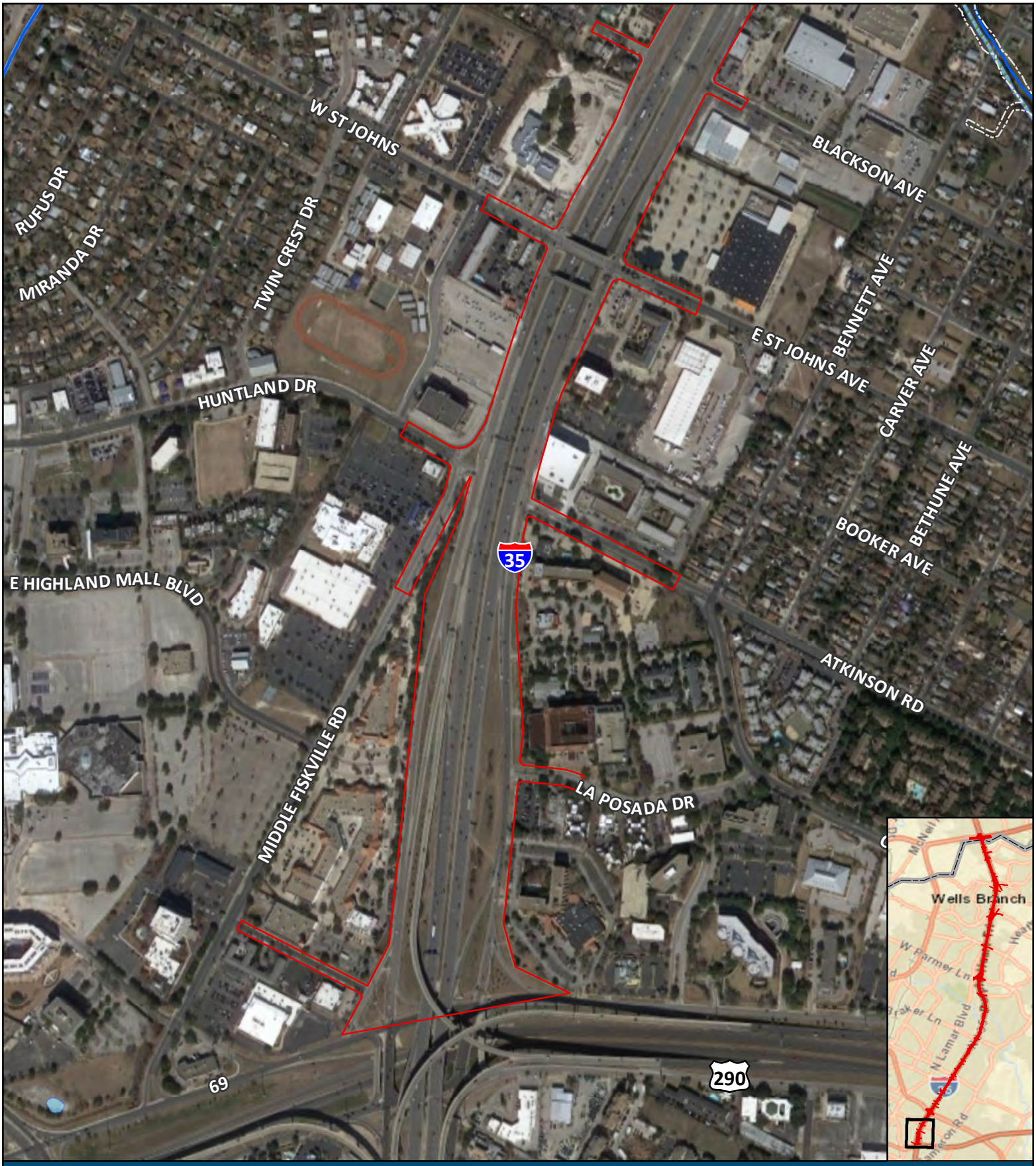

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Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
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Feet

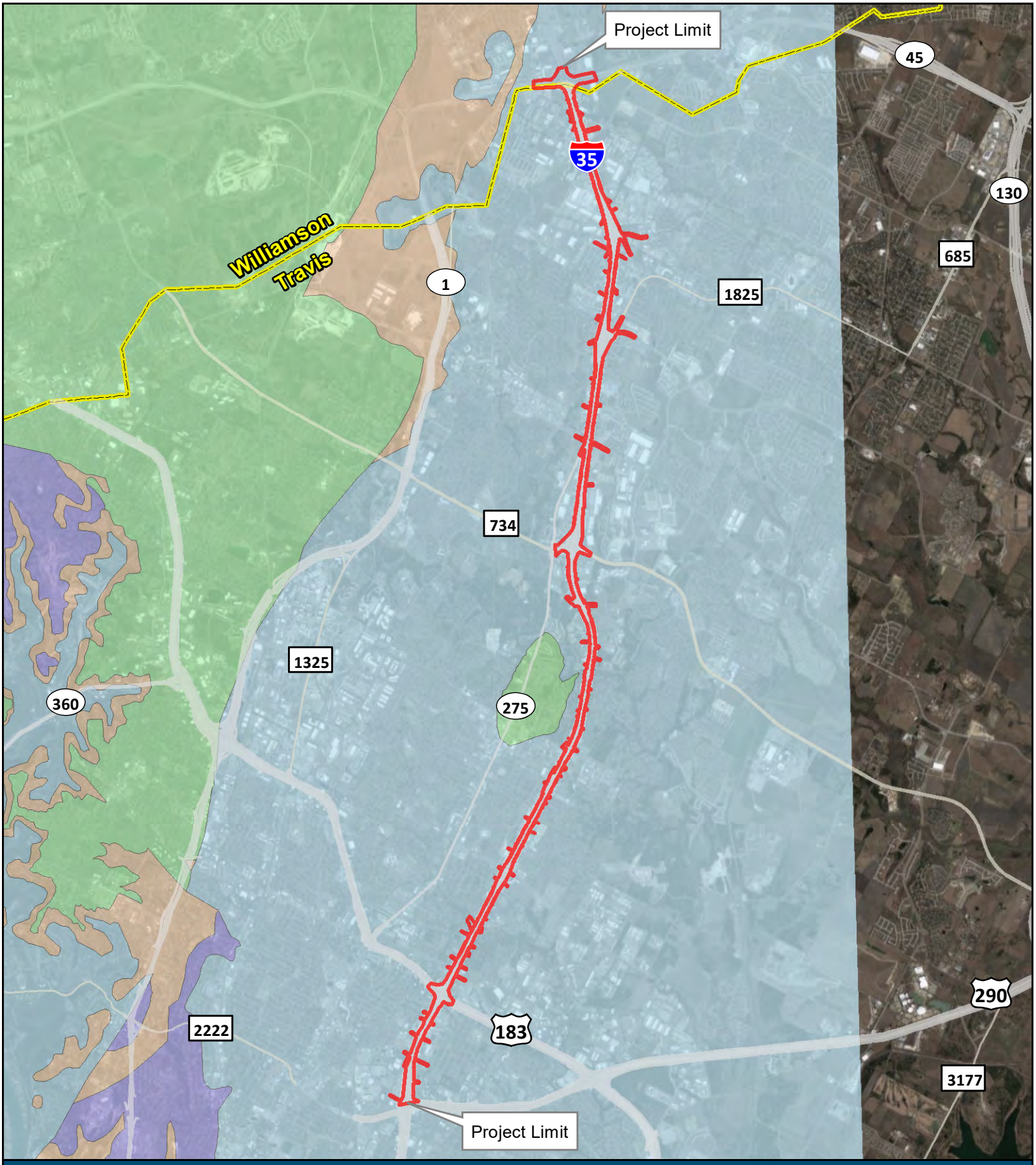

Figure 5: Karst Zones

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Source: Texas Google Imagery 2018, ESRI Street Map 2019

Project Area
County Boundary

Karst Zone
Zone 1
Zone 2
Zone 3
Zone 4

0 1 2
Miles

Figure 6: Mapped Vegetative Communities

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Project Area

County Boundary

0 500 1,000
Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018

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Capital Express North
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CSJs: 0015-10-062,
0015-13-389

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County Boundary

0 500 1,000
Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018

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Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018

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Feet

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Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018

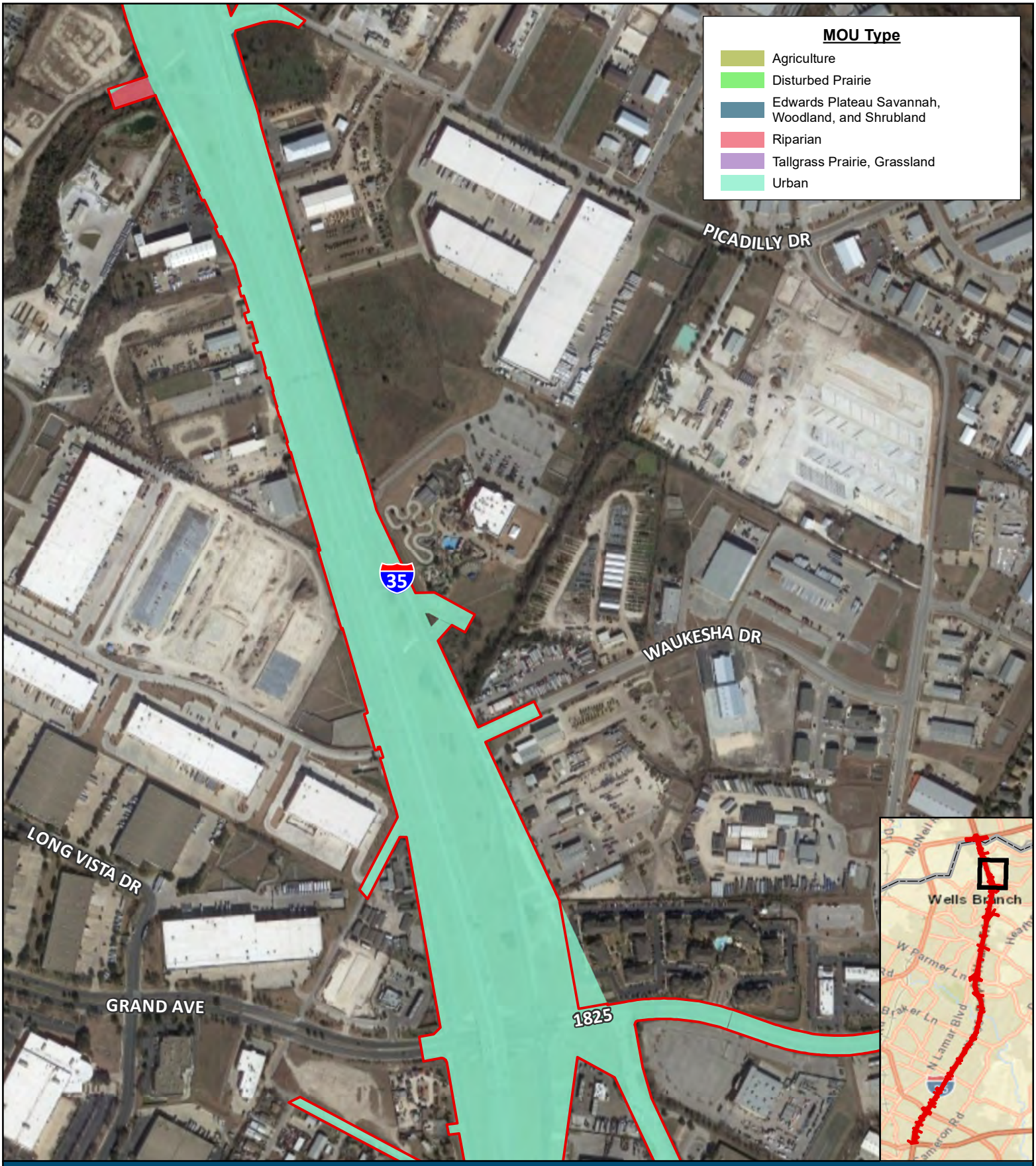
Figure 7: Verified Vegetative Communities

Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Project Area
County Boundary

0 500 1,000
Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018



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Capital Express North
From SH 45N to US 290E
Travis & Williamson Counties, TX
CSJs: 0015-10-062,
0015-13-389

Project Area
County Boundary

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Feet

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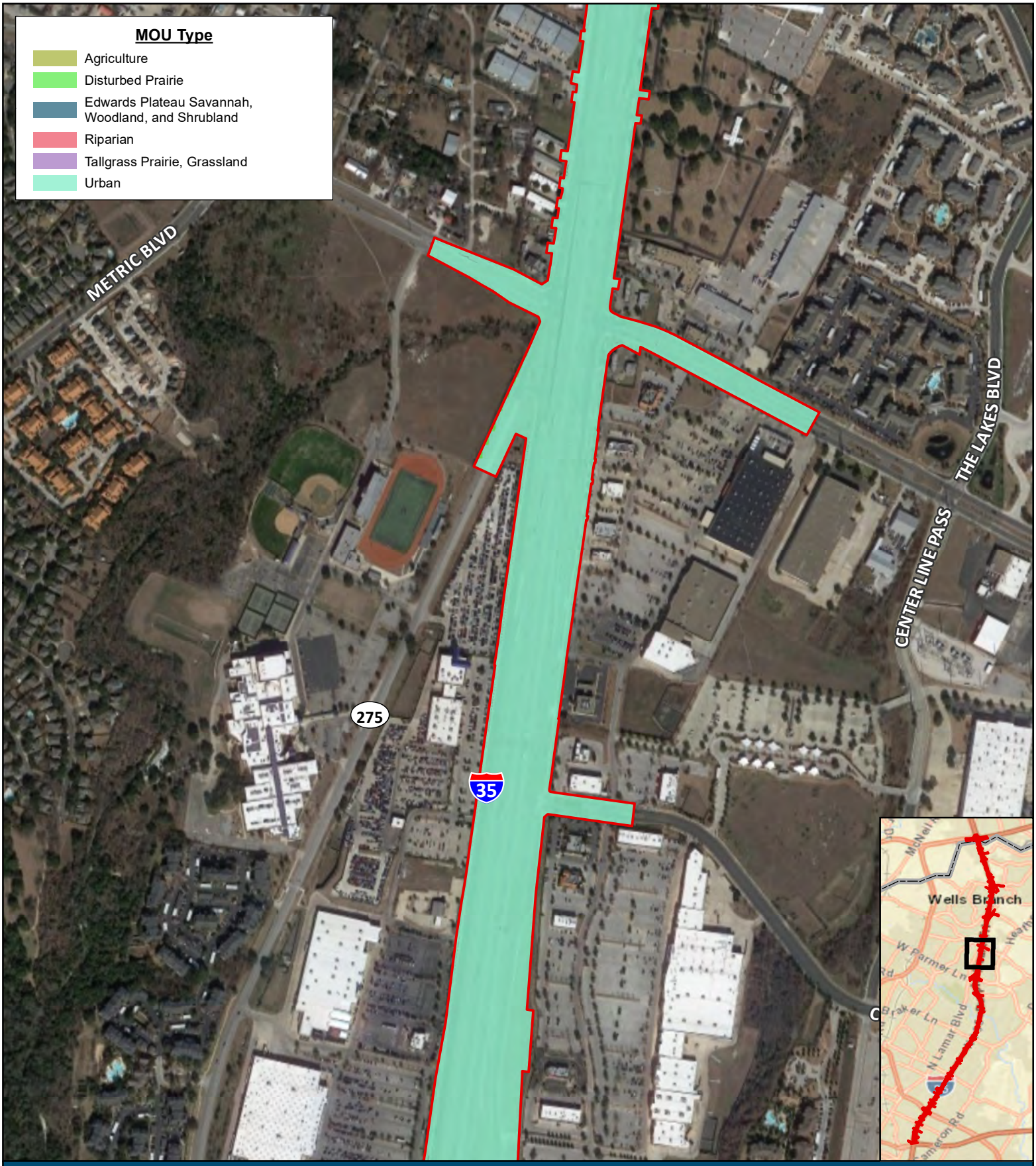

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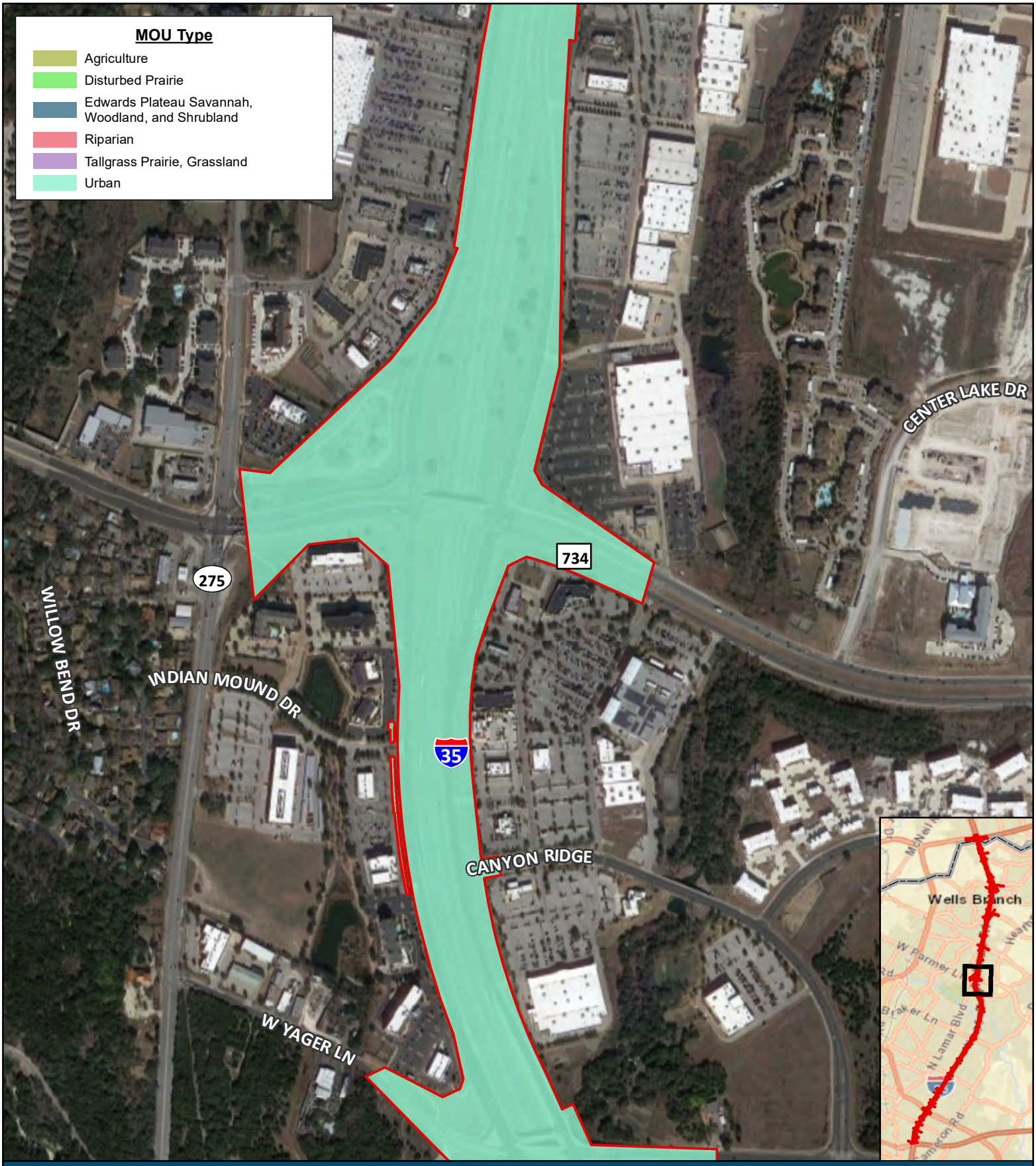

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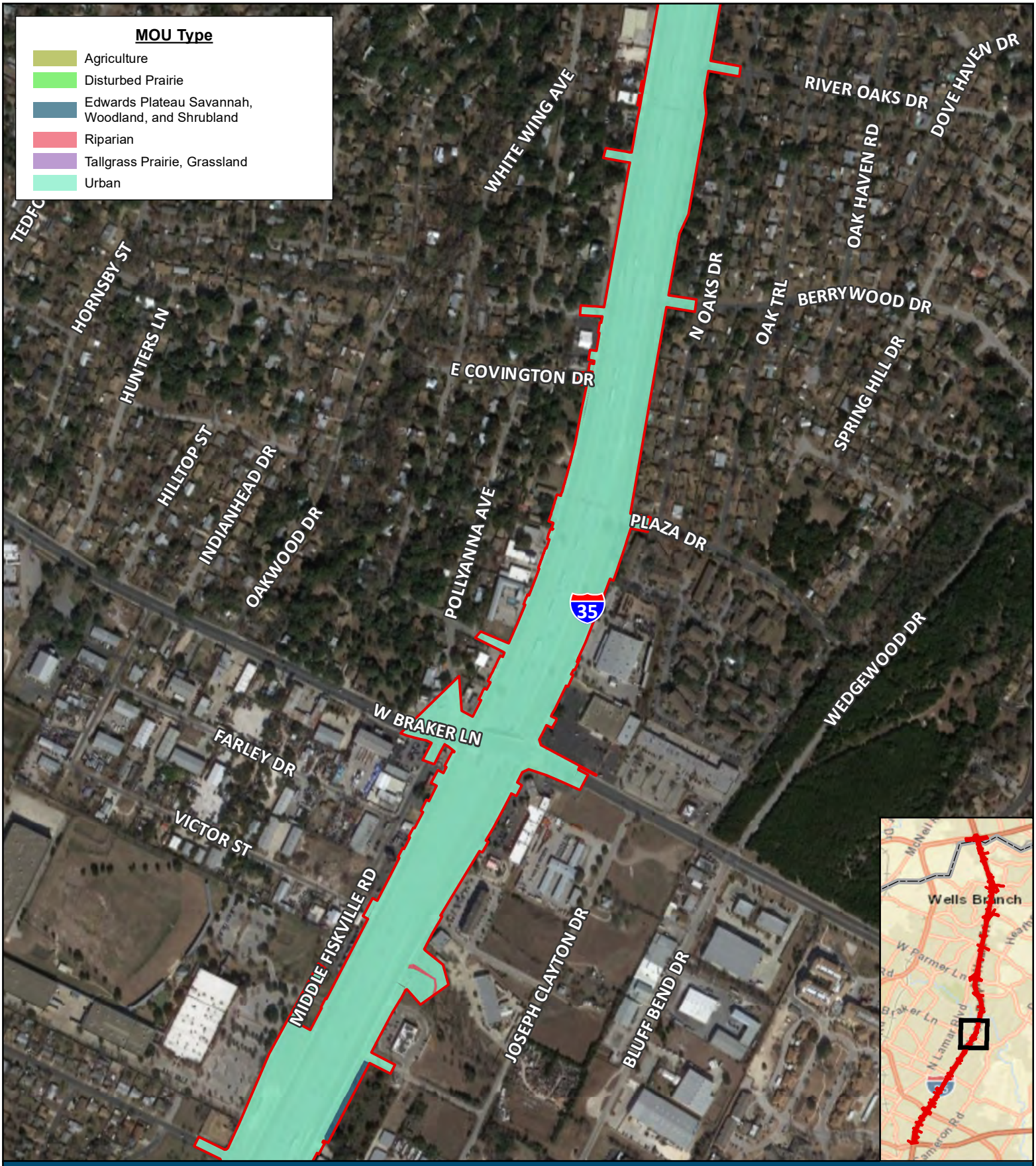

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0015-13-389

Project Area
County Boundary

0 500 1,000
Feet

Source: Texas Google Imagery 2018, ESRI Street Map 2019, TxDOT 2018

This page has been redacted as it identifies the locations of sensitive resources.

United States Department of the Interior

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

In Reply Refer To: January 26, 2021
Consultation Code: 02ETAU00-2021-SLI-0633
Event Code: 02ETAU00-2021-E-01370
Project Name: Capital Express North (I-35)

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

To Whom It May Concern:

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

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

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

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

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

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered

Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

Migratory Birds

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

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

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

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php.

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

Attachment(s):

- Official Species List

Official Species List

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

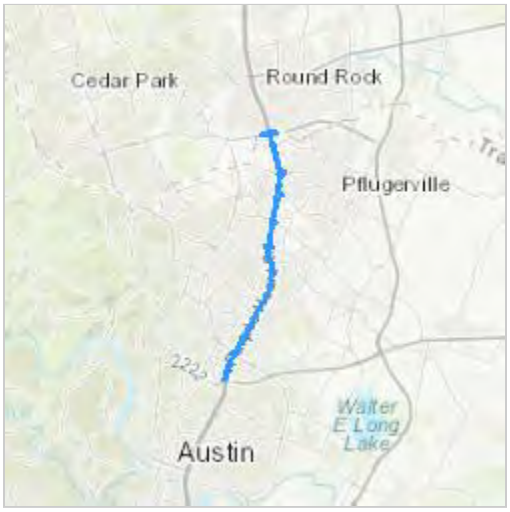
This species list is provided by:

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

Project Summary

Consultation Code: 02ETAU00-2021-SLI-0633
Event Code: 02ETAU00-2021-E-01370
Project Name: Capital Express North (I-35)
Project Type: TRANSPORTATION
Project Description: The project would add one non-tolled managed lane in each direction, and improve bicycle and pedestrian accommodations along the frontage roads and at east/west crossings.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.40250935000003,-97.6747450381724,14z



Counties: Travis and Williamson counties, Texas

Endangered Species Act Species

There is a total of 20 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 2 of these species should be considered only under certain conditions.

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

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

Birds

NAME	STATUS
Golden-cheeked Warbler (=wood) *Dendroica chrysoparia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/33	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Amphibians

NAME	STATUS
Austin Blind Salamander *Eurycea waterlooensis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5737	Endangered
Barton Springs Salamander *Eurycea sosorum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1113	Endangered
Georgetown Salamander *Eurycea naufragia* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7278	Threatened
Jollyville Plateau Salamander *Eurycea tonkawae* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3116	Threatened
Salado Salamander *Eurycea chisholmensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3411	Threatened

Clams

NAME	STATUS
Texas Fatmucket *Lampsilis bracteata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9041	Candidate
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate
Texas Pimpleback *Quadrula petrina* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8966	Candidate

Insects

NAME	STATUS
Coffin Cave Mold Beetle *Batrisodes texanus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6234	Endangered
Kretschmarr Cave Mold Beetle *Texamaurops reddelli* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3140	Endangered
Tooth Cave Ground Beetle *Rhadine persephone* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5625	Endangered

Arachnids

NAME	STATUS
Bee Creek Cave Harvestman *Texella reddelli* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2464	Endangered
Bone Cave Harvestman *Texella reyesi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5306	Endangered
Tooth Cave Pseudoscorpion *Tartarocreagris texana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6667	Endangered
Tooth Cave Spider *Neoleptoneta myopica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2360	Endangered

Flowering Plants

NAME	STATUS
Bracted Twistflower *Streptanthus bracteatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2856	Candidate

Critical habitats

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

Last Update: 8/25/2020

TRAVIS COUNTY

AMPHIBIANS

Austin blind salamander *Eurycea waterlooensis*

Aquatic and subterranean; streams and caves.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Barton Springs salamander *Eurycea sosorum*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Jollyville Plateau salamander *Eurycea tonkawae*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

Pedernales River Springs salamander *Eurycea sp. 6*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status:	State Status:	SGCN: N
Endemic: Y	Global Rank: G1	State Rank: S1S2

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

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

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

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

ARACHNIDS

Bandit Cave spider *Cicurina bandida*

Very small, subterrestrial, subterranean obligate

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2Q	State Rank: S1

DISCLAIMER

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TRAVIS COUNTY

ARACHNIDS

Bone Cave harvestman *Texella reyesi*

Small, blind, cave-adapted harvestman endemic to several caves in Travis and Williamson counties; weakly differentiated from Texella reddelli

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

No accepted common name *Tartarocreagris altimana*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Texella spinoperca*

Habitat description is not available at this time.

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

No accepted common name *Tartarocreagris attenuata*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Tartarocreagris domina*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Tartarocreagris proserpina*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Eidmannella reclusa*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Texella grubbsi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

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TRAVIS COUNTY

ARACHNIDS

No accepted common name *Texella mulaiki*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2

No accepted common name *Tartarocreagris infernalis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2?

No accepted common name *Tartarocreagris intermedia*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G1G2 State Rank: S1

No accepted common name *Cicurina travisae*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G1G2Q State Rank: S1

Reddell harvestman *Texella reddelli*
Small, blind, cave-adapted harvestman endemic to a few caves in Travis and Williamson counties
Federal Status: LE State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2

Tooth Cave pseudoscorpion *Tartarocreagris texana*
Small, cave-adapted pseudoscorpion known from small limestone caves of the Edwards Plateau
Federal Status: LE State Status: SGCN: Y
Endemic: Y Global Rank: G1G2 State Rank: S1

Tooth Cave spider *Neoleptoneta myopica*
Very small, cave-adapted, sedentary spider
Federal Status: LE State Status: SGCN: Y
Endemic: Global Rank: G1G2 State Rank: S1

BIRDS

bald eagle *Haliaeetus leucocephalus*

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TRAVIS COUNTY

BIRDS

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:	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: T	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

black-capped vireo *Vireo atricapilla*

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3B

Franklin's gull *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

golden-cheeked warbler *Setophaga chrysoparia*

Ashe juniper in mixed stands with various oaks (Quercus spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2S3B

interior least tern *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4T3Q	State Rank: S1B

mountain plover *Charadrius montanus*

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TRAVIS COUNTY

BIRDS

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

piping plover *Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

swallow-tailed kite *Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

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

whooping crane *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1N

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TRAVIS COUNTY

BIRDS

wood stork *Mycteria americana*

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

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

CRUSTACEANS

Balcones Cave amphipod *Stygobromus balconis*

Subaquatic, subterranean obligate amphipod

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

Ezell's Cave amphipod *Stygobromus flagellatus*

Known only from artesian wells

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S3

No accepted common name *Lirceolus bisetus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

FISH

american eel *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habtiats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

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

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TRAVIS COUNTY

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

sharpnose shiner *Notropis oxyrhynchus*

Range is now restricted to upper Brazos River upstream of Possum Kingdom Lake. May be native to Red River and Colorado River basins. Typically found in turbid water over mostly silt and shifting sand substrates.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S1S2

silverband shiner *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associatec with turbid water over silt, sand, and gravel.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

smalleye shiner *Notropis buccula*

Endemic to the Brazos River drainage; presumed to have been introduced into the Colorado River. Historically found in lower Brazos River as far south as Hempstead, Texas but appears to now be restricted to upper Brazos River system upstream of Possum Kingdom Lake. Typically found in turbid waters of broad, sandy channels of main stream, over substrate consisting mostly of shifting sand.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S1S2

Texas shiner *Notropis amabilis*

In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.

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

INSECTS

a caddisfly *Neotrichia juani*

Specimens were collected from perennial and ephemeral rivers, and small spring-fed streams (Harris and Tiemann 1993).

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1	State Rank: S1

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TRAVIS COUNTY

INSECTS

a caddisfly *Xiphocentron messapus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G3	State Rank: S2?

a cave obligate beetle *Rhadine austinica*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1S2

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

cave obligate springtail *Oncopodura fenestra*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2?

Comanche harvester ant *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

Kretschmarr Cave mold beetle *Texamaurops reddelli*

Small, cave-adapted beetle found under rocks buried in silt; small, Edwards Limestone caves in of the Jollyville Plateau, a division of the Edwards Plateau

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Andrena scotoptera*

Habitat description is not available at this time.

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

No accepted common name *Bombus variabilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y

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TRAVIS COUNTY

INSECTS

Endemic: Global Rank: G1G2 State Rank: SNR

No accepted common name *Lymantes nadineae*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Macrotera parkeri*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Rhadine subterranea*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y

Endemic: Y Global Rank: G2 State Rank: S2

Tooth Cave ground beetle *Rhadine persephone*

Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties

Federal Status: LE State Status: SGCN: Y

Endemic: Y Global Rank: G1G2 State Rank: S1

MAMMALS

American badger *Taxidea taxus*

Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in underground burrows.

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G5 State Rank: S5

Aransas short-tailed shrew *Blarina hylophaga plumbea*

Excavates burrows in sandy soils underlying mottes of live oak trees or in areas with little to no ground cover.

Federal Status: State Status: SGCN: Y

Endemic: Y Global Rank: G5T1Q State Rank: S1

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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TRAVIS 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

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: N
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; 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: N
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

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

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TRAVIS COUNTY

MAMMALS

Mexican long-tongued bat *Choeronycteris mexicana*

Only Texas record is from riparian forest; in general--neotropical nectivorous species roosting in caves, mines, and large crevices found in deep canyons along the Rio Grande ; also found in buildings and often associated with big-eared bats (Plecotus spp.); single TX record from Santa Ana NWR

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S1

mink *Neovison vison*

Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

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

plains spotted skunk *Spilogale putorius interrupta*

Generalist; 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

southern short-tailed shrew *Blarina carolinensis*

Found in East Texas pine forests and agricultural land. May favor areas with abundant leaf litter and fallen logs (Baumgardner et al. 1992). Nest sites are probably under logs, stumps and other debris.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

swamp rabbit *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

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

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*

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TRAVIS COUNTY

MAMMALS

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

woodland vole *Microtus pinetorum*

Include grassy marshes, swamp edges, old-field/pine woodland ecotones, tallgrass fields; generally sandy soils.

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

MOLLUSKS

False Spike Mussel *Fusconaia mitchelli*

Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble (Howells 2010; Randklev et al. 2012; Sowards et al. 2013; Tsakiris and Randklev 2016). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

No accepted common name *Phreatodrobia punctata*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S1

No accepted common name *Patera leatherwoodi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1	State Rank: S1

No accepted common name *Millerelix gracilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2G3	State Rank: S2?

No accepted common name *Stygopyrgus bartonensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

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TRAVIS COUNTY

MOLLUSKS

Texas Fatmucket *Lampsilis bracteata*

Reported to occur in slow to moderate current in sand, mud, and gravel substrates among large cobble, boulders, bedrock ledges, horizontal cracks in bedrock slabs, and macrophyte beds. Has also been observed inhabiting the roots of cypress trees and vegetation along steep banks. Past authorities have reported this species intolerant of reservoir conditions but recent surveys suggest it may persist in some impoundment conditions (Howells 2010c; Randklev et al. 2017b). [Mussel of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Texas Pimpleback *Cyclonaias petrina*

Occurs in medium-size streams to large rivers primarily in riffles and runs. Often found in substrates composed of sand, gravel, and cobble, including mud-silt or gravel-filled cracks in bedrock slabs. Considered intolerant of reservoirs (Howells 2010m; Randklev et al. 2017b). [Mussels of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

REPTILES

common garter snake *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

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

eastern box turtle *Terrapene carolina*

Terrestrial: 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.

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

plateau spot-tailed earless lizard *Holbrookia lacerata*

Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: S2

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

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

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TRAVIS COUNTY

REPTILES

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, 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. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

Texas map turtle *Graptemys versa*

Aquatic: Primarily a river turtle but can also be found in reservoirs. Can be found in deep and shallow water with sufficient basking sites (emergent rocks and woody debris).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4	State Rank: SU

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles 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.

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

PLANTS

arrowleaf milkvine *Matelea sagittifolia*

Most consistently encountered in thornscrub in South Texas; Perennial; Flowering March-July; Fruiting April-July and Dec?

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

basin bellflower *Campanula reverchonii*

Among scattered vegetation on loose gravel, gravelly sand, and rock outcrops on open slopes with exposures of igneous and metamorphic rocks; may also occur on sandbars and other alluvial deposits along major rivers; flowering May-July

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

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TRAVIS COUNTY

PLANTS

bracted twistflower *Streptanthus bracteatus*

Shallow, well-drained gravelly clays and clay loams over limestone in oak juniper woodlands and associated openings, on steep to moderate slopes and in canyon bottoms; several known soils include Tarrant, Brackett, or Speck over Edwards, Glen Rose, and Walnut geologic formations; populations fluctuate widely from year to year, depending on winter rainfall; flowering mid April-late May, fruit matures and foliage withers by early summer

Federal Status: C	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Buckley tridens *Tridens buckleyanus*

Occurs in juniper-oak woodlands on rocky limestone slopes; Perennial; Flowering/Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

canyon bean *Phaseolus texensis*

Narrowly endemic to rocky canyons in eastern and southern Edwards Plateau occurring on limestone soils in mixed woodlands, on limestone cliffs and outcrops, frequently along creeks.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

canyon mock-orange *Philadelphus texensis var. ernestii*

Usually found growing from honeycomb pits on outcrops of Cretaceous limestone exposed as rimrock along mesic canyons, usually in the shade of mixed evergreen-deciduous canyon woodland; flowering April-June, fruit dehiscing September-October

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3T3	State Rank: S3

canyon sedge *Carex edwardsiana*

Dry-mesic decidous and deciduous-juniper woodlands in canyons and ravines, usually in clay loams very high in calcium on rocky banks and slopes just above streams and stream beds. Carex edwardsiana usually grows near C. planostachys. Fruiting spring (Ball, Reznicek, and 2003).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Correll's false dragon-head *Physostegia correllii*

Wet, silty clay loams on streamsides, in creek beds, irrigation channels and roadside drainage ditches; or seepy, mucky, sometimes gravelly soils along riverbanks or small islands in the Rio Grande; or underlain by Austin Chalk limestone along gently flowing spring-fed creek in central Texas; flowering May-September

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

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TRAVIS COUNTY

PLANTS

Engelmann's bladderpod *Physaria engelmannii*

Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).

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

glandular gay-feather *Liatris glandulosa*

Occurs in herbaceous vegetation on limestone outcrops (Carr 2015)

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

Glass Mountains coral-root *Hexalectris nitida*

Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under Juniperus ashei in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

gravelbar brickellbush *Brickellia dentata*

Essentially restricted to frequently-scoured gravelly alluvial beds in creek and river bottoms; Perennial; Flowering June-Nov; Fruiting June-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Greenman's bluet *Houstonia parviflora*

Grass pastures. Feb- Apr. (Correll and Johnston 1970).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Heller's marbleseed *Onosmodium helleri*

Occurs in loamy calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in more mesic portions of canyons; Perennial; Flowering March-May

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

low spurge *Euphorbia peplidion*

Occurs in a variety of vernally-moist situations in a number of natural regions; Annual; Flowering Feb-April; Fruiting March-April

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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TRAVIS COUNTY

PLANTS

narrowleaf brickellbush *Brickellia eupatorioides var. gracillima*

Moist to dry gravelly alluvial soils along riverbanks but also on limestone slopes; Perennial; Flowering/Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T3	State Rank: S3

net-leaf bundleflower *Desmanthus reticulatus*

Mostly on clay prairies of the coastal plain of central and south Texas; Perennial; Flowering April-July; Fruiting April-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Plateau loosestrife *Lythrum ovalifolium*

Banks and gravelly beds of perennial (or strong intermittent) streams on the Edwards Plateau, Llano Uplift and Lampasas Cutplain; Perennial; Flowering/Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

plateau milkvine *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

rock grape *Vitis rupestris*

Occurs on rocky limestone slopes and in streambeds; Perennial; Flowering March-May; Fruiting May-July

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

scarlet leather-flower *Clematis texensis*

Usually in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams; Perennial; Flowering March-July; Fruiting May-July

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

spreading leastdaisy *Chaetopappa effusa*

Limestone cliffs, ledges, bluffs, steep hillsides, sometimes in seepy areas, oak-juniper, oak, or mixed deciduous woods, 300-500 m elevation; Perennial; Flowering (May) July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

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TRAVIS COUNTY

PLANTS

Stanfield's beebalm *Monarda stanfieldii*

Largely confined to granite sands along the middle course of the Colorado River and its tributaries; Perennial

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

sycamore-leaf snowbell *Styrax platanifolius ssp. platanifolius*

Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T3	State Rank: S3

Texabama croton *Croton alabamensis var. texensis*

In duff-covered loamy clay soils on rocky slopes in forested, mesic limestone canyons; locally abundant on deeper soils on small terraces in canyon bottoms, often forming large colonies and dominating the shrub layer; scattered individuals are occasionally on sunny margins of such forests; also found in contrasting habitat of deep, friable soils of limestone uplands, mostly in the shade of evergreen woodland mottes; flowering late February-March; fruit maturing and dehiscing by early June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3T2	State Rank: S2

Texas almond *Prunus minutiflora*

Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Texas amorpha *Amorpha roemeriana*

Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Texas barberry *Berberis swaseyi*

Shallow calcareous stony clay of upland grasslands/shrublands over limestone as well as in loamier soils in openly wooded canyons and on creek terraces; Perennial; Flowering/Fruiting March-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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TRAVIS COUNTY

PLANTS

Texas fescue *Festuca versuta*

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

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Texas milk vetch *Astragalus reflexus*

Grasslands, prairies, and roadsides on calcareous and clay substrates; Annual; Flowering Feb-June; Fruiting April-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Texas seymeria *Seymeria texana*

Found primarily in grassy openings in juniper-oak woodlands on dry rocky slopes but sometimes on rock outcrops in shaded canyons; Annual; Flowering May-Nov; Fruiting July-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

tree dodder *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

turnip-root scurfpea *Pediomelum cyphocalyx*

Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S2S3

Warnock's coral-root *Hexalectris warnockii*

In leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons; in the Trans Pecos in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 m [6550 ft]), primarily on igneous substrates; in Terrell County under Quercus fusiformis mottes on terrraces of spring-fed perennial streams, draining an otherwise rather xeric limestone landscape; on the Callahan Divide (Taylor County), the White Rock Escarpment (Dallas County), and the Edwards Plateau in oak-juniper woodlands on limestone slopes; in Gillespie County on igneous substrates of the Llano Uplift; flowering June-September; individual plants do not usually bloom in successive years

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

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TRAVIS COUNTY

PLANTS

Wright's milkvetch *Astragalus wrightii*

On sandy or gravelly soils; April (Diggs et al. 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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Last Update: 8/25/2020

WILLIAMSON COUNTY

AMPHIBIANS

Barton Springs salamander *Eurycea sosorum*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Georgetown salamander *Eurycea naufragia*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Jollyville Plateau salamander *Eurycea tonkawae*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

Salado Springs salamander *Eurycea chisholmensis*

Aquatic; springs, streams and caves with rocky or cobble beds.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S3

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

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

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

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

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WILLIAMSON COUNTY

ARACHNIDS

Bone Cave harvestman *Texella reyesi*

Small, blind, cave-adapted harvestman endemic to several caves in Travis and Williamson counties; weakly differentiated from Texella reddelli

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

No accepted common name *Tartarocreagris infernalis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2?

No accepted common name *Cicurina browni*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Cicurina travisae*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2Q	State Rank: S1

No accepted common name *Cicurina vibora*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Eidmannella reclusa*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

Reddell harvestman *Texella reddelli*

Small, blind, cave-adapted harvestman endemic to a few caves in Travis and Williamson counties

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

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

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WILLIAMSON COUNTY

BIRDS

Federal Status:	State Status:	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: T	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

black-capped vireo *Vireo atricapilla*

Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3B

Franklin's gull *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

golden-cheeked warbler *Setophaga chrysoparia*

Ashe juniper in mixed stands with various oaks (Quercus spp.). Edges of cedar brakes. Dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are placed in various trees other than Ashe juniper; only a few mature junipers or nearby cedar brakes can provide the necessary nest material; forage for insects in broad-leaved trees and shrubs; nesting late March-early summer.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2S3B

interior least tern *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4T3Q	State Rank: S1B

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

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WILLIAMSON COUNTY

BIRDS

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

piping plover *Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

Rufa Red Knot *Calidris canutus rufa*

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

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

swallow-tailed kite *Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

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

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WILLIAMSON COUNTY

BIRDS

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

whooping crane *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1N

wood stork *Mycteria americana*

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

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

zone-tailed hawk *Buteo albonotatus*

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

FISH

Guadalupe bass *Micropterus treculii*

Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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WILLIAMSON COUNTY

FISH

Texas shiner *Notropis amabilis*

In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.

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

INSECTS

a mayfly *Procloeon distinctum*

Mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G3Q	State Rank: S2?

a mayfly *Pseudocentroptiloides morihari*

Mayflies distinguished by aquatic larval stage; adult stage generally found in shoreline vegetation

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2?

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

cave obligate springtail *Oncopodura fenestra*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2?

Coffin Cave mold beetle *Batrisodes cryptotexanus*

Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2	State Rank: SNR

Coffin Cave mold beetle *Batrisodes texanus*

Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

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WILLIAMSON COUNTY

INSECTS

Kretschmarr Cave mold beetle *Texamaurops reddelli*

Small, cave-adapted beetle found under rocks buried in silt; small, Edwards Limestone caves in of the Jollyville Plateau, a division of the Edwards Plateau

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Bombus variabilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: SNR

No accepted common name *Lymantes nadineae*

Habitat description is not available at this time.

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

No accepted common name *Rhadine noctivaga*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Rhadine russelli*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

No accepted common name *Rhadine subterranea*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

Tooth Cave ground beetle *Rhadine persephone*

Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties

Federal Status: LE	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

MAMMALS

American badger *Taxidea taxus*

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WILLIAMSON COUNTY

MAMMALS

Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in underground burrows.

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

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

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: N
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; 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: N
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

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WILLIAMSON COUNTY

MAMMALS

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

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

mink *Neovison vison*

Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

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

plains spotted skunk *Spilogale putorius interrupta*

Generalist; 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

southern short-tailed shrew *Blarina carolinensis*

Found in East Texas pine forests and agricultural land. May favor areas with abundant leaf litter and fallen logs (Baumgardner et al. 1992). Nest sites are probably under logs, stumps and other debris.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

swamp rabbit *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

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

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WILLIAMSON COUNTY

MAMMALS

thirteen-lined ground squirrel *Ictidomys tridecemlineatus*

Prefers short grass prairies with deep soils for burrowing. Frequently found in grazed ranchland, mowed pastures, and golf courses.

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

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

woodland vole *Microtus pinetorum*

Include grassy marshes, swamp edges, old-field/pine woodland ecotones, tallgrass fields; generally sandy soils.

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

MOLLUSKS

Brazos Heelsplitter *Potamilus streckersoni*

Habitat description is not available at this time.

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

False Spike Mussel *Fusconaia mitchelli*

Occurs in small streams to medium-size rivers in habitats such as riffles and runs with flowing water. Is often found in stable substrates of sand, gravel, and cobble (Howells 2010; Randklev et al. 2012; Sowards et al. 2013; Tsakiris and Randklev 2016). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

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WILLIAMSON COUNTY

MOLLUSKS

Texas Fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

REPTILES

common garter snake *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

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

eastern box turtle *Terrapene carolina*

Terrestrial: 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.

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

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

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

Texas garter snake *Thamnophis sirtalis annectens*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T4	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, 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. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

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WILLIAMSON COUNTY

REPTILES

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

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

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles 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.

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

PLANTS

bigflower cornsalad *Valerianella stenocarpa*

Usually along creekbeds or in vernally moist grassy open areas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Elmendorf's onion *Allium elmendorfii*

Grassland openings in oak woodlands on deep, loose, well-drained sands; in Coastal Bend, on Pleistocene barrier island ridges and Holocene Sand Sheet that support live oak woodlands; to the north it occurs in post oak-black hickory-live oak woodlands over Queen City and similar Eocene formations; one anomalous specimen found on Llano Uplift in wet pockets of granitic loam; Perennial; Flowering March-April, May

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

gravelbar brickellbush *Brickellia dentata*

Essentially restricted to frequently-scoured gravelly alluvial beds in creek and river bottoms; Perennial; Flowering June-Nov; Fruiting June-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Heller's marbleseed *Onosmodium helleri*

Occurs in loamy calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in more mesic portions of canyons; Perennial; Flowering March-May

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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WILLIAMSON COUNTY

PLANTS

Plateau loosestrife *Lythrum ovalifolium*

Banks and gravelly beds of perennial (or strong intermittent) streams on the Edwards Plateau, Llano Uplift and Lampasas Cutplain; Perennial; Flowering/Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

plateau milkvine *Matelea edwardsensis*

Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Texas almond *Prunus minutiflora*

Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

Texas claret-cup cactus *Echinocereus coccineus var. paucispinus*

Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedin 2004).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3	State Rank: S3

Wright's milkvetch *Astragalus wrightii*

On sandy or gravelly soils; April (Diggs et al. 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

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EMST Data - I-35 Capital Express North, Travis and Williamson County - CSJ: 0115-10-162, and 0015-13-389							
Common Name	EMST ID Number	MOU Vegetation Type	EMST Mapped Acreage	MOU Acreage	Field Verified Acreage	Coordination Threshold	Threshold Met?
Barren	9000	Agriculture	0.1	0.1	0.0	10.0	No
Edwards Plateau: Ashe Juniper Motte and Woodland	1101	Edwards Plateau, Savannah, Woodland, and Shrubland	0.0	4.5	1.9	3.0	No
Edwards Plateau:Oak / Hardwood Motte and Woodland	1104		0.7				
Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland	1103		0.1				
Edwards Plateau: Oak / Hardwood Slope Forest	904		0.1				
Edwards Plateau: Savanna Grassland	1107		3.5				
Blackland Prairie: Disturbance or Tame Grassland	207	Tallgrass Prairie, Grassland	0.9	0.9	0.01	0.1	No
Central Texas: Floodplain Hardwood Forest	1804	Riparian	3.4	4.0	4.0	0.1	Yes
Central Texas: Riparian Hardwood Forest	1904		0.5				
Central Texas: Riparian Juniper Forest	1901		0.0				
Native Invasive: Mesquite Shrubland	9106	Disturbed Prairie	1.4	2.1	1.0	2.0	No
Native Invasive: Deciduous Woodland	9104		0.7				
Urban: High Intensity	9410	Urban	493.3	688.3	693.0	N/A	N/A
Urban: Low Intensity	9411		195.0				
		Total	699.9	699.9	699.9		

Form
Species Analysis

Project Name: **Capital Express North, I-35**

CSJ(s): **0015-10-062, 0015-13-389**

County(ies): **Travis, Williamson**

Date Analysis Completed: **January 27, 2021**

Prepared by: **Melissa Cross (CP&Y)**

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

I. Endangered Species Act

Select the appropriate statement below based on the determinations recorded in the completed project-specific species analysis spreadsheet:

☒ This project does not require consultation with or authorization from the USFWS under the Endangered Species Act.

☐ This project requires consultation with or authorization from the USFWS under the Endangered Species Act.

For a project that requires federal authorization or approval, if the completed project-specific species analysis spreadsheet indicates, "May affect," for any species, then consultation with the USFWS is required under section 7 of the Endangered Species Act and the second checkbox above must be checked.

For more information regarding the Endangered Species Act, see **ENV's Endangered Species Act Handbook**.

II. TPWD Coordination

Select the appropriate statement below:

☐ This project consists solely of maintenance activities that are of a type or type(s) covered by the Maintenance Program Environmental Assessment, and therefore no coordination with TPWD is required. Do not fill out a separate Tier I Site Assessment Form.

☒ This project does not consist solely of maintenance activities that are of a type or type(s) covered by the Maintenance Program Environmental Assessment, and therefore a Tier I Site Assessment is required.

III. Bald and Golden Eagle Protection Act (BGEPA)

Select the appropriate statement below:

☒ This project is not within 660 feet of an active or inactive Bald or Golden Eagle nest. Therefore, no coordination with USFWS is required.

☐ This project is within 660 feet of an active or inactive Bald or Golden Eagle nest; however, construction activities within 660 feet will not occur during the nesting season, and the project will adhere to the National Bald Eagle Management Guidelines of 2007. Therefore, no coordination with USFWS is required.

☐ This project is within 660 feet of an active or inactive Bald or Golden Eagle nest, and construction within 660 feet will occur during the nesting season or the project will not adhere to the National Bald Eagle Management Guidelines of 2007. Therefore, coordination with USFWS to obtain a Non-Purposeful Take Permit is required.

For more information regarding BGEPA, see Section 7.0 of **ENV's Ecological Resources Handbook**.

IV. Migratory Bird Protections

This project will comply with applicable provisions of the Migratory Bird Treaty Act (MBTA) and Texas Parks and Wildlife Code Title 5, Subtitle B, Chapter 64, Birds. It is the department's policy to avoid removal and destruction of active bird nests except through federal or state approved options. In addition it is the department's policy to, where appropriate and practicable:

- use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and
- schedule construction activities outside the typical nesting season.

For more information regarding migratory bird protections, see **ENV's Guidance: Avoiding Migratory Birds and Handling Potential Violations** and Section 3.0 of **ENV's Ecological Resources Handbook**.

V. Resources Consulted

Indicate which resources were consulted/actions were taken to make the species analysis determinations recorded in this form (DO NOT ATTACH TO THIS FORM OR UPLOAD TO ECOS ANY RESOURCES CONSULTED – JUST CHECK THE APPROPRIATE BOX(ES)):

☒ Aerial Photography ☒ Topographic Map ☒ Natural Diversity Database (NDD)
☒ Karst Zone Maps ☒ Ecological Mapping System of Texas (EMST)
☒ Site Visit ☒ Species Expert Consulted ☒ Species Habitat or Presence/absence Survey

☐ Other:_____

SPECIES ANALYSIS SPREADSHEET: Project Information Sheet	
Project Name:	Capital Express North (IH 35) Roadway Improvements
CSJ(s):	0015-10-062, 0015-13-389
TxDOT District: (Click dropdown arrow to select a District from List)	Austin
County(ies): (Click dropdown arrow to select each county)	Travis, Williamson
Prepared by: (Full Name)	Melissa Cross (CP&Y, Inc.), Andrew Cooper (TxDOT-GEC [Jacobs])
Date Completed: (m/d/yyyy)	1/14/2021
TxDOT ENV Spreadsheet Template date: October 8, 2020.	

SPECIES ANALYSIS SUMMARY
Project Name: Capital Express North (IH 35) Roadway Improvements
CSJ(s): 0015-10-062, 0015-13-389

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Federal Status	Effect/Take Determination for Federally Listed Species	State Status	Impact Determination for State-Listed Species	Explanation for Effect/Take and/or Impact Determination	Presence/ Absence survey conducted?
Travis	Amphibians	Austin Blind Salamander	*Eurycea waterlooensis*	The species is only known to occur at Barton Springs in Austin, Texas, and subterranean habitats of the Edwards Aquifer below the surface of Barton Springs. Its range is limited to south of the Colorado River, and it co-occurs with the Barton Springs salamander (*Eurycea sosorum*).	N	Only known from the outlets of Barton Springs, which are not in the proposed project area.	E	No effect	E	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Amphibians	Barton Springs Salamander	*Eurycea sosorum*	The species is only known to occur at Barton Springs in Austin, Texas, and subterranean habitats in the Barton Springs Segment of the Edwards Aquifer. "Surface" habitat for the Barton Springs salamander refers to the spring pools and spring runs where the Barton Springs salamander is observed as opposed to its subsurface aquifer habitat. The Barton Springs salamander inhabits relatively stable aquatic environmental conditions. These conditions consist of perennially flowing spring water that is generally clear, clean, mostly neutral (pH about 7), and stenothermal (narrow temperature range) with an annual average temperature of about 70° to 72°F. Flows of clean spring water with a relatively constant, cool temperature are essential to maintaining the well-oxygenated water necessary for salamander respiration and survival. Dissolved oxygen concentrations average about 6 mg/l.	N	Only known from the outlets of Barton Springs, which are not in the proposed project area.	E	No effect	E	No impact	No suitable habitat present within the project area.	N
Williamson	Amphibians	Georgetown Salamander	*Eurycea naufragia*	Occurs in surface springs and caves associated with drainages of the south, middle, and north forks of the San Gabriel River.	N	No surface springs associated with any forks of the San Gabriel River are present within the project area. According to a 2014 Geologic Assessment and 2016 field visit, the project area does not contain springs, sinkholes, or other karst features associated with Georgetown Salamander habitat. No critical habitat exists in the project area.	T	No effect	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Amphibians	Jollyville Plateau Salamander	*Eurycea tonkawae*	Surface populations occur in springs of the Jollyville Plateau and springs of nearby Brushy Creek. Optimal habitat includes springs, spring-fed streams, and caves with flowing water.	N	Project area is not located near Brushy Creek and no springs are present within the project area.	T	No effect	T	No impact	No suitable habitat present within the project area.	N

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Williamson	Amphibians	Salado Salamander	*Eurycea chisholmensis*	The species is known from only two springs in the Salado Springs system within the Northern Segment of the Edwards Aquifer in Bell County, Texas where it inhabits spring outflows under rocks and leaves in gravel substrate.	N	Neither of the known springs where this species occur are located within the vicinity of the area.	T	No effect	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Arachnids	Bee Creek Cave Harvestman	*Texella reddelli*	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from Tooth, Bee Creek, McDonald, Weldon, and Bone Caves, and possibly Root Cave, in Travis and Williamson Counties.	N	Karst features are not found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Arachnids	Bone Cave Harvestman	*Texella reyesi*	A subterranean obligate, the species occurs in small isolated karstic features within the Edwards Limestone Formation. Sensitive to low humidity and temperature, it is found under large rocks in dark cool parts of caves. It is known from 203 different caves and six karst fauna regions in Travis and Williamson Counties.	N	Karst features are not found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis	Arachnids	Tooth Cave Pseudoscorpion	*Tartarocreagris texana*	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from five caves in the Jollyville Plateau karst fauna Region in Travis County, including Tooth and Amber Caves.	N	Karst features are not found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Arachnids	Tooth Cave Spider	*Neoleptoneta myopica*	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known only from 13 caves in the Jollyville Plateau and McNeil/Round Rock karst fauna regions in Travis and Williamson counties.	N	Karst features are not found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	Black Rail	*Laterallus jamaicensis*	Black rails are year-round residents of the central and upper coast and migrants in the eastern part of the state. The species nests in salt, brackish, and freshwater marshes, pond borders, wet meadows, and wetlands with hydrophytic grass species. Water depth is an important and key habitat component, as the species typically is found where water is less than two to four centimeters deep. Other significant habitat factors may include vegetation density, distance to open water, and water regime stability. Nesting typically occurs in the highest sections of the marsh, which have mesic to hydric soils and are flooded by only the highest tides. Nests are built in areas with saturated or shallowly flooded soils and dense vegetation on damp ground, on mat of previous year's dead grasses, or over shallow water. In salt or brackish marshes, typical habitat includes dense stands of cordgrasses (*Spartina* sp.), spikegrasses (*Distichlis* sp.), and needlerush (*Juncus* sp.), or, in more upland saltbush communities along marsh edges. Typical freshwater habitat includes species such as cattail (*Typha*) and bulrush (*Scirpus* sp.). Non-breeding habitat is thought to be similar to breeding habitat.	N	No salt, brackish, and freshwater marshes, pond borders, wet meadows, or wetlands with hydrophytic grasses are located within or adjacent to the project area.	T	No effect	T	No impact	No suitable habitat present within the project area.	N

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Travis, Williamson	Birds	Golden-cheeked Warbler	*Setophaga (=Dendroica) chrysoparia*	This migratory species breeds in central Texas along the Balcones Escarpment on the eastern edge of the Edwards Plateau and ranges from southwest of Fort Worth to northeast of Del Rio. Breeding habitat consists of juniper-oak woodlands dominated by Ashe juniper (*Juniperus ashei*) and various oak (*Quercus* sp.) species and deciduous trees found in areas with steep slopes, canyon heads, draws, and adjacent ridgetops. The species is dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are generally placed in upright forks of mature Ashe junipers or various deciduous species. Occupied sites usually contain junipers at least 40 years old.	N	No oak-juniper stands are found within or adjacent to the project area.	E	No effect	E	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	Least Tern - Migratory	*Sternula (=Sterna) antillarum*	The interior population (subspecies *athalassos*) of the Least Tern nests on bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with inland rivers and reservoirs. It occasionally nests on man-made structures such as sand and gravel pits or gravel rooftops. Preferred habitat includes sand and gravel bars within a wide unobstructed river channel, or open flats along shorelines of lakes and reservoirs. Colony sites can move annually, depending on landscape disturbance and vegetation growth at established colonies. It is known to nest at three reservoirs along the Rio Grande River, on the Canadian River in the northern Panhandle, and along the Red River.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Least Tern only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Least Tern is not expected to regularly occur and any use of this habitat would be incidental.	E	No effect	E	No impact	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the Least Tern.	N

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Travis, Williamson	Birds	Piping Plover - Migratory	*Charadrius melodus*	This migratory species overwinters in Texas, where it occurs on beaches, ephemeral sand flats, barrier islands, sand, mud, algal flats, washover passes, salt marshes, lagoons, and dunes along the Gulf Coast and adjacent offshore islands, including spoil islands in the Intracoastal Waterway. Algal flats appear to be the highest quality habitat because of their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low or very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Piping Plover only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Piping Plover is not expected to regularly occur and any use of this habitat would be incidental.	T	No effect	T	No impact	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the Piping Plover.	N
Travis, Williamson	Birds	Red Knot - Migratory	*Calidris canutus rufa*	The species is a winter resident and migrant in Texas. It is primarily found in marine habitats such as sandy beaches, salt marshes, lagoons, mudflats of estuaries and bays, and mangrove swamps during winter months. It primarily occurs along the Gulf coast on tidal flats and beaches and less frequently in marshes and flooded fields. It has occasionally been observed along shorelines of large lakes and freshwater marshes.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Red Knot only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Red Knot is not expected to regularly occur and any use of this habitat would be incidental.	T	No effect	T	No impact	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the Red Knot.	N

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Travis, Williamson	Birds	Swallow-tailed Kite	*Elanoides forficatus*	This migratory species breeds in the South Central Plains of east Texas and throughout the southeastern U.S. In Texas, breeding habitat occurs between sea level and 230 meters in elevation in bottomland forests, cypress swamps, pine glades, and freshwater marshes skirting large lakes. It nests near the tops of trees that are higher than the surrounding stand, often near a clearing or the edge of a forest or woodland. It prefers to nest in pines, but occasionally uses species such as bald cypress (*Taxodium distichum*), water oak (*Quercus nigra*), or cottonwood (*Populus deltoides*).	N	No bottomland forests, cypress swamps, pine glades, and freshwater marshes skiriting lakes are located within the project area.	—	N/A	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	White-faced Ibis	*Plegadis chihi*	The species is found in the Western Gulf Coastal Plains ecoregion of Texas. Preferred habitat includes freshwater wetlands, marshes, ponds, rivers, irrigated land, and sloughs, but it occasionally forages in brackish or saltwater marshes. It nests in marshes in low trees, on the ground in bulrushes (Scirpus sp.) or reeds, or on floating mats.	N	Project is not located in the Western Gulf Coastal Plains; additionally, the existing and proposed right-of-way is highly disturbed and maintained.	—	N/A	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	Whooping Crane	*Grus americana*	The species breeds in Canada and winters on the Texas coast at Aransas National Wildlife Refuge. During migration it typically stops to rest and feed in open bottomlands of large rivers and marshes but, like other waterbirds, it may also utilize flooded croplands, playas, large wetlands associated with lakes, small ponds, and various other aquatic features. Typical migration habitat includes sites with good horizontal visibility, water depth of 30 centimeters or less, and minimum wetland size of 0.04 hectare for roosting.	N	No open bottomlands of large rivers and marshes, flooded croplands, playas, small ponds are located within the project area.	E	No effect	E	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	Wood Stork	*Mycteria americana*	The species breeds in Mexico, and nesting sites have not been recorded in Texas since 1960. However, post-breeding migrants disperse into Texas in the summer. Foraging habitat includes freshwater prairie ponds, flooded pastures or fields, ditches, and other shallow standing water with an open canopy, occasionally including brackish wetlands. The species typically roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries).	N	No freshwater prairie ponds or flooded pastures/fields within the project area. Additionally, the existing and proposed right-of-way is highly disturbed and maintained.	—	N/A	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Birds	Zone-tailed Hawk	*Buteo albonotatus*	The species occurs in arid open country, especially open deciduous or pine-oak woodland, mesa and mountain country, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains. It nests in a variety of sites including small trees in lower desert, giant cottonwoods in riparian areas, and mature conifers in high mountain regions. Nests are typically constructed in large trees like cottonwoods (*Populus deltoides*), usually along streams near cliffs or steep hillsides.	N	The project area is not located in arid open country, open deciduous or pine-oak woodland, mesa and mountain country.	—	N/A	T	No impact	No suitable habitat present within the project area.	N

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Travis	Fishes	Smalleye Shiner	*Notropis buccula*	The species is likely extirpated from the lower and middle portions of the Brazos River, currently known only from the upper Brazos River above Possum Kingdom Reservoir. The species is common in river channels and side channels with water of moderate depth and current. It is typically found in broad channels with high turbidity and constant shifting sand substrate, or occasionally silt substrate. It is most frequently found using the center of the channel, avoiding the shallow depth and slow velocity of the stream edges.	N	No broad open sandy channels are within the project area.	E	No effect	E	No impact	No suitable habitat present within the project area.	N
Williamson	Insects	Coffin Cave Mold Beetle	*Batrisodes texanus*	A subterranean obligate, the species inhabits karstic formations within Williamson County. All records of occurrence have been found under piles of rock in complete darkness. The species is known from 24 caves in the Georgetown and North Williamson County karst fauna Regions.	N	No karst features are found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Insects	Kretschmarr Cave Mold Beetle	*Texamaurops reddelli*	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from nine caves in the Jollyville Plateau karst fauna Region in Travis and Williamson Counties, including Kretschmarr, Amber, Tooth and Coffin Caves.	N	No karst features are found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Insects	Tooth Cave Ground Beetle	*Rhadine persephone*	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from 61 caves in the Cedar Park and Jollyville Plateau karst fauna Regions in Travis County, including Tooth and Kretschmarr Caves.	N	No karst features are found within or adjacent to the project area.	E	No effect	—	N/A	No suitable habitat present within the project area.	N
Williamson	Mollusks	Brazos Heelsplitter	*Potamilus streckersoni*	This species of freshwater mussel was recently discovered to be an independent species. It is currently only known to occur in the Brazos River north of the impoundments of Lake Granbury and Lake Whitney, as well as north of Possum Kingdom Reservoir.	N	Only known from Brazos River, which are not in the proposed project area.	—	N/A	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mollusks	False Spike	*Fusconaia (=Quadrula) mitchelli*	Freshwater mussel currently found in the Rio Grande, Pecos, Middle Colorado, and Guadalupe River basins. The species occurs in medium to large rivers with various substrates including mud and mixtures of sand, gravel, and cobble. It is found in riffle and pool habitats, and host species include the red (*Cyprinella lutrensis*) and blacktail shiner (*C. venusta*).	Y	Two perennial streams within the project area could provide suitable habitat for this species; however, the species was not identified during a 2015 survey of the project area (Schwalb, 2016).	—	N/A	T	No impact	This species was not detected during the 2015 survey of the project area.	Y
Travis, Williamson	Mollusks	Texas Fatmucket	*Lampsilis bracteata*	A freshwater mussel endemic to streams and small rivers of the Texas Hill Country, the species occurs in moderately flowing waters generally less than 1 meter in depth. It can occur in sand or gravel substrates, but typically occurs in soft silt deposits in bank or pool habitats or cracks in bedrock. It inhabits microhabitats among large cobble, boulders, bedrock ledges, horizontal cracks in bedrock slabs, and macrophyte beds. It has been reported inhabiting roots of cypress trees and other vegetation along steep banks. It is intolerant to impoundment and absent from backwater, mid-channel, and riffle habitats.	Y	Two perennial streams within the project area could provide suitable habitat for this species; however, the species was not identified during a 2015 survey of the project area (Schwalb, 2016).	C	No effect	T	No impact	This species was not detected during the 2015 survey of the project area.	Y

SPECIES ANALYSIS SUMMARY
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Travis, Williamson	Mollusks	Texas Fawnsfoot	*Truncilla macrodon*	A freshwater mussel that is currently limited to the Brazos and Colorado River basins in Texas. The species occupies large streams to medium rivers and is intolerant to impoundment. Little is known about the species due to lack of representative specimens, however it is thought that the species prefers sand, gravel, and sandy-mud substrate in water with a moderate current. It is also found in perennial irrigation canals for rice.	Y	Two perennial streams within the project area could provide suitable habitat for this species; however, the species was not identified during a 2015 survey of the project area (Schwalb, 2016).	C	No effect	T	No impact	This species was not detected during the 2015 survey of the project area.	Y
Travis, Williamson	Mollusks	Texas Pimpleback	*Cyclonaias (Quadrula) petrina*	A freshwater mussel endemic to the middle and lower portions of the Colorado River basin in Texas. The species inhabits medium to large rivers with shallow water and slow to moderate currents. It occurs in gravel-filled cracks in bedrock and microhabitats and on mud, sand, gravel, and cobble substrates. It is intolerant to extremely soft substrates, shifting sands, scoured bottoms, and impoundments.	N	No medium to large rivers are located within the project area.	C	No effect	T	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	Bracted Twistflower	*Streptanthus bracteatus*	The species is found in south-central Texas. It is an annual; endemic to the Edwards Plateau where it is occurs on shallow, well-drained gravelly clays and clay loams over limestone, within oak-juniper woodland and associated openings, on steep to moderate slopes, and in canyon bottoms. Often found amid dense shrub growth where there is some protection from browsing.	N	No oak-juniper woodland, steep to moderate slopes and canyon bottoms are located within the project area.	C	No effect	—	N/A	No suitable habitat present within the project area.	N
Travis, Williamson	Reptiles	Texas Horned Lizard	*Phrynosoma cornutum*	The species is found in semi-arid open areas with scattered vegetation comprised of bunchgrass, cacti, yucca, mesquite, acacia, juniper, or other woody shrubs and small trees commonly found in loose sandy or loamy soils.	N	The existing and proposed right-of-way is highly disturbed and maintained. No harvester ant mounds were observed in the existing and proposed right-of-way.	—	N/A	T	No impact	No suitable habitat present within the project area.	N

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Fishes	Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	The species is primarily found in the Atlantic from Canada to Florida, but occasionally occurs in the Gulf of Mexico. It has not been recorded off the Texas coast. It is primarily a marine species, when not breeding, but is found close to shore. It migrates to rivers and brackish water features (sometimes tidal) in the spring and fall to spawn, usually over bottoms of hard clay, rubble, gravel, and/or shell.			E		—	N/A		
Fishes	Giant Manta Ray	*Manta birostris*	The giant manta ray has a world-wide distribution, but is currently limited to several highly fragmented populations. It is the largest species of ray with a wingspan of up to 29 feet. The giant manta ray is a filter feeder that forages primarily on microscopic organisms, but is known to consume some small fish. Common occurrences are in oceanic waters, offshore, and near protective coastlines. The species has been documented in the Gulf of Mexico, including juvenile nursery grounds at Flower Garden Banks National Marine Sanctuary off the coast of Texas. This species also occasionally occurs in estuarine waters near ocean inlets at potential nursery grounds.			T		—	N/A		
Fishes	Great Hammerhead	*Sphyrna mokarran*	This generalist species of shark preferes warm coastal waters where it occurs. However, it can be found in deep open ocean as well as shallow coastal waters. It migrates seasonally in search of ideal water tempuratures.			—	N/A	T			
Fishes	Largetooth Sawfish	*Pristis pristis*	This species has the widest historic range of all the sawfish species; however, worldwide populations have decreased dramatically. Adult habitat includes inshore coastal waters, lagoons, river mouths, and estuaries, and juveniles inhabit fresh water systems that have connectivity to brackish or marine coastal systems. The species has been documented at the Flower Garden Banks National Marine Sanctuary. This species feeds on invertebrates and small fishes. Historically, the Gulf of Mexico along the Texas coast had a large population; however, the Texas coast population has dramatically decreased, and it has not been recorded off the coast of Texas since 1943.			E		—	N/A		
Fishes	Oceanic Whitetip Shark	*Carcharhinus longimanus*	This pelagic shark ranges from Argentina to Maine, including the Gulf of Mexico, the Pacific Ocean, and the Caribbean Sea. It is generally a surface-dwelling species, but it can also be found in water depths up to 183 meters. The oceanic whitetip shark generally remains offshore in the open ocean or along the outer continental shelf, but is occasionally found near oceanic islands. It prefers water temperatures greater than 20 degrees Celsius.			T		T			
Fishes	Shortfin Mako	*Isurus oxyrinchus*	This species of shark prefers the surface of open warm seas in the Gulf of Mexico. It feeds primarily on schooling fishes like mackerels and herrings.			—	N/A	T			
Fishes	Shortnose Sturgeon	*Acipenser brevirostrum*	The shortnose sturgeon inhabits rivers and Atlantic coastal bays and estuaries from Canada to Florida. The species has not been documented near the Texas coast or in the Gulf of Mexico.			E		—	N/A		
Invertebrates	Boulder Star Coral	*Orbicella franksi*	This rare coral is endemic to the Gulf of Mexico and Caribbean Sea, specifically in areas around Florida, Bermuda, and the Bahamas. It is known to occur in the Flower Garden Banks National Marine Sanctuary which is located approximately 70 to 115 miles off the coasts of Texas and Louisiana. It is an important reef building species that forms domes, columns, and flat shelf-like colonies. Preferred habitat includes most reef environments and depths ranging from 1 to 82 meters. The species requires very specific water parameters and is highly sensitive to changes in water and air temperatures, salinity, methane gasses and carbon dioxide concentrations, light levels, ultraviolet radiation, water quality, turbulence, and sedimentation.			T		—	N/A		
Invertebrates	Elkhorn Coral	*Acropora palmata*	The elkhorn coral is found in the Gulf of Mexico and Carribean Sea including Flower Garden Banks National Marine Sanctuary, which is located approximately 70 to 115 miles off the coasts of Texas and Louisiana. This coral species reproduces asexually and sexually and is found in reef environments in deeper, more protected, water depths from 5 to 20 meters and in more shallow, turbulent water at depths of 1 to 5 meters. On rare occasions, it can be found at depths of 60 meters. The tolerable water temperature range for this species is 21 to 29 degrees Celsius. Temperatures outside this range, even 1-2 degrees Celsius, may cause stress to the coral and induce a bleaching event that can cause death. Corals are also vulnerable to water salinity, air temperatures, methane gasses and carbon dioxide, decreased or high light levels, increased ultraviolet radiation, high or increased water turbulence, and burial by sedimentation.			T		—	N/A		

Invertebrates	Lobed Star Coral	*Orbicella annularis*	This hermaphroditic broadcast-spawning coral grows in shallow reef systems and can found at depths up to 82 meters. The species range is from Latin America through the Gulf of Mexico, including the Flower Garden Banks National Marine Sanctuary, and extending north and east to Bermuda and the Caribbean. It is often one of the most dominant and abundant species where found. This coral species can form massive colonies, is considered a reef-builder, and provides other reef dwellers refuge from predators. The tolerable water temperature range for this species is 23 to 29 degrees Celsius. Temperatures outside this range, even 1-2 degrees Celsius, may cause stress to the coral and induce a bleaching event that can cause death. Corals are also vulnerable to water salinity, air temperatures, methane gasses and carbon dioxide, decreased or high light levels, increased ultraviolet radiation, high or increased water turbulence, and burial by sedimentation. Any of these events lasting longer than a few weeks will most likely result in death.			T		–	N/A		
Invertebrates	Mountainous Star Coral	*Orbicella faveolata*	The mountainous star coral occurs in shallow waters in the Gulf of Mexico and Carribean Sea. It has been documented in the Flower Garden Banks National Marine Sanctuary, which is from 70 to 115 miles off the Texas coast. This species can grow in water depths up to 40 meters. The mountainous star coral is often one of the most dominant and abundant species where found. The tolerable water temperature range for this species is 23 to 29 degrees Celsius. Temperatures outside this range, even 1-2 degrees Celsius, may cause stress to the coral and induce a bleaching event that can cause death. Corals are also vulnerable to water salinity, air temperatures, methane gasses and carbon dioxide, decreased or high light levels, increased ultraviolet radiation, high or increased water turbulence, and burial by sedimentation.			T		–	N/A		
Invertebrates	Pillar Coral	*Dendrogyra cylindrus*	Pillar corals range from Latin America north through the Gulf of Mexico to the coast of Florida. This broadcast-spawning coral reproduces sexually and is found in sheltered reef environments. The species can live in water depths up to 25 meters. Corals are vulnerable to changes in water salinity, air and water temperatures, concentrations of methane gasses and carbon dioxide, light levels, increased ultraviolet radiation, high water turbulence, and burial by sedimentation.			T		–	N/A		
Invertebrates	Rough Cactus Coral	*Mycetophyllia ferox*	The rough cactus coral inhabits sheltered reef environments in the Gulf of Mexico and Carribean Sea. This species can grow in water depths from 5 to 30 meters. The tolerable water temperature range for this species is 0 to 25 degrees Celsius. Temperatures outside this range, even 1-2 degrees Celsius, may cause stress to the coral and induce a bleaching event that can cause death. Corals are also vulnerable to water salinity, air temperatures, methane gasses and carbon dioxide, decreased or high light levels, increased ultraviolet radiation, high or increased water turbulence, and burial by sedimentation. Any of these events lasting longer than a few weeks will most likely result in death.			T		–	N/A		
Invertebrates	Staghorn Coral	*Acropora cervicornis*	The staghorn coral occurs throughout the Carribean Sea and southern Gulf of Mexico, including Flower Gardens National Marine Sanctuary. This species can grow in water depths up to 30 meters. The tolerable water temperature range for this species is 20 to 30 degrees Celsius. Temperatures outside this range, even 1-2 degrees Celsius, may cause stress to the coral and induce a bleaching event that can cause death. Corals are also vulnerable to changes in salinity, air temperatures, concentrations of methane gasses and carbon dioxide, light levels, increased ultraviolet radiation, high or increased water turbulence, and burial by sedimentation.			T		–	N/A		
Mammals	Blue Whale	*Balaenoptera musculus*	The blue whale is the largest animal on the planet and found in all oceans with the exception of the Arctic Ocean. Its occurrence in the Gulf of Mexico is extremely rare with only two reported strandings along the Gulf coast (Louisiana and Texas). This baleen whale feeds almost exclusively on krill and seasonally migrates between winter breeding grounds (fall and winter) and summer feeding grounds (spring and summer). Its range extends from the subtropics to the Greenland Sea with sightings off of Canada's coast, the eastern United States, and infrequently in the Caribbean and Gulf of Mexico.			E		E			
Mammals	Bryde's Whale	*Balaenoptera edeni*	Unlike other baleen whales, Bryde's whale is restricted to tropical, subtropical, and warm temperate waters of the Atlantic, Indian, and Pacific Oceans. Bryde's whales are smoky gray with light mottling and three distinctive parallel ridges that extend from the blowhole to the tip of the snout. Some populations are migratory while others are year-round residents. Bryde's whales feed on krill, shrimp, crabs, copepods, and schooling fish in the open ocean.			E		E			
Mammals	False Killer Whale	*Pseudorca crassidens*	The false killer whale is a toothed whale that inhabits the tropical and subtropical waters of all oceans. It is usually observed in the open ocean but is found near land around oceanic islands and coasts with nearshore deep water. Two separate strandings have been documented on the Texas coast. The false killer whale generally feeds on squid and fish, but have been known to take marine mammals and other whales.			E		T			
Mammals	Fin Whale	*Balaenoptera physalus*	The fin whale is a cosmopolitan baleen species that is known from all oceans. It is pelagic and usually found 25 miles or more from the shore. This species migrates seasonally from high-latitude summer feeding grounds to low-latitude wintering areas. There has only been one sighting in Texas: a young whale stranded in Chambers County.			E		E			

Mammals	Gulf of Mexico Bryde's Whale	*Balaenoptera edeni (GoM subspecies)*	The Gulf of Mexico subspecies of Bryde's whale is the only non-migratory resident baleen whale in the Gulf of Mexico. It is found primarily near the continental shelf off the Florida panhandle. The species is not documented in Texas waters; however, strandings have occurred along the Louisiana coast. They are a pelagic species and one of the more frequently observed baleen whales in the Gulf of Mexico. It is estimated that there are fewer than 100 individuals of the subspecies, with fewer than 50 mature individuals.			E		E			
Mammals	Humpback Whale	*Megaptera novaeangliae*	The humpback whale is found in all oceans up to the polar ice caps. The species follows distinct migratory patterns between summer feeding grounds in temprate regions to tropical waters during the winter breeding season. Humpback whales are a baleen species known for their exceptionally long flippers. There is only one documented occurrence of the species from the Texas coast in the early 1990's.			E		E			
Mammals	Killer Whale	*Orcinus orca*	The killer whale is known to occur in every ocean, but they are most commonly found in colder temperate waters. The species is the most widely distributed of all whales and dolphins. It is often found in the southern part of the Gulf of Mexico; however, one individual was sighted in waters off Port Aransas, Texas in the northern Gulf of Mexico and another stranded individual was documented on South Padre Island in Texas. The killer whale is a top predator in the marine environment.			E		T			
Mammals	North Atlantic Right Whale	*Eubalaena glacialis*	The species has worldwide distribution with known occurrences of single individuals and pods in the Gulf of Mexico, including near the Texas coast; however, reports of this species are rare. They are typically observed in pods in deeper water depths (greater than 500 feet deep); however, individuals of this species are known to hunt for prey close to shore and on occasion, beach themselves. Some pods will often reside in the same region for many years with little movement of immigration or emigration. They feed on other whales, sharks, turtles, seals, and sea birds.			E		E			
Mammals	Sei Whale	*Balaenoptera borealis*	The sei whale is a baleen species that inhabits subtropical, temperate, and subpolar waters worldwide. It prefers deeper waters offshore where it feeds on plankton, small schooling fish, and cephalopods. This species has annual migrations from subtropical, temperate waters during the winter (breeding) to subpolar, cool waters in the summer.			E		E			
Mammals	Sperm Whale	*Physeter macrocephalus*	The sperm whale is a toothed whale that ranges from Alaska south along the Pacific coast to the Pacific Islands, along the Atlantic coast from New England to Florida, and throughout the Gulf of Mexico. This species is regularly seen in the Gulf of Mexico with more than 25 individuals observed, and two individuals were tracked swimming along the Texas coastline off South Padre Island and Port Aransas, Texas. This species feeds on cuttlefish, squids, octopus, and other marine animals.			E		E			
Fishes	Scalloped Hammerhead Shark	*Sphyrna lewini*	This coastal pelagic species is highly migratory and primarily inhabits deeper temperate, warm, and tropical waters worldwide. Adults of the species have been recorded along the continental shelf off Texas, the Flower Garden Banks National Marine Sanctuary, Stetson Bank, and Padre Island National Seashore. Juveniles have been recorded within nurseries in Texas coastal bays and estuaries. The females return to their natal sites, which generally include shallow nearshore waters like bays and estuaries used for nurseries. They typically feed on mackerel, herring, and sardines; however, they occasionally feed on octopus and squid.			T		–	N/A		

SPECIES ANALYSIS SUMMARY NOTES

Common Name	Scientific Name	Notes
Ashy Dogweed	*Thymophylla tephroleuca*	Note: This species is listed by TPWD but not by IPaC in the following county: Jim Hogg.
Attwater's Greater Prairie-chicken	*Tympanuchus cupido attwateri*	Note: This species is listed by TPWD but not by IPaC in the following counties: Fort Bend, Wharton.
Barton Springs Salamander	*Eurycea sosorum*	Note: This species is listed by TPWD but not by IPaC in the following county: Williamson.
Bee Creek Cave Harvestman	*Texella reddelli*	Note: This species is listed by TPWD but not by IPaC in the following county: Williamson.
Big Bend Gambusia	*Gambusia gaigei*	
Black Bear	*Ursus americanus*	
Black Lace Cactus	*Echinocereus reichenbachii var. albertii*	Note: This species is listed by TPWD but not by IPaC in the following counties: Duval, Nueces.
Black Rail	*Laterallus jamaicensis*	Note: This species is listed by TPWD but not by IPaC in the following counties: Anderson, Aransas, Archer, Austin, Bastrop, Baylor, Bee, Bell, Borden, Bosque, Brazoria, Brazos, Briscoe, Brown, Burleson, Caldwell, Calhoun, Callahan, Cameron, Chambers, Childress, Clay, Coke, Coleman, Collin, Colorado, Comanche, Cooke, Coryell, Cottle, Crosby, Dallas, Delta, Denton, DeWitt, Dickens, Eastland, Ellis, Erath, Falls, Fannin, Fayette, Fisher, Floyd, Foard, Fort Bend, Franklin, Freestone, Galveston, Garza, Goliad, Gonzales, Grayson, Grimes, Guadalupe, Hale, Hall, Hamilton, Hardeman, Harris, Haskell, Henderson, Hill, Hood, Hopkins, Houston, Howard, Hunt, Hutchinson, Jack, Jackson, Jefferson, Johnson, Jones, Karnes, Kaufman, Kenedy, Kent, King, Kleberg, Knox, Lamar, Lampasas, Lavaca, Lee, Leon, Liberty, Limestone, Lubbock, Lynn, Madison, Matagorda, McLennan, Milam, Mills, Mitchell, Montague, Montgomery, Motley, Navarro, Nolan, Nueces, Palo Pinto, Parker, Rains, Red River, Refugio, Robertson, Rockwall, Runnels, San Jacinto, San Patricio, Scurry, Shackelford, Somervell, Stephens, Stonewall, Swisher, Tarrant, Taylor, Throckmorton, Travis, Van Zandt, Victoria, Walker, Waller, Washington, Wharton, Wichita, Wilbarger, Williamson, Wilson, Wise, Wood, Young.
Brazos Heelsplitter	*Potamilus streckersoni*	Note: Not currently mapped by RTEST. See habitat description. Possible counties based on liturature include: Young, Palo Pinto, Hood, Somervell, Bosque, Hill, Johnson
Carolinae Tryonia	*Tryonia oasiensis*	Note: Not currently mapped by RTEST. See habitat description. County location based on liturature: Terrell
Comanche Springs Pupfish	*Cyprinodon elegans*	Note: This species is listed by TPWD but not by IPaC in the following county: Pecos.
Eskimo Curlew	*Numenius borealis*	Note: This species is listed by TPWD but not by IPaC in the following counties: Cameron, Cooke, Galveston, Kendall, San Patricio, Washington.
False Spike	*Fusconaia (=Quadrula) mitchelli*	Note: This species is listed by TPWD but not by IPaC in the following counties: Bastrop, Blanco, Burnet, Caldwell, Comal, Concho, Dewitt,
Fountain Darter	*Etheostoma fonticola*	Note: This species is listed by TPWD but not by IPaC in the following counties: Caldwell, Gonzales, Guadalupe.
Geocarpon Minimum	*Geocarpon minimum*	Note: This species is listed by TPWD but not by IPaC in the following county: Gregg, Palo Pinto

Common Name	Scientific Name	Notes
Golden-cheeked Warbler	*Setophaga chrysoparia (formerly Dendroica chrysoparia)*	Note: This species is listed by TPWD but not by IPaC in the following county: Parker.
Gonzales Tryonia	*Tryonia circumstriata*	Note: This species is listed by TPWD but not by IPaC in the following county: Terrell.
Great Hammerhead	*Sphyrna mokarran*	Note: Not currently mapped by RTEST. See habitat description.
Jollyville Plateau Salamander	*Eurycea tonkawae*	
Killer Whale	*Orcinus orca*	
Largetooth Sawfish	*Pristis pristis*	
Louisiana Pigtoe	*Pleurobema riddellii*	
Mexican Spotted Owl	*Strix occidentalis lucida*	
North Atlantic Right Whale	*Eubalaena glacialis*	
Oceanic Whitetip Shark	*Carcharhinus longimanus*	
Opossum Pipefish	*Microphis brachyurus*	
Phantom Springsnail	*Cochliopa (=Pyrgulopsis) texana*	
Pillar Coral	*Dendrogyra cylindrus*	
Rafinesque's Big-eared Bat	*Corynorhinus rafinesquii*	
Ocelot	*Leopardus (=Felis) pardalis*	Note: This species is listed by TPWD but not by IPaC in the following counties: Kinney, Uvalde.
Ouachita Rock Pocketbook	*Arcidens (=Arkansia) wheeleri*	Note: This species is listed by TPWD but not by IPaC in the following counties: Lamar, Red River.
Rio Grande Chub	*Gila pandora*	
Rio Grande Silvery Minnow	*Hybognathus amarus*	
San Marcos Gambusia	*Gambusia georgei*	
Sei Whale	*Balaenoptera borealis*	
Slender Rush-pea	Hoffmannseggia tenella	
Rio Grande Darter	*Etheostoma grahami*	Note: This species is listed by TPWD but not by IPaC in the following counties: Crockett, Kinney, Maverick, Terrell, Val Verde, Webb.
Spotfin Gambusia	*Gambusia krumholzi*	
San Marcos Salamander	*Eurycea nana*	Note: This species is listed by TPWD but not by IPaC in the following county: Caldwell.
Sharpnose Shiner	*Notropis oxyrhynchus*	Note: This species is listed by TPWD but not by IPaC in the following counties: Austin, Bosque, Brazos, Burleson, Coke, Falls, Foard, Fort Bend, Garza, Hill, Limestone, McLennan, Milam, Mills, Robertson, San Saba, Travis, Waller, Washington, Wilbarger.
Texas Ayenia	*Ayenia limitaris*	
Texas Fatmucket	*Lampsilis bracteata*	Note: This species is listed by TPWD but not by IPaC in the following county: Llano.
Spotted Bat	*Euderma maculatum*	Note: This species is listed by TPWD but not by IPaC in the following county: Brewster.
Texas Horned Lizard	*Phrynosoma cornutum*	
Texas Pigtoe	*Fusconaia askewi*	

SPECIES ANALYSIS SUMMARY NOTES

Common Name	Scientific Name	Notes
Texas Blind Salamander	*Eurycea rathbuni*	Note: This species is listed by TPWD but not by IPaC in the following counties: Blanco, Caldwell, Guadalupe.
Texas Fawnsfoot	*Truncilla macrodon*	Note: This species is listed by TPWD but not by IPaC in the following counties: Brazoria, Haskell, Jones, McLennan, Parker.

Taxon	Species (Common Name)	Reference1	Reference 2	Reference 3	Reference 4
All	All Species	NatureServe Explorer website http://explorer.natureserve.org	TPWD RTEST website https://tpwd.texas.gov/gis/rtest/ May 21, 2020 version retrieved June 20, 2020	USFWS ECOS website https://ecos.fws.gov/ Retrieved August 16, 2019.	USFWS IPAC website https://ecos.fws.gov/ipac/ Retrieved August 2019.
Amphibians	Austin Blind Salamander	Chamberlain, D. A. and L. O'Donnell. 2003. City of Austin's captive breeding program for the Barton Springs and Austin blind salamanders (January 1-December 31, 2002). City of Austin Watershed Protection and Development Review Department annual permit (PRT-839031) report.	Hillis, D. M., D. A. Chamberlain, T. P. Wilcox, and P. T. Chippindale. 2001. A new species of subterranean blind salamander (Plethodontidae: Hemidactyliini: Eurycea: Typhlomolge) from Austin, Texas, and a systematic revision of central Texas paedomorphic salamanders. Herpetologica 57:266-280.		
Amphibians	Barton Springs Salamander	https://tpwd.texas.gov/huntwild/wild/species/bartonspringssalamander/	https://www.iucnredlist.org/species/8392/12909469		
Amphibians	Georgetown Salamander	http://explorer.natureserve.org/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=105895&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=105895&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=105895			
Amphibians	Jollyville Plateau Salamander	http://explorer.natureserve.org/servlet/NatureServe?searchName=Eurycea+tonkawae	http://www.austintexas.gov/content/1361/FAQ/4646		
Amphibians	Salado Salamander	https://amphibiaweb.org/species/5378	https://www.iucnredlist.org/species/59271/11908207#habitat-ecology		
Arachnids	Bee Creek Cave Harvestman	http://explorer.natureserve.org/servlet/NatureServe?searchName=Texella+reddelli	https://ecos.fws.gov/docs/federal_register/fr1473.pdf		
Arachnids	Tooth Cave Pseudoscorpion	https://ecos.fws.gov/docs/five_year_review/doc5773.pdf	https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=J00A		
Birds	Black Rail	https://ebird.org/species/blkrai	https://www.allaboutbirds.org/guide/Black_Rail/id		
Birds	Golden-cheeked Warbler	Groce, J., H.A. Mathewson, M.L. Morrison, N. Wilkins. 2010. Scientific evaluation for the 5-year status review of the golden-cheeked warbler. Prepared for U.S. Fish and Wildlife Service	Ladd, C. G. 1985. Nesting habitat requirements of the golden-cheeked warbler. M.S. thesis. Southwest Texas State University. San Marcos, Texas, USA.		
Birds	Swallow-tailed Kite	https://txtbba.tamu.edu/species-accounts/swallow-tailed-kite/	https://www.audubon.org/field-guide/bird/swallow-tailed-kite		
Birds	Whooping Crane	https://www.allaboutbirds.org/guide/Whooping_Crane/lifehistory			
Birds	Zone-tailed Hawk	https://txtbba.tamu.edu/species-accounts/zone-tailed-hawk	https://www.nwf.org/Educational-Resources/Wildlife-Guide/Birds/Whooping-Crane		
Fishes	Smalleye Shiner	http://txstate.fishesoftexas.org/notropis%20buccula.htm			
Insects	Coffin Cave Mold Beetle	http://explorer.natureserve.org/servlet/NatureServe?searchName=Batrisodes+texanus	https://bugguide.net/node/view/443852		
Insects	Kretschmarr Cave Mold Beetle	https://ecos.fws.gov/docs/five_year_review/doc5771.pdf	https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=3140		
Mollusks	Brazos Heelsplitter	Smith, C.H., Johnson, N.A., Inoue, K., Doyle, R.D. 2019. Integrative Taxonomy Reveals a New Species of Freshwater Mussel, Potamilus streckersoni sp. Nov. (Bivalvia: Unionidae): Implications for Conservation and Management. Systematics and Biodiversity. 17(4). https://www.tandfonline.com/doi/full/10.1080/14772000.2019.1607615			
Mollusks	False Spike	http://explorer.natureserve.org/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=SYN.121144&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=SYN.121144&offPageSelectedElType=species_synonymn&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=SYN.121144	https://www.fws.gov/southwest/es/Documents/R2ES/AUES_Mussel_Summit_3_Robertson&Pandolfi.pdf		
Plants	Bracted Twistflower	https://tpwd.texas.gov/gis/rtest/	Poole, J.M., W. R. Carr, D.M. Price and J.R. Singhurst. 2007. Rare Plants of Texas. Texas A&M University Press, College Station.		
Reptiles	Texas Horned Lizard	https://tpwd.texas.gov/huntwild/wild/species/thlizard/			

SPECIES ANALYSIS SUMMARY (ADDENDUM)
Project Name: Capital Express North (IH 35) Roadway Improvements
CSJ(s): 0015-10-062, 0015-13-389

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Federal Status	Effect/Take Determination for Federally Listed Species	State Status	Impact Determination for State-Listed Species	Explanation for Effect/Take and/or Impact Determination	Presence/ Absence survey conducted?

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis+A2:J75	Amphibians	Pedernales River Springs salamander	Eurycea sp. 6	Aquatic; springs, streams and caves with rocky or cobble beds.	N	No springs or caves are located within the project area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N
Williamson	Amphibians	Southern crawfish frog	Lithobaites areolatus areolatus	Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.	N	No suitable prairie habitat is located in the project area.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Amphibians	Strecker's chorus frog	Pseudacris streckeri	Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.	N	The project is located in a heavily developed urban area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Amphibians	Woodhouse's toad	Anaxyrus woodhousii	Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.	Y	Forested and riparian habitats are present within the project area.	May impact	Vegetation clearing may occur within the forested riparian areas of the project area.	N
Travis, Williamson	Birds	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.	N	No high plains or shortgrass prairies are located within the project area.	No impact	No suitable habitat present within the project area.	N

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis, Williamson	Birds	Franklin's gull	Leucophaeus pipixcan	This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.	Y	No lake shores, islands, or wetlands are located within the Williamson County portion of the project area. A wetland is located along Gilleland Creek in the Travis County portion of the project area; however, no impacts would occur to this wetland.	No impact	No impacts to the wetland along Gilleland Creek in the project area would occur.	N
Travis, Williamson	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.	N	No open grasslands, prairies, plains and savannas or vacant lots are located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis	Fish	American eel	Anguilla rostrata	Originally found in all river systems from the Red River to the Rio Grande. Aquatic habitats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.	N	The project is located in a heavily developed urban area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Fish	Guadalupe Bass	Micropterus treculii	Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.	N	No springs in the project area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis, Williamson	Fish	Texas shiner	Notropis amabilis	In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.	Y	Perennial waterbodies are present within the project area in Travis County. There are no perennial waterbodies within the Williamson County portion of this project.	May impact	Suitable habitat is present within the project area.	N
Travis	Fish	silverband shiner	Notropis shumardi	In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.	N	The project is not located between the Red River and Lavaca River.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	big brown bat	Eptesicus fuscus	Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.	N	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area; however, a review of the historic range of this species makes it very unlikely that this species would be encountered within the project area.	No impact	This species is not known to occur within the vicinity of the project area.	Y

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis, Williamson	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	N	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area; howver, a review of the historic range and roosting preferences of this species make it very unlikely that this species would be encountered within the project area.	No impact	This species is not known to occur within the vicinity of the project area.	Y
Travis, Williamson	Mammals	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.	Y	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area.	May impact	The BMP PA for bats consists of measure to avoid harming or indirectly impacting this species. Therefore, coordination is not required.	Y

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis, Williamson	Mammals	tricolored bat	Perimyotis subflavus	Forest, woodland and riparian areas are important. Caves are very important to this species.	N	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area; however, a review of the historic range of this species makes it very unlikely that this species would be encountered within the project area.	No impact	This species is not known to occur within the vicinity of the project area.	Y
Travis, Williamson	Mammals	eastern red bat	Lasiurus borealis	Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.	N	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area; however, a review of the historic range of this species makes it very unlikely that this species would be encountered within the project area.	No impact	This species is not known to occur within the vicinity of the project area.	Y

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Travis, Williamson	Mammals	hoary bat	Lasiurus cinereus	Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.	N	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area; however, a review of the historic range of this species makes it very unlikely that this species would be encountered within the project area.	No impact	This species is not known to occur within the vicinity of the project area.	Y
Travis, Williamson	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.	Y	A presence/absence survey performed 08/16/2019, was completed within the project area. Unknown species of bats were determined to be present at multiple bridges within the project area.	May impact	The BMP PA for bats consists of measure to avoid harming or indirectly impacting this species. Therefore, coordination is not required.	Y
Travis	Mammals	Mexican long-tongued bat	Choeronycteris mexicana	Only Texas record is from riparian forest; in general--neotropical nectivorous species roosting in caves, mines, and large crevices found in deep canyons along the Rio Grande ; also found in buildings and often associated with big-eared bats (Plecotus spp.); single TX record from Santa Ana NWR	N	Although bats were determined to be present within the project area, the project area is not located within the South Texas Region. No caves, mines or large crevices found in deep canyons are located within the project area.	No impact	No suitable habitat present within the project area.	Y

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Travis, Williamson	Mammals	mink	Neovison vison	Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.	N	A review of the historical range of this species determined that it would be unlikely to occur within the Austin Area, and the highly urbanized nature of the project area would make it very unlikley this species would be present.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	long-tailed weasel	Mustela frenata	Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	American badger	Taxidea taxus	Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in underground burrows.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	Eastern spotted skunk	Spilogale putorius	Generalist; 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.	Y	The project area contains forest edges and woodlands along with fence vegetation ajdacent to open fields.	May impact	Suitable habitat is present within the project area.	N
Williamson	Mammals	western spotted skunk	Spilogale gracilis	Brushy canyons, rocky outcrops (rimrock) on hillsides and walls of canyons. In semi-arid brushlands in U.S., in wet tropical forests in Mexico. When inactive or bearing young, occupies den in rocks, burrow, hollow log, brush pile, or under building.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	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.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	mountain lion	Puma concolor	Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	Southern short-tailed shrew	Blarina carolinensis	Found in East Texas pine forests and agricultural land. May favor areas with abundant leaf litter and fallen logs (Baumgardner et al. 1992). Nest sites are probably under logs, stumps and other debris.	N	Project not located in East Texas pine forests or agricultural lands.	No impact	No suitable habitat present within the project area.	N

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Travis	Mammals	Aransas short-tailed shrew	Blarina hylophaga plumbea	Excavates burrows in sandy soils underlying mottes of live oak trees or in areas with little to no ground cover.	N	There is extensive herbaceous ground cover throughout the project area. It is also a highly developed urban area.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	Swamp rabbit	Sylvilagus aquaticus	Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.	N	The project area is highly disturbed and maintained. Water is not available at times during drought conditions.	No impact	No suitable habitat present within the project area.	N
Williamson	Mammals	Thirteen-lined ground squirrel	Thirteen-lined ground squirrel	Prefers short grass prairies with deep soils for burrowing. Frequently found in grazed ranchland, mowed pastures, and golf courses.	N	The project area does not contain suitable maintained habitat within the Williamson County portion of the project area.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Mammals	Woodland vole	Microtus pinetorum	Include grassy marshes, swamp edges, old-field/pine woodland ecotones, tallgrass fields; generally sandy soils.	N	The project area does not contain grassy marshes, swamp edges, tallgrass fields, or field/pine woodland ecotones.	No impact	No suitable habitat present within the project area.	N
Travis	Reptiles	Texas map turtle	Graptemys versa	Aquatic: Primarily a river turtle but can also be found in reservoirs. Can be found in deep and shallow water with sufficient basking sites (emergent rocks and woody debris).	N	No rivers with deep or shallow water are located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Reptiles	eastern box turtle	Terrapene carolina	Terrestrial: 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.	N	The project is located in a heavily developed urban area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N

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Travis, Williamson	Reptiles	Texas garter snake	Thamnophis sirtalis annectens	Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.	N	The project area is highly urbanized and does not provide the grasslands and open areas along streams preferred by this species.	No impact	No suitable habitat present within the project area.	N
Williamson	Reptiles	Timber rattlesnake	Crotalus horridus	Terrestrial; Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limesatone bluffs, sandy soil, or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.	N	There is no suitable habitat for this species within the Williamson County portion of the project.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Reptiles	Slender glass lizard	Ophisaurus attenuatus	Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.	N	No open habitat types preferred by this species exist within the project area.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Reptiles	western box turtle	Terrapene ornata	Terrestrial: Ornate or western box trutles 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.	N	The project is located in a heavily developed urban area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N
Travis	Reptiles	plateau spot-tailed earless lizard	Holbrookia lacerata	Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).	N	No moderately open prairie-brushland regions, prairie savanna, or active agriculture are located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis	Crustaceans	Ezell's Cave amphipod	Stygobromus flagellatus	Known only from artesian wells	N	No artesian wells are located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis	Crustaceans	Balcones Cave amphipod	Stygobromus balconis	Subaquatic, subterranean obligate amphipod	N	No karst features are located within or adjacent to the project area.	No impact	No suitable habitat present within the project area.	N

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Williamson	Insects	Coffin Cave Mold Beetle	Batrisodes cryptotexanus	Resident, small, cave-adapted beetle found in small Edwards Limestone caves in Travis and Williamson counties.	N	No karst features are located within or adjacent to the project area.	No impact	No suitable habitat present within the project area.	N
Williamson	Insects	No accepted common name	Pseudocentroptiloides morihari	Mayflies distunguished by aquatic larval stage; adult state generally found in shoreline vegetation.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Williamson	Insects	No accepted common name	Procloeon distinctum	Mayflies distunguished by aquatic larval stage; adult state generally found in shoreline vegetation.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Insects	No accepted common name	Neotrichia juani	Specimens were collected from perennial and ephemeral rivers, and small spring-fed streams (Harris and Tiemann 1993).	N	The project is located in a heavily developed urban area. Streams in the project area periodically dry out during drought events. The only streams in the project area are highly degraded urban streams with a heavily scoured bedrock bottom that would not provide suitable habitat.	No impact	No suitable habitat present within the project area.	N
Travis	Arachnids	Bandit Cave spider	Cicurina bandida	Very small, subterrestrial, subterranean obligate	N	No karst features are located within or adjacent to the project area.	No impact	No suitable habitat present within the project area.	N
Williamson	Plants	Big flower cornsalad	Valerianella stenocarpa	Usually along creekbeds or in vernally moist grassy open areas (Carr 2015).	N	The project area is highly disturbed and maintained and does not contain creekbeds within Williamson County.	No impact	No suitable habitat present within the project area.	N
Williamson	Plants	Elmendorf's onion	Allium elmendorfii	Grassland openings in oak woodlands on deep, loose, well-drainaed sands; in Coastal Bend, on Pleistocene barrier island ridges and Holocene San Sheet that support live oak woodlands; to the north it occurs in post oak-black hickory-live oak woodlands over Queen City and similar Eocene formations; one anomalous specimen found on Llano Uplift in wet pockets of granite loam; Perennial; Flowering March-April, May.	N	The project area is highly disturbed and maintained and does not contain creekbeds within Williamson County.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	gravelbar brickellbush	Brickellia dentata	Essentially restricted to frequently-scoured gravelly alluvial beds in creek and river bottoms; Perennial; Flowering June-Nov; Fruiting June-Oct.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N

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Travis, Williamson	Plants	Heller's marbleseed	Onosmodium helleri	Occurs in loamy calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in more mesic portions of canyons; Perennial; Flowering March-May	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	plateau milkvine	Matelea edwardsensis	Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June	N	No juniper-oak and oak-juniper woodlands are located within the project area.	No impact	No suitable habitat present within the project area.	N
Williamson	Plants	Texas claret-cup cactus	Echinocereus coccineus var. paucispinus	Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedin 2004).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	tree dodder	Cuscuta exaltata	Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct.	Y	The project area does contain host species within the Travis County portion of the project.	May impact	Suitable host species were present within Travis County project area.	N
Travis, Williamson	Plants	Wright's milkvetch	Astragalus wrightii	On sandy or gravelly soils; April (Diggs et al. 1999).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	Plateau loosestrife	Lythrum ovalifolium	Banks and gravelly beds of perennial (or strong intermittent) streams on the Edwards Plateau, Llano Uplift and Lampasas Cutplain; Perennial; Flowering/Fruiting April-Nov.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	arrowleaf milkvine	Matelea sagittifolia	Most consistently encountered in thornscrub in South Texas; Perennial; Flowering March-July; Fruiting April-July and Dec?	N	The project area is not located within South Texas and no thornscrub is located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	narrowleaf brickellbush	Brickellia eupatorioides var. gracillima	Moist to dry gravelly alluvial soils along riverbanks but also on limestone slopes; Perennial; Flowering/Fruiting April-Nov	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	spreading leastdaisy	Chaetopappa effusa	Limestone cliffs, ledges, bluffs, steep hillsides, sometimes in seepy areas, oak-juniper, oak, or mixed deciduous woods, 300-500 m elevation; Perennial; Flowering (May) July-Oct	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	glandular gay-feather	Liatris glandulosa	Occurs in herbaceous vegetation on limestone outcrops (Carr 2015)	N	No limestone outcrops are located within the project area.	No impact	No suitable habitat present within the project area.	N

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Travis	Plants	Texas barberry	Berberis swaseyi	Shallow calcareous stony clay of upland grasslands/shrublands over limestone as well as in loamier soils in openly wooded canyons and on creek terraces; Perennial; Flowering/Fruiting March-June	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Engelmann's bladderpod	Physaria engelmannii	Grasslands and calcareous rock outcrops in a band along the eastern edge of the Edwards Plateau, ranging as far north as the Red River (Carr 2015).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	basin bellflower	Campanula reverchonii	Among scattered vegetation on loose gravel, gravelly sand, and rock outcrops on open slopes with exposures of igneous and metamorphic rocks; may also occur on sandbars and other alluvial deposits along major rivers; flowering May-July	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Texabama croton	Croton alabamensis var. texensis	In duff-covered loamy clay soils on rocky slopes in forested, mesic limestone canyons; locally abundant on deeper soils on small terraces in canyon bottoms, often forming large colonies and dominating the shrub layer; scattered individuals are occasionally on sunny margins of such forests; also found in contrasting habitat of deep, friable soils of limestone uplands, mostly in the shade of evergreen woodland mottes; flowering late February-March; fruit maturing and dehiscing by early June	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	low spurge	Euphorbia peplidion	Occurs in a variety of vernally-moist situations in a number of natural regions; Annual; Flowering Feb-April; Fruiting March-April	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Texas amorpha	Amorpha roemeriana	Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Texas milk vetch	Astragalus reflexus	Grasslands, prairies, and roadsides on calcareous and clay substrates; Annual; Flowering Feb-June; Fruiting April-June	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	net-leaf bundleflower	Desmanthus reticulatus	Mostly on clay prairies of the coastal plain of central and south Texas; Perennial; Flowering April-July; Fruiting April-Oct	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	canyon bean	Phaseolus texensis	Narrowly endemic to rocky canyons in eastern and southern Edwards Plateau occurring on limestone soils in mixed woodlands, on limestone cliffs and outcrops, frequently along creeks.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	turnip-root scurfea	Pediomelum cyphocalyx	Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N

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Travis	Plants	canyon mock-orange	Philadelphus texensis var. ernestii	Usually found growing from honeycomb pits on outcrops of Cretaceous limestone exposed as rimrock along mesic canyons, usually in the shade of mixed evergreen-deciduous canyon woodland; flowering April-June, fruit dehiscing September-October	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Stanfield's beebalm	Monarda stanfieldii	Largely confined to granite sands along the middle course of the Colorado River and its tributaries; Perennial	N	The Colorado River is not located within the project area.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Correll's false dragon-head	Physostegia correllii	Wet, silty clay loams on streamsides, in creek beds, irrigation channels and roadside drainage ditches; or seepy, mucky, sometimes gravelly soils along riverbanks or small islands in the Rio Grande; or underlain by Austin Chalk limestone along gently flowing spring-fed creek in central Texas; flowering May-September	Y	Creek beds are present within the project area, and the species has been recorded as occuring in the area per NDD sightings.	May impact	Suitable habitat is present within the project area.	N
Travis	Plants	scarlet leather-flower	Clematis texensis	Usually in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams; Perennial; Flowering March-July; Fruiting May-July	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Greenman's bluet	Houstonia parviflora	Grass pastures. Feb- Apr. (Correll and Johnston 1970).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Texas seymeria	Seymeria texana	Found primarily in grassy openings in juniper-oak woodlands on dry rocky slopes but sometimes on rock outcrops in shaded canyons; Annual; Flowering May-Nov; Fruiting July-Nov	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	sycamore-leaf snowbell	Styrax platanifolius ssp. platanifolius	Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	rock grape	Vitis rupestris	Occurs on rocky limestone slopes and in streambeds; Perennial; Flowering March-May; Fruiting May-July	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	canyon sedge	Carex edwardsiana	Dry-mesic decidous and deciduous-juniper woodlands in canyons and ravines, usually in clay loams very high in calcium on rocky banks and slopes just above streams and stream beds. Carex edwardsiana usually grows near C. planostachys. Fruiting spring (Ball, Reznicek, and 2003).	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Glass Mountains coral-root	Hexalectris nitida	Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under Juniperus ashei in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N

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Travis	Plants	Warnock's coral-root	Hexalectris warnockii	In leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons; in the Trans Pecos in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 m [6550 ft]), primarily on igneous substrates; in Terrell County under Quercus fusiformis mottes on terrraces of spring-fed perennial streams, draining an otherwise rather xeric limestone landscape; on the Callahan Divide (Taylor County), the White Rock Escarpment (Dallas County), and the Edwards Plateau in oak-juniper woodlands on limestone slopes; in Gillespie County on igneous substrates of the Llano Uplift; flowering June-September; individual plants do not usually bloom in successive years	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Texas fescue	Festuca versuta	Occurs in mesic woodlands on limestone-derived soils on stream terraces and canyon slopes; Perennial; Flowering/Fruiting April-June	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis	Plants	Buckley tridens	Tridens buckleyanus	Occurs in juniper-oak woodlands on rocky limestone slopes; Perennial; Flowering/Fruiting April-Nov	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N
Travis, Williamson	Plants	Texas almond	Prunus minutiflora	Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept.	N	The project area is highly disturbed and maintained.	No impact	No suitable habitat present within the project area.	N