Draft Environmental Assessment

Farm to Market (FM) Road 6

Project Limits: From SH 78 to FM 1777

CSJ: 0619-01-027

Collin County, Texas

February 21, 2024

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.

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Acronyms

AADT	annual average daily traffic
APE	area of potential effects
BG	block group
BMP	Best Management Practice
CAFE	Corporate Average Fuel Economy
CFR	Code of Federal Regulations
CGP	Construction General Permit
CRIS	Crash Record Information System
CMAQ	Congestion Mitigation and Air Quality
CMP	congestion management process
CO	carbon monoxide
CR	County Road
CWA	Clean Water Act
dB(A):	A-weighted decibel level
DHHS	Department of Health and Human Services
DNT	Dallas North Tollway
DPM	diesel particulate matter
EA	Environmental Assessment
EIS	Environmental Impact Statement
EFH	The Essential Fish Habitat
EMST	Ecological Mapping Systems of Texas
EO	Executive Order
EPA	Environmental Protection Agency
EPIC	Environmental Permits, Issues and Commitments
ERLT	Emission Rate Lookup Tables
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Farm to Market
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GHG	greenhouse gas
IBWC	International Boundary Water Commission
IPAC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
ISA	Initial Site Assessment
LEP	Limited English Proficiency
Leq	Equivalent Noise Level
MBTA	Migratory Bird Treaty Act
MMT	million metric tons
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSAT	Mobile Source Air Toxics
MTP	Metropolitan Transportation Plan

NAAQS	National Ambient Air Quality Standards
NAC	FHWA Noise Abatement Criteria
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
PA-TU	First Amended Programmatic Agreement among the FHWA, TxDOT, the Texas SHPO, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings
PCN	Pre-construction Notification
PM	particulate matter
ppm	parts per million
PS&E	Plans, Specifications, and Estimates
ROE	Right of entry
ROW	Right-of-way
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOV	single occupancy vehicle
SW3P	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TCMP	Texas Coastal Zone Management Plan
TDM	Travel Demand Management
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TPDES	Texas Pollutant Discharge Elimination System
TPP	Transportation Planning and Programming
TPWD	Texas Parks & Wildlife Department
TSM	Traffic System Management
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
US or U.S.	United States
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard

USDA	United States Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled

1.0 Introduction

The Texas Department of Transportation (TxDOT) Dallas District proposes improvements along Farm-to-Market (FM) Road 6 in Collin County, Texas (see **Figure 1** in **Appendix A**). The purpose of this Environmental Assessment (EA) is to study the potential environmental consequences of the proposed project and to determine whether such consequences warrant the preparation of an Environmental Impact Statement (EIS). The EA is prepared to comply with both TxDOT's environmental review rules and the National Environmental Policy Act (NEPA). The EA will be made available for public review and TxDOT will consider any comments submitted following the comment period. If TxDOT determines that there are no significant adverse effects, it will prepare and sign a Finding of No Significant Impact (FONSI), which will be made available to the public.

2.0 Project Description

2.1 Existing Facility

Existing facility FM 6 (see **Appendix B**) from SH 78 to FM 1777 has two travel lanes, one travel lane in each direction, 1-foot wide outside shoulders, grass-lined drainage ditches, and intermittent center left turn lanes. Existing lanes are each 11.5-feet wide, with no median. Right of way (ROW) is typically 60-feet to 100-feet wide. There are no sidewalks or shared use paths along the extent of FM 6 within the project limits.

A safety improvement job is currently under construction along the FM 6 project limits. The construction involves updating FM 6 to two 11-foot travel lanes, 3-ft wide shoulders, and rumble strips. The existing driveway culverts are also being replaced. The current work is anticipated to be completed in Winter 2023.

2.2 Proposed Facility

The proposed facility (See **Appendix C**) is consistent along the entire length of the proposed project. The proposed facility includes an ultimate phase of six 12-foot-wide travel lanes (3 lanes in each direction), with an interim phase of four 12-foot-wide lanes (2 lanes in each direction). Proposed ROW would typically be 140-feet, with a maximum ROW width of 220 feet. The 220-foot ROW width occurs in several locations where the bridge segments occur.

2.3 Logical Termini and Independent Utility

Federal regulations require that federally funded transportation projects have logical termini (23 CFR 771.111[f][1]). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. The limits for the proposed improvements are the major cross-streets. of SH 78 and FM 1777.

Federal regulations require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area (23 CFR 771.111[f][2]). This means a project must be able to provide benefit by itself and must not compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The proposed project can stand on its own without the implementation of other traffic improvements as the project provides improved mobility along FM 6 without the need for improvements to adjacent facilities. Because the proposed project stands alone, it does not irretrievably commit federal funds for other transportation projects.

Federal law prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements (23 CFR 771.111[f][3]). This means that a project must not dictate or restrict any future roadway alternatives. The proposed project would not restrict the consideration of alternatives for other foreseeable transportation improvements because the proposed improvements would not preclude the future widening of adjacent roadway facilities or the development of other transportation modes or routes.

2.4 Planning Consistency

Both the financially constrained 2045 Metropolitan Transportation Plan (MTP) and the 2023–2026 Transportation Improvement Program (TIP) were found to conform to the Texas Commission on Environmental Quality (TCEQ) State Implementation Plan (SIP) by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) on December 15, 2022. Additionally, FHWA concurred on the determination of project level conformity on July 28, 2023.

3.0 Purpose and Need

3.1 Need

The proposed improvements are needed because the existing two-lane FM 6 roadway between the intersections of SH 78 and FM 1777 in Collin County is inadequate to meet future traffic volumes, resulting in congestion and reduced mobility, and is a risk to motorist safety because of roadway design deficiencies.

3.2 Supporting Facts and/or Data

3.2.1 Traffic

Traffic data for the baseline year 2025 and future year 2045 show an annual average daily traffic (AADT) volume of 12,100 and 16,550 vehicles per day, respectively. The future (2045)

projections for traffic volumes indicate a 37 percent increase from the 2025 levels, and this increased volume would lead to even further decreases in mobility along the highway.

3.2.2 Safety

The existing FM 6 roadway has design deficiencies, such as little to no shoulders, no designated left turn lanes, no signalized intersections, and limited amount of lanes to accommodate proper traffic movement, that lead to increased risks to motorists.

According to the TxDOT Crash Record Information System (CRIS), there were 127 crashes along FM 6 within the limits of the proposed project between 2018 and 2022. Among these 127 crashes, there was 1 fatality, 8 suspected serious injury crashes, 15 suspected minor injury crashes, 16 possible injury crashes, 84 non injury crashes and 3 crashes with unknown injury type. Compared to similar Rural Farm to Market highway system statewide between 2018 and 2022, FM 6 calculated average crash rates were below the statewide average rates in terms of the rate of crashes per 100 million vehicle miles in 2018, 2020, and 2022. However, for 2019 and 2021, the FM 6 calculated crash rates were above the statewide average crash rates (Jacobs, 2023).

3.2.3 Population Data

Population data related to the proposed project area shows substantial increases over the past several decades. As can be seen in **Table 3.2-1** below, the cities present along the proposed project corridor have seen increases in population over the past several decades, especially within the past ten years. These growth trends are anticipated to continue. This population growth would lead to increased congestion and therefore decreased mobility along the corridor.

Table 3.2-1. Population Data

Region	1980	1990	2000	2010	2020
Josephine	*416	503	594	812	2,119
Nevada	400	456	563	822	1,314
Lavon	306	303	387	2,219	4,469

*Population data is for the year 1982.
Source: Texas State Historical Association, 1995 & 2019. US Census Bureau 2000, 2010, and 2020.

3.3 Purpose

The purpose of the project is to reduce congestion, improve mobility and safety, and correct access conflicts.

4.0 Alternatives

4.1 Build Alternative

The Build Alternative is described in **Section 2.0** and includes the reconstruction of 7.88 miles of FM 6 from SH 78 to FM 1777 in Collin County, Texas. FM 6 is proposed to be a four-lane, ultimate six-lane, urban collector street within an anticipated ROW width of 140 to 220 feet depending on location. The roadway facility would also include shoulders, dedicated turn lanes, and shared use paths. The shared use paths would be included along both the south and north sides of the roadway alignment. The Build Alternative would require the acquisition of approximately 53 acres of new ROW and 0.05 acre of permanent drainage easement.

The build alternative meets the need and purpose by providing additional capacity to improve mobility and congestion, improves design deficiencies, and improves free-flow traffic conditions which improves safety.

4.2 No-Build Alternative

The No-Build Alternative would result in TxDOT taking none of the actions described in **Section 2.0**, and consequently the mobility improvements anticipated as a result of the Build Alternative would not occur. The Build Alternative is, therefore, the preferred alternative. The No-Build Alternative would not result in the impacts to the natural and human environment described in the following sections. Despite not meeting the purpose and need for the proposed project, the No-Build Alternative is carried forward for comparison purposes.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

The Build and No-Build Alternatives were the only alternatives considered for this project.

5.0 Affected Environment and Environmental Consequences

Environmental issues were a primary focus in the planning, design, and environmental analysis processes. In support of this EA, the following technical reports were prepared and may be inspected and copied upon request at the TxDOT Dallas District Office:

- Community Impact Assessment Technical Report Form
- Archeological Resources Survey Report
- Historic Resources Survey Report
- Water Features Delineation Report
- Species Analysis Form and Spreadsheet
- Air Quality Technical Report
- Hazardous Materials Initial Site Assessment

- Traffic Noise Analysis Technical Report
- Indirect Effects Technical Report
- Cumulative Impacts Technical Report

Resource categories with the potential to be affected by the implementation of the proposed project are summarized in the following sections.

5.1 Right of Way/Potential Displacements

The project would require the acquisition of approximately 53 acres of new ROW and 0.05 acre of permanent drainage easement (see **Appendix C**).

The proposed project would potentially displace twenty-one single-family homes and one commercial facility. All acquisitions and relocations would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970. Relocation resources would be available to all residential and business owners without discrimination. The proposed project is not anticipated to result in separation or isolation of any groups of people or areas. See below for a list of potential displacements:

- 710 W FM 6 NEVADA, TX 75173 (Residential)
- 515 W FM 6 NEVADA, TX 75173 (Residential)
- 7977 N COLE ST NEVADA, TX 75173 (Residential)
- 101 W FM 6 NEVADA, TX 75173 (Residential)
- 101 E FM 6 NEVADA, TX 75173 (Residential)
- 109 E FM 6 NEVADA, TX 75173 (Residential)
- 211 E FM 6 NEVADA, TX 75173 (Residential)
- 301 E FM 6 NEVADA, TX 75173 (Residential)
- 313 E FM 6 NEVADA, TX 75173 (Residential)
- 317 E FM 6 NEVADA, TX 75173 (Residential)
- 1101 W COOK ST JOSEPHINE, TX 75173 (Commercial)
- 713 W COOK ST JOSEPHINE, TX 75173 (Residential)
- 707 W COOK ST JOSEPHINE, TX 75173 (Residential)
- 603 W COOK ST JOSEPHINE, TX 75173 (Residential)
- 101 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 107 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 109 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 113 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 203 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 205 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 207 E COOK ST JOSEPHINE, TX 75173 (Residential)
- 301 E COOK ST JOSEPHINE, TX 75173 (Residential)

No-Build Alternative

Under the No-Build Alternative, no ROW or easements would be acquired, and no potential residential or commercial displacements would occur.

5.2 Land Use

The land use within the project area is predominantly undeveloped agricultural land and single-family residential. Single-family residential lots and residential neighborhoods occur adjacent to the FM 6 project corridor, specifically the central portion of the project limits, which transects the City of Nevada, and the eastern portion, which transects the City of Josephine.

The City of Josephine's Main Street area is predominantly residential, with some commercial and government facilities, such as a city park, City Hall, a historic church, a used-goods store, and a restaurant. The City of Nevada and the City of Josephine host a majority of the community facilities found near the proposed project, and are part of Community Independent School District which has a high school 1-mile north of the central portion of the proposed project limits. Several recently built large neighborhoods occur near the western and eastern termini of the proposed project. Residents living along FM 6 and within the city limits of Nevada and Josephine use FM 6 daily to access the community facilities (such as public parks, places of worship, and daycares). Very few industrial areas are found within close proximity to the proposed project.

Up until 2000, the surrounding area to FM 6 was largely rural, undeveloped land, with only minor developments occurring immediately within the city limits of Josephine and Nevada. After 2000, residential developments were built along the western portions of FM 6 near the intersection with SH 78, in Lavon, and near the eastern terminus of the proposed project, in Josephine.

The project is not anticipated to change the overall land use character of the FM 6 project area, which is a mix of agricultural, limited commercial, and residential land uses. Future roadway-adjacent development is planned and currently, undeveloped land is likely to be converted to suburban use. It is anticipated the corridor would continue to develop, and the proposed improvements would not conflict with current or future land use.

No-Build Alternative

Under the No-Build Alternative, additional ROW or easements would not be acquired and no land uses would be converted to transportation use.

5.3 Farmlands

The proposed project would convert soil types subject to the Farmland Protection Policy Act (FPPA) to a nonagricultural, transportation use. As such, conversion causes non-adverse effects. Based on the Farmland Conversion Impact Rating Analysis completed by NRCS (see **Appendix F**), the project area has a rating of 46, which is below the reporting threshold

of 160. Therefore, the project need not be given further consideration for protection and no additional sites need to be evaluated.

No-Build Alternative

Under the No-Build Alternative, no important farmland soil types would be converted to transportation use.

5.4 Utility Relocation

It is reasonably foreseeable that utilities will have to be relocated as a result of this project. The impacts resulting from removal of any utilities from within existing ROW (e.g., construction noise, potential disturbance to archeological resources, and potential impacts to species habitat) have been considered as part of the overall project footprint impacts within this environmental assessment.

Two crude oil pipelines, three natural gas pipelines, and one highly volatile liquid pipeline have been identified as crossing the proposed project. Any excavations at these pipelines could cause a rupture. Formal utilities location and advance planning would be required to facilitate pipeline and utilities adjustments and to otherwise avoid associated impacts.

It has not yet been determined whether the dislocated utilities will be re-installed within the ROW, or to a location outside the ROW. However, the potential impacts resulting from re-installation of the displaced utilities within the ROW have been considered as part of the overall project footprint impacts (e.g., construction noise, potential disturbance to archeological resources, and potential impacts to species habitat) within this environmental assessment. To the extent that the owner of any displaced utility determines to reinstall the displaced utility at a location outside of the ROW, such location will be determined by the owner of the utility subject to the rules and policies governing the utility relocation process. Additionally, the owner of the utility will be responsible for acquiring any easements outside the ROW and ensuring that the design and construction meet all regulatory and environmental compliance requirements. See 43 Texas Administrative Code (TAC) 21.37(a)(9), (g)(1)), and (g)(4); and 43 TAC 21.38(e)(2).

No-Build Alternative

Under the No-Build Alternative, no utilities would be relocated from areas to be converted to transportation use.

5.5 Bicycle and Pedestrian Facilities

There are no bus or train services with routes or stops along FM 6, and no designated bicycle facilities/lanes. No dirt pathways from pedestrian use are present along FM 6.

Bicycle and pedestrian facilities that comply with TxDOT's Bicycle Accommodation Design Guidance are proposed as part of the proposed project. TxDOT's guidance implements the U.S. Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodations, as well as the FHWA policy. As described in **Section 2.0** bicycles and pedestrians would be accommodated on the shared use paths to be included along both the north and south sides of the roadway alignment of FM 6 within the project area.

No-Build Alternative

Under the No-Build Alternative, no shared use paths would be proposed or provided along the project area.

5.6 Community Impacts

5.6.1 Access and Travel Patterns

The proposed project would widen the existing two-lane rural roadway to an ultimate six-lane divided roadway. The proposed project also includes the construction of shared use paths along the north and south sides of the corridor. Overall, the proposed project would provide increased capacity for the growing traffic volumes in the area and would improve accessibility and safety for vehicles and bicyclists/pedestrians.

Under the proposed condition, drivers traveling along FM 6 in either direction would have reduced access when turning left because those movements would be restricted to designated median openings/intersections with left-turn bays. The current roadway allows left turn movements anywhere along the roadway which results in less safe conditions.

Changes in access and travel patterns would lead to increases in travel times for some drivers wishing to cross FM 6 to change directions or access businesses, community facilities, or residential areas. The differences in travel times would vary based on origin and destination. The majority of residential subdivisions are located at major intersections along the roadway and would still be accessible via median openings/intersections at cross-streets. The proposed left-turn lanes would result in decreased congestion, increased mobility, and improve safety which would be expected to negate increases in travel times for local traffic.

The addition of shared use paths may encourage the use of alternate modes of transportation within the project limits, as there are limited walking and cycling facilities along the existing facility. No bus stops are located within the project limits and no changes in bus routes are anticipated as a result of the proposed project.

Emergency responders would generally experience a decrease in travel times as a result of reduced congestion and improved mobility due to the proposed improvements. While the proposed improvements would limit the ability of emergency response vehicles to cross the mainlanes, the reduced congestion and improved mobility would likely negate increases in

site-specific travel times. The proposed improvements would also enhance safety for drivers and emergency responders. Vehicles on the FM 6 mainlanes would also be better able to clear a path for emergency responders, making it easier for ambulances, fire engines, and police cars to travel along FM 6 in both directions.

No-Build Alternative

Under the No-Build Alternative, access and travel patterns would remain unchanged.

5.6.2 Community Cohesion

The study area has a small-town appeal with scattered residential neighborhoods and community facilities within the city limits of Nevada and Josephine. Despite the rural and dispersed nature of the project area, there is a strong level of community cohesion across the corridor. Residents along FM 6 attended the Public Meeting held on October 20, 2022, to learn about the proposed improvements to the corridor. Several public attendees shared concerns for their neighbors who would potentially be displaced and made suggestions based on the schematic maps.

The widening of FM 6 would increase the existing separation experienced along the project corridor because of the additional lanes and median as well as the increased mobility and speed of existing and future users of the roadway. Additionally, the loss of 21 residences would heighten the separation introduced by the roadway because remaining residents would have some of their neighbors potentially displaced.

The widened roadway would provide shared use paths that would provide a safe space for pedestrians and non-motorized vehicles to move along the FM 6 facility. The potential crossing needs of pedestrians and non-motorized vehicles at intersections across FM 6 would be identified during later design phases of the proposed project. Although no crosswalks are currently proposed within the project, crosswalks are anticipated at the intersection with FM 1777. Crosswalks are also anticipated at the existing signalized intersection with SH 78.

Benefits, such as decreased travel times to community facilities, are anticipated. Access to the community facilities is anticipated to be made easier and more efficient, which is anticipated to increase the frequency with which these facilities are visited.

Overall, community cohesion would be maintained and could improve with the addition of non-vehicular mobility improvements.

No-Build Alternative

The No-Build Alternative would not result in displacements or beneficial impacts to the surrounding community, as described above for the Build Alternative. Taking no action to improve the roadway would lead to increased traffic congestion and decreased mobility over time and would not provide an alternative mode of transportation for non-drivers.

5.6.3 Environmental Justice

An environmental justice analysis was completed in accordance with Executive Order (EO) 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” The study area comprises 163 census blocks, of which only 133 were populated. These blocks were compared to the next largest parent census geography to determine if any had appreciably greater, or greater than 50% minority populations present. Of the 133 populated blocks, 40 contain minority populations of at least 50% or more. None of the census blocks indicate an appreciably greater percentage of minorities compared to the next largest geography. Among these 40, Hispanic or Latino represents the largest minority group (1,328 individuals) and Two or More Races represents the second largest minority group (252 individuals). The 2023 HHS poverty guideline for a family of four is $30,000. There are no low-income census blocks in the study area. There are twenty-two potential displacements (one commercial facility and 21 residences; see Community Impacts Technical Report for more detailed information) occurring adjacent to the FM 6 project limits. Of these potential displacements, one residential displacement is occurring within an EJ census block. The remaining 21 potential displacements are occurring within 4 different non-EJ census blocks. Benefits such as decreased travel times to community facilities, are anticipated. There are no displaced businesses, community facilities, or services that specifically cater to minority or low-income populations.

There are no disproportionately high and adverse impacts to EJ populations. The reduced congestion and improved mobility would benefit the community as a whole, and the shared use paths planned along the proposed project would serve to increase walkability for pedestrians and non-drivers.

No-Build Alternative

Under the No-Build Alternative, no potential impacts or changes in environmental justice considerations are anticipated.

5.6.4 Limited English Proficiency

Each of the block groups within the study area shows a presence of people who speak English "less than very well". A total of 130 limited English proficiency (LEP) individuals were identified in the study area. Of these, 111 are Spanish speakers, 10 speak Asian and Pacific Islander languages, 5 speak Indo-European languages, and 4 speak some other language.

An open house public meeting was held October 20, 2022, at Community High School in Nevada, Texas. This meeting took place virtually and in-person. Notices for public involvement opportunities were provided in English and Spanish, and a translator was made available upon request; however, no requests for translation services were received. Future public involvement efforts will provide the same accommodations to ensure LEP individuals are provided with opportunities for meaningful involvement in the environmental process. A public hearing is planned for the proposed project, and Spanish translation services will be available.

No-Build Alternative

The No-Build Alternative would not impact LEP individuals and would not result in beneficial impacts to the surrounding community, including LEP individuals, as described above for the Build Alternative.

5.7 Visual/Aesthetic Impacts

The proposed project would represent a change in the visual landscape, as the FM 6 mainlanes and shared use paths would be the dominant feature in the viewshed. The surrounding viewshed has been steadily converting over several decades from rural agricultural land use to more suburban and residential development, so the proposed expansion of FM 6 would continue and exacerbate the increase in urbanization in the overall visual landscape. The construction of the proposed project would not impact unique or important views in the existing landscape, and the project would include aesthetic treatment and landscaping to the extent practicable.

No-Build Alternative

Under the No-Build Alternative, the visual landscape would remain the same and would still be dominated by FM 6 and adjacent development.

5.8 Cultural Resources

Evaluation of impacts to cultural resources has been conducted under Section 106 of the National Historic Preservation Act in accordance with the Programmatic Agreement among FHWA, TxDOT, the Texas State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU).

Cultural resources are structures, buildings, archeological sites, districts (a collection of related structures, buildings, and/or archeological sites), cemeteries and objects. Both federal and state laws require consideration of cultural resources during project planning. At the federal level, NEPA and the NHPA of 1966, among others, apply to transportation projects such as this one. Compliance with these laws often requires consultation with the Texas Historical Commission (THC)/SHPO and/or federally recognized tribes to determine the project's effects on cultural resources. Review and coordination of this project followed approved procedures for compliance with federal and state laws.

5.8.1 Archeology

In May 2023, under Antiquities Permit #31068, archeologists conducted a survey for the proposed improvements (TXDOT, Archeological Resources Survey Report, 2023). It was determined that 53.02 acres of the area of potential effects (APE) would require archeological survey. Investigations were conducted in the 17.99 acres of the total 53.02 acre Study Area where Right of Entry (ROE) was granted or where the APE could be surveyed from an adjacent

property. Investigations consisted of pedestrian survey and 53 shovel tests. No archeological sites, features, or materials were identified during the survey.

Pedestrian survey and shovel testing are recommended for the remaining 35.03 acres of the Survey Area where ROE was denied and survey has not been completed. Future work within the Survey Area should also include mechanical prospection at Bois d'Arc Creek, Sabine Creek, and the eastern tributary of Sabine Creek.

No-Build Alternative

Under the No-Build Alternative, impacts to archeological resources would not occur.

5.8.2 Historic Properties

A historic resources reconnaissance survey of architectural and engineering resources located along the project was conducted to identify historic-age resources in compliance with Section 106 of the NHPA (TxDOT, Historical Resources Survey Report, 2024). Historic-age resources are defined as buildings, structures, objects, districts, or sites that are or will be 50 years old or older on the date the project is let for construction.

A total of 122 resources on 63 parcels were identified within the APE. Of these, two historic-age resources were recommended NRHP eligible.

- Resource 09: Nevada Cemetery (301 FM 6, Nevada)
- Resource 23: Nevada High School Gymnasium (202 E FM 6, Nevada)

Determination of Section 106 Effects Recommendations

Direct Effects

For the two resources recommended NRHP eligible, the project, as currently designed, will not incorporate land or a temporarily occupy land into a transportation facility; nor will the project impair the physical and associative qualities for which the historic properties are recommended NRHP eligible. Overall, project activities will represent no adverse effect to historic properties within the direct effects APE. It is recommended all efforts be made to avoid, minimize, or mitigate impacts to historic properties within the project APE.

Indirect, Cumulative, or Reasonably Foreseeable Effects

The proposed project will widen FM 6 for approximately 7.9 miles from SH 78 to FM 1777. The current facility is a rural, two-lane roadway with narrow shoulders and, on average, an 80-ft wide ROW. The proposed facility will have a minimum ROW of 140-ft with four travel lanes, an 18-ft wide raised median, and 10-ft wide shared-use paths. The project will require an additional 2,303,107.85 square feet (52.87 acres) of ROW from adjacent parcels and will result in at least 22 displacements.

Due to the increased volume of traffic, width of roadway, and the addition of a raised median and a shared-use path, the proposed project will alter the current character of the route as it

traverses through rural agricultural areas, suburban residential developments, and the towns of Nevada and Josephine. Therefore, the project presents the potential for indirect effects to the historic viewshed of historic properties along FM 6.

Resource 09 is recommended NRHP Eligible under Criterion A. Setting is typically an important associative quality that helps to convey a rural cemetery's historical associations, but because the cemetery's significance derives from its association with early community and civic leaders, and victims of the 1927 tornado, integrity of setting is not as important as other aspects, such as location, feeling, and association.

Resource 23 is recommended NRHP Eligible under Criterion A; setting is not as important as design, materials, and workmanship in conveying the resource's architectural merit as a good example of a WPA project for a rural school district gymnasium.

Coordination with the Texas SHPO is complete. Coordination correspondence with the SHPO is included in **Appendix F**.

No-Build Alternative

The No-Build Alternative would not result in impacts to historic standing structures.

5.9 Protected Lands

5.9.1 Section 4(f) of the Department of Transportation Act

As a result of the Historical Resources Survey Report, no potential Section 4(f) resources were determined to trigger an Individual 4(f) impact. Nevada Cemetery is located adjacent to FM 6 between the cross streets of Oak Lane and West Street and within the city limits of Nevada. The cemetery does not have ROW acquisition proposed. The proposed project activities do not present the potential for Section 4(f) uses.

No-Build Alternative

The No-Build Alternative would not result in impacts to Section 4(f) resources.

5.9.2 Section 6(f) of the Land and Water Conservation Fund Act

There are no Section 6(f) properties present in the project area.

5.9.3 Chapter 26 of the Texas Parks and Wildlife Code

There are no Chapter 26 properties present in the project area.

No-Build Alternative

Under the No-Build Alternative, impacts to properties protected by Section 4(f), Section 6(f), or Chapter 26 would not occur.

5.10 Water Resources

5.10.1 Clean Water Act Section 404

This project would involve regulated activity in jurisdictional waters and therefore will require authorization under Section 404. The following table (**Table 5.10-1**), as well as **Appendix E**, shows the water features that are anticipated to be jurisdictional waters in which regulated activity is anticipated to take place. The table also indicates whether the impacts are anticipated to be authorized under Section 404 by a non-reporting nationwide permit (i.e., no pre-construction notification [PCN] required), or if it is anticipated that a nationwide permit with PCN, individual standard permit, letter of permission, or regional general permit will be required.

Table 5.10-1. Water Features within Proposed Project Limits

Name of Water Feature	Type of Water Feature	Location of Water Feature	Covered by non-reporting nationwide permit under Section 404?	Nationwide permit with PCN, individual standard permit, letter of permission, or regional general permit required under Section 404?
Water Feature 6	Palustrine Emergent Wetland	33.043428, -96.396579	N	Y
Water Feature 9	Palustrine Scrub-Shrub Wetland	33.042860, -96.387336	N	Y
Water Feature 10	Intermittent Stream	33.042545, -96.386428	N	Y
Water Feature 12	Palustrine Emergent Wetland	33.041632, -96.359286	N	N
Water Feature 13	Pond/Impoundment	33.041455, -96.358638	N	N
Water Feature 14	Intermittent Stream	33.041571, -96.357764	Y	N
Water Feature 15	Palustrine Forested Wetland	33.041330, -96.353871	Y	N
Water Feature 16	Intermittent Stream	33.041615, -96.353060	Y	N
Water Feature 17	Intermittent Stream	33.046294, -96.344748	Y	N
Water Feature 19	Palustrine Emergent Wetland	33.053028, -96.332365	N	N
Water Feature 20	Palustrine Emergent Wetland	33.055685, -96.327592	N	Y

Table 5.10-1. Water Features within Proposed Project Limits				
Name of Water Feature	Type of Water Feature	Location of Water Feature	Covered by non-reporting nationwide permit under Section 404?	Nationwide permit with PCN, individual standard permit, letter of permission, or regional general permit required under Section 404?
Water Feature 21	Intermittent Stream	33.056024, -96.327418	N	Y
Water Feature 22	Pond/Impoundment	33.056054, -96.326724	N	Y
Water Feature 23	Intermittent Stream	33.060974, -96.312085	Y	N
Water Feature 24	Pond/Impoundment	33.061309, -96.311719	Y	N

Source: TxDOT, Water Features Delineation Report, 2023.

Under current regulations, this project would use a reportable nationwide permit 14 (linear transportation projects) under Section 404, where a PCN will be submitted to the USACE. At this time, the PCN package has not been submitted to the USACE for review. Additionally, coordination with the USACE has not begun.

The need for an individual standard permit under Section 404 is not anticipated. If it is later determined that an individual standard permit under Section 404 is needed, compliance with EPA's Section 404(b)(1) Guidelines will be confirmed prior to submittal of the individual standard permit application.

No-Build Alternative

Under the No-Build Alternative, impacts to waters of the U.S. would not be anticipated.

5.10.2 Clean Water Act Section 401

For projects that require a NWP under Section 404 that is covered by TCEQ's blanket 401 water quality certification, regardless of whether the NWP is non-reporting, or requires the submission of a PCN, TxDOT complies with Section 401 of the Clean Water Act by implementing Texas Commission on Environmental Quality (TCEQ) conditions for NWPs. For projects that require authorization under a NWP under Section 404 that is not covered by TCEQ's blanket 401 water quality certification, or under an Individual Standard Permit, Letter of Permission, or Regional General Permit under Section 404, TxDOT will coordinate the Section 401 water quality certification with TCEQ. TCEQ will either approve or deny the Section 401 water quality certification or issue a waiver. The TCEQ Section 401 water quality certification decision must be submitted to the USACE before use of the NWP can be confirmed, or an Individual Standard Permit, Letter of Permission, or Regional General Permit decision can be made.

No-Build Alternative

Under the No-Build Alternative, impacts to waters of the U.S. would not occur.

5.10.3 Executive Order 11990 Wetlands

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands. The proposed project would impact wetlands as detailed in Section 5.10.1. because the project includes expansion of an existing roadway, and there are wetlands along this roadway, and expansion in the direction opposite the wetlands would affect school and residential ROW. Therefore, there is no practicable alternative to the proposed road improvements. Practicable measures to minimize harm to wetlands would include the use of stormwater Best Management Practices during construction. The design includes spanning a portion of the project.

No-Build Alternative

Under the No-Build Alternative, there would be no impacts to wetlands.

5.10.4 Rivers and Harbors Act

The proposed project would not involve work in or over a navigable water of the U.S.; therefore, Sections 9 and 10 of the Rivers and Harbors Act and the General Bridge Act of 1946 do not apply.

5.10.5 Clean Water Act Section 303(d)

The State of Texas is required, under Sections 305(b) and 303(d) of the federal CWA, to prepare biennial statewide water quality assessments that identify the status of use attainment for water bodies, and to identify water bodies for which effluent limitations are not stringent enough to implement water quality standards. This project is not located within five linear miles (not stream miles) of, is not within the watershed of, or does not drain to, an impaired assessment unit under Section 303(d) of the federal Clean Water Act. The Section 303(d) list was consulted on June 29, 2023.

No-Build Alternative

Under the No-Build Alternative, there will be no impacts to impaired waters of the U.S.

5.10.6 Clean Water Act Section 402

Since TPDES Construction General Permit (CGP) authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a storm water pollution prevention plan

(SWP3) be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent or site notice) be completed, posted, and submitted, when required by the CGP, to TCEQ and the municipal separate storm sewer system (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists" require the current version of Special Provision 506 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SWP3, and to complete the appropriate authorization documents.

No-Build Alternative

Under the No-Build Alternative, compliance with Section 402 of the Clean Water Act would not be required.

5.10.7 Floodplains

This project is federally funded and is therefore subject to EO 11988, Floodplain Management. However, the project would not involve a significant encroachment in the floodplain. Coordination with the local Floodplain Administrators will be required.

The project is located within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain (Firm Panel Numbers 48085C0445J effective 6/2/2009, 4808560465J effective 6/2/2009, 48085C0470J effective 6/2/2009, and 48085C0460J effective 6/2/2009). This includes portions of the project area along two (2) unnamed tributaries, Bois d' Arc Creek, and Sabine Creek in the western, central, and eastern portions of the project area.

No-Build Alternative

The No-Build Alternative would not impact floodplains, and coordination with the local floodplain administrator would not be required.

5.10.8 Wild and Scenic Rivers

The proposed project would not involve work within a segment of any river designated as a Wild and Scenic River.

5.10.9 Coastal Barrier Resources

The Coastal Barrier Resources Act (CBRA) does not apply.

5.10.10 Coastal Zone Management

The project is not located within the Texas Coastal Zone Management Plan (TCMP) boundary. Therefore, a consistency determination is not required.

5.10.11 Edwards Aquifer

The TCEQ Edwards Aquifer Rules do not apply.

5.10.12 International Boundary and Water Commission

This project does not cross or encroach upon the floodway of the International Boundary Water Commission (IBWC) ROW or an IBWC flood control project.

5.10.13 Drinking Water Systems

In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (Item 103, Disposal of Wells), any drinking water wells would need to be properly removed and disposed of during construction of the project.

No-Build Alternative

Under the No-Build Alternative, no impacts to water wells or drinking water systems are anticipated.

5.11 Biological Resources

5.11.1 Impacts to Vegetation

The Ecological Mapping Systems of Texas (EMST) categorized the project area vegetation into 13 different communities. Field investigations conducted by qualified biologists on March 1, 2023 somewhat agreed with the EMST, though multiple discrepancies were noted. Vegetation mapped during field investigations was categorized into five communities, and potential impacts to vegetation types were calculated for the proposed project. Table 5.11-1 provides a summary of the EMST vegetation types and total acreages that may be impacted by the proposed project.

Table 5.11-1. Observed EMST Vegetation – Acreage of Impacts within Project Area

MOU Habitat Type	EMST Vegetation Type	Acreage of Impacts
Tallgrass Prairie, Grassland	Blackland Prairie: Disturbance or Tame Grassland	14.35
Riparian	Central Texas: Riparian Hardwood Forest	7.46
Agriculture	Central Texas: Riparian Herbaceous Vegetation	1.29
	Row Crops	24.74
Urban	Urban Low Intensity	106.30
	Total Acreage	154.14

Impacts to vegetation would be restricted to the existing and proposed ROW, and impacts would be avoided/minimized by limiting disturbance to areas necessary to construct the project. The removal of native vegetation, and especially mature woody vegetation, would be

avoided as much as practicable. Seeding and replanting with TxDOT-approved seed mixes containing native species would be used for revegetation of disturbed areas.

No-Build Alternative

Under the No-Build Alternative, impacts to vegetation from the proposed construction would not occur, although the existing ROW would continue to be mowed and maintained.

5.11.2 Executive Order 13112 on Invasive Species

This project is subject to and will comply with federal EO 13112 on Invasive Species. The department implements this EO on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

5.11.3 Executive Memorandum on Environmentally and Economically Beneficial Landscaping

This project is subject to and would comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

5.11.4 Impacts to Wildlife

The proposed project would affect wildlife species present within the existing and proposed ROW. Some sessile and/or slow moving species could be killed by heavy machinery during ROW clearing. Impacts to wildlife within the proposed project area would also occur in conjunction with the removal of vegetation and disturbance in and around water features. Wooded areas provide cover, food, and habitat for many resident and migratory species. Trees within maintained landscape areas provide nesting habitat for birds. The project could also increase fragmentation, increase vehicle strike frequency, and reduce available habitat. Additional information regarding impacts to wildlife can be found in Section 5.11.10.

The use of best management practices (BMPs), careful vegetation clearing techniques, and replanting would minimize impacts to wildlife habitat within the proposed project area. Adjacent wildlife habitat would be protected from stormwater runoff by implementing BMPs that would control erosion and sedimentation.

No-Build Alternative

Under the No-Build Alternative, impacts to wildlife and wildlife habitat would not occur, although the existing ROW would continue to be mowed and maintained.

5.11.5 Migratory Bird Treaty Act

This project would 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.

Additional preemptive and preventative measures that may be applied, where appropriate and practicable, are described in TxDOT's Guidance – Avoiding Migratory Birds and Handling Potential Violations.

No-Build Alternative

The No-Build Alternative would not require any removal or disturbance of migratory birds, their nests, or their young, and there would be no impacts to migratory birds.

5.11.6 Fish and Wildlife Coordination Act

The project is anticipated to require a nationwide permit issued by the USACE. Compliance with the Fish and Wildlife Coordination Act will be accomplished by complying with the terms and conditions of the nationwide permit.

5.11.7 Bald and Golden Eagle Protection Act of 2007

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

5.11.8 Magnuson-Stevens Fishery Conservation Management Act

The Essential Fish Habitat (EFH)/Magnuson-Stevens Fishery Conservation and Management Act (MSA) does not apply.

5.11.9 Marine Mammal Protection Act

The project area does not contain suitable habitat for marine mammals.

5.11.10 Threatened, Endangered, and Candidate Species

A Species Analysis was performed to assess potential impacts and/or effects the proposed project would have on federally and state-listed threatened, endangered, and candidate species. A Species Analysis Form and Species Analysis Spreadsheet (TxDOT, Species Analysis Form and Spreadsheet, 2023) are available at the TxDOT Dallas District office.

Federally Listed Species

Two federally proposed endangered, two federally proposed threatened, two federally threatened, one federally endangered, and one candidate species for federal listing are listed on the USFWS Information for Planning and Consultation (IPaC) Official Species List (dated April 25, 2024) as possibly occurring within the project area. These species are as follows: Tricolored Bat (*Perimyotis subflavus*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Whooping Crane (*Grus americana*), Alligator Snapping Turtle (*Macrochelys temminckii*), Texas Fawnsfoot (*Truncilla macrodon*), Texas Heelsplitter (*Potamilus amphichaenus*), and Monarch Butterfly (*Danaus plexippus*), respectively.

The USFWS IPaC Official Species List states that the Piping Plover and Red Knot only need to be considered for wind energy projects. No effects to these two species are anticipated.

A habitat assessment was not performed for the Tricolored Bat (*Perimyotis subflavus*). Species presence and effects to species are not reasonably certain to occur. This species has been proposed as federally endangered, and consultation with the USFWS is not required at this time. If the species is listed, effects to the Tricolored Bat will be reevaluated to determine the appropriate course of action, which may include consultation with the USFWS.

No potential habitat was observed for the Alligator Snapping Turtle (*Macrochelys canutus rufa*), Texas Fawnsfoot (*Truncilla macrodon*), or Texas Heelsplitter (*Potamilus apmhichaenus*). No effects on these species are anticipated.

Potential habitat for the Whooping Crane (*Grus americana*) occurs in the vicinity of the project area. Ponds, wetlands, ephemeral, and intermittent streams that this species may use during migration were observed during the site visit. According to the Cornell Lab of Ornithology's eBird resource, this species has been observed at Lake Lewisville, approximately 27 miles northwest of the project area. However, any occurrences within the project area would be incidental and temporary. No effect to this species is anticipated.

Potential habitat for the Monarch Butterfly (*Danaus plexippus*) occurs in the vicinity of the proposed project; however, the Monarch Butterfly is currently a candidate species and no consultation with USFWS is required at this time. As construction activities for this project are not anticipated to be completed prior to Fiscal Year 2024, when a listing decision for the species is anticipated, additional coordination may be required. The project should be reevaluated at that time to determine if further action is required if the species becomes proposed for federal listing.

The TxDOT Species Analysis Spreadsheet lists the Louisiana Pigtoe (*Pleurobema riddellii*). No potential habitat was observed for this species, and no effects are anticipated.

State-listed Species

Potential habitat for the White-faced Ibis (*Plegadis chihi*) occurs in the vicinity of the project area, including within wetlands and low trees. Although habitat for this species was observed, any occurrences within the project area would be incidental and temporary; therefore, no impact to this species is anticipated.

Potential habitat for the Wood Stork (*Mycteria americana*) occurs in the vicinity of the proposed project area. Ponds, wetlands, ephemeral, and intermittent streams that this species may use during migration were observed during the site visit. Although habitat for this species was observed, any occurrences within the project area would be incidental and temporary; therefore, no impact to this species is anticipated.

The TxDOT Species Analysis Spreadsheet lists the Texas Horned Lizard (*Phrynosoma cornutum*). No potential habitat was observed for this species, and no impacts are anticipated.

Species of Greatest Conservation Need

Potential habitat for nineteen Species of Greatest Conservation Need (SGCN) occurs in the vicinity of the proposed project. These include two amphibians, Southern Crawfish Frog (*Lithobates areolatus*) and Woodhouse's Toad (*Anaxyrus woodhousii*); four birds, Western Burrowing Owl (*Athene cunicularia hypugaea),* Chestnut-collared Longspur *(Calcarius ornatus),* Franklin's Gull *(Leucophaeus pipixcan),* and Sprague's Pipit *(Anthus spragueii);* one insect, American Bumblebee *(Bombus pensylvanicus)*; seven mammals, Big Brown Bat (*Eptesicus fuscus*), Eastern Red Bat (*Laslurus borealls*), Eastern Spotted Skunk (*Spilogale putorius*), Hoary Bat (*Laslurus cinereus*), Long-tailed Weasel (*Mustela frenata*), Swamp Rabbit (*Sylvilagus aquaticus*), and Western Hog-nosed Skunk (*Conepatus leuconotus*); four reptiles, Eastern Box Turtle (*Terrapene carolina*), Slender Glass Lizard (*Ophisaurus attenuates*), Texas Garter Snake (*Thamnophis sirtalis annectens*), and Timber (Canebrake) Rattlesnake (*Crotalus horridus*); and one plant, Sutherland Hawthorn (*Crataegus viridis var. glabriuscula*).

The Southern Crawfish Frog (*Lithobates areolatus*) and Woodhouse's Toad (*Anaxyrus woodhousii*) could occur in wet or moist areas along project area creeks, drainages, and wetlands.

The Western Burrowing Owl (*Athene cunicularia hypugaea*) could occur in disturbed grassland and agricultural fields. The Chestnut-Collared Longspur *(Calcarius ornatus)* could occur in shortgrass settings, especially with patches of bare ground. Franklin's Gull *(Leucophaeus pipixcan)* is a spring and fall migrant that could occur near wetlands. Sprague's Pipit *(Anthus spragueii*) could occur in grasslands with dense herbaceous vegetation or agricultural fields.

The American Bumblebee *(Bombus pensylvanicus*) could occur in fields of long grass, open farmlands, or fields, and sometimes nests underground or in abandoned animal burrows.

The Eastern Spotted Skunk (*Spilogale putorius*), Long-tailed Weasel (*Mustela frenata*), Swamp Rabbit (*Sylvilagus aquaticus*), and Western Hog-nosed Skunk (*Conepatus leuconotus*) could inhabit disturbed prairie, woodlands, and riparian areas throughout and adjacent to the proposed project. Big Brown Bat (*Eptesicus fuscus*), Eastern Red Bat (*Laslurus borealls*), and Hoary Bat (*Laslurus cinereus*) could inhabit forested areas within the project area. While specific roost trees for bat species were not observed during the site assessment, woodlands where ROE was not granted would need to be assessed after acquisitions occur before a final determination is made.

The Eastern Box Turtle (*Terrapene carolina*) could occur in forests, fields, forest-brush, or forest-field ecosystems. The Slender Glass Lizard (*Ophisaurus attenuates*) could occur in open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, or areas near streams and ponds, often in habitats with sandy soil. The Texas Garter Snake (*Thamnophis sirtalis annectens*) could occur in grasslands and modified open areas in the vicinity of aquatic features. The Timber (Canebrake) Rattlesnake (*Crotalus horridus*) could occur in swamps, floodplains, upland pine and deciduous woodland, riparian zones, or abandoned farmland.

Sutherland hawthorn (*Crataegus viridis var. glabriuscula*) could inhabit riparian areas within the project area. While suitable habitat was identified, areas with ROE were observed unoccupied. However, areas without ROE will need further habitat assessment upon acquisition.

Best Management Practices

Impacts to federally listed, state-listed, and SGCN species would be avoided or minimized by implementing the following BMPs:

- Minimize impacts to wetland and riverine habitats
- Aquatic Amphibian and Reptile BMP
- Bat BMP
- Bird BMP
- General Design and Construction BMP
- Insect Pollinator BMP
- Rare Plant BMP
- Terrestrial Amphibian and Reptile BMP
- Water Quality BMP
- Vegetation BMP

Collaborative review with the Texas Parks and Wildlife Department (TPWD) was initiated on July 17, 2023, and is ongoing. Coordination documents to date can be found in **Appendix F**.

No-Build Alternative

Under the No-Build Alternative, impacts to wildlife and wildlife habitat, including impacts to state-listed threatened or endangered species and effects to federally listed threatened or endangered species, would not occur.

5.12 Air Quality

This project is located within an area that has been designated by EPA as a severe and moderate nonattainment area for the 2008 and 2015 ozone NAAQS, respectively; therefore, transportation conformity rules apply. Conformity for older standards is satisfied by conformity to the more stringent 2008 and 2015 ozone NAAQS, as applicable.

Both the MTP and the TIP, as amended, were initially found to conform to the TCEQ State Implementation Plan (SIP) by FHWA and FTA on December 15, 2022. TxDOT will not take final action on this environmental document until a project level conformity determination has been obtained from FHWA, as applicable.

Traffic data for the estimated time of completion (ETC) year 2026 and design year 2046 is 4,300 vehicles per day and 6,300 vehicles per day, respectively. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the carbon monoxide standard would ever be exceeded as a result of any project with an average annual daily traffic (AADT) below 140,000. The AADT projections for the project do not exceed 140,000 vehicles per day; therefore, a Carbon Monoxide Traffic Air Quality Analysis was not required.

Qualitative Mobile Source Air Toxics (MSAT) Analysis

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (https://www.epa.gov/iris) . In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (EPA, 2014a). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

Motor Vehicle Emissions Simulator (Moves)

According to EPA, MOVES3 is a major revision to MOVES2014 and improves upon it in many respects. MOVES3 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and

activity developed since the release of MOVES2014. These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES3 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data. In the November 2020 EPA issued MOVES3 Mobile Source Emissions Model Questions and Answers (EPA, 2020) EPA states that for on-road emissions, MOVES3 updated heavy-duty (HD) diesel and compressed natural gas (CNG) emission running rates and updated HD gasoline emission rates. They updated light-duty (LD) emission rates for hydrocarbon (HC), carbon monoxide (CO) and nitrogen oxide (NOx) and updated light-duty (LD) particulate matter rates, incorporating new data on Gasoline Direct Injection (GDI) vehicles.

Using EPA's MOVES3 model, as shown in **Figure 5.12-1**, FHWA estimates that even if VMT increases by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emissions for the priority MSAT is projected for the same time period.

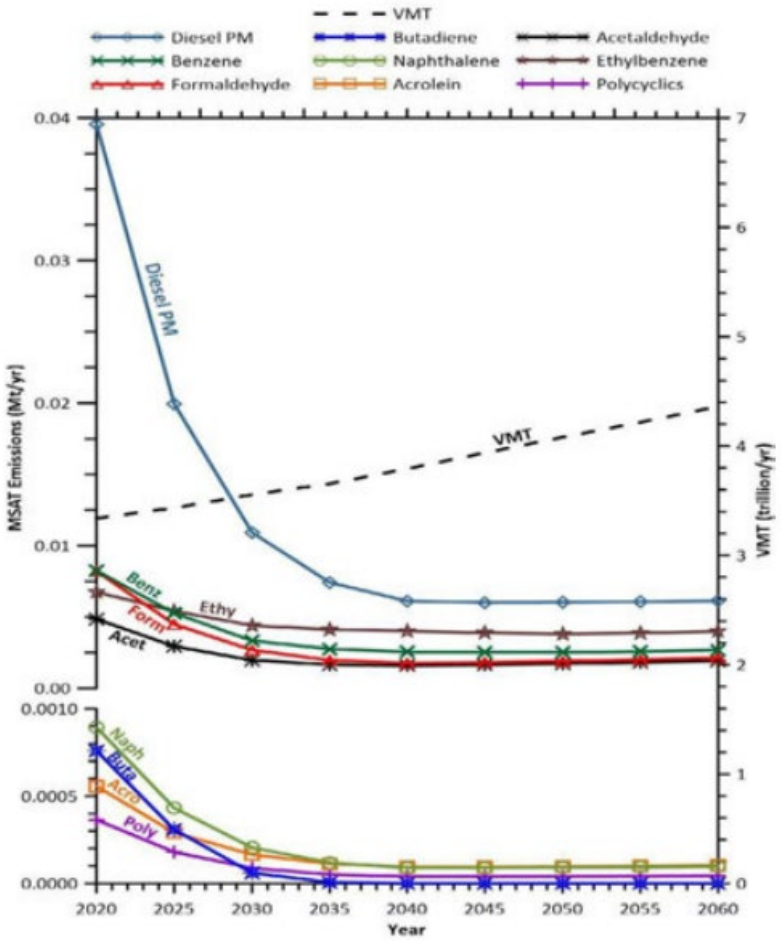

Figure 5.12-1. FHWA Projected National MSAT Emission Trends 2020 - 2060 For Vehicles Operating on Roadways

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorological, and other factors.
Source: EPA MOVES3 model runs conducted by FHWA, March 2021.

Diesel PM is the dominant component of MSAT emissions, making up 36 to 56 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES3 will notice some differences in emissions compared with MOVES2014. MOVES3 is based on updated data on some emissions and pollutant processes compared to MOVES2014, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES3 emissions forecasts are based on lower VMT projections than MOVES2014, consistent with nationwide VMT trends.

MSAT Research

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Project Specific MSAT Information

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives (FHWA, 2005).

Widening Projects

For each alternative, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No-Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. The emissions increase from the additional VMT is offset somewhat by lower MSAT emission rates due to increased speeds; according to the EPA's MOVES3 model, emissions of all of the priority MSAT decrease as speed increases. The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built along FM 6. However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Also, MSAT will be lower in other locations when traffic shifts away from them; therefore, on a regional basis, EPA's vehicle and fuel

regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region- wide MSAT levels to be significantly lower than today.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents (FHWA, 2023). Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, 2007), or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at

a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (HEI, 2007). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk" (EPA, 1993).

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable (U.S. Court of Appeals, 2008).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Congestion Management Process

The congestion management process (CMP) is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The project was developed from the NCTCOG's CMP, which meets all

requirements of 23 CFR 450.320 and 500.109, as applicable. The CMP 2021 Update approved by the Regional Transportation Council in August 2021.

The region commits to operational improvements and travel demand reduction strategies at two levels of implementation: program level and project level. Program level commitments are inventoried in the regional CMP, which was adopted by the NCTCOG; they are included in the financially constrained MTP, and future resources are reserved for their implementation.

The CMP element of the plan carries an inventory of all project commitments (including those resulting from major investment studies) that details type of strategy, implementing responsibilities, schedules, and expected costs. At the project's programming stage, travel demand reduction strategies and commitments will be added to the regional TIP or included in the construction plans. The regional TIP provides for programming of these projects at the appropriate time with respect to the single occupancy vehicle (SOV) facility implementation and project-specific elements.

Committed congestion reduction strategies and operational improvements within the study boundary will consist of new lane additions, including bicycle and pedestrian lanes (see **Table 5.12-1**).

Table 5.12-1. Congestion Management Process Strategies

Operational Improvements in Travel Corridor		
Project	**Project Type (MTP Project Code)**	**Implementation Date**
Collin County Outer Loop – from Denton County Line to Rockwall County Line	New Roadway project (TIP Code 20088)	N/A
FM 1777 Widening - from SH 66 to FM 6 (CSJ: 1014-04-016)	Roadway Widening project (NRSA1–DAL–255)	2026

Source: NCTCOG 2023, Revenue and Project Tracking System https://rapts.dfwmaps.com/; Mobility2045 – 2022 Update https://www.nctcog.org/trans/plan/mtp/mobility-2045-2022-update.

In an effort to reduce congestion and the need for SOV lanes in the region, TxDOT and NCTCOG will continue to promote appropriate congestion reduction strategies through the Congestion Mitigation and Air Quality Improvement (CMAQ) program, the CMP, and the MTP. The congestion reduction strategies considered for this project would help alleviate congestion in the SOV study boundary but would not eliminate it.

Therefore, the proposed project is justified. The CMP analysis for added SOV capacity projects in the Transportation Management Area (TMA) is on file and available for review at NCTCOG.

Construction Emissions

During the construction phase of this project, temporary increases in PM and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel PM from diesel powered construction equipment and vehicles.

The potential impacts of PM emissions will be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The Texas Emissions Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at https://www.tceq.texas.gov/airquality/terp.

However, considering the temporary and transient nature of construction-related emissions, the use of fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements; it is not anticipated that emissions from construction of this project will have any significant impact on air quality in the area.

No-Build Alternative

Under the No-Build Alternative, emissions related to construction would not occur, and MSAT emissions would be expected to decrease overtime, as noted above. The No-Build Alternative, however, would not result in the mobility improvements and congestion reduction anticipated with the Build Alternative.

5.13 Hazardous Materials

The presence of hazardous materials within a project study area can create issues affecting ROW acquisition, project development, and construction.

A Hazardous Materials Initial Site Assessment (ISA) including a visual survey of the project limits and surrounding area and research of existing and previous land use was prepared (TxDOT, Hazardous Materials Initial Site Assessment, 2023) to identify sites of potential hazardous materials concerns within the project limits. Additional components of the ISA included reviewing project design and right of way requirements and reviewing federal and state regulatory databases and files. Documentation of the ISA is available at the TxDOT Dallas District office.

The existing and previous land use of the project limits and surrounding area is predominantly a combination of undeveloped agricultural land and residential development. Limited commercial business is mostly located near the project's western terminus area and within the towns of Nevada and Josephine. As part of the ISA, a review of selected environmental regulatory databases published by federal and state agencies was conducted to determine the potential for hazardous material issues within and near the project study area. A review of the regulatory database report dated August 11, 2022, was performed in general accordance with the ASTM Standard E1527 and TxDOT guidelines, which defines the environmental record sources to be reviewed and their minimum search distances from the proposed project.

The ISA identified three regulatory sites adjacent to the project. Two sites are considered low environmental risks to the project based on no reported releases from the facilities and no planned excavations adjacent to these facilities. The third site is a leaking underground

storage tank (LPST) site located at the southeast corner of FM 6 and West Street. The site discovered a release in 2005 and a subsequent investigation identified petroleum constituents in soil and groundwater that exceeded TCEQ action levels. ROW acquisition is proposed from this property which extends south onto the property to the former location of the fuel dispensers. This is considered a moderate environmental risk to the project. Additional environmental investigations are being performed at this site. Additionally, seven properties consisting of auto salvage yards, auto repair/service, auto dealers, and auto parts and towing services were identified during site survey. Based on no ROW acquisition from and/or no reported releases or violations at these seven properties, these sites are considered low environmental risks to the project.

Possible Asbestos-Containing Materials and Lead-Based Paint

The proposed project includes the demolition and/or relocation of structures, as well as bridge and bridge class culverts replacements. The structures may involve asbestos containing materials or lead-based paint. Asbestos and lead-based paint inspections, specification, notification, license, accreditation, abatement and disposal, as applicable, would comply with federal and state regulations. Asbestos and lead-based paint issues would be addressed during the right of way process and prior to construction.

Well Plugging (Water Quality)

Due to the presence of rural residential lots and farm properties adjacent to the proposed project corridor, water wells are likely to be encountered. Proper plugging of wells would be addressed during the right-of-way negotiation and acquisition process. If not plugged prior to construction, wells would be addressed per TxDOT Standard Specification Item 103 Disposal of Wells.

Should unanticipated hazardous materials/substances be encountered during construction, TxDOT and/or the contractor would be notified and steps would be taken to protect personnel and the environment. Any unanticipated hazardous materials encountered during construction would be handled according to applicable federal, state, and local regulations per TxDOT Standard Specifications. The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in construction staging areas. All construction materials used for the proposed project would be removed as soon as the work schedules permit. The contractor would initiate early regulatory agency coordination during project development.

No-Build Alternative

Under the No-Build Alternative, the potential for impacts related to construction of the proposed improvements would not exist. Facilities listed in the ISA would continue to operate, and, presumably, additional records associated with contamination would be generated over time. These issues would be addressed by the appropriate regulatory agency or program.

5.14 Traffic Noise

A traffic noise analysis was conducted for the proposed project in accordance with TxDOT's (FHWA-approved) *2019 Traffic Noise Policy*. The Traffic Noise Analysis Technical Report (TxDOT, Traffic Noise Analysis Technical Report, 2023), which includes details about the analysis, is available for public review at the TxDOT Dallas District office.

Build Alternative

Existing and predicted traffic noise levels were modeled at representative land use activity areas (receptors) adjacent to the project that might be impacted by traffic noise and would potentially benefit from feasible and reasonable noise abatement.

Modeled noise-sensitive locations were primarily residential, but also included one event center, three churches, one cemetery, one daycare, one sports field, and one trail area. Existing and predicted traffic noise levels were modeled at receiver locations (Table 5.14-1) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

Table 5.14-1. Traffic Noise Levels dB(A) Leq

Representative Receiver	NAC Category	NAC Level	Existing 2025	Predicted 2045	Change (+/-)	Noise Impact (Yes/No)
R1 - Single Family Home	B	67	66	65	-1	No
R2 - Single Family Home	B	67	62	64	2	No
R3 - Single Family Home	B	67	61	64	3	No
R4 - Single Family Home	B	67	62	64	2	No
R5 - Single Family Home	B	67	62	65	3	No
R6 - Single Family Home	B	67	57	60	3	No
R7 - Single Family Home	B	67	61	61	0	No
R8 - Single Family Home	B	67	64	62	-2	No
R9 - Single Family Home	B	67	64	62	-2	No
R10 - Single Family Home	B	67	63	61	-2	No
R11 - Single Family Home	B	67	65	63	-2	No
R12 - Single Family Home	B	67	65	61	-4	No

Table 5.14-1. Traffic Noise Levels dB(A) Leq						
Representative Receiver	NAC Category	NAC Level	Existing 2025	Predicted 2045	Change (+/-)	Noise Impact (Yes/No)
R13 - Single Family Home	B	67	62	63	1	No
R14 - Bear Creek Ranch Event Center (Interior)	D	52	29	31	2	No
R15 - Lone Star Cowboy Church (Interior)	D	52	30	32	2	No
R16 - Single Family Home	B	67	61	61	0	No
R17 - Single Family Home	B	67	60	60	0	No
R18 - Single Family Home	B	67	64	64	0	No
R19 - Single Family Home	B	67	60	60	0	No
R20 - Single Family Home	B	67	61	61	0	No
R21 - Single Family Home	B	67	61	61	0	No
R22 - Single Family Home	B	67	53	57	4	No
R23 - Single Family Home	B	67	56	60	4	No
R24 - Single Family Home	B	67	59	64	5	No
R25 - Nevada Cemetery	C	67	55	57	2	No
R26 - Faith Family Church (Interior)	D	52	32	35	3	No
R27 - Single Family Home	B	67	59	62	3	No
R28 - Single Family Home	B	67	62	63	1	No
R29 - Single Family Home	B	67	64	66	2	Yes
R30 - Single Family Home	B	67	62	64	2	No
R31 - Faith Family Church Youth Center (Interior)	D	52	35	37	2	No
R32 - Single Family Home	B	67	51	55	4	No
R33 - Single Family Home	B	67	61	63	2	No
R34 - Single Family Home	B	67	58	61	3	No
R35 - Single Family Home	B	67	50	55	5	No

Table 5.14-1. Traffic Noise Levels dB(A) Leq						
Representative Receiver	NAC Category	NAC Level	Existing 2025	Predicted 2045	Change (+/-)	Noise Impact (Yes/No)
R36 - Single Family Home	B	67	53	57	4	No
R37 - Single Family Home	B	67	58	61	3	No
R38 - Single Family Home	B	67	60	61	1	No
R39 - Kidz Stay N' Play Learning Center	C	67	57	59	2	No
R40 - Single Family Home	B	67	55	57	2	No
R41 - Single Family Home	B	67	51	57	6	No
R42 - Single Family Home	B	67	52	55	3	No
R43 - Single Family Home	B	67	52	55	3	No
R44 - Single Family Home	B	67	55	55	0	No
R45 - Single Family Home	B	67	56	61	5	No
R46 - Single Family Home	B	67	56	60	4	No
R47 - Single Family Home	B	67	58	63	5	No
R48 - Single Family Home	B	67	58	64	6	No
R49 - Single Family Home	B	67	57	63	6	No
R50 - Single Family Home	B	67	59	63	4	No
R51 - Single Family Home	B	67	58	63	5	No
R52 - Single Family Home	B	67	59	63	4	No
R53 - Single Family Home	B	67	59	63	4	No
R54 - Single Family Home	B	67	55	59	4	No
R55 - Single Family Home	B	67	51	56	5	No
R56 - Walking Trail	C	67	47	52	5	No
R57 - Baseball Field	C	67	47	53	6	No
R58 - Single Family Home	B	67	57	61	4	No
R59 - Single Family Home	B	67	60	64	4	No

Table 5.14-1. Traffic Noise Levels dB(A) Leq						
Representative Receiver	NAC Category	NAC Level	Existing 2025	Predicted 2045	Change (+/-)	Noise Impact (Yes/No)
R60 - Single Family Home	B	67	53	60	7	No
R61 - Single Family Home	B	67	51	57	6	No
R62 - Single Family Home	B	67	49	56	7	No
R63 - Single Family Home	B	67	54	59	5	No
R64 - Single Family Home	B	67	49	55	6	No
R65 - Single Family Home	B	67	53	57	4	No
R66 - Single Family Home	B	67	46	51	5	No
R67 - Single Family Home	B	67	52	59	7	No
R68 - Single Family Home	B	67	58	61	3	No
R69 - Single Family Home	B	67	52	57	5	No
R70 - Single Family Home	B	67	53	59	6	No
R71 - Single Family Home	B	67	57	61	4	No
R72 - Single Family Home	B	67	55	59	4	No
R73 - Single Family Home	B	67	50	57	7	No
R74 - Single Family Home	B	67	53	59	6	No
R75 - Single Family Home	B	67	51	55	4	No
R76 - Single Family Home	B	67	56	54	-2	No

Source: TxDOT, Traffic Noise Analysis Technical Report, 2023.

As indicated in **Table 5.14-1**, the proposed project would result in a traffic noise impact at one representative receiver location , R29. This receptor represents a total of two residences with driveways connecting to the roadway. A continuous noise barrier would restrict access to these residences. Gaps in the noise barrier would satisfy access requirements, but the resulting non-continuous wall segments would not be sufficient to achieve the minimum, feasible reduction of 5 dB(A) for a majority of impacted receptors or the noise reduction design goal of 7 dB(A). The noise abatement measure would not be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum

extent possible, that no new activities are planned or constructed along or within the following predicted (2045) noise impact contours.

Table 5.14-2. Traffic Noise Impact Contours			
Contour Area	**Land Use**	**Impact Contour**	**Distance from Right of Way**
SH 78 to Savannah Dr	NAC category B & C	66 dB(A)	40 feet
SH 78 to Savannah Dr	NAC category E	71 dB(A)	At ROW
Savannah Dr to FM 1138	NAC category B & C	66 dB(A)	35 feet
Savannah Dr to FM 1138	NAC category E	71 dB(A)	At ROW
FM 1138 to CR 640	NAC category B & C	66 dB(A)	5 feet
FM 1138 to CR 640	NAC category E	71 dB(A)	At ROW
CR 640 to Hunt County Line	NAC category B & C	66 dB(A)	10 feet
CR 640 to Hunt County Line	NAC category E	71 dB(A)	At ROW

Source: TxDOT, Traffic Noise Analysis Technical Report, 2023.

Noise associated with the construction of the proposed project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receptors are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis will be available to local officials to assist in future land use planning. On the date of approval of the document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

No-Build Alternative

Under the No-Build Alternative, the proposed project would not be constructed. If the No-Build Alternative were implemented, traffic noise levels would be expected to increase with an associated future increase in traffic volumes.

5.15 Induced Growth

5.15.1 Encroachment-alteration Effects

Encroachment-alteration effects are defined as effects that alter the behavior and functioning of the affected environment by project encroachment (NCHRP 2002, 55). These effects can be separated into two broad categories: socioeconomic and ecological effects. These potential effects are evaluated within an area of influence (AOI). The AOI represents the geographic area within which potential encroachment-alternation effects related to the proposed project would be likely to occur. The AOI encompasses a total of approximately 17,584 acres. The northern AOI boundaries are based on CR 548, FM 1138, and FM 1778/FM 547/CR 850. The western limits follow SH 78, a portion of Lavon's city limits, and Lake Road. The southern limits follow the abandoned Southwestern railroad, a portion of Nevada's ETJ boundary, and CR 541/CR 590. The entire eastern limits follow the path of Brushy Creek.

Socioeconomic Effects

Socioeconomic effects in the encroachment-alteration category could generally include changes to the condition of the local and regional economies, and changes to access, travel patterns, and community cohesion.

Short-term impacts during the construction phase of the proposed project would potentially occur due to increased economic activity in the area during the period of construction. Overall, impacts to the local economy during the construction phase of the proposed project would be expected to be beneficial and would not result in substantial, long-term changes to the local or regional economies.

It is anticipated that the proposed project would potentially accelerate development adjacent and in close proximity to FM 6. These changes would result in continued conversion of predominantly agriculture land to urbanized developed areas; however, this is congruent with the visions of Lavon and Josephine, and do not interrupt or drastically change development trends that have been occurring in previous years. In consideration of the current population growth and development trends present within the AOI, the socioeconomic effects related to encroachment-alteration effects within the AOI would not be substantial and could positively contribute to providing population and economic growth in the future.

The proposed roadway configuration would result in decreased congestion and increased mobility, which would be expected to negate increases in travel times for local traffic related to the construction of a curbed median and limited left turn availability. Based on the minor nature of community impacts that would directly result from the proposed improvements, in addition to the generally beneficial nature of the changes, adverse encroachment-alteration effects are not anticipated.

Ecological Effects

Ecological effects in the encroachment-alteration category could generally include impacts to groundwater, surface water, and vegetation and wildlife habitat, including habitat for sensitive species. The additional pavement from the roadway, pedestrian facilities, the extension of culverts and the movement of stormwater from ditches to a gutter system would affect the groundwater, surface water and vegetation/habitat of the AOI.

Regulatory protections exist for waters in the state and US, including the Texas Water Code and the Clean Water Act (33 USC 26), Sections 401, 402, and 404, which, would serve to mitigate potential adverse effects to streams. Section 402, describing the National Pollutant Discharge Elimination System, requires the implementation of a storm water pollution prevention plan during the construction phase of public or private development over one acre and implementation of erosion and sedimentation controls to protect surface waters from storm water runoff. If future development requires filling or channelizing streams, Section 404 would regulate the amount of fill that could be placed within the channels, and Section 401 would require water quality protection measures. Given appropriate implementation of these regulatory controls, the encroachment-alteration effects that could result from the proposed project would be minor.

Agricultural land is found predominantly throughout the AOI, but in higher concentrations in the central, southern, and eastern portions. Disturbed Prairie is concentrated in the west-central portion of the AOI. Urban land is in highest concentrations on the western half of the AOI, near Lavon and Nevada. Woodland, shrubland, and savanna habitats occur along or in close proximity to the riparian and floodplain areas.

The future development within the AOI that would potentially affect these vegetation types would also potentially result in habitat fragmentation and impacts to wildlife, such as habitat degradation and roadway mortality of individual species. However, the extent to which impacts to vegetation would result in impacts to dependent species cannot be reliably determined. Additionally, most of the areas of potential induced growth are adjacent to the existing roadway and other developments, or occur on already disturbed agriculture land or disturbed prairie habitat. Additionally, future development in the potential induced growth areas would be required to comply with the Endangered Species Act (ESA) of 1973, which protects federally listed species and their habitats. With disturbed agriculture land accounting for the highest percent (77%) within areas of potential induced growth, coupled with agriculture land's reduced ecological value, impacts to biological resources and their associated habitats related to encroachment-alteration effects are not anticipated to be substantial as a result of the proposed project.

5.15.2 Induced Growth Effects

The proposed project is intended to improve mobility and safety and manage congestion along the FM 6 roadway by adding capacity and correcting access conflicts. These changes would

be expected to make it more convenient for travelers to move through the area, including bicyclists and pedestrians.

Agricultural land is found predominantly throughout the AOI, but in higher concentrations in the central, southern, and eastern portions. Disturbed Prairie is concentrated in the west-central portion of the AOI. Urban land is in highest concentrations on the western half of the AOI, near Lavon and Nevada. Woodland, shrubland, and savanna habitats occur along or in close proximity to the riparian and floodplain areas.

The future development within the AOI that would potentially affect these vegetation types would also potentially result in habitat fragmentation and impacts to wildlife, such as habitat degradation and roadway mortality of individual species. However, the extent to which impacts to vegetation would result in impacts to dependent species cannot be reliably determined. Additionally, most of the areas of potential induced growth are adjacent to the existing roadway and other developments or occur on already disturbed agricultural land or disturbed prairie habitat. Additionally, future development in the potential induced growth areas would be required to comply with the Endangered Species Act (ESA) of 1973, which protects federally listed species and their habitats. With disturbed agricultural land accounting for the highest percent (77%) within areas of potential induced growth, coupled with agriculture land's reduced ecological value, impacts to biological resources and their associated habitats related to induced growth are not anticipated to be substantial as a result of the proposed project.

The proposed project is not expected to interrupt or drastically change the trajectory of current development trends. These trends are expected to continue within the AOI, regardless of if the proposed project is implemented. The development anticipated to occur within the AOI is consistent with the land use plans at the city and county levels. The anticipated growth that would potentially be accelerated by the proposed project would not result in substantial effects to ecological or socioeconomic resources. In consideration of these factors, the induced growth effects of the proposed FM 6 project are not expected to be substantial.

No-Build Alternative

Under the No-Build Alternative, indirect impacts related to encroachment-alteration effects and induced growth and related effects would not occur.

5.16 Cumulative Impacts

A Cumulative Impacts Analysis (TxDOT, Cumulative Impacts Technical Report, 2023) was prepared for the proposed project which focuses on resources anticipated to be substantially impacted by the proposed project (either directly or indirectly), as well as resources that would be affected to any degree by the proposed project and are considered at risk or in poor or declining health. In order to thoroughly assess the potential cumulative impacts to a resource, minor direct or indirect impacts to a resource considered at risk or in poor or declining health should be considered along with past, present, and reasonably foreseeable future actions to

determine if such actions, when considered together, would pose a threat to the sustainability or health of that resource.

Archeological resources and historic resources are considered to be in good health in the context of the proposed project; therefore, these resources were not carried forward for detailed evaluation in the Cumulative Impacts Analysis (TxDOT, Cumulative Impacts Technical Report, 2023). The health of socioeconomic, biological resources and water resources within the project area were considered to be at risk due to potential effects.

Based on the cumulative impacts analysis, the proposed project would not substantially contribute to cumulative impacts on community resources. Many of the past, present and future planned developments are residential developments on undeveloped land which would not result in displaced residences but instead provide new options for displaced individuals from proposed transportation improvements.

When considering the cumulative effect of biological resources, continued development within the study area is expected to contribute to an overall decline in vegetation and wildlife habitat. However, the direct and indirect contribution of the proposed project would be minimal. As these changes relate to the monarch butterfly, the transition of the study area to a more urbanized area would not have a substantial impact on this species, as this species is a generalist and is known to inhabit urban areas.

When considering the cumulative effect of water resources, the reasonably foreseeable future actions discussed would further increase the urban nature of the area, through new or expanded land development. Therefore, it is assumed that these actions would lead to increases in storm water runoff that could result in localized erosion and sedimentation of surface streams. However, given existing regulatory protections provided to habitats associated with rivers and streams and associated floodplains, cumulative effects to water resources within the RSA would not be substantial.

The proposed project would not result in substantial direct, indirect, or cumulative effects to community resources, biological resources, or water resources. The contribution of the proposed project to cumulative effects on these resources would be minor and would not adversely affect the overall sustainability or long-term health of the resources discussed in this report.

No-Build Alternative

Implementation of the No-Build Alternative would not result in cumulative impacts.

5.17 Construction Phase Impacts

This section discusses the temporary effects associated with the construction of the proposed Build Alternative. Since the No-Build Alternative would not involve any project-related construction, discussions here are focused on the Build Alternative. Typically, construction effects of a disruptive nature are dependent on the type and location of proposed construction activities and the duration of the construction process from initiation to completion.

Construction activities necessary for the implementation of the Build Alternative would temporarily affect existing transportation facilities within the project area. To allow for vehicles to continue utilizing the roadway during construction, the proposed project would be constructed while traffic continued to use the existing facilities. In this way, traffic disruptions and other user impacts would be minimized.

Temporary construction effects would include traffic delays and work-zone congestion that could disrupt travel patterns for local residents and businesses for the duration of construction. Mitigation measures, such as maintenance of traffic plans, would be implemented to address user impacts including work-zone safety and traffic delays. Access for police, fire, and emergency vehicles would be maintained during construction; details would be developed in a maintenance of traffic plan to be implemented for the proposed project.

Temporary impacts to natural resources could result from the construction of the proposed Build Alternative and include disturbances, including hydrologic disturbances, to wildlife and vegetative communities. Implementation of the Build Alternative would involve the removal of grasses, trees and shrubs during the construction phase, affecting the natural, erosion-inhibiting ground cover and resulting in the loss of habitat for both resident and migratory species. Disturbed areas would be restored, reseeded, and recontoured as necessary according to TxDOT specifications, making these effects largely temporary.

Noise associated with the construction of the proposed project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

During the construction phase of this project, temporary increases in particulate matter (PM) and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles. The potential impacts of PM emissions will be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. Considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized including compliance with applicable regulatory requirements, it is not anticipated that emissions from construction of this project will have a significant impact on air quality in the area.

5.18 Greenhouse Gas Emissions and Climate Change

The Texas Department of Transportation has prepared a Statewide On-Road Greenhouse Gas Analysis and Climate Change Assessment technical report (TxDOT 2021). The report discloses: 1) an analysis of available data regarding statewide greenhouse gas (GHG) emissions for on-road GHG emissions, 2) TxDOT actions and funding that support reducing GHG emissions, 3) projected climate change effects for the state of Texas, and 4) TxDOT's current strategies and plans for addressing the changing climate. A summary of key issues in this technical report is provided below. Please refer to the technical report for more details.

The Earth has gone through many natural changes in climate over time. However, since the industrial revolution began in the 1700s, atmospheric concentration of GHG emissions have continued to climb, primarily due to humans burning fossil fuel (e.g., coal, natural gas, gasoline, oil and/or diesel) to generate electricity, heat and cool buildings, and power industrial processes, vehicles, and equipment. According to the Intergovernmental Panel on Climate Change (IPCC), this increase in GHG emissions is projected to contribute to future changes in climate (Solomon 2007, Stocker 2013).

5.18.1 Statewide On-road Greenhouse Gas

TxDOT prepared a GHG analysis for the statewide on-road transportation system and associated emissions generated by motor vehicle fuels processing called "fuel-cycle emissions." EPA's Motor Vehicle Emissions Simulator (MOVES2014 version) emissions model was used to estimate emissions. Texas on-road and fuel cycle GHG emissions are estimated to be 186 million metric tons (MMT) in 2050 and reach a minimum in 2032 at 161 MMT. Future on-road GHG emissions may be affected by changes that may alter where people live and work and how they use the transportation system, including but not limited to: 1) the results of federal policy including tailpipe and fuel controls, 2) market forces and economics, 3) individual choice decisions, 4) acts of nature (e.g., pandemic) or societal changes, and 5) other technological advancements. Such changes cannot be accurately predicted due to the inherent uncertainty in future projections related to demographics, social change, technology, and inability to accurately forecast where people work and live (Transportation Research Board 2007).

5.18.2 Mitigation Measures

Strategies that reduce on-road GHG emissions fall under four major categories:

- Federal engine and fuel controls under the Clean Air Act implemented jointly by EPA and U.S. Department of Transportation (USDOT), which includes Corporate Average Fuel Economy (CAFE) standards;
- "Cash for clunker" programs which remove older, higher-emitting vehicles from roads;
- Traffic system management (TSM) which improves the operational characteristics of the transportation network (e.g., traffic light timing, pre-staged wrecker service to clear accidents faster, or traveler information systems); and

- Travel demand management (TDM) which provides reductions in VMT (e.g., transit, rideshare, and bicycle and pedestrian facilities) and requires personal choice decisions.

TxDOT has implemented programmatic strategies that reduce GHG emissions including: 1) travel demand management projects and funding to reduce VMT, such as bicycle and pedestrian facilities, 2) traffic system management projects and funding to improve the operation of the transportation system, 3) participation in the national alternative fuels corridor program, 4) clean construction activities, 5) clean fleet activities, 6) CMAQ funding, 7) transit funding, and 8) two statewide campaigns to reduce tailpipe emissions.

5.18.3 TxDOT and a Changing Climate

TxDOT has strategies that address a changing climate in accordance with TxDOT and FHWA design, asset management, maintenance, emergency response, and operational policies and guidance. The flexibility and elasticity in TxDOT transportation planning, design, emergency response, maintenance, asset management, and operation and maintenance of the transportation system are intended to consider any number of changing scenarios over time. Additional detail is in the statewide technical report.

No-Build Alternative

Implementation of the No-Build Alternative would not result in changes in the effect of GHG and Climate Change.

6.0 Agency Coordination

Federally Recognized Tribes

TxDOT initiated project-specific consultation under Section 106 of the National Historic Preservation Act with federally recognized tribes on June 7, 2023. TxDOT sent a request for consultation to the following federally recognized tribes: Caddo Nation, Comanche Nation of Oklahoma, Jena Band of Choctaw Indians, Kiowa Tribe, Mescalero Apache Tribe, Shawnee Tribe, Tonkawa Tribe of Oklahoma, and Wichita and Affiliated Tribes. The Caddo Nation responded on June 13, 2023 and determined that the project does not affect known cultural, tradition or sacred sites of interest to the Caddo Nation. The Caddo Nation has no objection to the project. To date, no other tribe has responded with objections or any other response. `as available from October 20, 2022, until November 4, 2022. Advertisement for the public meeting included mailed notices to adjacent property owners and elected officials, and publications were made 15 days prior to the meeting both in print and online. Publications included the Dallas Morning News (print), Al Día (print), McKinney Courier-Gazette (print), TxDOT online schedule (https://www.txdot.gov/projects/hearings-meetings/dallas/fm-6-sh-78-hunt-county.html), and Keep It Moving Dallas (https://www.keepitmovingdallas.com/fm6).

The Public Meeting was held on Thursday, October 20, 2022 from 5:30-7:30 PM at Community High School. The project schematics were available to view at the public meeting. A total number of 94 people attended the in-person meeting, including five elected officials; 127 people viewed the online YouTube presentation; the website received 273 visitors; and 26 total comments were received during the comment period. Topics of concern were as follows: access to lots, property and land acquisition, congestion on the existing roadway, speeding, request for traffic lights, and request for noise walls. One of the main topics of concerns was regarding access to private property and request for driveways and median openings.

A summary of the meeting was prepared and is available at the TxDOT Dallas District Office. The Public Meeting Documentation may be inspected and copied upon request.

A notice of impending construction would be provided to owners of adjoining property and affected local governments and public officials. The notice may be provided via a sign or signs posted in the right of way, mailed notice, printed notice distributed by hand, or notice via website when the recipient has previously been informed of the relevant website address. This notice would be provided after the environmental decision (i.e., FONSI), but before earthmoving or other activities requiring the use of heavy equipment begin.

8.0 Post-Environmental Clearance Activities and Design/Construction Commitments

8.1 Post-Environmental Clearance Activities

This section lists unresolved environmental activities that could not be done prior to issuance of a FONSI, for which the project sponsor will be responsible.

1. Pedestrian survey and shovel testing are recommended for the 35.03 acres of the Survey Area where ROE was denied, and survey has not been completed. Future work within the Survey Area should also include mechanical prospection at Bois d'Arc Creek, Sabine Creek, and the eastern tributary of Sabine Creek.
2. Asbestos and lead-based paint inspections, specification, notification, license, accreditation, abatement and disposal would be addressed during the right of way process for building structures and prior to any demolition/construction activities on bridges.
3. Formal utilities location and advance planning would be required to facilitate pipeline and utilities adjustments and to otherwise avoid associated impacts prior to construction.
4. Proper plugging of the wells would be addressed during the ROW negotiation and acquisition process and prior to construction. If not plugged prior to construction, the

wells would be addressed per TxDOT Standard Specification Item 103 Disposal of Wells during construction.

5. Coordination with the local Floodplain Administrators would be required prior to construction.
6. Additional investigations are being performed at the LPST site, as discussed in Section 5.13 Hazardous Materials.

8.2 Design/Construction Commitments

This section lists project-specific avoidance measures or special instructions that will be conveyed to the design or construction contractor as a result of the department's environmental review of the project.

1. In the unlikely event that significant cultural resources are discovered during construction of the proposed project, TxDOT would immediately initiate cultural resource discovery procedures. All work in the vicinity would cease until a specialist from TxDOT and/or the THC could arrive on site and assess the discovery's significance and the potential need for additional investigation, if necessary.
2. Formal utilities location and advance planning would be required to facilitate pipeline and utilities adjustments and to otherwise avoid associated impacts.
3. Should unanticipated hazardous materials/substances be encountered during construction, TxDOT and/or the contractor would be notified and steps would be taken to protect personnel and the environment. Any unanticipated hazardous materials encountered during construction would be handled according to applicable federal, state, and local regulations per TxDOT Standard Specifications. The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in construction staging areas. All construction materials used for the proposed project would be removed as soon as the work schedules permit. The contractor would initiate early regulatory agency coordination during project development.
4. The potential impacts of PM emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. The TERP provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to use this and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at: https://www.tceq.texas.gov/airquality/terp.
5. Implement the following BMPs: contractors will be advised of potential occurrence in the project area and to avoid harming the species if encountered; minimize impacts to wetland habitats including isolated ephemeral pools; minimize impacts to water crossings/drainages, marshes, drainage ditches, and irrigation canals; Aquatic Amphibian and Reptile BMP; Insect Pollinator BMP; Terrestrial Amphibian and Reptile

BMP; Bat BMP; Rare Plant BMP; Bird BMP; General Design and Construction BMP; Water Quality BMP; and Vegetation BMP.

6. Implement water quality BMPs including: approved temporary vegetation; blankets/matting or mulch filter berms; vegetated filter strips; and silt fence, sand bags and/or compost filter berms and socks.
7. Avoid and minimize disturbance of vegetation and soils. All disturbed areas would be revegetated according to TxDOT specifications as soon as it becomes practicable. In accordance with EO 13112 on Invasive Species, the Executive Memorandum on Beneficial Landscaping, and the 1999 FHWA guidance on invasive species, all revegetation would, to the extent practicable, use only native species. Furthermore, BMPs would be used to control and prevent the spread of invasive species.
8. MBTA compliance, including taking all appropriate actions to prevent the take of migratory birds, their active nests, eggs or young by the use of proper phasing of the project or other appropriate actions.

As indicated above in Section 6.0, the TPWD-recommended BMPs that will be applied to this project are indicated in the Form – Documentation of Texas Parks and Wildlife Department Best Management Practices prepared for the project, which is included in Appendix F.

9.0 Conclusion

Implementation of the proposed project would not result in significant impacts to the human or natural environment. Therefore, a FONSI is recommended.

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11.0 Names and Qualifications of Persons Preparing the EA or Conducting an Independent Evaluation of the EA

TxDOT Environmental Affairs Division (ENV) personnel name and title, years of experience, and role:

Adam Fouts, ENV Project Planner, ENV Water Resources Specialist, 11 years, Document Reviewer

Deborah Nixon, ENV Project Planner, ENV Hazardous Materials Specialist, 21 years, Hazardous Materials Reviewer/Approver

Glendora Lopez, ENV Project Planner, ENV Air Quality Specialist, 2 years, Air Quality Analysis Reviewer/Approver

Leslie Mirise, ENV Project Planner, ENV Biologist, 21 years, Document Reviewer

Mario Mata, ENV Project Planner, Water Team Lead, 18 years, Document Reviewer

Michelle Lueck, ENV Project Planner, Project Delivery Manager, 22 years, Document Reviewer

Ray Umscheid, ENV Project Planner, ENV Traffic Noise Specialist, 15 years, Document Reviewer

Renee Benn-Lee, ENV Project Planner, ENV Historian, 18 years, Document Reviewer

Scott Pletka, Archeology Program Manager, 19 years, Document Reviewer

Sonya Hernandez, Project Delivery Management, Section Director, 17 years, Document Reviewer

Spencer Ward, ENV Project Planner, ENV Community Impacts Specialist, 3 years, Community Impacts Reviewer/Approver

TxDOT Dallas District personnel name and title, years of experience, and role:

Adelina Munoz, ENV Project Planner, District Water SME, 24 years, Water Reviewer

Dan Perge, P.E., APD Section Director, 35 years, Document Reviewer

Jamila Murchison, ENV Project Planner, District Biologist, 2 years, Natural Resources Reviewer

Manuel Trevino, ENV Project Planner, District Traffic Noise Specialist, 16 years, Noise Reviewer

Mohammed Shaikh, ENV Program Manager, 20 years, Document Reviewer

Jacobs personnel name and title, years of experience, and role:

David Van Gorder, Environmental Project Manager, 31 years, Environmental Task Lead, EA Preparation, Client & Staff Coordination, Project Manager

Madeline Jurek, Environmental Scientist, 2 years, EA Preparation

Raba Kistner personnel name and title, years of experience, and role:

Brady O'Neal, Senior Project Manager, NEPA/Natural Resources, 7 years, Environmental Task Lead for Water Resources & Biological Resources & EA Preparation

Brittney Davis, AICP, ENV SP, Director, Environmental Planning & Permitting, 16 years, Environmental Project Manager for Water Resources & Biological Resources

Jaimie Galm, Environmental Scientist, 3 years, Water Resources & Biological Report Preparation

APPENDIX A

PROJECT LOCATION MAP

APPENDIX B

PROJECT PHOTOS

APPENDIX C

SCHEMATICS

APPENDIX D

TYPICAL SECTIONS

APPENDIX E

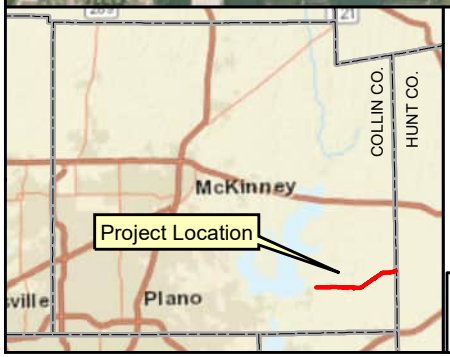
RESOURCE-SPECIFIC MAPS

APPENDIX F

RESOURCE AGENCY COORDINATION

APPENDIX A

PROJECT LOCATION MAP



Legend

- Project Footprint
- County Boundary

0 2,500 5,000
Feet

N

FM 6

from SH 78 to East of FM 1777

Collin County, Texas

Project Area Map

Texas Department of Transportation

TXDOT CSJ:
0619-01-027

APPENDIX B

PROJECT PHOTOS

Photograph 1. Looking east at the intersection of FM 6, near the beginning limits of the proposed project.

Photograph 2. Looking east/northeast along FM 6 near the middle of the project limits at the transmission line that transects the existing FM 6 corridor south of the Bois d'Arc Creek crossing.

Photograph 3. Looking east along FM 6 at the eastern terminus of the project limits located east of FM 1777.

Photograph 4. Looking north at the Lone Star Cowboy Church, a place of worship located adjacent to FM 6 and within the city limits of Nevada. ROW acquisition is anticipated from this lot and parking spaces will be taken from the church.

Photograph 5. Looking north at Family Faith Church, a place of worship located adjacent to FM 6 and within the city limits of Nevada. Minor ROW acquisition is anticipated from this lot and some of the overflow parking spaces will be taken from the church.

Photograph 6. Looking south at the Nevada Volunteer Fire Department located adjacent to FM 6 and within the city limits of Nevada.

Photograph 7. Looking east at the entrance to Nevada Cemetery located adjacent to FM 6 and within the city limits of Nevada. No ROW acquisition is anticipated from the cemetery. *Cemetery ID Number: COL-C107. Texas Atlas #7085010705.*

Photograph 8. Looking east/southeast along FM 6 at the sign for the Empire Masonic Lodge No. 586, located adjacent to the existing roadway. NO ROW acquisition is anticipated from this lot. *Historical Marker, Number 15759; Texas Atlas #5507015759.*

Photograph 9. Looking south at Fiat Shade Tree Enginetrics, an auto repair shop located adjacent to FM 6, north of the CR 640 and FM 6 intersection. ROW acquisition is proposed from this parcel and the structure is proposed to be displaced.

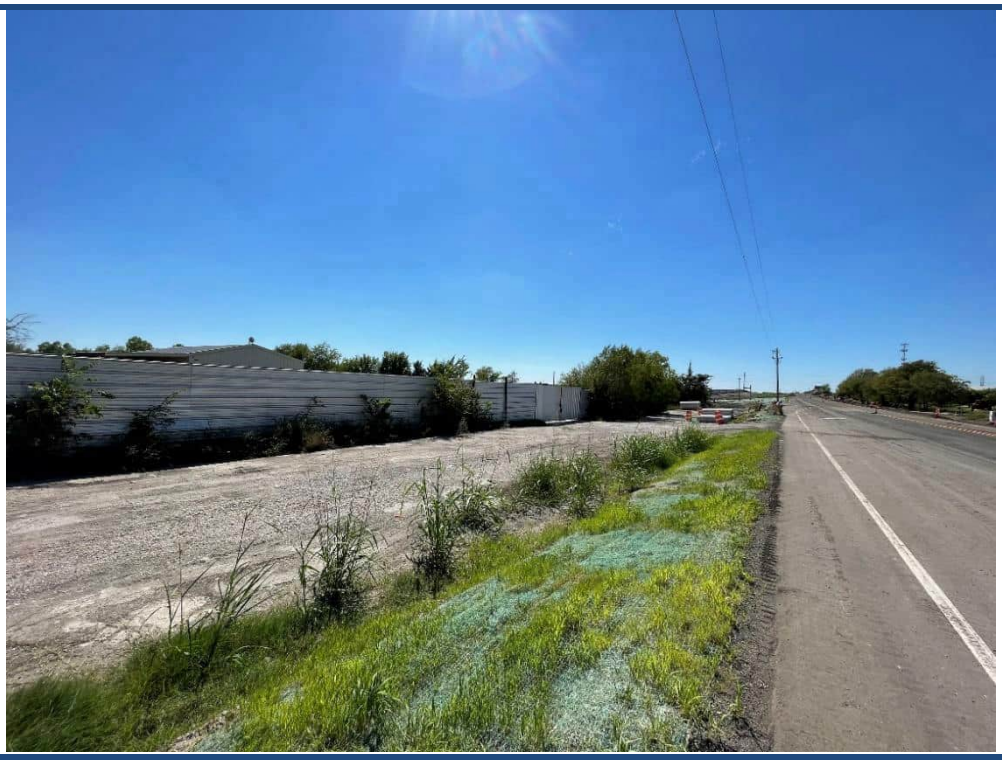
Photograph 10. Looking northeast at a house located adjacent to FM 6, at the intersection of FM 6 and Main Street within the city limits of Josephine. ROW acquisition is anticipated for this parcel and the structure is proposed to be displaced.

Photograph 11. Looking east at a house located adjacent to FM 6, located between the cross streets of Center Street and Eve Street within the city limits of Nevada. ROW acquisition is anticipated for this parcel and the structure is proposed to be displaced.

Photograph 12. Looking south at a house and associated shed/garage located adjacent to FM 6 at the intersection of FM 6 and Savannah Drive. ROW acquisition is anticipated from this parcel and both structures are proposed to be displaced.

Photograph 13. Looking southwest along FM 6 at the bridge crossing over Sabine Creek. Bridge ID: 180430061901287.

Photograph 14. Looking east/northeast at the LPST site at the southeast corner of FM 6 and West St. Proposed ROW extends south onto the property to the area of the former fuel dispensers (located where the silver vehicle is sitting).



Photograph 15. Looking west toward an auto salvage yard located at the southwest corner of Exploration and FM 6. ROW acquisition is proposed from this property extending southward onto the property (past the fence seen in the photo).

Photograph 16. Looking northeast at Water Feature 17 (Bois d'Arc Creek), an intermittent stream that transects the existing FM 6 corridor north of County Road 595. This is a bridge class culvert with NBI 180430061901004.

Photograph 17. Looking southeast at Water Feature 21 (Sabine Creek), an intermittent stream that transects the existing FM 6 corridor south of Sebastian Lane.

Photograph 18. Looking southeast at Water Feature 23 (tributary of Sabine Creek), an intermittent stream that transects the existing FM 6 corridor west of Main Street. This is a bridge class culvert with NBI 180430061901006.

APPENDIX C

SCHEMATICS

Texas Department of Transportation

DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0619-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

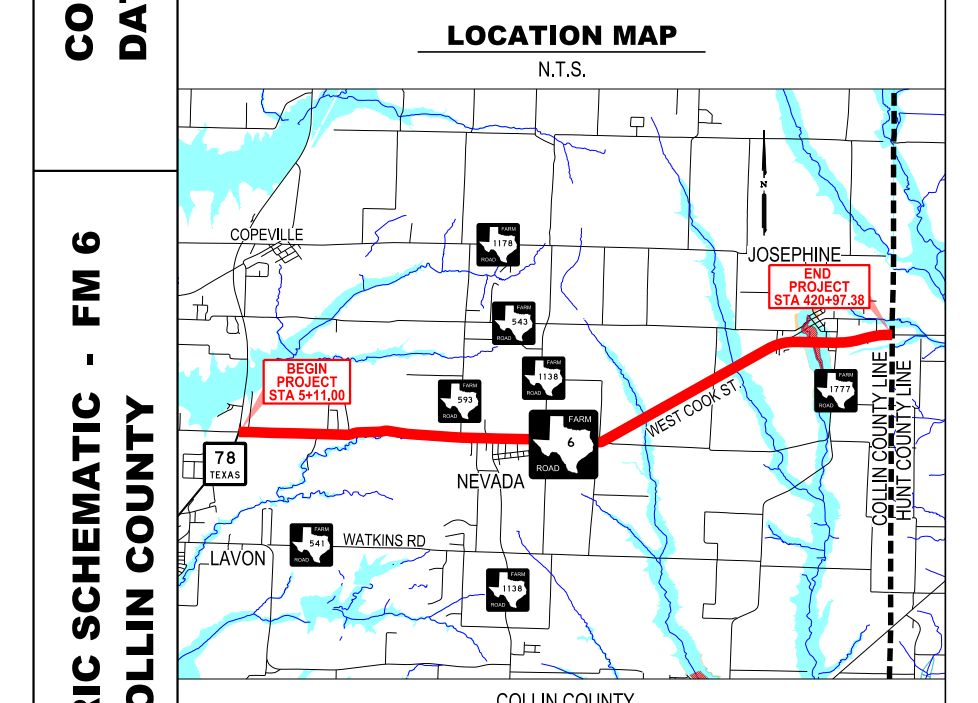
DESIGN CRITERIA:

FUNCTIONAL CLASSIFICATION:	URBAN MAJOR COLLECTOR
TERRAIN:	LEVEL
DESIGN SPEED:	45 MPH - URBAN STREET
DESIGN SPEED (CROSS ST):	VARIES 30 MPH TO 55 MPH

ADT (2025) = 12,100
ADT (2045) = 16,550
ADT (2055) = 18,600

COUNTY: COLLIN
DATE: MAY 2023

LOCATION MAP
N.T.S.



COLLIN COUNTY

GEOMETRIC SCHEMATIC - FM 6 COLLIN COUNTY

ROLL 1 OF 4

100% GEOMETRIC SCHEMATIC

These documents are not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of :

PETER G. JACOBS 67725 LICENSED PROFESSIONAL ENGINEER
6/21/2023

ROLL INDEX:

ROLL 1:	FM 6 MAINLANES STA. 4+63.51 TO STA. 112+00
ROLL 2:	FM 6 MAINLANES STA. 112+00 TO STA. 220+00
ROLL 3:	FM 6 MAINLANES STA. 220+00 TO STA. 328+00
ROLL 4:	FM 6 MAINLANES STA. 328+00 TO STA. 420+97.38

HORIZONTAL SCALE 0 50 100 200 300
VERTICAL SCALE 0 5 10 20 30

ROLL 1 OF 4

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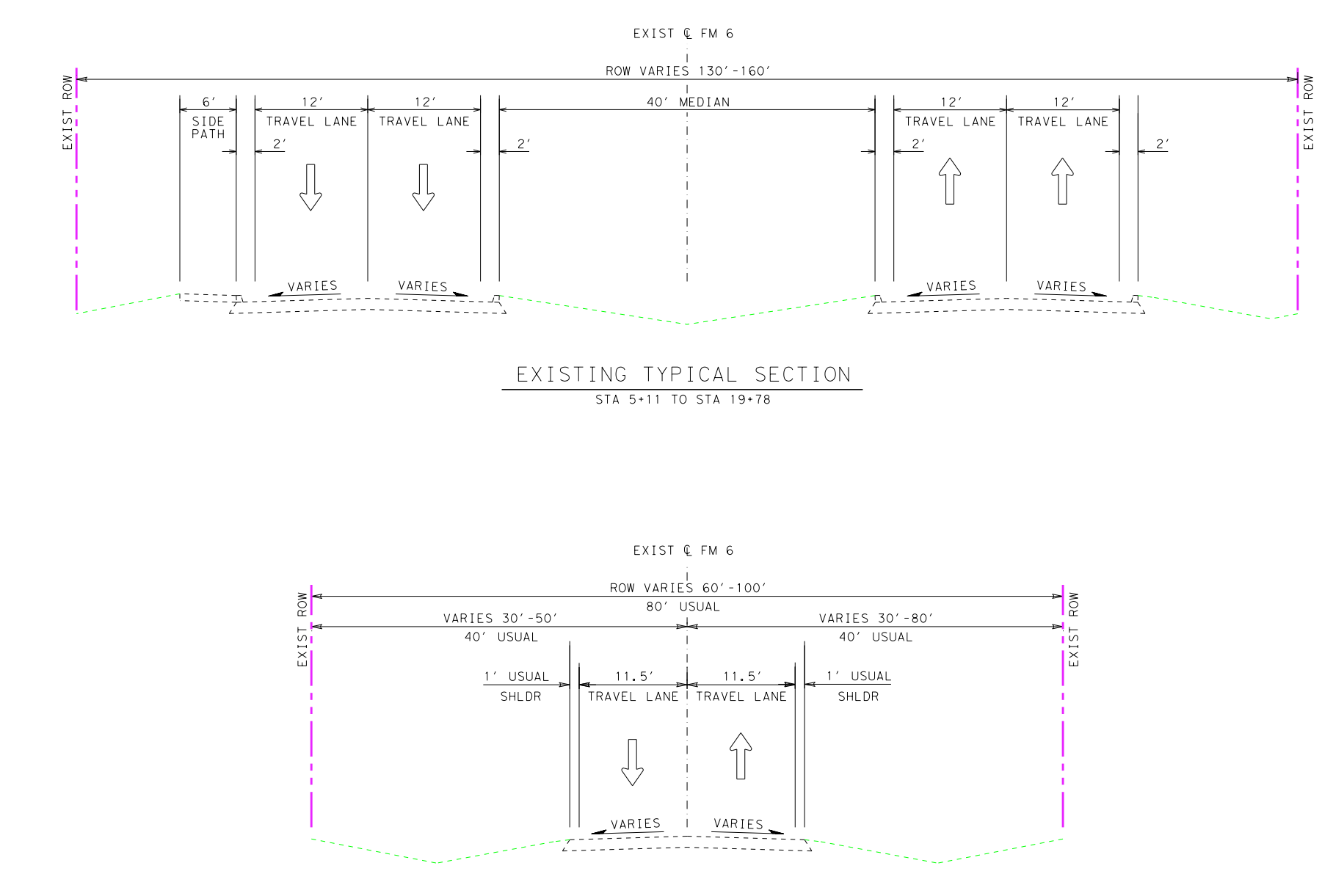
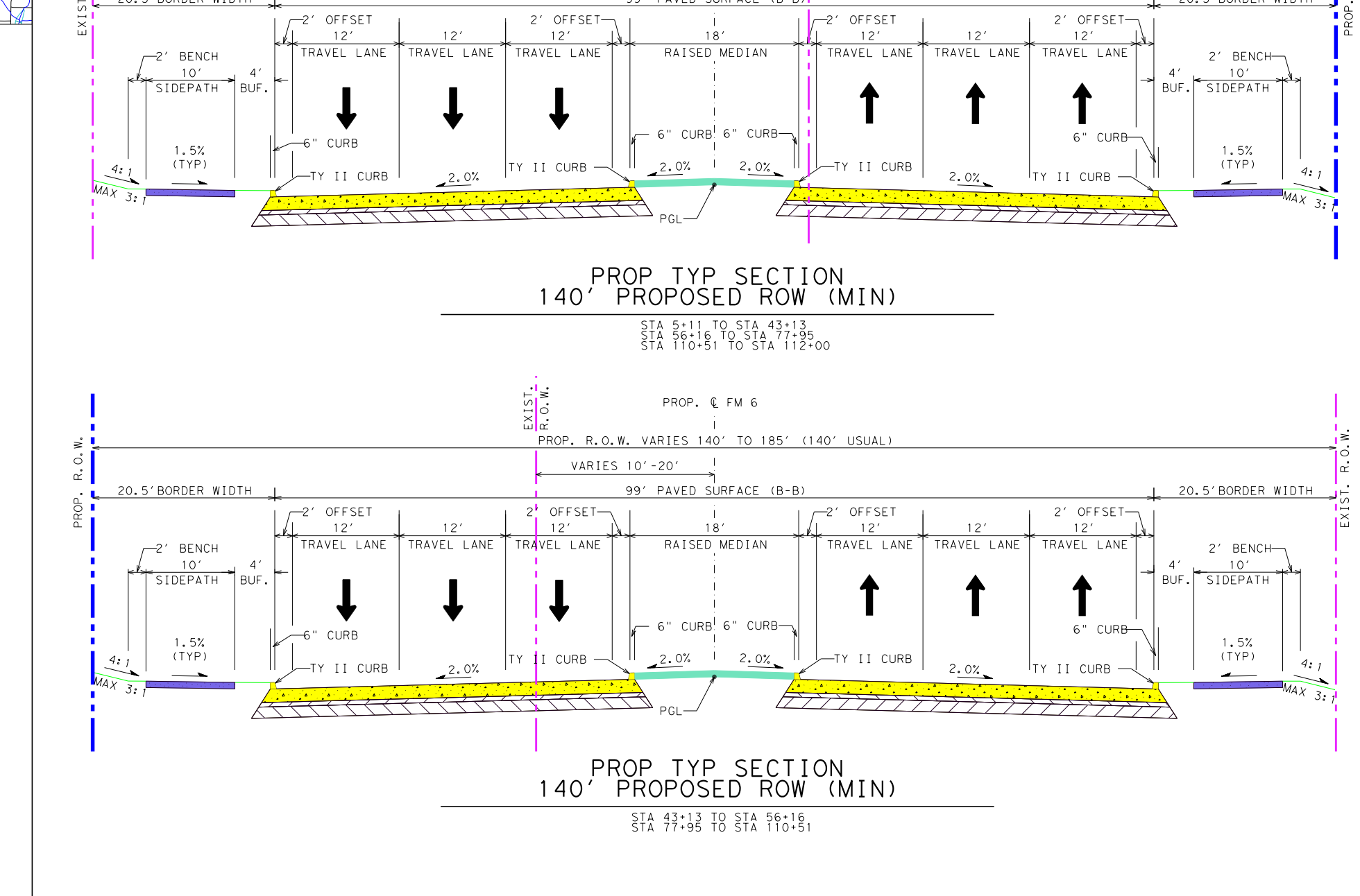


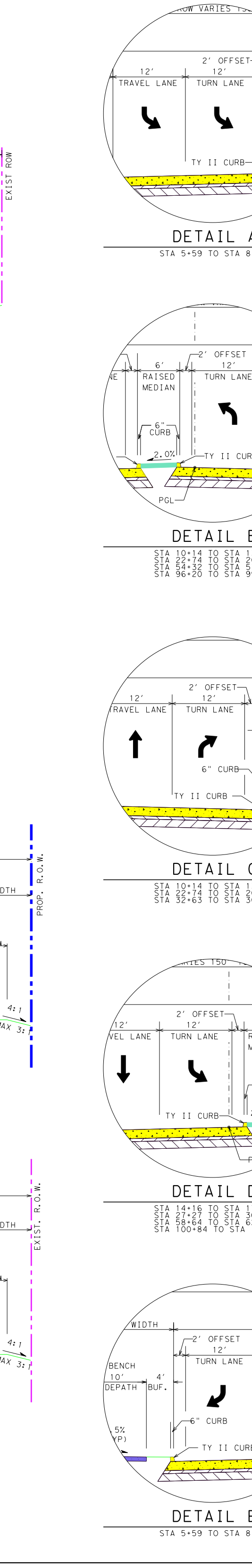
EXISTING TYPICAL SECTION
STA 5+11 TO STA 19+78

EXISTING TYPICAL SECTION
STA 19+78 TO STA 112+00



PROP TYP SECTION
140' PROPOSED ROW (MIN)
STA 5+11 TO STA 43+13
STA 56+16 TO STA 77+95
STA 110+51 TO STA 112+00

PROP TYP SECTION
140' PROPOSED ROW (MIN)
STA 43+13 TO STA 56+16
STA 77+95 TO STA 110+51



DETAIL A
STA 5+59 TO STA 8+50

DETAIL B
STA 10+14 TO STA 13+54
STA 22+74 TO STA 26+20
STA 54+32 TO STA 57+83
STA 96+20 TO STA 99+67

DETAIL C
STA 10+14 TO STA 13+54
STA 22+74 TO STA 26+26
STA 32+63 TO STA 36+03

DETAIL D
STA 14+16 TO STA 17+86
STA 27+27 TO STA 30+76
STA 58+64 TO STA 62+04
STA 100+84 TO STA 104+31

DETAIL E
STA 5+59 TO STA 8+50

PLAN LEGEND:

PROPOSED ℄	COMMUNICATIONS QL "B"
PROPOSED R.O.W.	COMMUNICATIONS QL "C"/QL "D"
PROPOSED DRAINAGE EASEMENT	POWER LINE QL "B"
EXISTING R.O.W.	POWER LINE QL "C"/QL "D"
PROPOSED PEDESTRIAN RAIL	GAS LINE QL "B"
REGULATORY FLOODWAY	GAS LINE QL "C"/QL "D"
100 YR FLOODPLAIN LIMITS	SANITARY SEWER LINE QL "B"
500 YR FLOODPLAIN LIMITS	SANITARY SEWER LINE QL "C"/QL "D"
PARCEL LINE	STORM DRAIN LINE QL "B"
COUNTY LINE	STORM DRAIN LINE QL "C"/QL "D"
PROPOSED DRAINAGE	POTABLE WATER LINE QL "B"
EXISTING DRAINAGE	POTABLE WATER LINE QL "C"/QL "D"
PROPOSED DIRECTION OF TRAVEL	ABANDONED WATER LINE
EXISTING DIRECTION OF TRAVEL	TRAFFIC SIGNAL LINE QL "B"
PROPOSED BRIDGE	TRAFFIC SIGNAL LINE QL "C"/QL "D"
PROPOSED ROADWAY	OVERHEAD UTILITY LINE
PROPOSED DRIVEWAY	POWER POLE
PROPOSED SIDEPATH	FLOWLINE
PROPOSED MEDIAN	
CEMETERY	
DISPLACEMENT	
POTENTIAL DISPLACEMENT	
SIDEWALK REMOVAL	
ROADWAY REMOVAL	
CURVE ID	
PARCEL ID	

GENERAL NOTES:

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON AERIAL SURVEYS DATED 05-29 2020 AND RECORD PLANS.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTERWISE).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAP 48085C0445J AND 48085C0465J, DATED JUNE 2, 2009.
6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM, COLLIN COUNTY APPRAISAL DISTRICT. (LATEST DATA AVAILABLE AS OF SEPTEMBER 2022)
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.
9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVENMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS.
10. PRIMARY BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED R.O.W. IS WITHIN 25' OF THE EXISTING BUILDING STRUCTURE.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. EXISTING PAVEMENT/BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
13. TYPICAL DRIVEWAY CURB RETURN RADII IS 15 FEET FOR RESIDENTIAL AND 30 FEET FOR CROSS STREETS UNLESS NOTED OTHERWISE.
14. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE

CURVE DATA TABLE:

CURVE - 01		CURVE - 06	
PI STATION	= 12+81.24	PI STATION	= 72+97.45
DELTA	= 1° 31' 33.38" (RT)	DELTA	= 29° 51' 04.27" (LT)
DEGREE OF CURVE	= 0° 53' 03.10"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 86.29	TANGENT	= 277.22
LENGTH	= 172.58	LENGTH	= 541.84
RADIUS	= 6,480.00	RADIUS	= 1,040.00
PC STATION	= 11+94.95	PC STATION	= 70+20.23
PT STATION	= 13+67.53	PT STATION	= 75+62.07

CURVE - 02		CURVE - 07	
PI STATION	= 41+90.53	PI STATION	= 77+99.79
DELTA	= 13° 36' 29.93" (LT)	DELTA	= 25° 45' 04.27" (RT)
DEGREE OF CURVE	= 5° 30' 33.15"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 124.09	TANGENT	= 237.73
LENGTH	= 247.01	LENGTH	= 467.42
RADIUS	= 1,040.00	RADIUS	= 1,040.00
PC STATION	= 40+66.45	PC STATION	= 75+62.07
PT STATION	= 43+13.46	PT STATION	= 80+29.49

CURVE - 03		CURVE - 08	
PI STATION	= 44+41.23	PI STATION	= 97+28.84
DELTA	= 14° 00' 29.93" (RT)	DELTA	= 12° 54' 00.00" (RT)
DEGREE OF CURVE	= 5° 30' 33.15"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 127.77	TANGENT	= 117.57
LENGTH	= 254.27	LENGTH	= 234.15
RADIUS	= 1,040.00	RADIUS	= 1,040.00
PC STATION	= 43+13.46	PC STATION	= 96+11.26
PT STATION	= 45+67.73	PT STATION	= 98+45.42

CURVE - 04	
PI STATION	= 53+66.63
DELTA	= 13° 47' 43.08" (RT)
DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 125.81
LENGTH	= 250.40
RADIUS	= 1,040.00
PC STATION	= 52+40.82
PT STATION	= 54+91.23

CURVE - 05	
PI STATION	= 56+17.04
DELTA	= 13° 47' 43.08" (LT)
DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 125.81
LENGTH	= 250.40
RADIUS	= 1,040.00
PC STATION	= 54+91.23
PT STATION	= 57+41.63

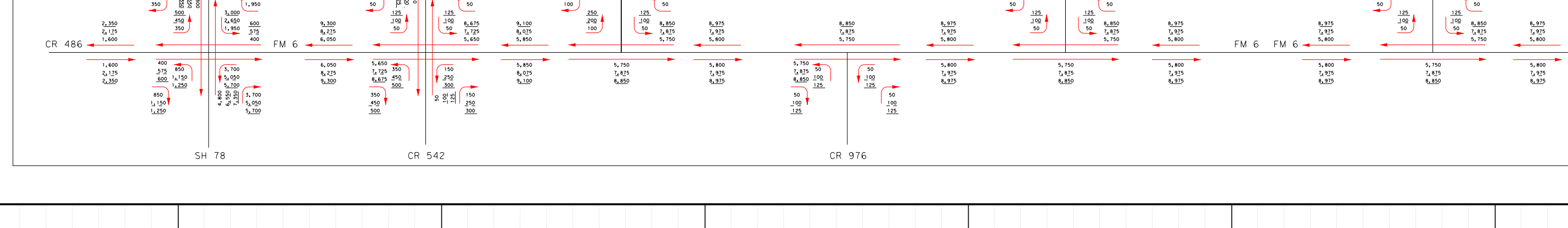
PARCEL ID	OWNER	LANDUSE
1	WILLIAM RONNY & CYNTHIA MCGUIRE	SINGLE FAMILY
2	LDC LAVON, LLC	FARMLAND
3	BLAKE MCCARTNEY, ETA.	FARMLAND
4	DONALD THOMPSON	FARMLAND
5	DR HORTON-TEXAS LTD	RESIDENTAL
6	NEVADA IMPORT PARTS & AUTOS INC.	COMMERCIAL
7	DR HORTON-TEXAS LTD	RESIDENTAL
8	ACACIO HERNANDEZ	COMMERCIAL
9	DR HORTON TEXAS LTD	RESIDENTAL
10	JOE BELLOWS	COMMERCIAL
11	DR HORTON-TEXAS LTD	RESIDENTAL
12	DR HORTON-TEXAS LTD	RESIDENTAL
13	SMITH-LISLE HOLDINGS LTD	COMMERCIAL
14	DR HORTON-TEXAS LTD	RESIDENTAL
15	THOMAS W. & SAUNDRA P. DONEGAN	FARMLAND
16	THOMAS W. & SAUNDRA P. DONEGAN	COMMERCIAL
17	DR HORTON-TEXAS LTD	RESIDENTAL
18	NEVADA SPECIAL UTILITY DISTRICT	GOVERNMENTAL
19	ABIGAIL NCHEKWUBE	COMMERCIAL
20	ALBERT & SHARONA MOKHTAR	FARMLAND
21	DR HORTON-TEXAS LTD	FARMLAND
22	CEDENO NATALIE D	FARMLAND
23	ALBERT & SHARONA MOKHTAR	FARMLAND
24	MILLER TS	COMMERCIAL

PARCEL ID	OWNER	LANDUSE
25	SISAN ABBAS KHADEMI	COMMERCIAL
26	SISAN ABBAS KHADEMI	SINGLE FAMILY
27	KINGSBRIDGE CONSTRUCTION, LLC	FARMLAND
28	JOHN A. YEAGER	SINGLE FAMILY
29	CHRISTOPHER ANTHONY PAGE	FARMLAND
30	BENSON HERMAN SR - LE	SINGLE FAMILY
31	CHRISTOPHER & VANETTE JONES	SINGLE FAMILY
32	KENNETH W. & JENNIFER WOLFE	SINGLE FAMILY
33	WAY JANEY PHARR	FARMLAND
34	CINDY ADAMS	SINGLE FAMILY

PARCEL ID	OWNER	LANDUSE
35	WAY JANEY PHARR	FARMLAND
36	BEN CASTILLO	SINGLE FAMILY
37	PHARR RAY DECKARD ET JX	SINGLE FAMILY
38	BILL & ALISA HALE	SINGLE FAMILY
39	PHARR RAY DECKARD	FARMLAND
40	ROBERT & PAMELA BLACKSTOCK	SINGLE FAMILY
41	TOTSY CLIFFORD PAGE	FARMLAND
42	MILFORD FOUNDERS LTD	FARMLAND
43	JANEY RUTH WAY, ET AL	FARMLAND
44	MOBLEY FAMILY LIVING TRUST	SINGLE FAMILY

PARCEL ID	OWNER	LANDUSE
45	JANEY R. WAY	SINGLE FAMILY
46	FOUST MELVIN J.	COMMERCIAL
47	JUAN VICENTE HERNANDEZ	COMMERCIAL
48	CHRISTOPHER ANTHONY PAGE	FARMLAND
49	CHRISTOPHER ANTHONY PAGE	FARMLAND
50	DALLAS DISTRICT CHURCH OF THE NAZARENE	CHURCH
51	LONE STAR COWBOY CHURCH	CHURCH
52	RICH D. ANDERTON	SINGLE FAMILY
53	JOSE & REINA ESTRADA MARTINEZ	SINGLE FAMILY
54	PHARR RAY DECKARD	FARMLAND
55	PHARR RAY DECKARD	FARMLAND
56	PHARR RAY DECKARD	FARMLAND
57	DIERDRE HARRIS	FARMLAND

TRAFFIC DIAGRAM



PROFILE LEGEND:

	PROPOSED PGL
	EXISTING NATURAL GROUND AT PGL
	25 YR WATER SURFACE ELEVATION
	100 YR WATER SURFACE ELEVATION

Texas Department of Transportation
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DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0619-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

DESIGN CRITERIA:

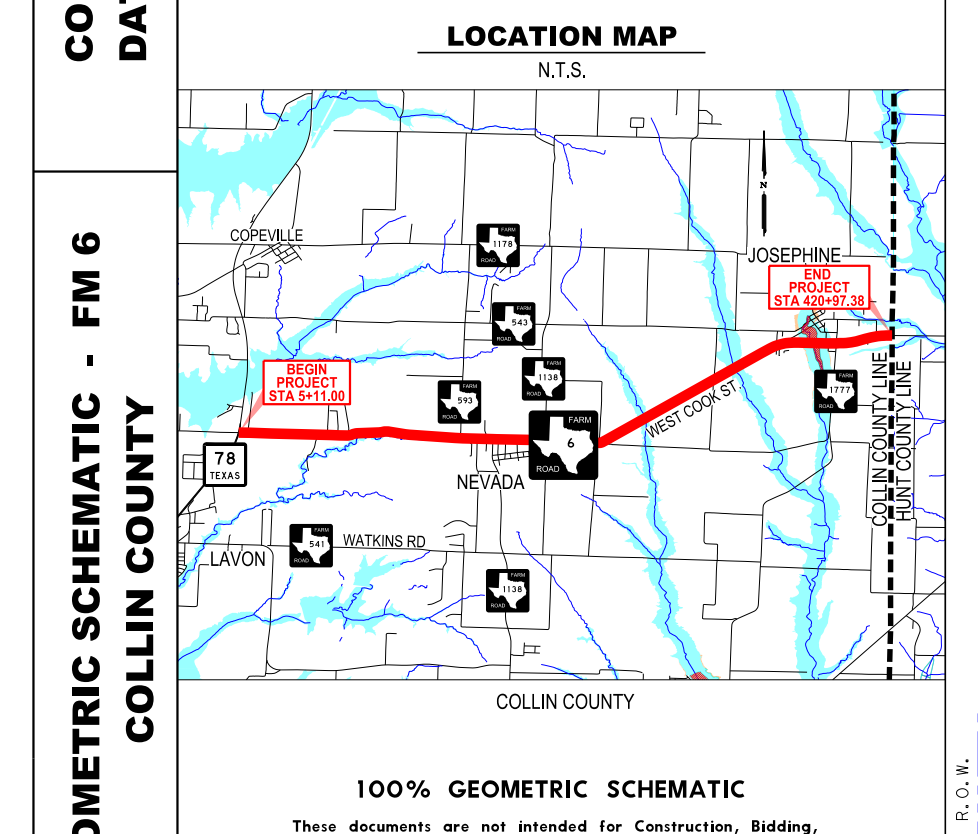
FUNCTIONAL CLASSIFICATION:	URBAN MAJOR COLLECTOR
TERRAIN:	LEVEL
DESIGN SPEED:	45 MPH - URBAN STREET
DESIGN SPEED (CROSS ST):	VARIES 30 MPH TO 55 MPH

ADT (2025) = 12,100
ADT (2045) = 16,550
ADT (2055) = 18,600

COUNTY: COLLIN
DATE: MAY 2023

LOCATION MAP

N.T.S.



COLLIN COUNTY

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 2 OF 4

100% GEOMETRIC SCHEMATIC

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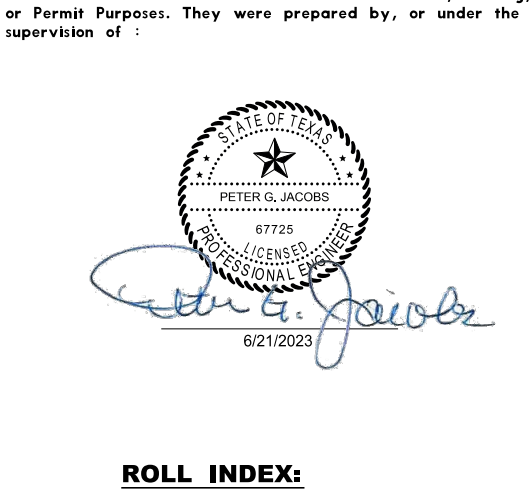


ROLL INDEX:

ROLL 1: FM 6 MAINLANES
STA. 4+63.51 TO STA. 112+00

ROLL 2: FM 6 MAINLANES
STA. 112+00 TO STA. 220+00

ROLL 3: FM 6 MAINLANES
STA. 220+00 TO STA. 328+00

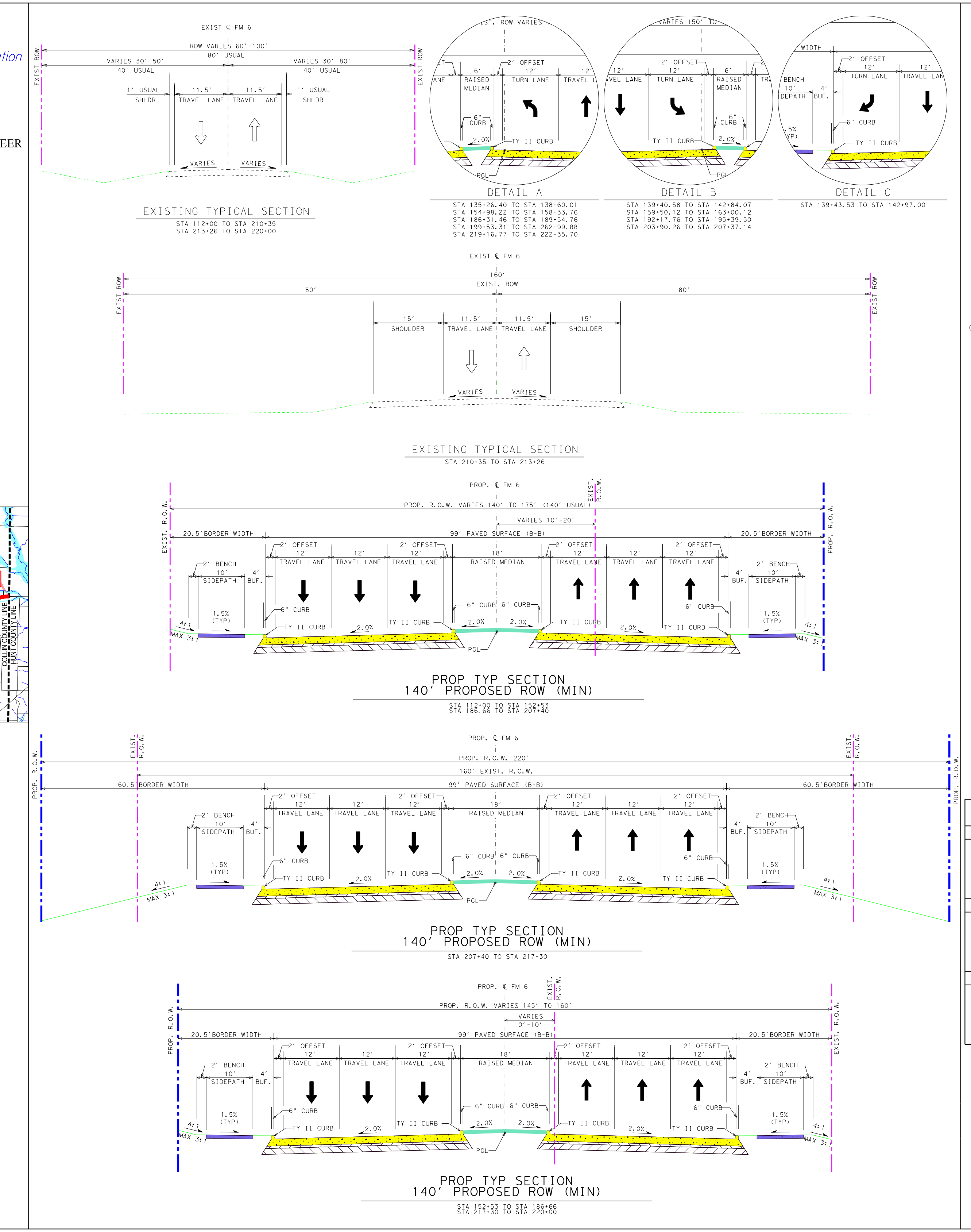
ROLL 4: FM 6 MAINLANES
STA. 328+00 TO STA. 420+97.38

HORIZONTAL SCALE
0 50 100 200 300

VERTICAL SCALE
0 5 10 20 30

ROLL 2 OF 4

ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS
KCI TECHNOLOGIES
13750 San Pedro Avenue, San Antonio, TX 78232
Phone: 210.544.5751
www.kci.com
TBPE Registration No. F-10573



PLAN LEGEND:

- PROPOSED ℄
- PROPOSED R.O.W.
- PROPOSED DRAINAGE EASEMENT
- EXISTING R.O.W.
- PROPOSED PEDESTRIAN RAIL
- REGULATORY FLOODWAY
- 100 YR FLOODPLAIN LIMITS
- 500 YR FLOODPLAIN LIMITS
- PARCEL LINE
- COUNTY LINE
- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- PROPOSED DIRECTION OF TRAVEL
- EXISTING DIRECTION OF TRAVEL
- PROPOSED BRIDGE
- PROPOSED ROADWAY
- PROPOSED DRIVEWAY
- PROPOSED SIDEPATH
- PROPOSED MEDIAN
- CEMETERY
- DISPLACEMENT
- POTENTIAL DISPLACEMENT
- SIDEWALK REMOVAL
- ROADWAY REMOVAL
- CURVE ID
- PARCEL ID

PLAN LEGEND:

- COMMUNICATIONS QL "B"
- COMMUNICATIONS QL "C"/QL "D"
- POWER LINE QL "B"
- POWER LINE QL "C"/QL "D"
- GAS LINE QL "B"
- GAS LINE QL "C"/QL "D"
- SANITARY SEWER LINE QL "B"
- SANITARY SEWER LINE QL "C"/QL "D"
- STORM DRAIN LINE QL "B"
- STORM DRAIN LINE QL "C"/QL "D"
- POTABLE WATER LINE QL "B"
- POTABLE WATER LINE QL "C"/QL "D"
- ABANDONED WATER LINE
- TRAFFIC SIGNAL LINE QL "B"
- TRAFFIC SIGNAL LINE QL "C"/QL "D"
- OVERHEAD UTILITY LINE
- POWER POLE
- FLOWLINE

GENERAL NOTES:

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON AERIAL SURVEYS DATED 05-29 2020 AND RECORD PLANS.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTERWISE).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAP 48085C0445J AND 48085C0465J, DATED JUNE 2, 2009.
6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM, COLLIN COUNTY APPRAISAL DISTRICT. (LATEST DATA AVAILABLE AS OF SEPTEMBER 2022)
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.
9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVENMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS.
10. PRIMARY BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED R.O.W. IS WITHIN 25' OF THE EXISTING BUILDING STRUCTURE.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. EXISTING PAVEMENT/BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
13. TYPICAL DRIVEWAY CURB RETURN RADII IS 15 FEET FOR RESIDENTIAL AND 30 FEET FOR CROSS STREETS UNLESS NOTED OTHERWISE.
14. CURBS ARE TYPE II (8") UNLESS NOTED OTHERWISE

CURVE DATA TABLE:

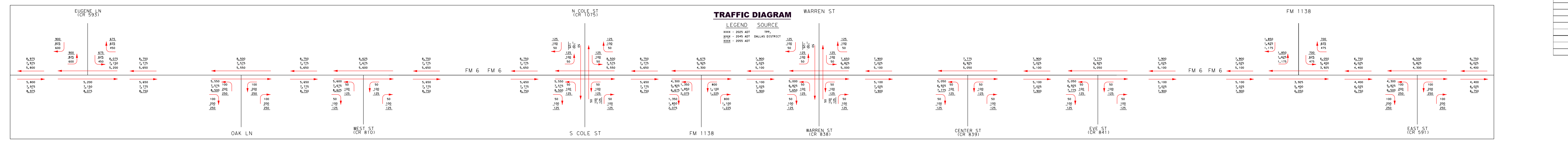
CURVE - 9		CURVE - 12	
PI STATION	= 113+15.19	PI STATION	= 153+90.58
DELTA	= 6° 08' 00.00" (LT)	DELTA	= 14° 54' 24.14" (RT)
DEGREE OF CURVE	= 5° 30' 33.15"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 55.72	TANGENT	= 136.06
LENGTH	= 111.33	LENGTH	= 270.58
RADIUS	= 1,040.00	RADIUS	= 1,040.00
PC STATION	= 112+59.47	PC STATION	= 152+54.53
PT STATION	= 113+70.80	PT STATION	= 155+25.11

CURVE - 10		CURVE - 13	
PI STATION	= 140+02.43	PI STATION	= 184+01.52
DELTA	= 5° 26' 00.00" (LT)	DELTA	= 14° 53' 16.27" (RT)
DEGREE OF CURVE	= 1° 49' 49.93"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 148.52	TANGENT	= 135.88
LENGTH	= 296.82	LENGTH	= 270.24
RADIUS	= 3,130.00	RADIUS	= 1,040.00
PC STATION	= 138+53.91	PC STATION	= 182+65.63
PT STATION	= 141+50.72	PT STATION	= 185+35.87

CURVE - 11		CURVE - 14	
PI STATION	= 151+34.03	PI STATION	= 186+68.37
DELTA	= 13° 20' 14.77" (LT)	DELTA	= 14° 31' 16.27" (LT)
DEGREE OF CURVE	= 5° 30' 33.15"	DEGREE OF CURVE	= 5° 30' 33.15"
TANGENT	= 121.60	TANGENT	= 132.50
LENGTH	= 242.09	LENGTH	= 263.58
RADIUS	= 1,040.00	RADIUS	= 1,040.00
PC STATION	= 150+12.43	PC STATION	= 185+35.87
PT STATION	= 152+54.53	PT STATION	= 187+99.45

PARCEL ID	OWNER	LANDUSE
58a	CHRISTOPHER ANTHONY PAGE	FARMLAND
58b	CHRISTOPHER ANTHONY PAGE	FARMLAND
59	JANEY RUTH WAY	FARMLAND
60	PHARR PEGGY JOAN	FARMLAND
61	MAURICE WILLIAMS	FARMLAND
62	TODD L. & CHRISTI L. JOHNSON	FARMLAND
63	TIFFANY G. & JEFFREY S. VAN METER	RESIDENTIAL
64	CHERYL & JAMES E. FISCHER	RESIDENTIAL
65	RENE A. & ALMA A. HERNANDEZ	RESIDENTIAL
66	CANDIDO TELLEZ	RESIDENTIAL
67	COOK MORGAN	RESIDENTIAL
68	ISMAEL R. VILLA	RESIDENTIAL
69	NANCY RIVERA	RESIDENTIAL
70	KIRK PATRICK & MARY E. KELLY	RESIDENTIAL
71	MICHAEL & TIFFANY CHRSTIAN	RESIDENTIAL
72	LOUIS C. ESCOBAR	RESIDENTIAL
73	BOBBIE WILLIAMS	RESIDENTIAL
74	BOBBIE WILLIAMS	FARMLAND
75	MAGPAT BUILDING NO. 3 INC.	COMMERCIAL
76	HIPOLITO & CARMEN ESQUIVEL	SINGLE FAMILY
77	NEVADA CEMETERY ASSFC	CEMETERY
78	JOHN E. & DARLENE LONG	COMMERCIAL
79	BRIAN P. ALLISON	SINGLE FAMILY
80	DAVID & NANCY AUSTIN	SINGLE FAMILY
81	FRANCISCO ALEXANDER AYALA	SINGLE FAMILY
82	LANDMARK BAPTIST CHRUCH	CHURCH
83	CARROLL CONSULTING GROUP	COMMERCIAL
84	DOMINGO BAEZ	SINGLE FAMILY
85	BAUGHMAN REVOCABLE TRUST	FARMLAND
86	TEDDY L. BALEY	SINGLE FAMILY
87	DANA G. & ALICE BRISENDINE	SINGLE FAMILY

PARCEL ID	OWNER	LANDUSE
88	STEVEN P. MEGGS	SINGLE FAMILY
89	NEVADA FIRE DEPT.	GOVERNMENTAL
90	RICE DREW	SINGLE FAMILY
91	BOBBIE WILLIAMS	SINGLE FAMILY
92	DAVIES MICHAEL & PAMELA D	SINGLE FAMILY
93	PAUL HOLBROOK	SINGLE FAMILY
94	DAVID MASSAROTTI	SINGLE FAMILY
95	RANDALL & DAWN GRANTOM	SINGLE FAMILY
96	LOVEDALE HOLDINGS LLC	SINGLE FAMILY
97	JULIE M. KNAPP	SINGLE FAMILY



PARCEL ID	OWNER	LANDUSE
98	JOSIAH BRUCE CLEVELAND	COMMERCIAL
99	NEVADA SPECIAL UTILITY DISTRICT	GOVERNMENTAL
100	NEVADA SPECIAL UTILITY DISTRICT	GOVERNMENTAL
101	NEVADA SPECIAL UTILITY DISTRICT	GOVERNMENTAL
102	NEVADA SPECIAL UTILITY DISTRICT	GOVERNMENTAL
103	SIMMS ERIN MARCIA & LEE WAYNE MEAZLE	SINGLE FAMILY
104	DAVID BRYAN HONZELL	SINGLE FAMILY
105	RANDALL SCOTT & BROOK STRICKLAND	SINGLE FAMILY
106	BENITO & TRACEY J. PONCE	SINGLE FAMILY
107	BENITO & TRACEY J. PONCE	SINGLE FAMILY

PARCEL ID	OWNER	LANDUSE
108	C&D PROPERTIES, LLC	SINGLE FAMILY
109	CANALES RENTAL PROPERTY LLC	SINGLE FAMILY
110	EMPIRE LODGE #586 ANCIENT	COMMERCIAL
111	WALTER & SUSAN SHELL	FARMLAND
112	JERRY HORTMAN	SINGLE FAMILY
113	CURTIS W. HOUSEWORTH	SINGLE FAMILY
114	KARL R. FRANKE	FARMLAND
115	STINEBAUGH SHIRLEY ANN MARITAL TRUST	FARMLAND
116	LARRY D. GORUM JR.	SINGLE FAMILY
117	CITY OF NEVADA	GOVERNMENTAL
118	KONDURU, LLC	FARMLAND
119	KONDURU, LLC	FARMLAND
120	WILLIAM SCOTT SMITH	SINGLE FAMILY
121	WILLIAM SCOTT SMITH	SINGLE FAMILY
122	WILLIAM SCOTT SMITH	SINGLE FAMILY
123	ALFORD PAULA JEAN d/b/a KIDS STAY N PLAY	COMMERCIAL
124	CARROLL JAMES BARTON & KARLA	COMMERCIAL
125	JOHN A. HOLT	COMMERCIAL
126	WILLIAM SCOTT SMITH	FARMLAND
127	THOMAS D. & ANGELA M. PILLE	SINGLE FAMILY
128	WILLIAM R. & KRISTINA K. RYAN	SINGLE FAMILY
129	HNJN LLC	FARMLAND
130	GEORGE DAVID & KATHY LYNN PACE	FARMLAND
131	GEORGE DAVID & KATHY LYNN PACE	FARMLAND
132	NORTHEAST TEXAS RAIL TRANSPORTAION DISTRICT	GOVERNMENTAL
133	ROY WEBB	FARMLAND
134	NGUYEN HAI THANH & JENNIFER PHUONG	FARMLAND

PROFILE LEGEND:

- PROPOSED PGL
- EXISTING NATURAL GROUND AT PGL
- 25 YR WATER SURFACE ELEVATION
- 100 YR WATER SURFACE ELEVATION

PROFILE LEGEND:

- PROPOSED PGL
- EXISTING NATURAL GROUND AT PGL
- 25 YR WATER SURFACE ELEVATION
- 100 YR WATER SURFACE ELEVATION

Texas Department of Transportation
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DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0619-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

DESIGN CRITERIA:

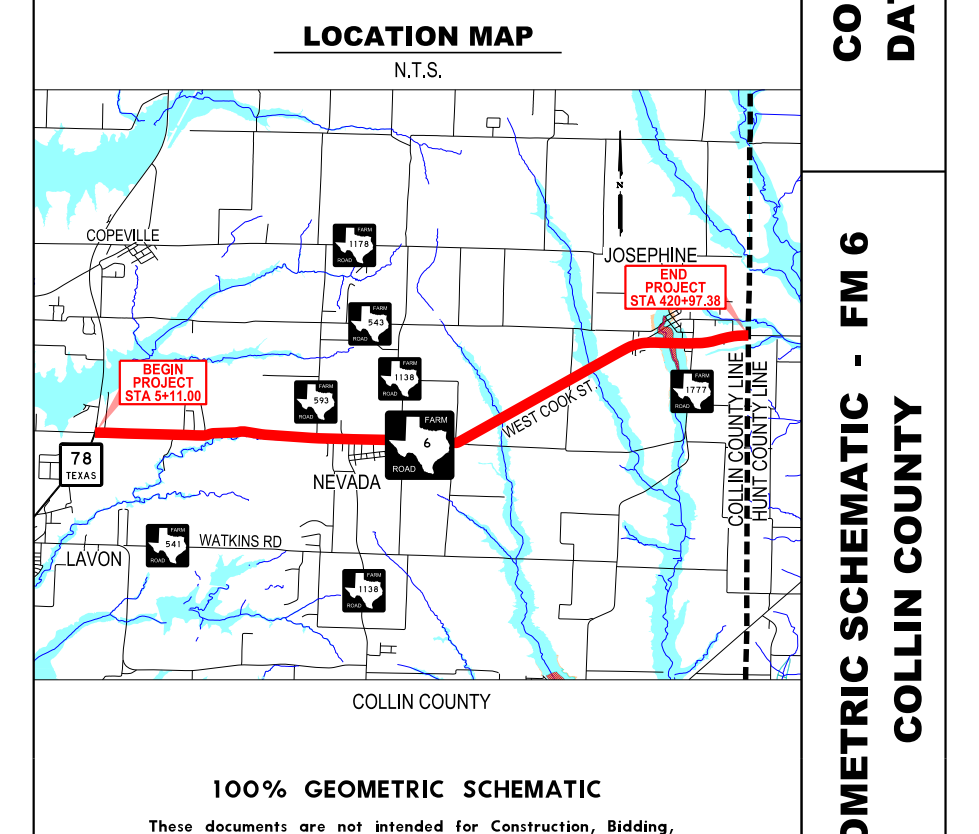
FUNCTIONAL CLASSIFICATION:	URBAN MAJOR COLLECTOR
TERRAIN:	LEVEL
DESIGN SPEED:	45 MPH - URBAN STREET
DESIGN SPEED (CROSS ST):	VARIES 30 MPH TO 55 MPH

ADT (2025) = 12,100
ADT (2045) = 16,550
ADT (2055) = 18,600

COUNTY: COLLIN
DATE: MAY 2023

LOCATION MAP

N.T.S.



COLLIN COUNTY

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 2 OF 4

100% GEOMETRIC SCHEMATIC

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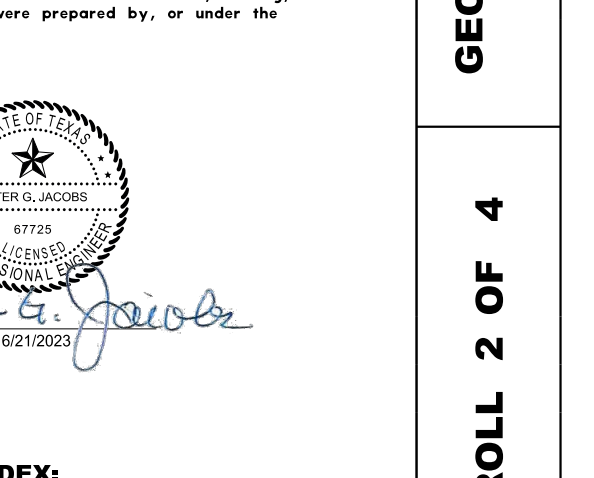

ROLL INDEX:

ROLL 1: FM 6 MAINLANES
STA. 4+63.51 TO STA. 112+00

ROLL 2: FM 6 MAINLANES
STA. 112+00 TO STA. 220+00

ROLL 3: FM 6 MAINLANES
STA. 220+00 TO STA. 328+00

ROLL 4: FM 6 MAINLANES
STA. 328+00 TO STA. 420+97.38

HORIZONTAL SCALE
0 50 100 200 300

VERTICAL SCALE
0 5 10 20 30

ROLL 2 OF 4

ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS
KCI TECHNOLOGIES
13750 San Pedro Avenue, San Antonio, TX 78232
Phone: 210.544.5751
www.kci.com
TBPE Registration No. F-10573

Texas Department of Transportation

DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0918-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

DESIGN CRITERIA:

FUNCTIONAL CLASSIFICATION: URBAN MAJOR COLLECTOR
DESIGN SPEED: 45 MPH
SIGNALIZED: NO (EXCEPT INTERSECTIONS AT SH 78 AND CR 643)
DESIGN SPEED CROSS STS: VARIES 30 MPH TO 50 MPH

ADT (2023) = 10,100
ADT (2043) = 19,800

LOCATION MAP

N.T.S.

100% GEOMETRIC SCHEMATIC

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ROLL INDEX:

ROLL 1 FM 6 MAINLANE STA. 639+00 TO STA. 710+00

ROLL 2 FM 6 MAINLANE STA. 710+00 TO STA. 820+00

ROLL 3 FM 6 MAINLANE STA. 820+00 TO STA. 929+00

ROLL 4 FM 6 MAINLANE STA. 929+00 TO STA. 1037+00

HORIZONTAL SCALE
1" = 50'-0"
VERTICAL SCALE
1" = 10'-0"

ROLL 3 OF 4

Kimley»Horn
Consulting Engineers | Planners | Surveyors | Wisconsin
12700 Park Central Drive, Suite 1700, Dallas, Texas 75251
Phone: 214.939.9400
Texas Registration No. F-10070

COUNTY: COLLIN
DATE: MAY 2023

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 3 OF 4

PLAN LEGEND:

PROPOSED R.O.W.
PROPOSED EASEMENT
EXISTING R.O.W.
PROPOSED PEDESTRIAN RAIL
100 YR FLOODPLAIN LIMITS
500 YR FLOODPLAIN LIMITS
SUB 100 YR FLOODPLAIN LIMITS
CITY LIMIT
COUNTY LINE
PROPOSED DRAINAGE
EXISTING DRAINAGE
PROPOSED DIRECTION OF TRAVEL
EXISTING DIRECTION OF TRAVEL
PROPOSED CURB
PROPOSED SIDEWALK
PROPOSED DRIVEWAY
EXISTING DRIVEWAY
PROPOSED MEDIAN
CEMETERY
RAILROAD
POTENTIAL SURFACE EASEMENT
SIDEWALK REMOVAL
SIDEWALK INSTALL
CURVE ID
PARCEL ID

PLAN LEGEND:

COMMUNICATION LINE "A"
COMMUNICATION LINE "B"
COMMUNICATION "C"
POWER LINE (E) "OH"
GAS LINE (E) "G"
WATER LINE (E) "W", "CTS", "D"
SANITARY SEWER LINE (E) "S"
SANITARY SEWER LINE (E) "CTS", "D"
STORM SEWER LINE (E) "SD"
STORM DRAIN LINE (E) "CTS", "D"
POTABLE WATER LINE (E) "W"
POTABLE WATER LINE (E) "CTS", "D"
ABANDONED WATER LINE
TRAFFIC SIGNAL CONDUIT (E) "TS"
TRAFFIC SIGNAL CONDUIT (E) "CTS", "D"
EXPRESS FLEET LINE
TOLL LANE POLE
FLAGLINE

GENERAL NOTES:

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. GEOMETRICS ARE BASED ON AERIAL SURVEY DATA BY GIS WORKS AND RECTIFIED PLANS.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE FINAL DESIGN PHASE BASED ON TRAFFIC ANALYSIS, SAFETY, AND OTHER CONSIDERATIONS.
3. SUPERELEVATION RATES OF PAVEMENT ON HORIZONTAL CURVES ARE 0.02 FT/FT.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR PARKING, FACE OF CURB, RAIL, BARRIER, OR WALL UNLESS NOTED OTHERWISE.
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAP (FIRM) NUMBER 48085C0430J, DATED JUNE 2, 2009.
6. DRAINAGE INFORMATION SHOWN ON EXISTING CITY AND COUNTY FOR COLLIN COUNTY APPRAISAL DISTRICT, LATEST DATA AVAILABLE AS OF SEPTEMBER 2022.
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
8. ADA RAMPS AND CROSSWALKS ARE CONCEPTUAL ONLY AND WILL BE REVISED DURING FINAL SIGNALS AND SIGNS (N) TYPICAL SECTION.
9. ALL PROPOSED SIGNALIZED INTERSECTIONS SHALL BE DESIGNED IN COORDINATION WITH LOCAL ACCOMMODATE FOR THE MOVEMENT OF A SAFETY EDGE AND/OR ELEVATED RETAIN ACCESS DOWN, LANTS.
10. PROPOSED SLOPES ARE MEASURED IN THE HORIZONTAL AND VERTICAL PLANES AT THE PERCENTAGE SHOWN IN THE TYPICAL SECTIONS, UNLESS NOTED OTHERWISE.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE FINAL PHASE OF THE PROJECT.
12. EXISTING PAVEMENT MARKINGS LOCATED WITHIN LIMITS OF PROPOSED CONSTRUCTION SHALL BE REPLACED IN KIND UNLESS NOTED OTHERWISE.
13. TYPICAL PAVEMENT MARKINGS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE SUBJECT TO CHANGE DURING FINAL DESIGN.
14. CURB AND TYPE B AT LOCATIONS NOTED OTHERWISE.

CURVE DATA TABLE

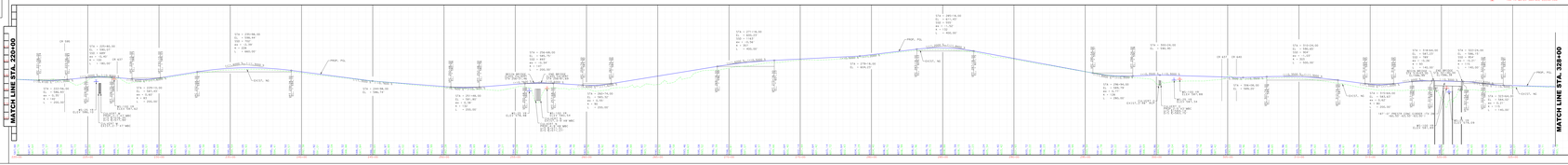
CURVE / D	CURVE / D
C1 = 1° 00' 00" / D = 5° 43' 46.71"	C2 = 1° 00' 00" / D = 5° 43' 46.71"
C3 = 1° 00' 00" / D = 5° 43' 46.71"	C4 = 1° 00' 00" / D = 5° 43' 46.71"
C5 = 1° 00' 00" / D = 5° 43' 46.71"	C6 = 1° 00' 00" / D = 5° 43' 46.71"
C7 = 1° 00' 00" / D = 5° 43' 46.71"	C8 = 1° 00' 00" / D = 5° 43' 46.71"
C9 = 1° 00' 00" / D = 5° 43' 46.71"	C10 = 1° 00' 00" / D = 5° 43' 46.71"
C11 = 1° 00' 00" / D = 5° 43' 46.71"	C12 = 1° 00' 00" / D = 5° 43' 46.71"

PARCEL ID	OWNER	LANDUSE
1	CHRISTIAN CHILDS TOD	OTHER
2A	MATT JENSTROM	OTHER
2B	MATT JENSTROM	OTHER
3A	CHRISTIAN CHILDS TOD	OTHER
3B	CHRISTIAN CHILDS	OTHER
4A	CHRISTIAN CHILDS TOD	OTHER
4B	CHRISTIAN CHILDS	OTHER
5A	MATT JENSTROM	OTHER
5B	MATT JENSTROM	OTHER

PARCEL ID	OWNER	PURPOSE
6A	BARRETT & WIESS CORP LTD	DRAINAGE
6B	BARRETT & WIESS CORP	DRAINAGE
7A	CHRISTIAN CHILDS	DRAINAGE
7B	CHRISTIAN CHILDS	DRAINAGE
8A	MATT JENSTROM	DRAINAGE
8B	MATT JENSTROM	DRAINAGE

PROFILE LEGEND:

PROPOSED R.O.W.
EXISTING R.O.W.
PROPOSED GRADE AT FM
EXISTING GRADE AT FM
FM 78 WATER SURFACE ELEVATION



Texas Department of Transportation

DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0918-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

DESIGN CRITERIA:

FUNCTIONAL CLASSIFICATION: URBAN MAJOR COLLECTOR
DESIGN SPEED: 45 MPH
SIGNALIZED: NO (EXCEPT INTERSECTIONS AT SH 78 AND CR 643)
DESIGN SPEED CROSS STS: VARIES 30 MPH TO 50 MPH

ADT (2023) = 10,100
ADT (2043) = 19,800

LOCATION MAP

N.T.S.

100% GEOMETRIC SCHEMATIC

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ROLL INDEX:

ROLL 1 FM 6 MAINLANE STA. 639+00 TO STA. 710+00

ROLL 2 FM 6 MAINLANE STA. 710+00 TO STA. 820+00

ROLL 3 FM 6 MAINLANE STA. 820+00 TO STA. 929+00

ROLL 4 FM 6 MAINLANE STA. 929+00 TO STA. 1037+00

HORIZONTAL SCALE
1" = 50'-0"
VERTICAL SCALE
1" = 10'-0"

ROLL 3 OF 4

Kimley»Horn
Consulting Engineers | Planners | Surveyors | Wisconsin
12700 Park Central Drive, Suite 1700, Dallas, Texas 75251
Phone: 214.939.9400
Texas Registration No. F-10070

COUNTY: COLLIN
DATE: MAY 2023

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 3 OF 4

Kimley»Horn © 2023
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Texas Department of Transportation
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DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

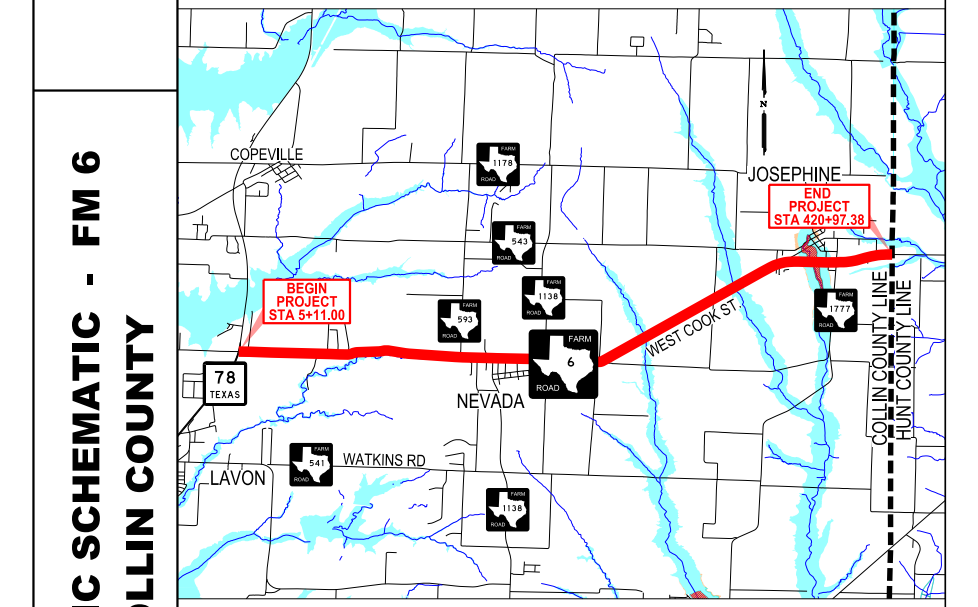
CSJ: 0619-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
ROADWAY = 7.83 MI
BRIDGE = 0.05 MI

DESIGN CRITERIA:

FUNCTIONAL CLASSIFICATION: URBAN MAJOR COLLECTOR
TERRAIN: LEVEL
DESIGN SPEED: 45 MPH - URBAN STREET
DESIGN SPEED (CROSS ST): VARIES 30 MPH TO 55 MPH

ADT (2025) = 12,100
ADT (2045) = 16,550
ADT (2055) = 18,600

LOCATION MAP
N.T.S.



COLLIN COUNTY

COUNTY: COLLIN
DATE: MAY 2023

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 4 OF 4

100% GEOMETRIC SCHEMATIC

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PETER G. JACOBS
67725
LICENSED PROFESSIONAL ENGINEER
6/21/2023

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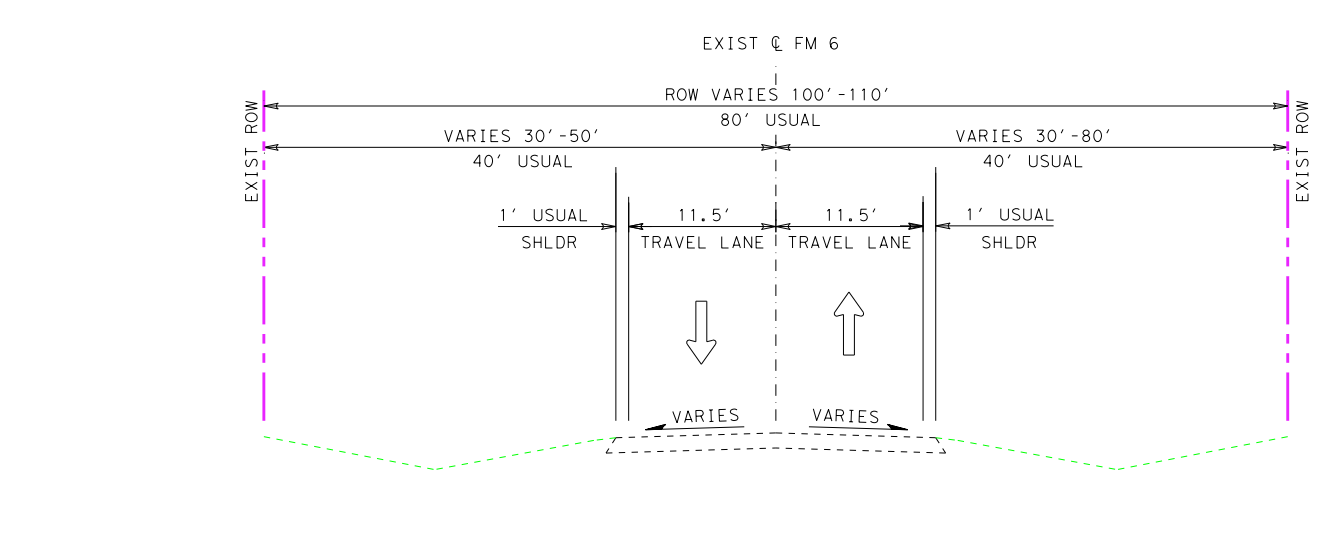
ROLL 1: FM 6 MAINLANES STA. 4+63.51 TO STA. 112+00
ROLL 2: FM 6 MAINLANES STA. 112+00 TO STA. 220+00
ROLL 3: FM 6 MAINLANES STA. 220+00 TO STA. 328+00
ROLL 4: FM 6 MAINLANES STA. 328+00 TO STA. 420+97.38

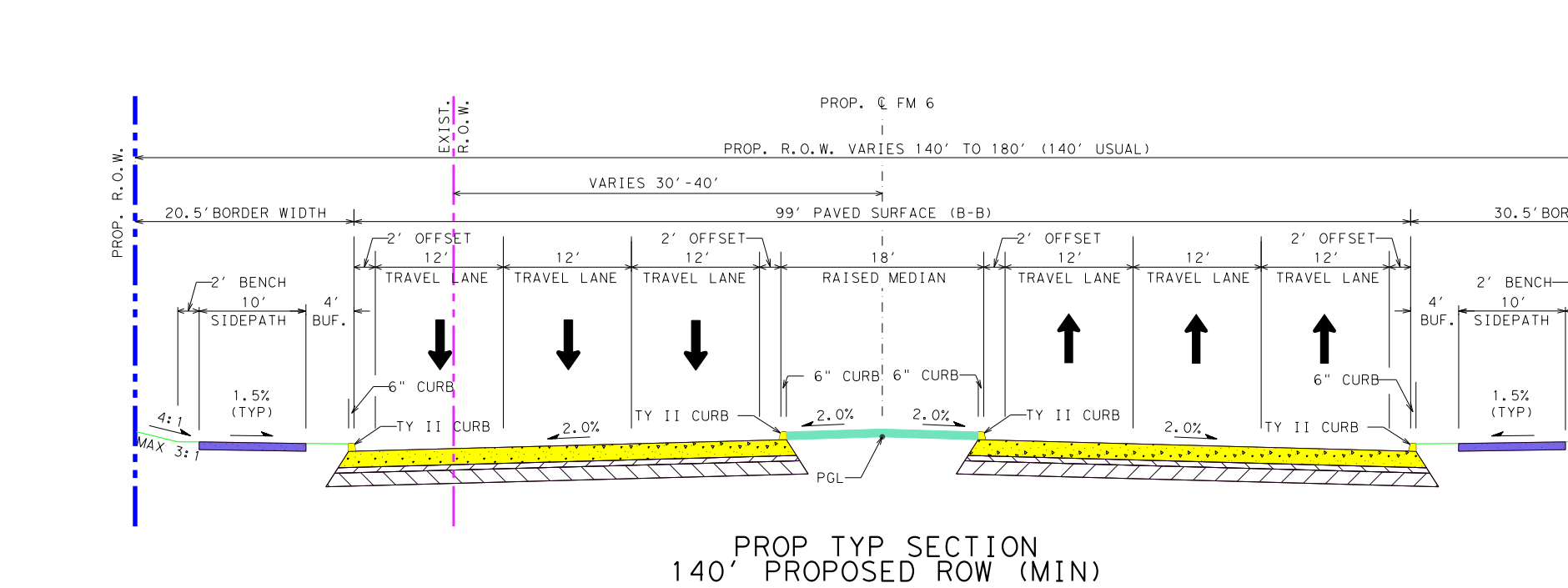
HORIZONTAL SCALE 0 50 100 200 300
VERTICAL SCALE 0 5 10 20 30

ROLL 4 OF 4

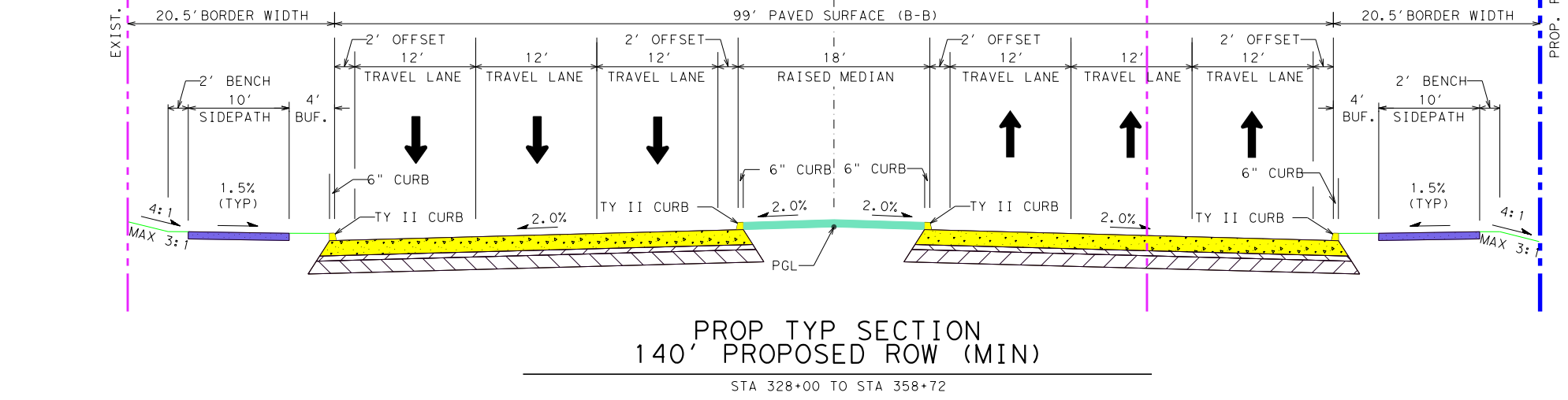
KCI TECHNOLOGIES
ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS
13750 San Pedro Avenue, San Antonio, TX 78232
Phone: 210.544.5751
www.kci.com
TBPE Registration No. F-10573



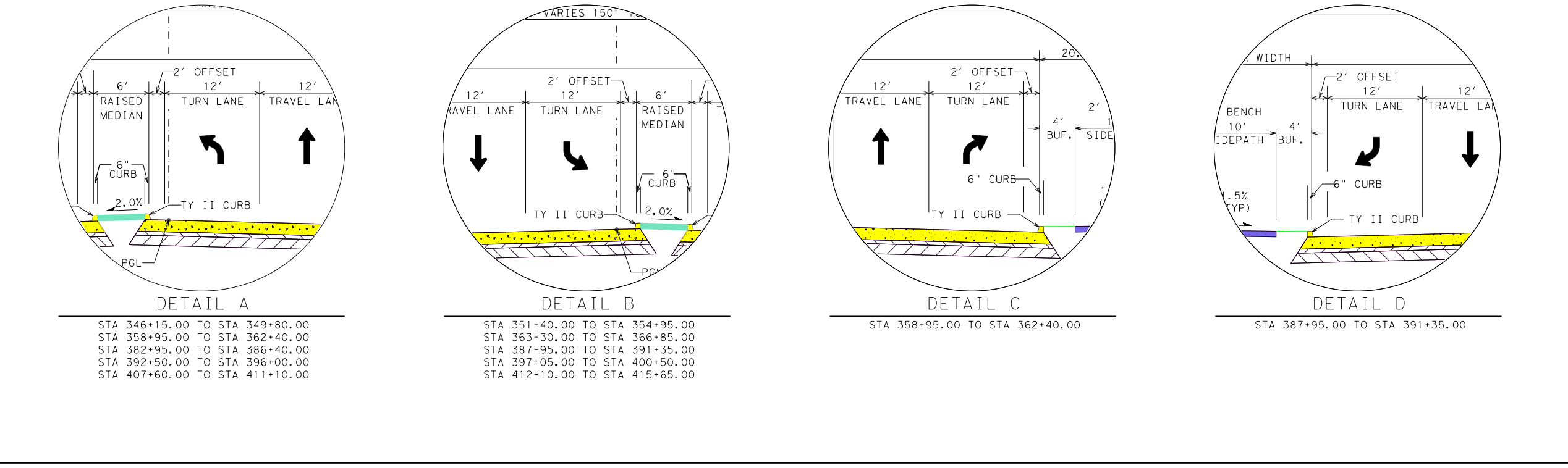
EXISTING TYPICAL SECTION
STA 328+00 TO STA 420+97



PROP TYP SECTION
140' PROPOSED ROW (MIN)
STA 358+72 TO STA 420+97



PROP TYP SECTION
140' PROPOSED ROW (MIN)
STA 328+00 TO STA 358+72



PLAN LEGEND:

Symbol	Description	Symbol	Description
	PROPOSED ℄	C1	COMMUNICATIONS QL "B"
	PROPOSED R.O.W.	C1	COMMUNICATIONS QL "C"/QL "D"
	PROPOSED DRAINAGE EASEMENT	E1	POWER LINE QL "B"
	EXISTING R.O.W.	E1	POWER LINE QL "C"/QL "D"
	PROPOSED PEDESTRIAN RAIL	G1	GAS LINE QL "B"
	REGULATORY FLOODWAY	G1	GAS LINE QL "C"/QL "D"
	100 YR FLOODPLAIN LIMITS	WW1	SANITARY SEWER LINE QL "B"
	500 YR FLOODPLAIN LIMITS	WW1	SANITARY SEWER LINE QL "C"/QL "D"
	PARCEL LINE	SD1	STORM DRAIN LINE QL "B"
	COUNTY LINE	SD1	STORM DRAIN LINE QL "C"/QL "D"
	PROPOSED DRAINAGE	W1	POTABLE WATER LINE QL "B"
	EXISTING DRAINAGE	W1	POTABLE WATER LINE QL "C"/QL "D"
	PROPOSED DIRECTION OF TRAVEL	X	ABANDONED WATER LINE
	EXISTING DIRECTION OF TRAVEL	TS1	TRAFFIC SIGNAL LINE QL "B"
	PROPOSED BRIDGE	TS1	TRAFFIC SIGNAL LINE QL "C"/QL "D"
	PROPOSED ROADWAY	OH	OVERHEAD UTILITY LINE
	PROPOSED DRIVEWAY	PP	POWER POLE
	PROPOSED SIDEPATH		FLOWLINE
	PROPOSED MEDIAN		
	CEMETERY		
	DISPLACEMENT		
	POTENTIAL DISPLACEMENT		
	SIDEWALK REMOVAL		
	ROADWAY REMOVAL		
CURVE - ##	CURVE ID		
##	PARCEL ID		

GENERAL NOTES:

1. EXISTING FEATURES WERE NOT FIELD SURVEYED. SCHEMATICS ARE BASED ON AERIAL SURVEYS DATED 05-29 2020 AND RECORD PLANS.
2. FINAL LOCATION OF MEDIAN OPENINGS WILL BE DETERMINED IN THE PS&E DEVELOPMENT PHASE IN COORDINATION WITH THE LOCAL GOVERNMENTS.
3. SUPERELEVATION AXIS OF ROTATION IS ABOUT THE PGL.
4. DIMENSIONS ARE TO THE EDGE OF PAVEMENT OR NOMINAL FACE OF CURB, RAIL, BARRIER, OR WALL (UNLESS NOTED OTERWISE).
5. APPROXIMATE 100 YEAR FLOODPLAIN LIMITS ARE BASED UPON FEMA FLOOD INSURANCE RATE MAP 48085C0445J AND 48085C0465J, DATED JUNE 2, 2009.
6. OWNERSHIP INFORMATION SHOWN ON SCHEMATIC OBTAINED FROM, COLLIN COUNTY APPRAISAL DISTRICT. (LATEST DATA AVAILABLE AS OF SEPTEMBER 2022)
7. EXISTING CULVERT LOCATIONS, SIZE, AND ELEVATIONS OBTAINED FROM RECORD DOCUMENTS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
8. ADA RAMPS AND SIDEWALKS ARE DIAGRAMMATIC ONLY AND WILL BE DESIGNED DURING PS&E. SIDEWALKS ARE SHOWN ON TYPICAL SECTIONS.
9. EXISTING DRIVEWAYS WILL REMAIN UNLESS IT IS DETERMINED IN COORDINATION WITH THE LOCAL GOVENMENT THAT THE DRIVEWAY IS A SAFETY ISSUE AND/OR IS LOCATED WITHIN ACCESS DENIAL LIMITS.
10. PRIMARY BUILDINGS ARE SHOWN AS POTENTIAL DISPLACEMENT IF THE PROPOSED R.O.W. IS WITHIN 25' OF THE EXISTING BUILDING STRUCTURE.
11. CONVENTIONAL ROADWAY SIGNAGE (SMALL SIGNS) ARE NOT SHOWN AND WILL BE DEVELOPED DURING THE PS&E PHASE OF THE PROJECT.
12. EXISTING PAVEMENT/BRIDGES LOCATED WITHIN LIMITS OF PROPOSED RECONSTRUCTION WILL BE REMOVED (UNLESS NOTED OTHERWISE).
13. TYPICAL DRIVEWAY CURB RETURN RADII IS 15 FEET FOR RESIDENTIAL AND 30 FEET FOR CROSS STREETS UNLESS NOTED OTHERWISE.
14. CURBS ARE TYPE II (6") UNLESS NOTED OTHERWISE

CURVE DATA TABLE:

	CURVE - 17		CURVE - 19
PI STATION	= 329+40.51	PI STATION	= 393+22.62
DELTA	= 7° 57' 06.75" (RT)	DELTA	= 19° 27' 57.86" (LT)
DEGREE OF CURVE	= 5° 30' 33.15"	DEGREE OF CURVE	= 0° 57' 09.17"
TANGENT	= 72.28	TANGENT	= 1,031.73
LENGTH	= 144.34	LENGTH	= 2,043.58
RADIUS	= 1,040.00	RADIUS	= 6,015.00
PC STATION	= 328+68.22	PC STATION	= 382+90.89
PT STATION	= 330+12.56	PT STATION	= 403+34.46
	CURVE - 18		**CURVE - 20**
PI STATION	= 354+72.56	PI STATION	= 412+68.84
DELTA	= 35° 18' 00.00" (RT)	DELTA	= 18° 31' 00.00" (RT)
DEGREE OF CURVE	= 1° 49' 08.09"	DEGREE OF CURVE	= 1° 29' 31.48"
TANGENT	= 1,002.27	TANGENT	= 625.96
LENGTH	= 1,940.72	LENGTH	= 1,241.00
RADIUS	= 3,150.00	RADIUS	= 3,840.00
PC STATION	= 344+70.30	PC STATION	= 406+42.88
PT STATION	= 364+11.02	PT STATION	= 418+83.88

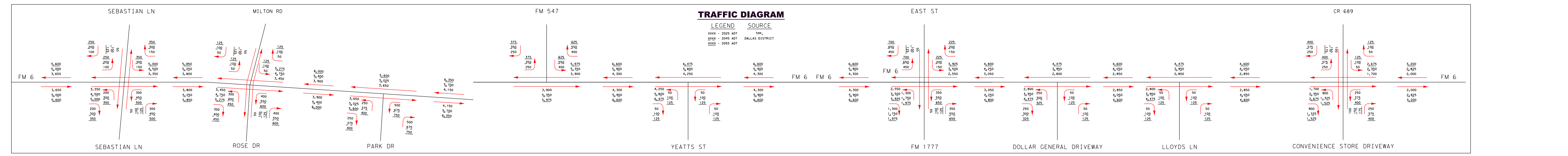
PARCEL ID	OWNER	LANDUSE
151	FRIES ROBERT WILLIAM JR. & COLLEEN MARGARETTA	SINGLE FAMILY
152	PRESTWOOD COLBIE	SINGLE FAMILY
153	AUXILIADORA MARTINEZ	SINGLE FAMILY
154	ALLEN WAYNE H. & MARY E - LE	SINGLE FAMILY
155	ELAM ISAIAH JOEL & SAMANTHA CHRISTINE	SINGLE FAMILY
156	NORFLEET AVON & SHERRY - LE	SINGLE FAMILY
157	NORFLEET AVON & SHERRY - LE	SINGLE FAMILY
158	THOMAS WAYNE & JEANNIE GRAY PATTERSON	SINGLE FAMILY
159	THOMAS WAYNE & JEANNIE GRAY PATTERSON	SINGLE FAMILY
160	OWEN G. RUSHING	SINGLE FAMILY
161	KSHEMA, LLC	RESIDENTIAL
162	CITY OF JOSEPHINE	COMMERCIAL
163	WESLEY MARK IRELAND	SINGLE FAMILY
164	WARD JOSHUA DAVID	RESIDENTIAL
165	SHUMAN EDWIN	RESIDENTIAL
166	PERRY RYAN C & CHELSEY	RESIDENTIAL
167	BLANCO JENNYS PATRICIA PORTILLO	RESIDENTIAL
168	SMITH ERICK JOE & MONIQUE ROCKETT GILSTRAP	RESIDENTIAL
169	COCKRELL CODY B & CHRISTEN N	RESIDENTIAL
170	WINK JAMES M	RESIDENTIAL

PARCEL ID	OWNER	LANDUSE
171	PENA JESSE	RESIDENTIAL
172	COLLINS JASON A & JAMIE E	RESIDENTIAL
173	WHITEMAN ANQUENETTE S	RESIDENTIAL
174	CATALANO MARK BRIAN	RESIDENTIAL
175	ANDERSON RINA	RESIDENTIAL
176	WELCH BILL	RESIDENTIAL
177	GARZA CHRISTOPHER MICHAEL	RESIDENTIAL
178	AVELAR HERNAN & BLANCA E	RESIDENTIAL
179	VEA MATTHEW B	RESIDENTIAL
180	SAM LASHGARI	FARMLAND
181	ROUTE 61 CORPORATION	COMMERCIAL
182	ROUTE 61 CORPORATION	FARMLAND
183	STEWART ANDREA N	RESIDENTIAL
184	ESTRELLO AMANDA R	RESIDENTIAL
185	WELCH BILL	RESIDENTIAL
186	FOUNTAIN VIEW NEIGHBORHOOD ASSOCIATION	FARMLAND
187	LYNN GOSSETT THURMAN	FARMLAND
188	WALTER K. LEESON	FARMLAND
189	WALTER K. LEESON	FARMLAND
190	HESS LINDA JANE	FARMLAND

PARCEL ID	OWNER	LANDUSE
191	WILLIAM E. GAY	SINGLE FAMILY
192	JOSEY HUB LP	SINGLE FAMILY
193	VINCE R. & KATHY L. MARSHALL	RESIDENTIAL
194	VINCE R. & KATHY L. MARSHALL	RESIDENTIAL
195	VINCE R. & KATHY L. MARSHALL	RESIDENTIAL
196	SAMANTHA L. BROOKS	RESIDENTIAL
197	BRITTANY LEDALE BARCHEERS	RESIDENTIAL
198	MA ESTHER DE LA TORRE	RESIDENTIAL
199	CHARLENE W. ROGERS	RESIDENTIAL
200	B BARKLEY & ASSO INC	RESIDENTIAL
201	HENDERSON WILLIE - LE	RESIDENTIAL
202a	BARKLEY BRIGITTE & CLAY BARKLEY	RESIDENTIAL
202b	DZIATKU HOLDINGS LLC - SERIES J2	RESIDENTIAL
203	PATRICIA GUSTAFSON	RESIDENTIAL
204	FOREST E. MCBRIDE	RESIDENTIAL
205	BRENDA P. HOLMES ET AL	RESIDENTIAL
206	LYNN GILBREATH	RESIDENTIAL
207	MELISSA ANN HOLMES	RESIDENTIAL
208	FLOR DE MARIA CAMACHO	RESIDENTIAL
209	HP INVESTMENTS, LLC	COMMERCIAL
210	MS, LLC	FARMLAND

PARCEL ID	OWNER	LANDUSE
211	AHKO ENTERPRISES, LLC	SINGLE FAMILY
212	RONNIE DALE GILMORE	SINGLE FAMILY
213	MICHAEL J. HECKS	SINGLE FAMILY
214	ERIC K. MCCLENDON	SINGLE FAMILY
215	ERIC K. MCCLENDON	SINGLE FAMILY
216	ERIC & SHARI MCCLENDON	SINGLE FAMILY
217	SHEPHERD PLACE HOMES, INC.	SINGLE FAMILY
218	LIGHTSEY JASON	SINGLE FAMILY
219	KENNETH E. & AMY T. HOLMES	SINGLE FAMILY
220	SHARON MCKINNEY	SINGLE FAMILY
221	BETA TRUST	SINGLE FAMILY
222	RIGOBERTO & ZULEMA G. ORTIZ	SINGLE FAMILY
223	JONNY M. & CAROLYN D. BOLES	SINGLE FAMILY
224	LISA ROBIE	SINGLE FAMILY
225	TANNER D. MORELAND	RESIDENTIAL
226	AB PETROLEUM, INC.	FARMLAND
227	BURNSIDE ORGANIZATION, LLC	FARMLAND
228	DANNY L. & BRENDA J. MOORE	SINGLE FAMILY
229	OWNER OF RECORD	SINGLE FAMILY
230	NEWTON TOM & BARBARA - LE	SINGLE FAMILY
231	NEWTON TOM & BARBARA - LE	SINGLE FAMILY
232	NEWTON JOHN WADE & SHARON	SINGLE FAMILY
233	DEBORAH GAIL WRIGHT	COMMERCIAL
234	STEPHEN DEAN HOMES, INC.	FARMLAND

TRAFFIC DIAGRAM



PROFILE LEGEND:

PROPOSED PGL
EXISTING NATURAL GROUND AT PGL
25 YR WATER SURFACE ELEVATION
100 YR WATER SURFACE ELEVATION

Texas Department of Transportation
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DALLAS DISTRICT
CEASON G CLEMENS, P.E., DISTRICT ENGINEER

DESIGN SCHEMATIC
FM 6
COLLIN COUNTY

CSJ: 0619-01-027
FROM: SH 78
TO: EAST OF FM 1777
NET LENGTH OF PROJECT = 7.88 MI
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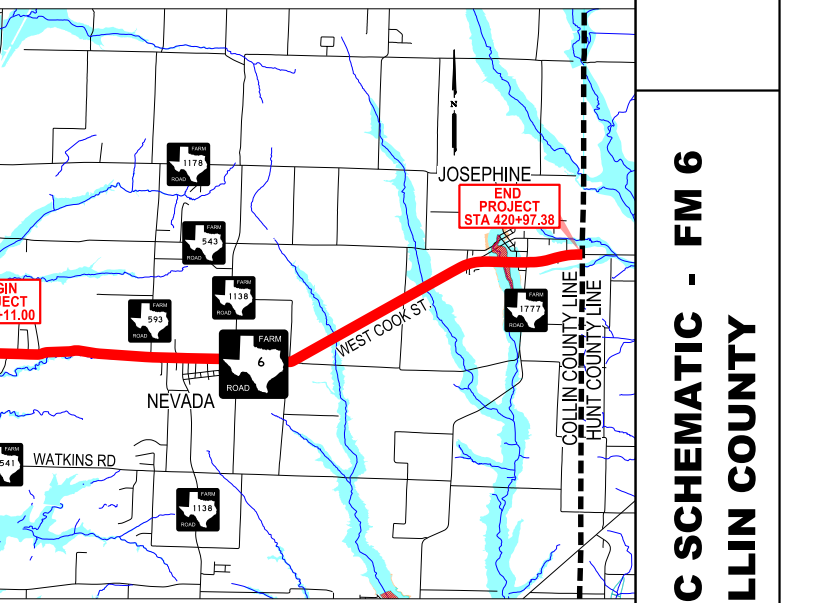
TERRAIN: LEVEL
DESIGN SPEED: 45 MPH - URBAN STREET
DESIGN SPEED (CROSS ST): VARIES 30 MPH TO 55 MPH

ADT (2025) = 12,100
ADT (2045) = 16,550
ADT (2055) = 18,600

LOCATION MAP
N.T.S.



COLLIN COUNTY

COUNTY: COLLIN
DATE: MAY 2023

GEOMETRIC SCHEMATIC - FM 6
COLLIN COUNTY

ROLL 4 OF 4

100% GEOMETRIC SCHEMATIC

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67725
6/21/2023

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HORIZONTAL SCALE 0 50 100 200 300
VERTICAL SCALE 0 5 10 20 30

ROLL 4 OF 4

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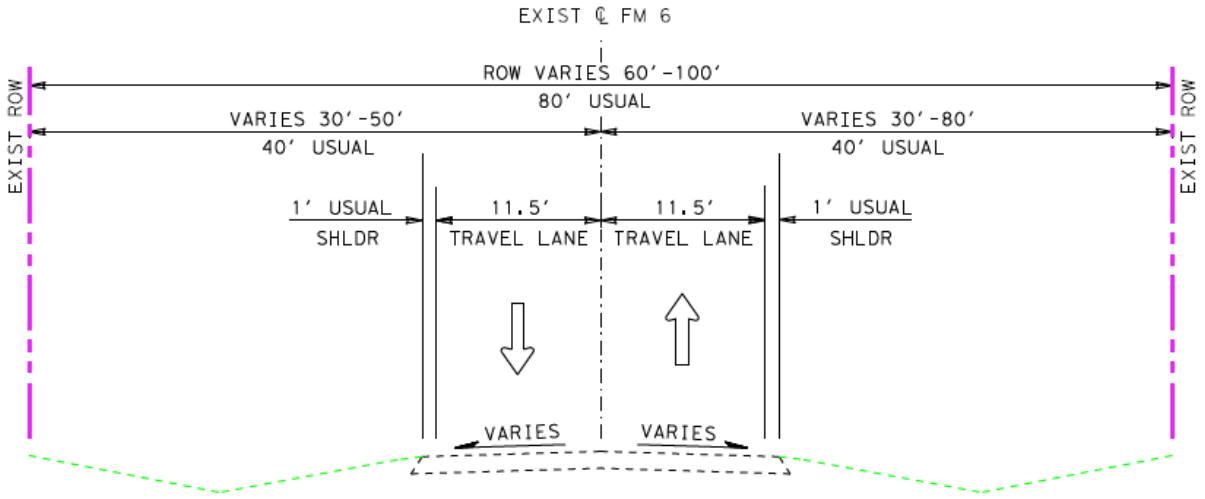
13750 San Pedro Avenue, San Antonio, TX 78232
Phone: 210.544.5751
www.kci.com
TBPE Registration No. F-10573

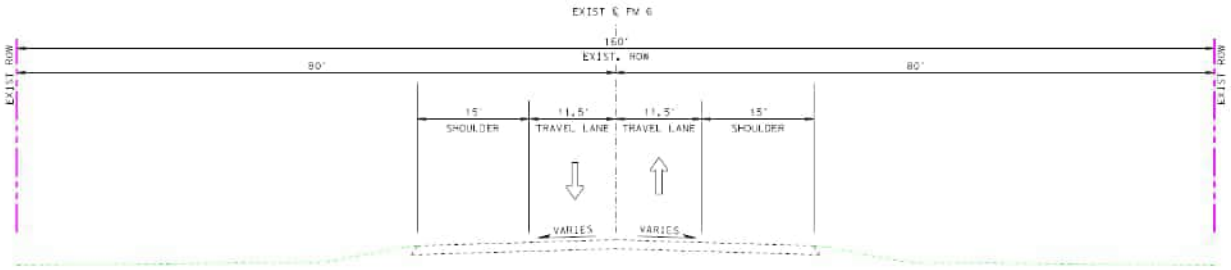
APPENDIX D

TYPICAL SECTIONS



EXISTING TYPICAL SECTION

STA 19+78 TO STA 112+00



EXISTING TYPICAL SECTION

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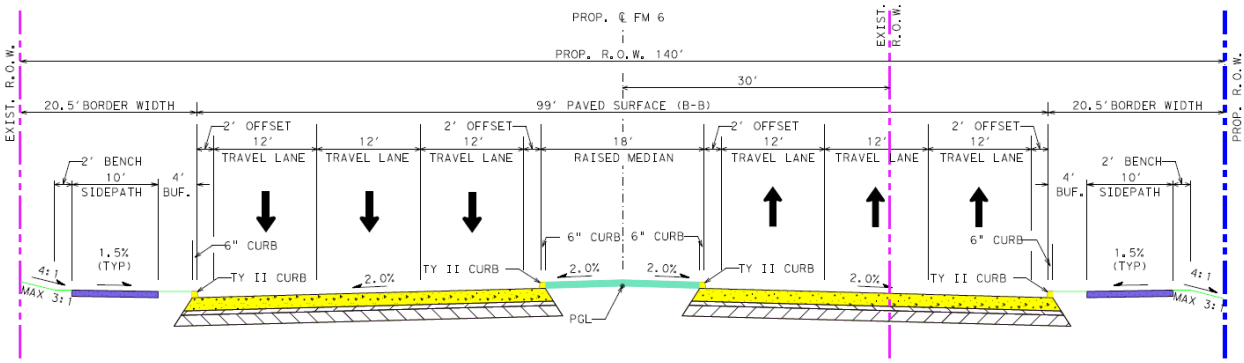
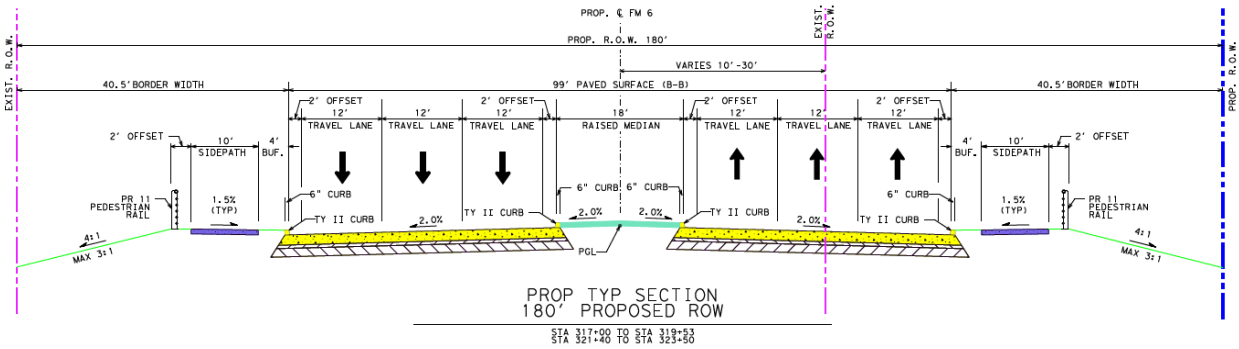


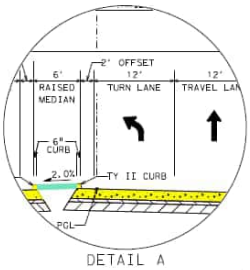
PROP TYP SECTION
140' PROPOSED ROW (MIN)

STA 328+00 TO STA 358+72



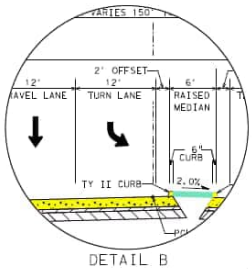
PROP TYP SECTION
180' PROPOSED ROW

STA 317+00 TO STA 319+53
STA 321+40 TO STA 323+50



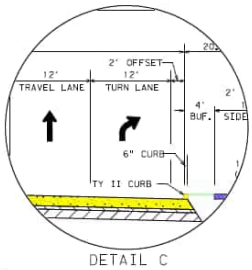
DETAIL A

STA 346+15.00 TO STA 349+80.00
STA 358+95.00 TO STA 362+40.00
STA 382+95.00 TO STA 386+40.00
STA 392+50.00 TO STA 396+00.00
STA 407+60.00 TO STA 411+10.00



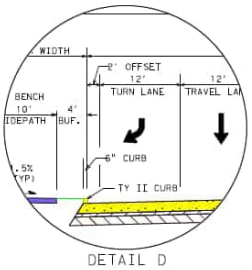
DETAIL B

STA 351+40.00 TO STA 354+95.00
STA 363+30.00 TO STA 366+85.00
STA 387+95.00 TO STA 391+35.00
STA 397+05.00 TO STA 400+50.00
STA 412+10.00 TO STA 415+65.00



DETAIL C

STA 358+95.00 TO STA 362+40.00

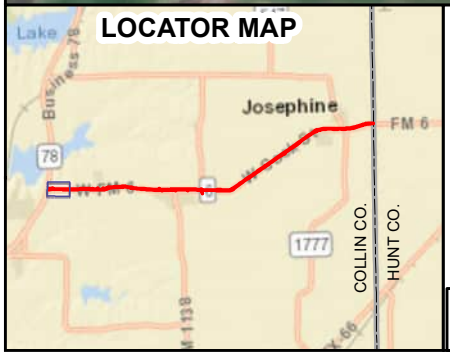


DETAIL D

STA 387+95.00 TO STA 391+35.00

APPENDIX E

RESOURCE-SPECIFIC MAPS



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0 250 500 Feet N

FM 6

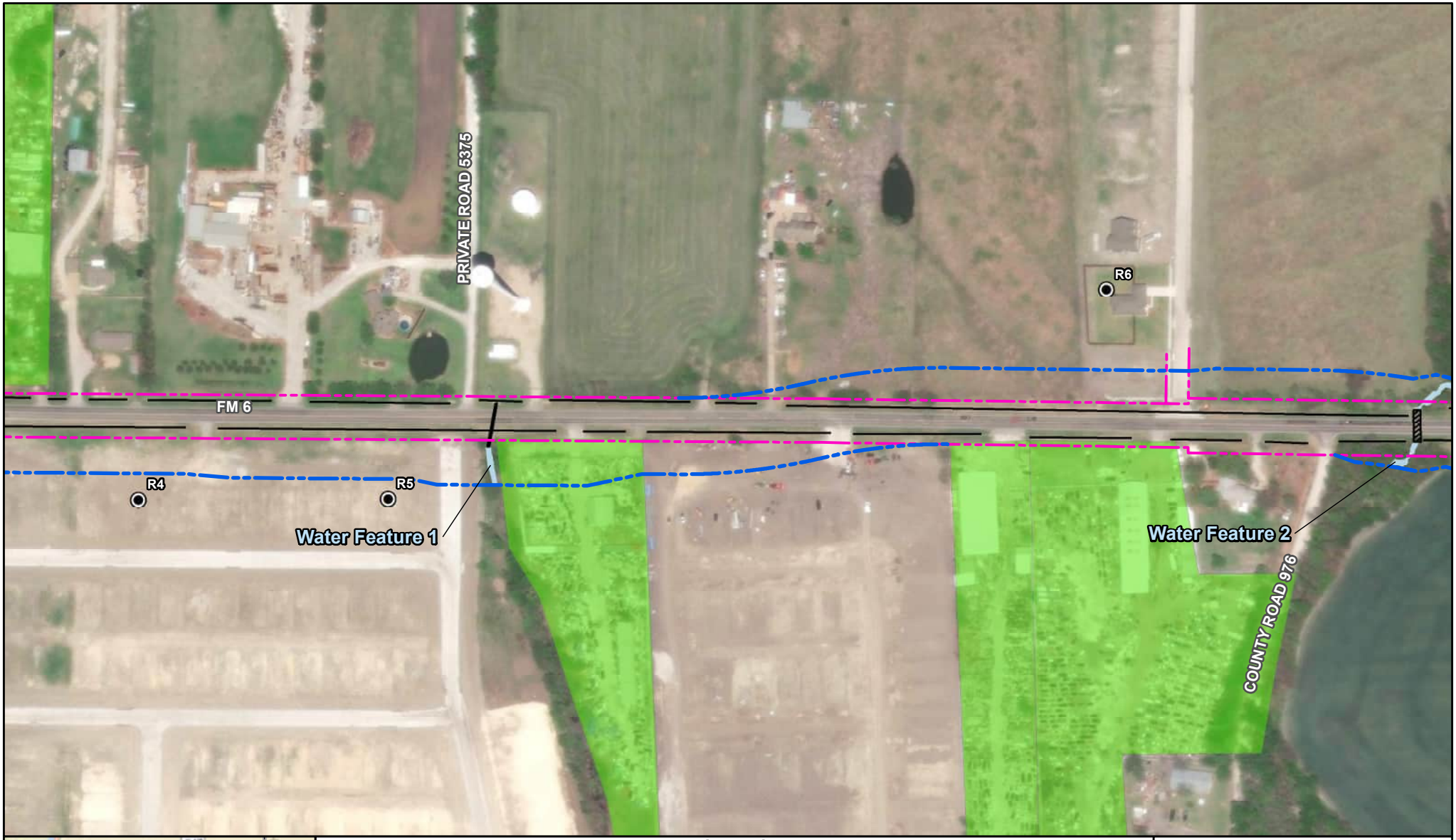
from SH 78 to East of FM 1777

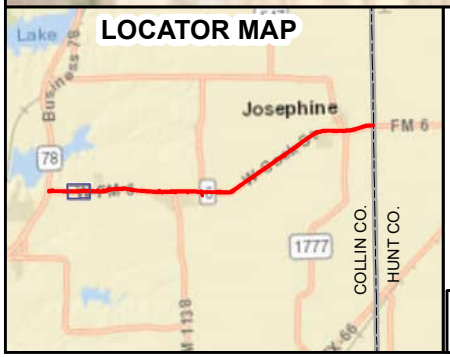
Collin County, Texas

Resource Map

Texas Department of Transportation

TXDOT CSJ: 0619-01-027





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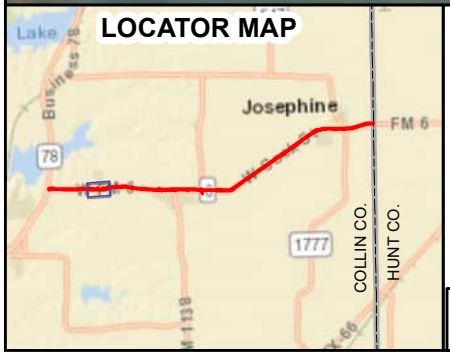

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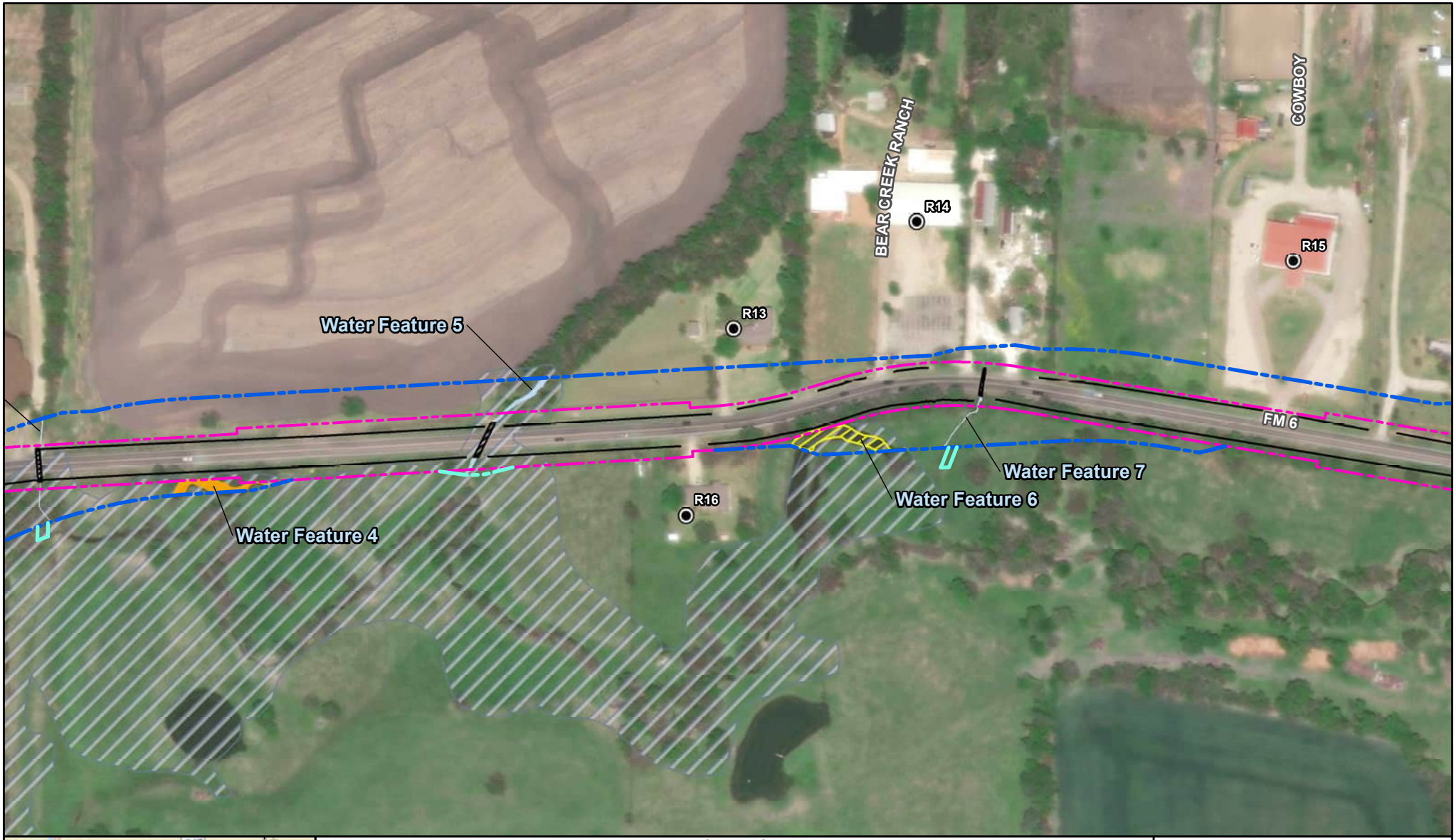

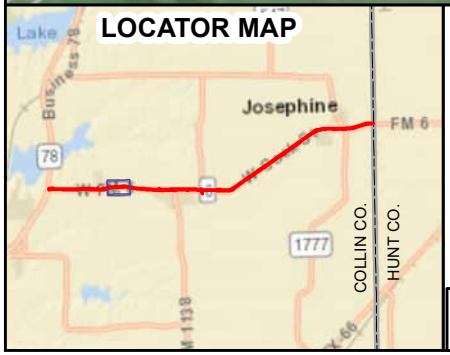

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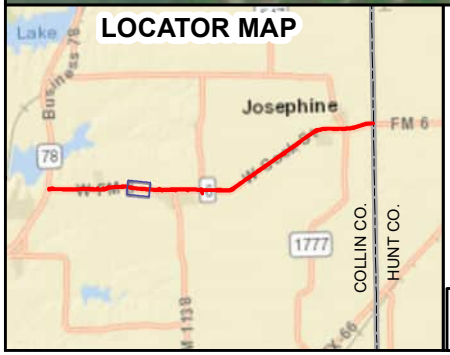

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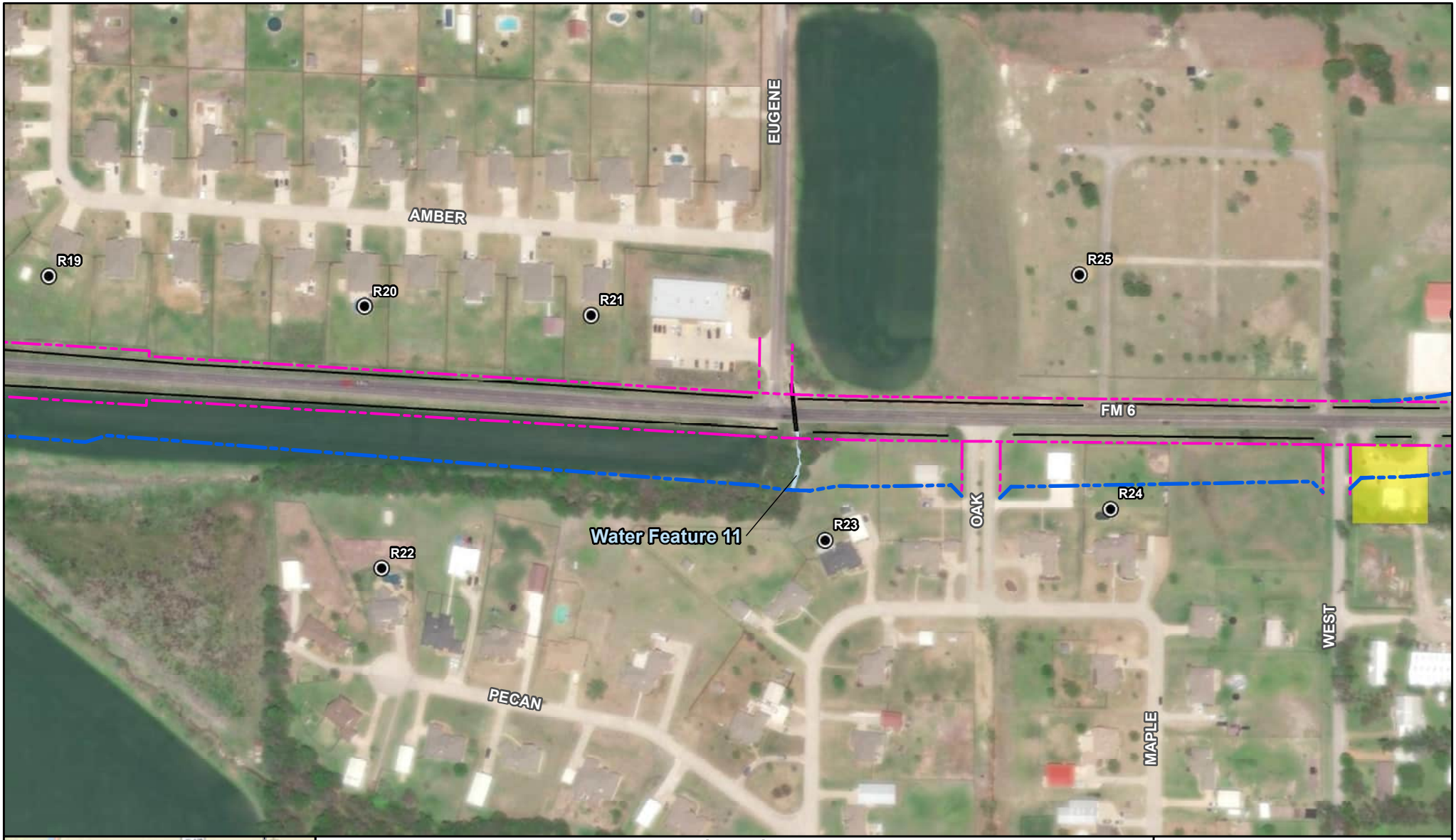

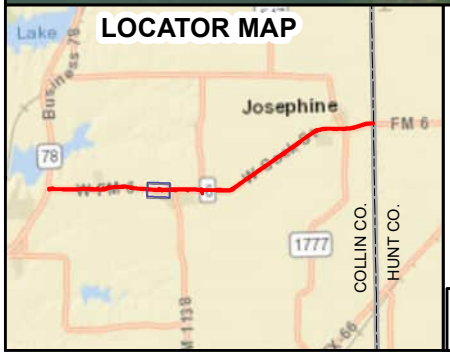

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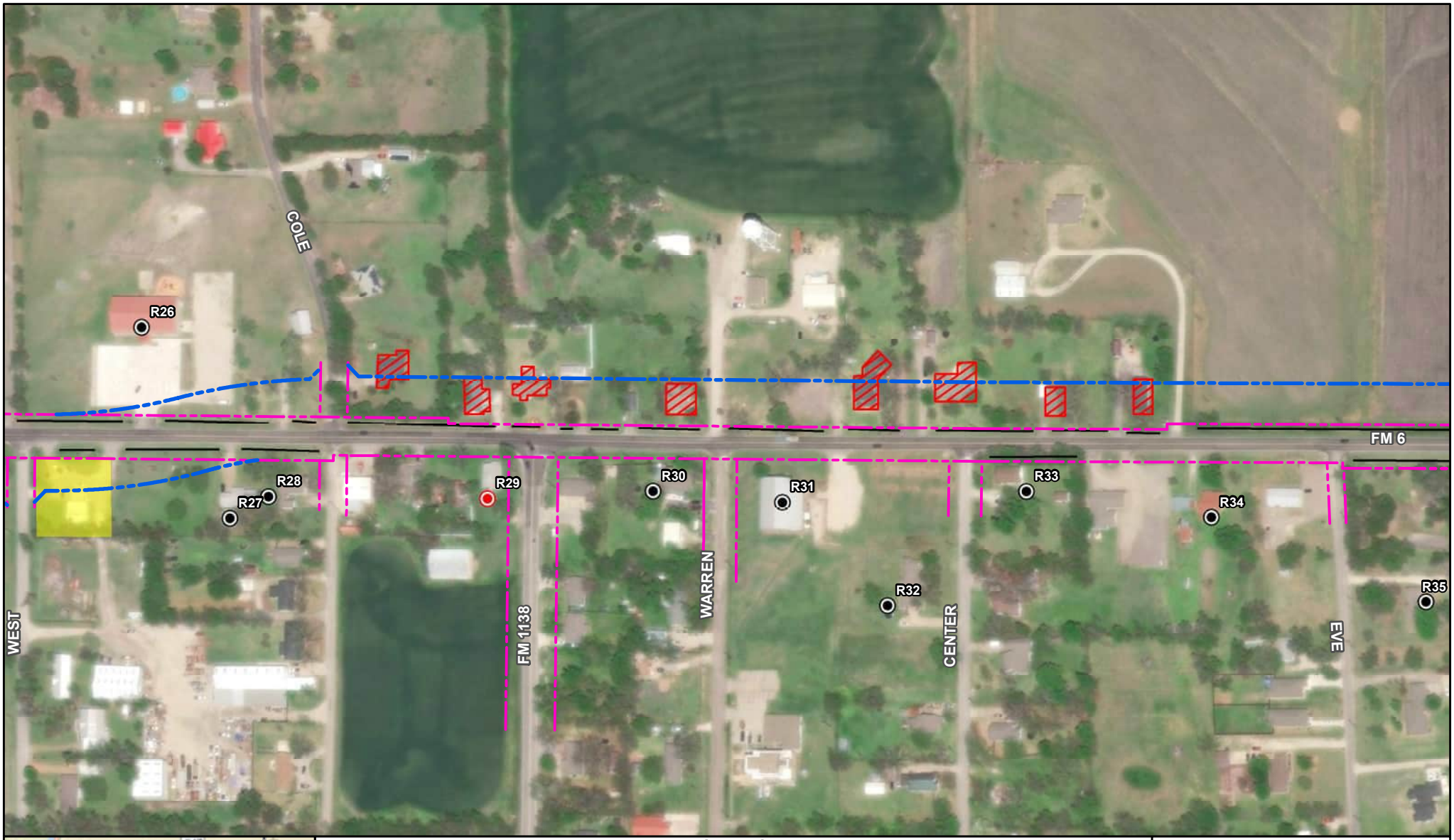

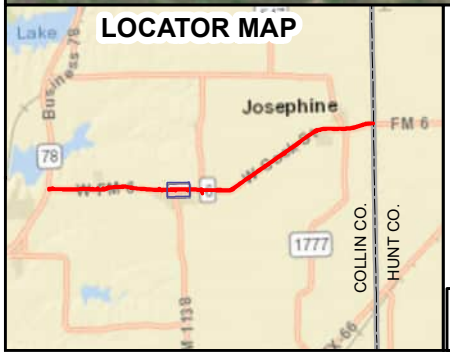

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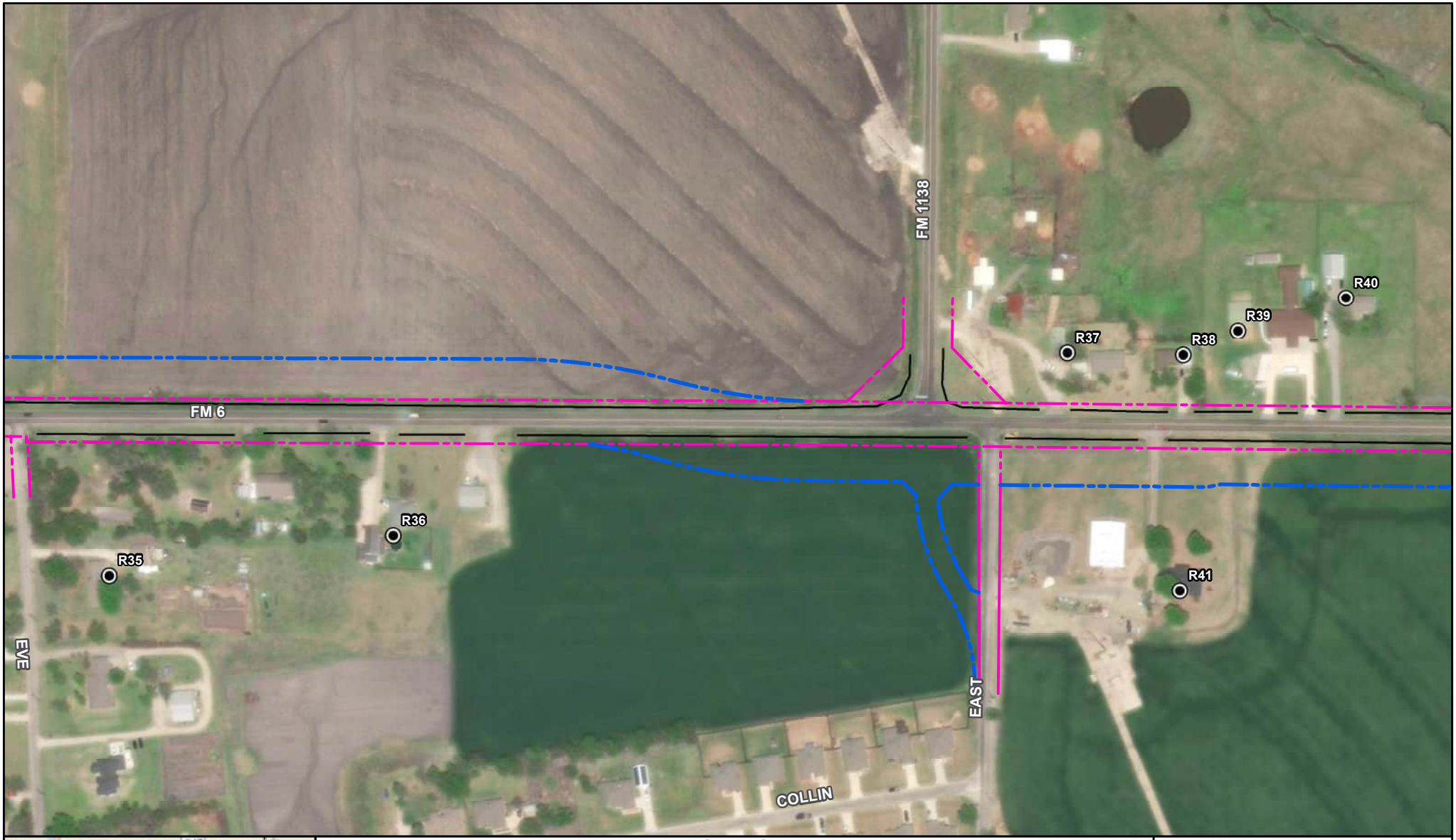

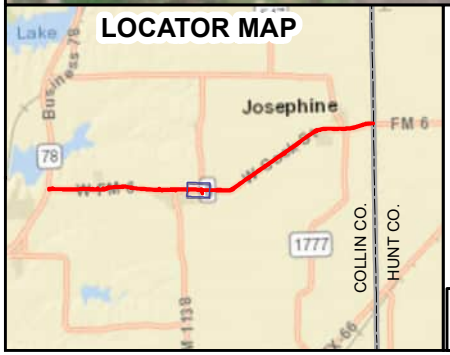

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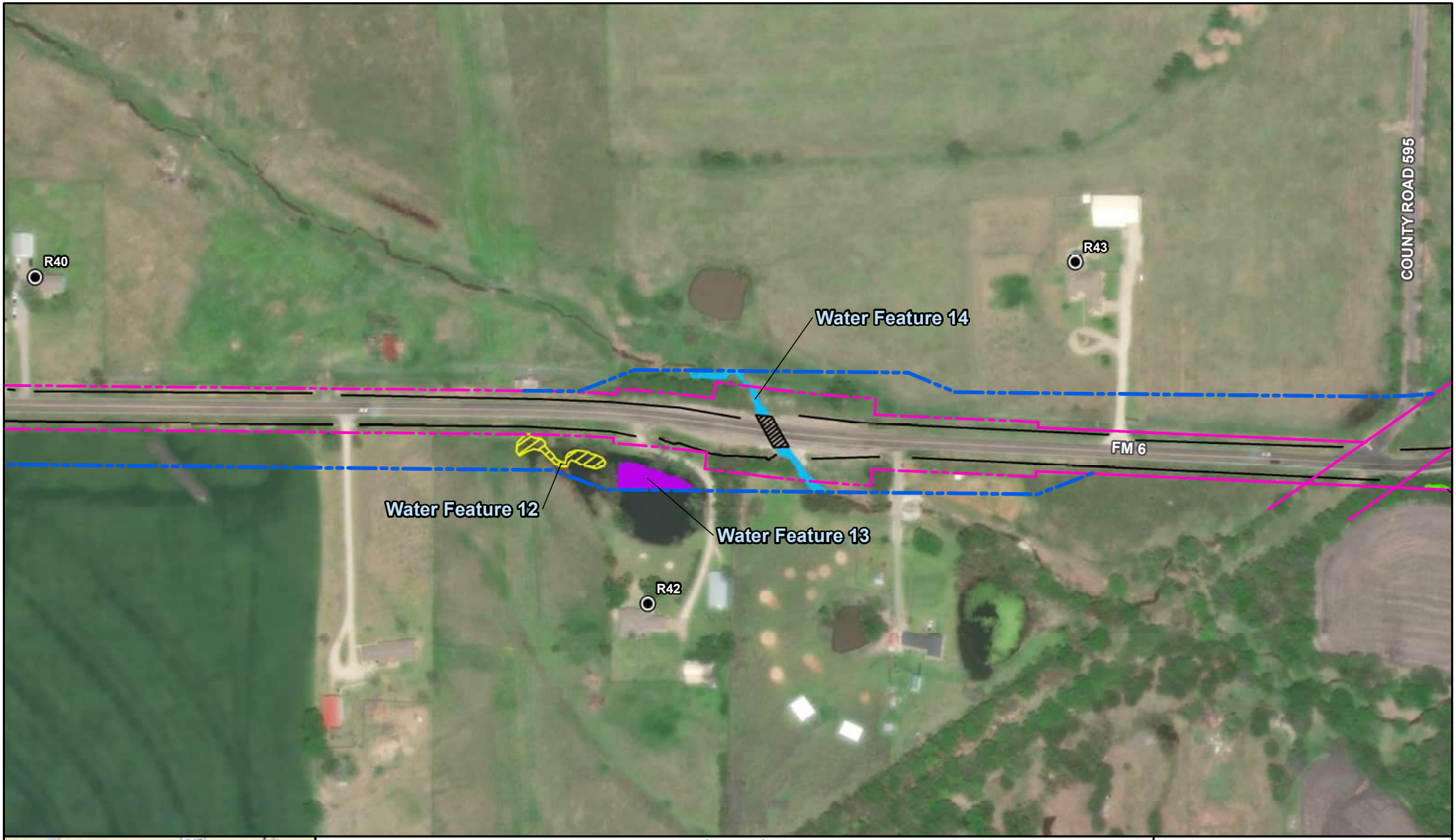

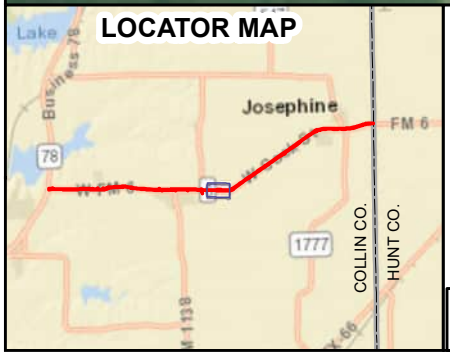

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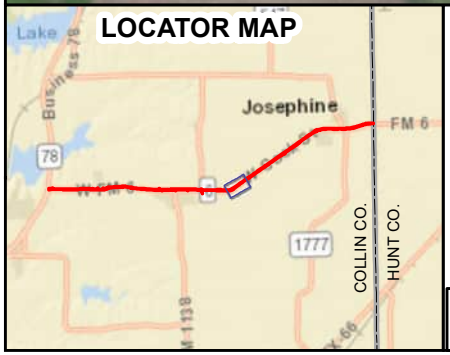

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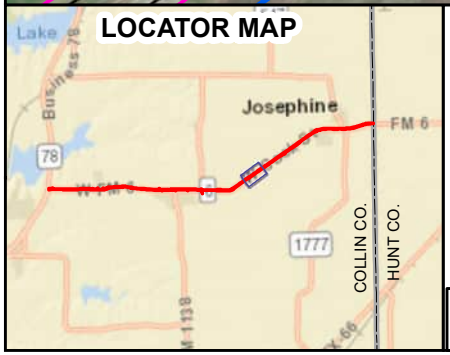

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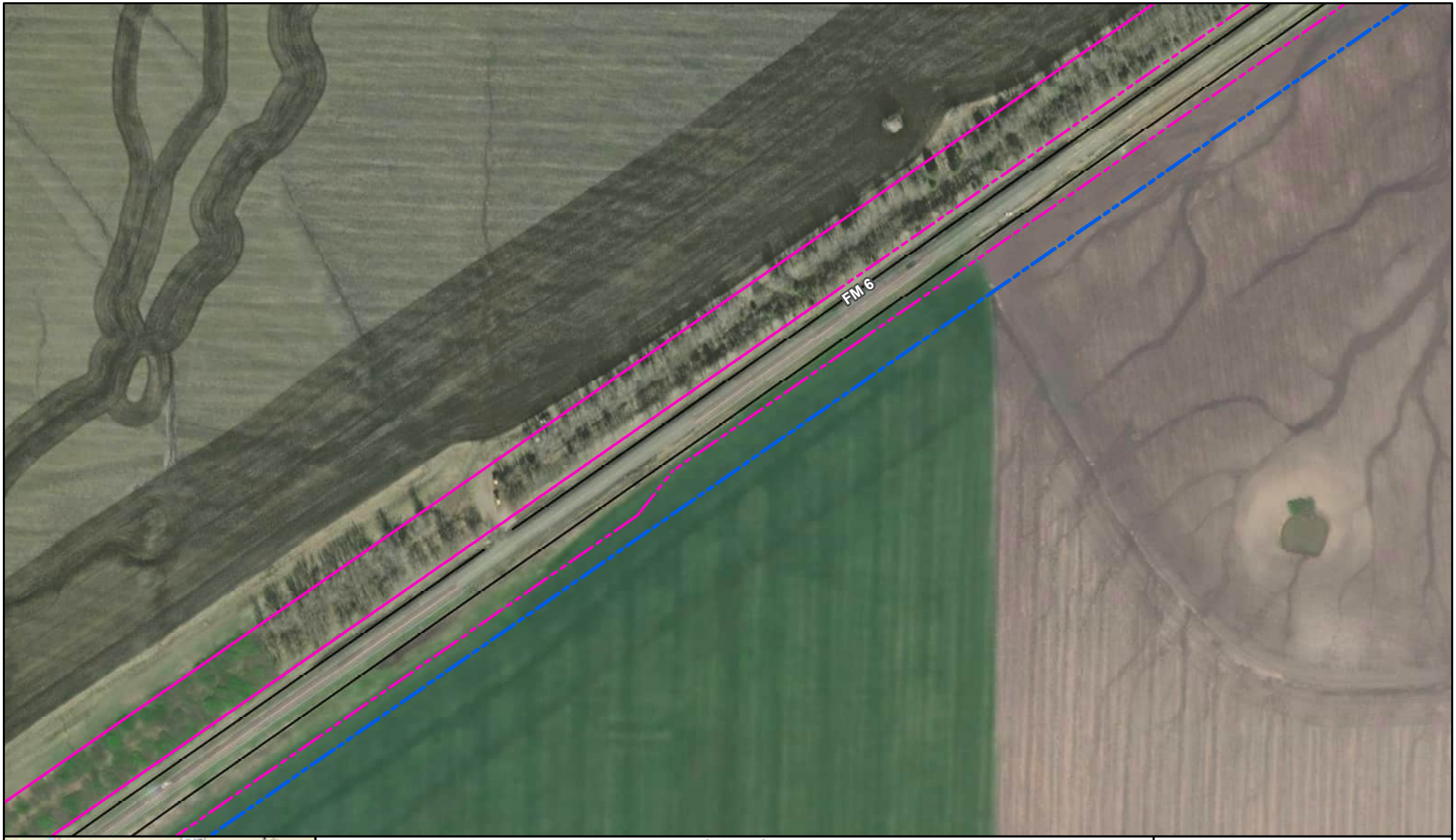

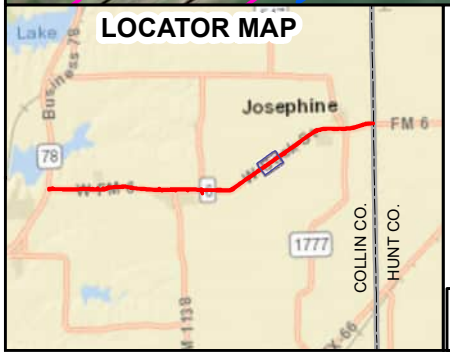

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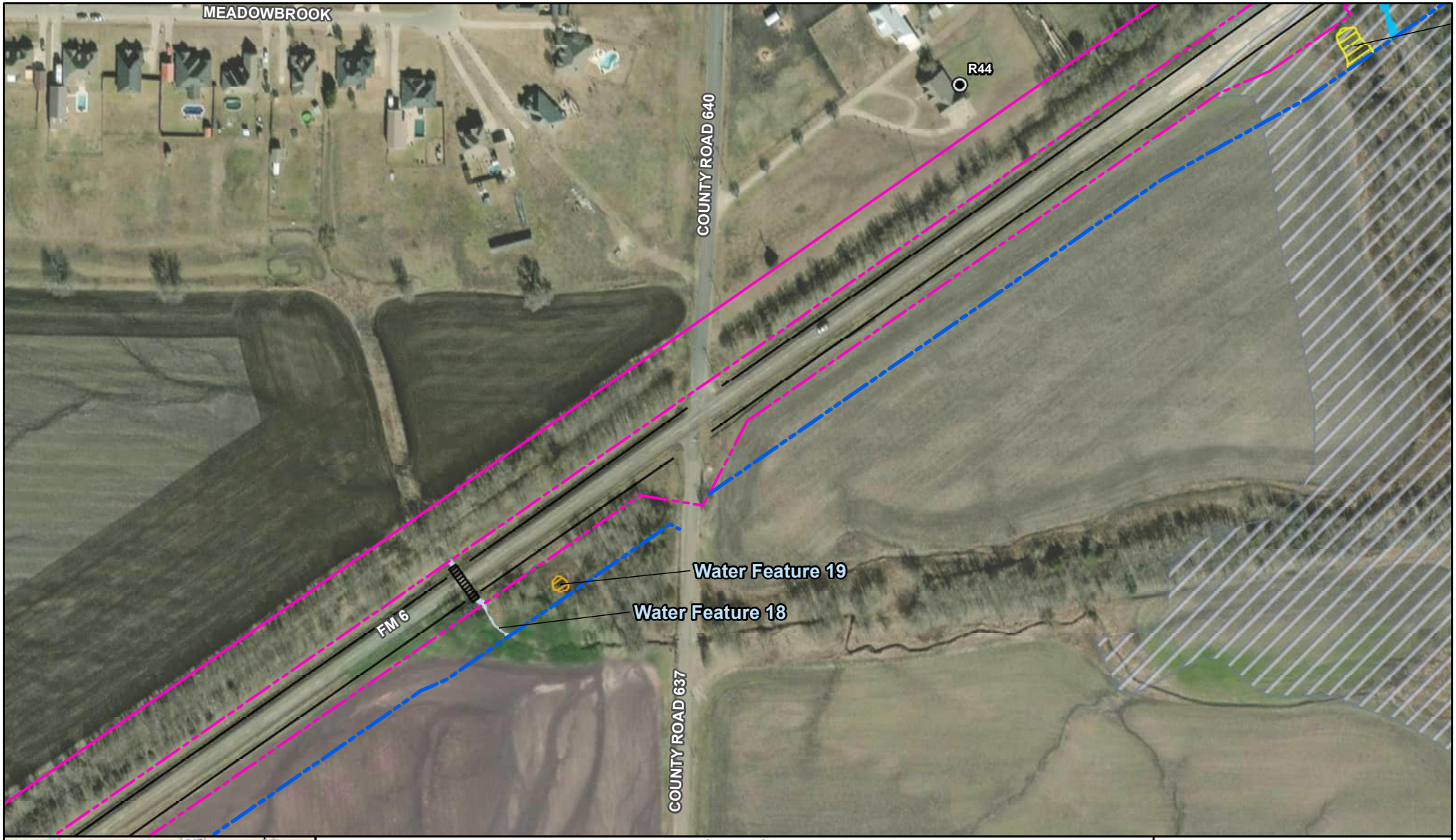

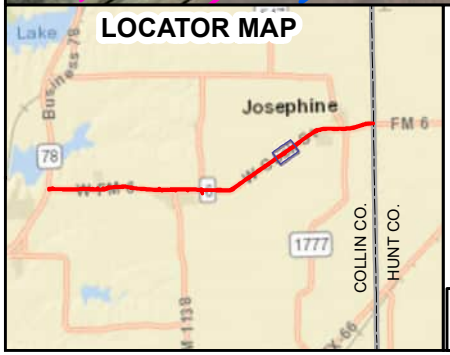

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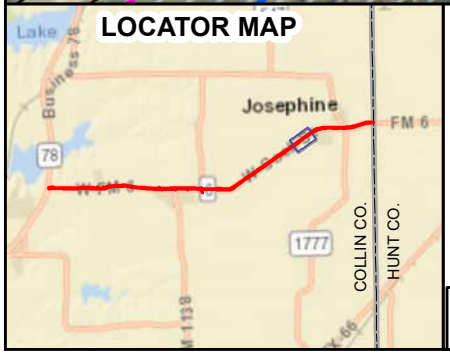
LOCATOR MAP



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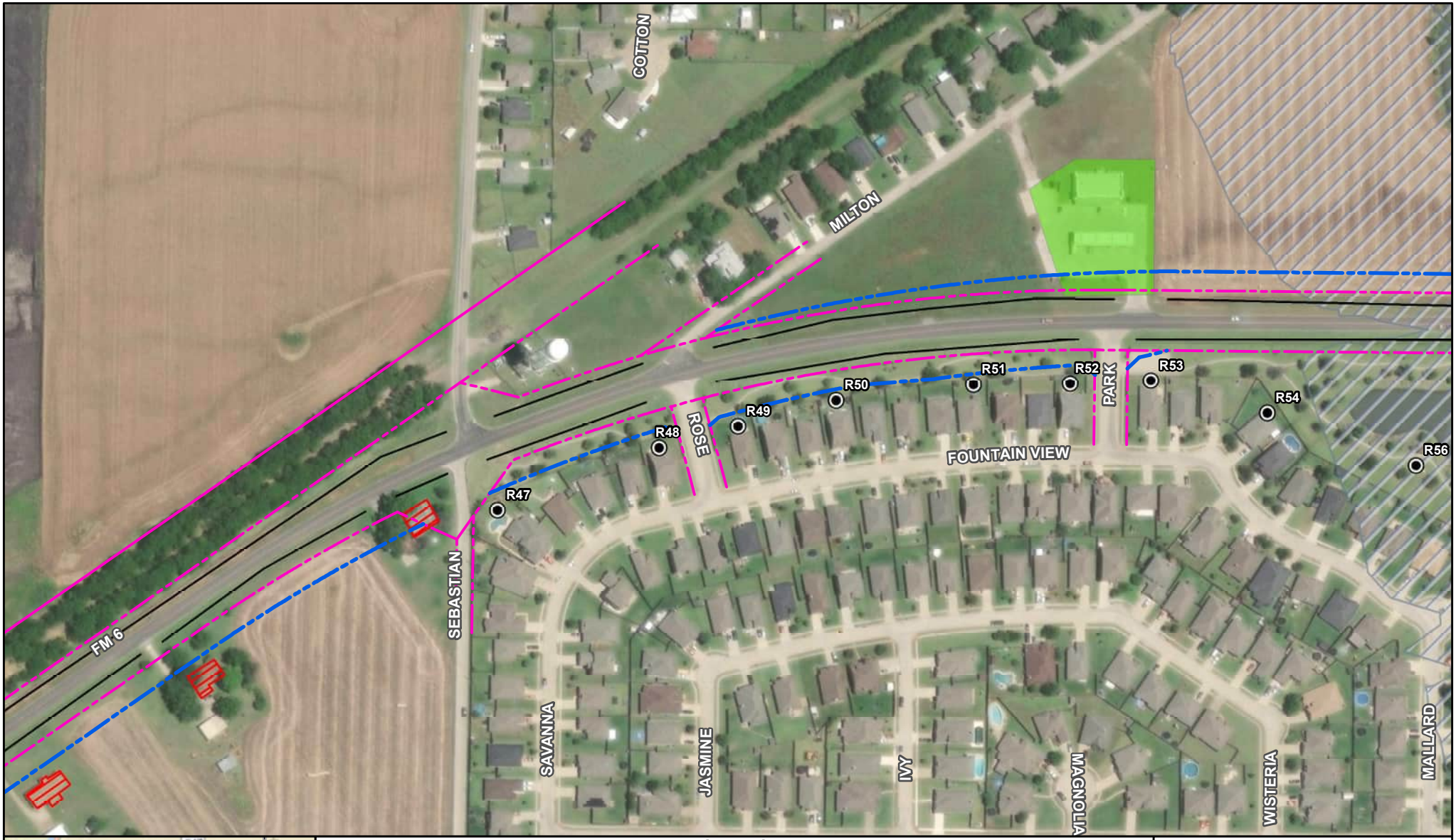

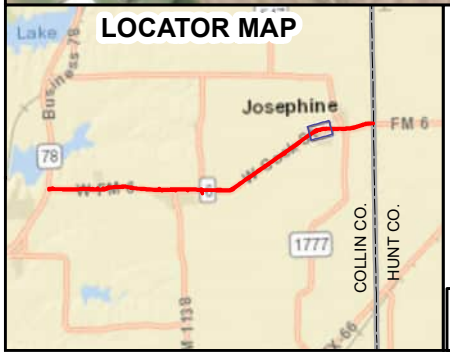

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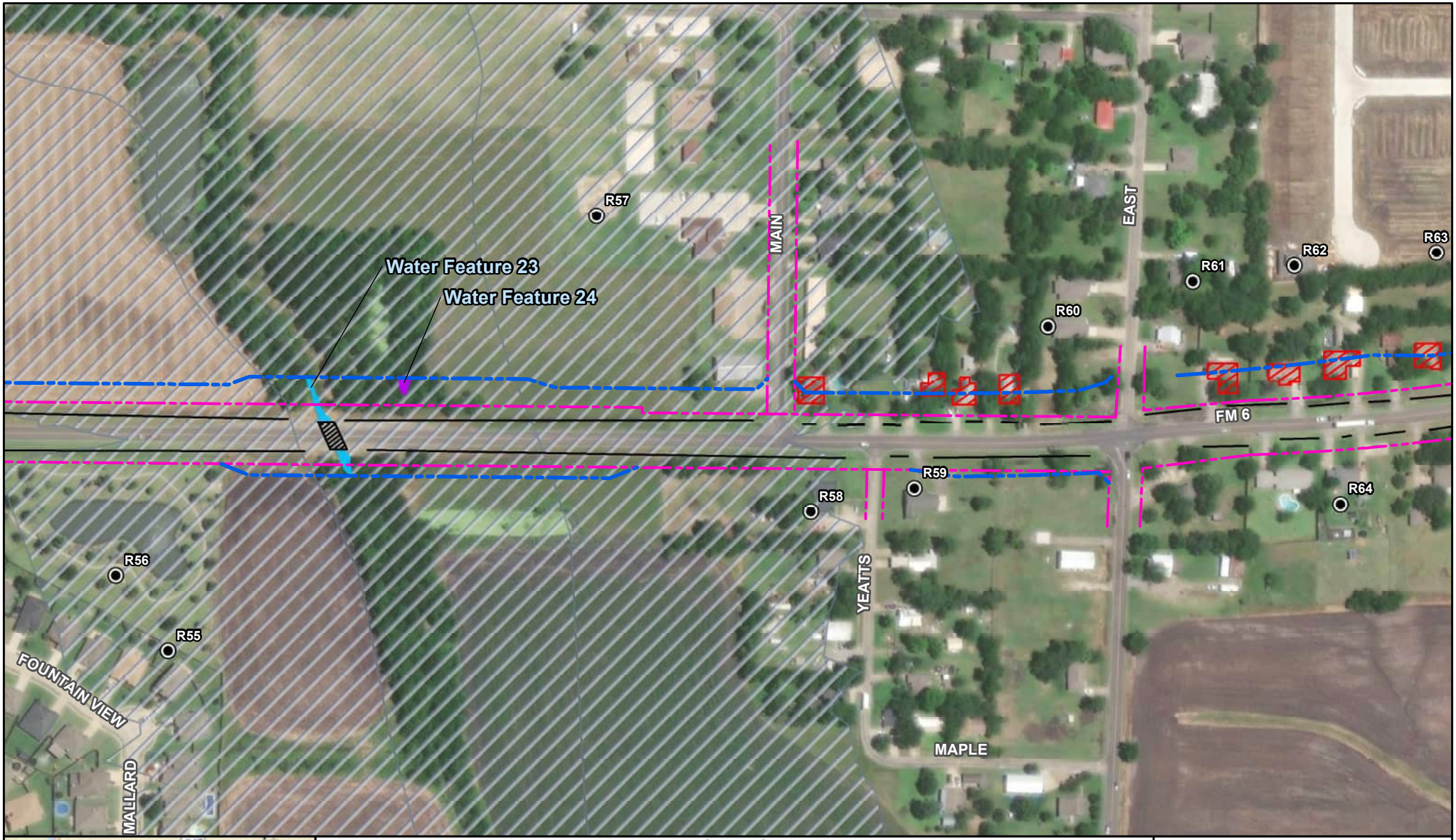

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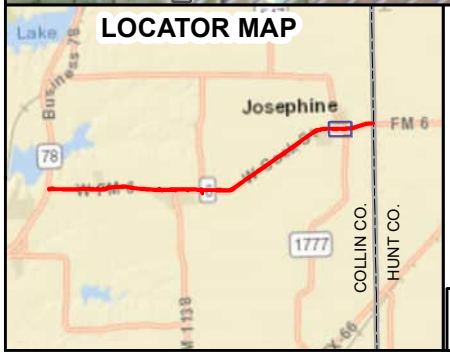

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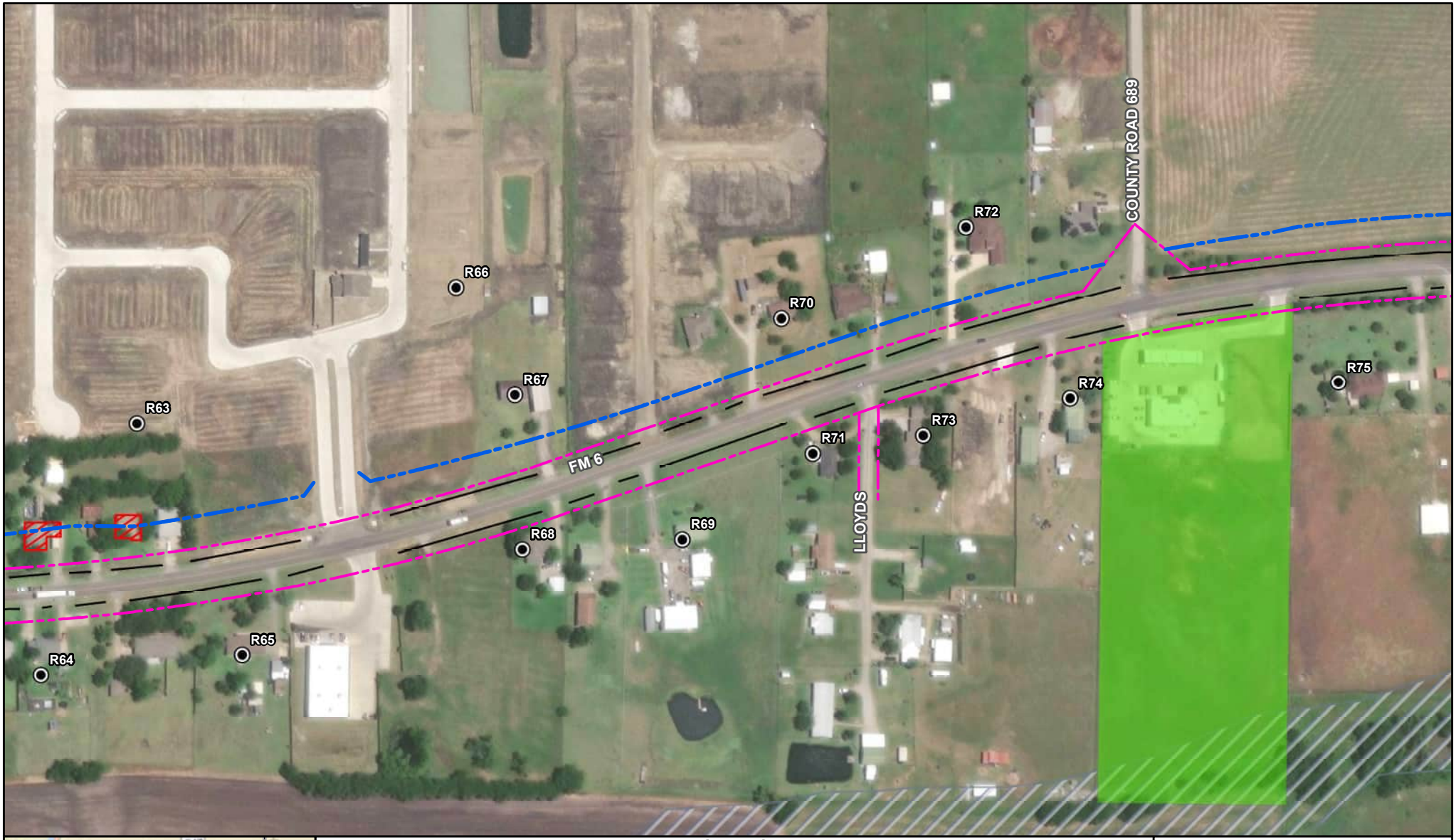

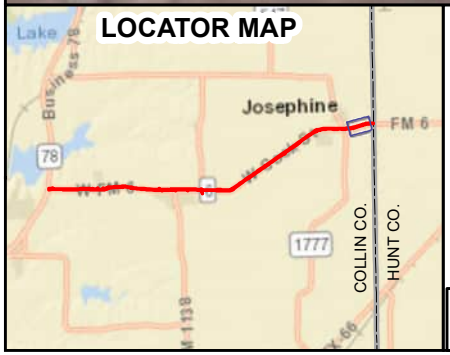

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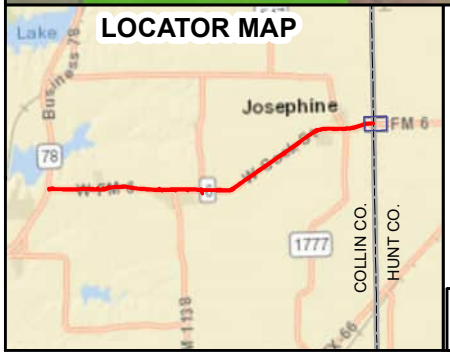
Texas Department of Transportation

TXDOT CSJ: 0619-01-027



Legend

- Existing ROW
- Proposed New ROW
- Proposed Drainage Easement
- County Boundary
- Impacted Noise Receptor
- Non-Impacted Noise Receptor
- Proposed Displacements
- Roadside Ditch
- Low Environmental Risk (HazMat)
- Moderate Environmental Risk (HazMat)
- Floodplain (FEMA)
- Culvert

Water Features

- Ephemeral Stream
- Intermittent Stream
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub Shrub Wetland
- Pond
- Swale

0 250 500 Feet N

FM 6

from SH 78 to East of FM 1777

Collin County, Texas

Resource Map

Texas Department of Transportation

TXDOT CSJ: 0619-01-027

APPENDIX F

RESOURCE AGENCY COORDINATION

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **4/28/23**	4. Sheet 1 of **1**
1. Name of Project **Farm-to-Market Road 6**	5. Federal Agency Involved **TxDOT**	
2. Type of Project **Linear Transportation Improvements**	6. County and State **Collin County, Texas**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐		4. Acres Irrigated / Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	**32.4**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	**0**			
C. Total Acres In Corridor	**32.4**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	**12**			
2. Perimeter in Nonurban Use — 10	**7**			
3. Percent Of Corridor Being Farmed — 20	**10**			
4. Protection Provided By State And Local Government — 20	**0**			
5. Size of Present Farm Unit Compared To Average — 10	**5**			
6. Creation Of Nonfarmable Farmland — 25	**5**			
7. Availablility Of Farm Support Services — 5	**0**			
8. On-Farm Investments — 20	**0**			
9. Effects Of Conversion On Farm Support Services — 25	**0**			
10. Compatibility With Existing Agricultural Use — 10	**7**			
TOTAL CORRIDOR ASSESSMENT POINTS — 160				
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	**46**			
TOTAL POINTS *(Total of above 2 lines)* — 260	**46**			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: Jaimie Lilm — DATE **5/24/23**

NOTE: Complete a form for each segment with more than one Alternate Corridor

Clear Form

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Texas Department of Transportation

125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

February 9, 2024

SECTION 106 REVIEW: DETERMINATION OF NO ADVERSE EFFECT
District: Dallas
County: Collin
CSJ#: 0619-01-027
Highway: FM 6
Project Limits: From SH 78 to just east of FM 1777

Mr. Justin Kockritz
History Programs
Texas Historical Commission
Austin, Texas 78711

Dear Mr. Kockritz:

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 executed by FHWA and TxDOT (NEPA Assignment MOU). As a consequence of these agreements, TxDOT's regulatory role for this project is that of the Federal action agency. In accordance with 36 CFR 800 and our Section 106 Programmatic Agreement (PA) for Transportation Undertakings, this letter initiates Section 106 consultation on the effect the proposed undertaking will have on historic properties.

Project Description

See the attachment from TxDOT's Environmental Compliance Oversight System (ECOS) that describes the project, setting, and amount of right-of-way (ROW) and easements necessary for the project.

Consulting Parties

TxDOT met with the Collin CHC and SHPO in October 2023 to describe the project and discuss properties in the APE that may be demolished. The CHC expressed that the only property of concern was the 1939 WPA gym in Nevada (ID # 23). TxDOT's conversations with the CHC members, including one from the community of Nevada, provided additional insight to make determinations of eligibility. See meeting minutes pages 535-536 of HRSR.

Determinations of Eligibility

TxDOT historians reviewed the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), the list of Recorded Texas Historic Landmarks (RTHL), and TxDOT files to identify historically significant resources previously documented within the Area of Potential Effect (APE). Per our PA, the Area of Potential Effect (APE) for the project is 150' beyond the proposed ROW. TxDOT also looked at a 1,300-foot study area. TxDOT conducted a Historic Resources Survey using a survey cut-off date of 1982 based on the projected construction let date of 2027. The resulting Historic Resources Survey Report (HRSR) documents the National Register of Historic Places (NRHP) eligibility of 63 historic-age properties. Based on the documentation presented in the HRSR, TxDOT historians determined the following properties within the APE to be **eligible for listing in the NRHP**:

Nevada Cemetery (Resource 9), 301 FM 6, Nevada:
The cemetery was registered as a Historic Texas Cemetery (HTC) in 2007. Established in 1906–1907, the parcel has remained the principal burial place for area residents since. Documentation in the HRSR revealed that the property is NRHP Eligible under Criterion A and Criteria Considerations C and D in the area of Community Planning and Development and Social History at a local level of significance. The period of significance runs from its founding in 1907 until 1927, when the 1927 tornado victims were buried.

The NRHP boundaries for the historic property include approximately 8.86 acres currently occupied by cemetery grounds . For more information see pages 22-24, 127-134, and 501 of the HRSR.

Nevada High School Gymnasium (Resource 23), 202 E FM 6, Nevada:
The gymnasium is a two-story 1939 built Art Deco style brick building facing FM 6 to the north. The building is comprised of a central block (gym) and a wing (locker room, lavatories) joined by a covered walkway. The original barrel roof has been replaced by a gable roof, with a shed roof extending over the adjoining wing, clad with corrugated metal; the barrel roof now appears as parapet walls along the north and south elevations. Constructed during the Depression with funding made available through the WPA, the gymnasium was once part of a large campus and is the only remaining resource representing that school property.

The property is determined NRHP Eligible at the local level under Criterion A in the area of Education and Social History, with a period of significance spanning the construction year of 1939 until 1974, when the building no longer served as a gymnasium for the Community ISD.

Since it is the only remaining building of the original school campus, the recommended NRHP boundaries are limited to the current parcel boundaries. For more information see pages 27-29, 224-230 and 502 of the HRSR.

Intensive Surveys
TxDOT conducted intensive surveys on properties:

- 20, c. 1910 house at 109 E FM 6, Nevada. See HRSR pages 24-27, 200-214 for more information.
- 24, c. 1919 house at 211 E FM 6, Nevada. See HRSR pages 30-33, 231-237 for more information.
- 43, c. 1905 house at 101 E FM 6, Josephine. See HRSR pages 33-37, 353-363 for more information.

All three properties appear to possess historical significance as representative examples of the early twentieth century residential fabric of the area. However, similar examples of the architectural style for pre-1927 residences exist at the central core of the town of Nevada and Josephine as well as elsewhere in the county. These local examples better illustrate their historical significance as extant survivors of the 1927 tornado and retain the requisite physical integrity and associative qualities to convey this significance. While the properties may have interesting histories as documented in the HRSR, none meet the threshold for significance under NRHP-criteria.

The remaining surveyed historic-age properties within the APE are determined to be not NRHP-eligible based on local consultation and documented information.

Determination of No Adverse Effect

Nevada Cemetery (Resource 9)—No new ROW is required from this property. The new roadway would be at grade as it is today. The ROW line adjacent to the property would remain the same. TxDOT determined the project will have **no adverse effect** to the property.

Nevada High School Gymnasium (Resource 23)- No new ROW is required from this property. The new roadway would be at grade as it is today. The ROW line adjacent to the property would remain the same. TxDOT determined the project will have **no adverse effect** to the property.

Conclusion

In accordance with 36 CFR 800 and our Section 106 PA, I hereby request your signed concurrence with TxDOT's finding of **no adverse effect** to the NRHP-eligible historic properties.

We look forward to further consultation with your staff and hope to maintain a partnership that will foster effective and responsible solutions for improving transportation, safety, and mobility in the state of Texas. Thank you for your cooperation in this federal review process. If you have any questions or comments concerning these evaluations, please contact me at 409/673-0787 or Renee.Benn@txdot.gov.

Sincerely,

DocuSigned by:
Renee Benn
7F4A35F3350848D...
Renee Benn

thru : Linda Henderson, HIST Program Manager Lead: DS LCH

CONCURRENCE WITH NON-ARCHEOLOGICAL SECTION 106 FINDINGS:
HISTORIC PROPERTIES PRESENT:

Nevada Cemetery
Nevada High School Gymnasium
NO ADVERSE EFFECT

NAME: _____ Digitally signed by Justin Kockritz Date: 2024.03.04 16:15:55 -06'00' DATE:_____

for Bradford Patterson, Chief Deputy State Historic Preservation Officer

Project description from ECOS:

WPD Section I - Project Definition | WPD Section II - Tool | WPD Section III - Project Work Plan | WPD Section IV - Findings

Print this Page

Project Definition

Project Name: CSJ 0619-01-027 - FM 6 Roadway Widening

CSJ: 0619 - 01 - 027

Anticipated Environmental Classification: EA

No — Is this an FHWA project that normally requires an EIS per 23 CFR 771.115(a)?

Project Association(s)

Auto Associate CSJ from DCIS

Manually Associate CSJ:

CSJ	DCIS Funding	DCIS Number	Env Classification	DCIS Classification	Main or Associate	Doc Tracked In	Actions

There are currently no Project Associations added to this project.

DCIS Project Funding and Location

Funding

DCIS Funding Type:

☑ Federal ☑ State ☐ Local ☐ Private

Location

DCIS Project Number:

Highway: FM 6

District: DALLAS

County: COLLIN

Project Limit -- From: SH 78

Project Limit -- To: EAST OF FM 1777

Begin Latitude: + 33 . 0434582

Begin Longitude: - 96 . 4249379

End Latitude: + 33 . 0625277

End Longitude: - 96 . 2966790

DCIS & P6 Letting Dates

DCIS District: 08/45

DCIS Approved:

DCIS Actual:

P6 Ready To Let:

P6 Proposed Letting:

DCIS Project Description

Type of Work:

DCIS Project Description

Type of Work:

Layman's Description:
WIDEN ROAD - ADD LANES

DCIS Project Classification: WNF - WIDEN NON-FREEWAY

Design Standard: 4R - New Location and Reconstruction

Roadway Functional Classification: 5 - Rural major collector or urban collector street

Jurisdiction

No — Does the project cross a state boundary, or require a new Presidential Permit or modification of an existing Presidential Permit?

Who is the lead agency responsible for the approval of the entire project?

☑ FHWA - Assigned to TxDOT ☐ TxDOT - No Federal Funding ☐ FHWA - Not Assigned to TxDOT

TXDOT — Who is the project sponsor as defined by 43 TAC 2.7?

No — Is a local government's or a private developer's own staff or consultant preparing the CE documentation, EA or EIS?

Yes — Does the project require any federal permit, license, or approval?

☑ USACE ☐ IBWC ☐ USCG ☐ NPS ☐ IAJR ☐ Other

No — Does the project occur, in part or in total, on federal or tribal lands?

Environmental Clearance Project Description

Project Area

Typical Depth of Impacts:	2	(Feet)	Maximum Depth of Impacts:	68	(Feet)
New ROW Required:	53	(Acres)			
New Perm. Easement Required:	0.02	(Acres)	New Temp. Easement Required:	0	(Acres)

Project Description

Describe Limits of All Activities: Spell

The Texas Department of Transportation (TxDOT) is proposing to widen FM 6 for approximately 7.9 miles from SH 78 to East of FM 1777, Texas.The existing ROW width is 80 feet. A new signal is proposed to be added at the intersection of FM 6 and FM 1777.Additional ROW would be required for the proposed project.

Describe Project Setting: Spell

The project setting is predominantly rural, with somewhat urbanized areas within the cities of Nevada and Josephine. Surrounding area to the proposed project is predominantly undeveloped/agricultural land. Traffic generators within and surrounding the project corridor include Community High School, which is located north of FM 6 along FM 1138, and two large residential neighborhood developments along FM 6, one near the intersection with CR 544, and one near the intersection with Sebastian Lane. Additionally, SH 78 and FM 1777 contribute additional commuters and travelers along the project corridor. Ecological setting within and surrounding the project area is predominantly row crops/agriculture fields, disturbed Blackland prairie grassland, small clusters of native invasive deciduous woodlands, and Central Texas riparian and Pineywoods bottomland hardwood forests along the creek crossings. Vegetation within and surrounding the project area includes maintained ROW grasses, mesquite, hackberry, Eastern red cedar, and elms.

FM 6 crosses Sabine Creek, 2 tributaries to Sabine Creek, Bois d'Arc Creek, 2 tributaries to Bois d'Arc Creek, and 3 tributaries to Bear Creek. The closest historical marker, The First Baptist Church of Josephine, located within the city of Josephine, is approximately 0.22-mile from the intersection of FM 6 and FM 1777. There is a cemetery within the city of Nevada, between the cross streets of Eugene Lane and N Cole St, that is adjacent to the proposed project corridor.

Describe Existing Facility: Spell

FM 6 is currently a two lane roadway, with one 11.5-foot travel lane in each direction (westbound and eastbound), and usual 1-foot shoulders, roadside bar ditch drainage, no dedicated turn lanes, no median, and a ROW of 80-feet (130-foot max., 60-foot min.). At the western terminus of the proposed project, near the intersection with SH 78, the existing FM 6 roadway widens to two travel lanes in each direction, has curb and gutter drainage, and a raised median.

Describe Proposed Facility:

The proposed FM 6 roadway will have four (ultimately six) 12-foot wide travel lanes, two (ultimately three) in each direction, 2-foot offsets, an 18-foot raised median, curb and gutter drainage, 10-foot wide shared use paths in each direction (with 5-foot buffers between path and roadway), and will have a ROW of 140-feet minimum. There are a total of four bridges proposed along the project corridor: 3 bridge class culverts at STA 211+50, STA 256+50, and STA 372+25, and a TX28 girder bridge at STA 320 over the Sabine Creek crossing.

Yes **Would the project add capacity?**

Transportation Planning

Jurek, Madeline

From: noreply@thc.state.tx.us
Sent: Monday, October 2, 2023 11:25 AM
To: Scott Pletka; reviews@thc.state.tx.us
Subject: 061901027 FM 6

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202400533
Date: 10/02/2023
061901027 FM 6 (Permit 31068)
FM 6 at SH 78
Plano,TX 75173

Description: TxDOT proposes improvements to FM 6. The submitted report is the draft/final archeological survey report for newly-accessible portions of the APE.

Dear TxDOT Staff:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Brad Jones, has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- Thank you for submitting this final report. To facilitate review and make project information and final reports available through the Texas Archeological Sites Atlas, we appreciate submission of abstracts and shapefiles through eTRAC via their corresponding tabs, if this has not already occurred. Please note that these steps are required for projects conducted under a Texas Antiquities Permit. For questions on how to submit these please visit our video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC
- THC/SHPO concurs with information provided.
- This draft report is acceptable. To facilitate review and make project information and final reports available through the Texas Archeological Sites Atlas, we appreciate submission of tagged pdf copies of the final report including one restricted version with all site location information (if applicable), and one public version with all site location information redacted; an online abstract form submitted via

the abstract tab on eTRAC; and survey area shapefiles submitted via the shapefile tab on eTRAC. For questions on how to submit these please visit our video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC Please note that these steps are required for projects conducted under a Texas Antiquities Permit.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: brad.jones@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

Mohammed Shaikh

From: noreply@thc.state.tx.us
Sent: Thursday, June 22, 2023 4:18 PM
To: Scott Pletka; reviews@thc.state.tx.us
Subject: 061901027 FM 6

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202309146
Date: 06/22/2023
061901027 FM 6 (Permit 31068)
FM 6 at SH 78
Wylie,TX 75098

Description: TxDOT proposes improvements to FM 6. The submitted report is the draft/final archeological survey report for the accessible portions of the APE

Dear TxDOT Staff:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Brad Jones, has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

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https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC
- THC/SHPO concurs with information provided.
- This draft report is acceptable. To facilitate review and make project information and final reports available through the Texas Archeological Sites Atlas, we appreciate submission of tagged pdf copies of the final report including one restricted version with all site location information (if applicable), and one public version with all site location information redacted; an online abstract form submitted via the abstract tab on eTRAC; and survey area shapefiles submitted via the shapefile tab on eTRAC. For questions on how to submit these please visit our

video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC
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This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

Form

Documentation of Texas Parks and Wildlife Department Best Management Practices

Project Name: **Farm-to-Market (FM) 6 from State Highway (SH) 78 to east of FM 1777**

CSJ(s): **0619-01-027**

County(ies): **Collin**

Date Form Completed: **4/28/2023**

Prepared by: **Jaimie Galm, AWB®**

Information on state-listed species, SGCN, water resources, and other natural resources can be found in the ECOS documents tab under the filenames specified in the e-mail sent to WHAB_TXDOT@tpwd.texas.gov.

1. Does the project impact any state parks, wildlife management areas, wildlife refuges, or other designated protected areas?

   ☒ No

   ☐ Yes

2. Does TxDOT need TPWD assistance in identifying and locating Section 404 mitigation opportunities for this project?

   ☒ No / N/A / Not yet determined

   ☐ Yes

3. Is there a species or resource challenge that TPWD can assist with additional guidance? If so, describe below:

4. List all BMP that will be applied to this project per the document *Beneficial Management Practices: Avoiding, Minimizing, and Mitigating Impacts of Transportation Projects on State Natural Resources*.

   ***Note, these are BMP that TxDOT commits to implement at the time this form is completed. This list may change prior to or during construction based on changes to project impacts, design, etc.**

BMP to Be Implemented:

Minimize impacts to wetland and riverine habitats.

Minimize impacts to water crossings/drainages, marshes, drainage ditches, and irrigation canals.

Contractors will be advised of potential occurrence in the project area and to avoid harming the species if encountered.

Avoid unnecessary impacts to dens and lodges.

2.6.1 Aquatic Amphibian and Reptile BMP

For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.
- Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.
- Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.
- Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.
- When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).
- If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement BMP for projects within existing ROW above plus those below:

- For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.

- For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.

- When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Biotechnical streambank stabilization methods using live native vegetation or a combination of vegetative and structural materials should be used.

2.6.2 Terrestrial Amphibian and Reptile BMP

- For open trenches and excavated pits, install escape ramps at an angle of less than 45 degree (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.

- Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.

- Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.

- Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.

- When designing roads with curbs, consider using Type I or Type III curbs to provide a gentle slope to enable turtles and small animals to get out of roadways.

- If Texas tortoises (*Gopherus berlandieri*) or box turtles (*Terrepene spp*.) are present in a project area, they should be removed from the area and relocated between 100 and 200 meters from the project area. After removal of the individuals, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude reentry by turtles, tortoises, and other reptiles. The exclusion fence should be constructed and maintained as follows:
    - The exclusion fence should be constructed with metal flashing or drift fence material.
    - Rolled erosion control mesh material should not be used.
    - The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.
    - The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.

- After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.

2.5.3 Bat BMP

- Inform TPWD WHAB during initial collaborative review phase for projects that may impact the following bat species:
  - Any *Myotis* spp.
  - Tricolored bat (*Perimyotis subflavus*)
- If identification of a bat species is in question, consult with TPWD or a qualified TxDOT biologist during initial collaborative review phase.
- 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.
  - 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.
  - Conversion of property containing cave or cliff features to transportation purposes should be avoided.
  - Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures ≥ 55°F for at least two consecutive nights), so bats can move away from the disturbance and find new roosts.
  - Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.
  - Retain mature, large diameter hardwood forest species and native/ornamental palm trees.

- If gating a cave or abandoned mine is desired, consult with TPWD before installing gates. Gating should only be conducted by qualified groups with a history of successful gating operations. Gate designs must be approved by TPWD.

- In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.

- Coordinate with TPWD about the latest bat handling restrictions and protocols involving COVID-19 and bat handling. In general, all staff must follow the guidelines listed below:
    - Do not handle bats if not part of a critical or time-sensitive research project. *Contact TPWD to discuss your project needs before beginning work.*
    - All participants must follow CDC social-distancing guidelines.
    - Wear a face mask to minimize the exchange of respiratory droplets such as a surgical mask, dust mask, or cloth mask when within 6 feet of a living bat.
    - Use disposable exam gloves or other reusable gloves (e.g., rubber dish-washing gloves) that can be decontaminated to prevent spread of pathogens. Do not touch your face or other potentially contaminated surfaces with your gloves prior to handling bats.
    - Limit handling to as few handlers as possible.
    - Do not blow on bats for any reason.
    - Use separate temporary holding containers for each bat such as disposable paper bags.
    - Caves housing bats should be avoided unless absolutely necessary.
    - Implement additional disinfection, quarantine, and cleaning procedures.

- Bat surveys of structures should include visual inspections of structural fissures (cracked or spalled concrete, damaged or split beams, split or damaged timber railings), crevices (expansion joints, space between parallel beams, spaces above supports piers), and alternative structures (drainage pipes, bolt cavities, open sections between support beams, swallow nests) for the presence of bats.

- Before excluding bats from any occupied structure, bat species, weather, temperature, season, and geographic location must be incorporated into any exclusion plans to avoid unnecessary harm or death to bats. Winter exclusion must entail a survey to confirm either, 1) bats are absent or 2) present but active (i.e., continuously active – not intermittently active due to arousals from hibernation).
    - Avoid using materials that degrade quickly, like paper, steel wool or rags, to close holes.
    - Avoid using products or making structural modifications that may block natural ventilation, like hanging plastic sheeting over an active roost entrance, thereby altering roost microclimate.
    - Avoid using chemical and ultrasonic repellents.
    - Avoid use of silicone, polyurethane or similar non-water-based caulk products.
    - Avoid use of expandable foam products at occupied sites.
    - Avoid the use of flexible netting attached with duct tape.

- In order to avoid entombing bats, exclusion activities should be only implemented by a qualified individual. A qualified individual or company should possess at least the following minimum qualifications:
    - Experience in bat exclusion (the individual, not just the company).
    - Proof of rabies pre-exposure vaccinations.
    - Demonstrated knowledge of the relevant bat species, including maternity season date range and habitat requirements.
    - Demonstrated knowledge of rabies and histoplasmosis in relation to bat roosts.

- Contact TPWD for additional resources and information to assist in executing successful bat exclusions that will avoid unnecessary harm or death in bats.

2.2.1 Bird BMP

The following Bird BMP apply to projects within the range and in suitable habitat for all bird SGCN listed on TPWD's RTEST application. Please note that projects within the range and in suitable habitat for the bald eagle (*Haliaeetus leucocephalus*) are required to comply with the Bald and Golden Eagle Protection Act.

In addition to complying with the Migratory Bird Treaty Act (MBTA) and Chapter 64 of the Parks and Wildlife Code (PWC) regarding nongame bird protections, perform the following BMP:

- Avoid vegetation clearing activities during the general bird nesting season, March through August, to minimize adverse impacts to birds.
- Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed. If active nests are observed during surveys, TPWD recommends a 150-foot buffer of vegetation remain around the nests until the young have fledged or the nest is abandoned.
- Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season.
- If unoccupied, inactive nests will be removed, ensure that nests are not protected under the Endangered Species Act (ESA), MBTA, or BGEPA.
- Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair.
- Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.
- Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foot-traffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.
- Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.
- Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.

1.1 General Design and Construction BMP

- Employees and contractors will be provided information prior to start of construction to educate personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.
- Contractors will be informed to avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.

- Direct animals away from the construction area with the judicious use and placement of sediment control fencing to exclude wildlife. Exclusion fence should be buried at least 6 inches and be at least 24 inches high, maintained for the life of the project, and removed after construction is completed.

- Contractors should examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.
- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas.

- If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.

- Project staging areas, stockpiles, temporary construction easements, and other project related sites should be situated in previously disturbed areas to avoid or minimize impacts to sensitive or unique habitats including intact native vegetation, floodplains, riparian corridors, wetlands, playa lakes, and habitat for wildlife species.

- When lighting is added, consider wildlife impacts from light pollution and incorporating dark-sky practices into design strategies. Minimize sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. The minimum amount of night-time lighting needed for safety and security should be used.

2.4 Insect Pollinator BMP

The following Insect Pollinator BMP apply to projects within the range and in suitable habitat for insect SGCN found below and that are also listed on TPWD's RTEST online application.

- Mowing should only be applied to 30% or less of a site in a given year when practical. In general, mowing is inadequate for management of native insect pollinator habitat in the long term, except to remove annual non-native plants during establishment (i.e., high-mowing before they flower) or to facilitate a light disking. When conducted it should be done post bloom or when host plants have gone dormant for the growing season. This can also be done by leaving strips of habitat farthest from road or highway corridors un-mowed when practical.

- If mowing is required during period of active bloom or high pollinator activity it should be implemented during the heat of the day and with a high mower deck to allow for pollinators to escape and to give late season blooming species a chance to recover and bloom.

- Deep soil disturbances, such as, tilling or deep disking in areas that host aggregations of ground-nesting bees should be avoided. Tilling and disking also may promote the invasion or germination of non-native plants. Different species of native ground-nesting bees prefer different soil conditions, although research suggests that many ground nesting bees prefer sandy, loamy sand or sandy loam soils. In areas with these soil types consider leaving open patches of soil.
- Allow dead trees to stand (so long as they do not pose a risk to property or people) and protect shrubs and herbaceous plants with pithy or hollow stems (e.g., cane fruits, sumac, elderberry), as these provide nesting habitat for tunnel-nesting native bees.

- Retain dead or dying branches whenever it is safe and practical at the edges of the ROW. Wood-boring beetle larvae often fill dead trees and branches with narrow tunnels into

which tunnel-nesting bees will establish nests. Additionally, bumble bees may choose to nest in wood piles.

- Retain rotting logs at edges of the ROW where some bee species may burrow tunnels in which to nest.
- Protect sloped or well-drained ground sites where plants are sparse and direct access to soil is available. These are the areas where ground-nesting bees may dig nests. Turning the soil destroys all ground nests that are present at that depth and hinders the emergence of bees that are nesting deeper in the ground.
- Protect grassy thickets, or other areas of dense, low cover from mowing or other disturbance. These are the sites where bumble bees might find the nest cavities they need, as well as annual and perennial wildflowers that can provide important food resources.
- Where available and economical, native plants and seed should be procured from local eco-type providers. Seed mixes should be diverse and include as many ecoregion natives as possible ensuring full season floral resources. Species by Texas ecoregion can be found in the Texas Management Recommendations for Native Insect Pollinators in Texas document: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_1813.pdf.
- Planting at least three different native flowering plants within each of three blooming periods are recommended (spring, summer, early fall) in high rainfall regions of Texas. In drier regions of the state, a target of three native flowering plants within each of two blooming periods can be used.
- In areas along the I-35 corridor of central Texas consider increasing fall blooming nectar resources as this is a critical time period of monarch butterflies (*Danaus plexippus*) and nesting bees and has been identified as a critical need for these species in Texas.
- Habitat enhancements for native pollinators should include at least one native bunchgrass adapted to the site.
- Utilize an Integrated Pest Management Strategy (IPM) strategy for controlling weedy or invasive plants by minimizing broad use of certain herbicides and surfactants in close proximity to intact habitats utilized by native pollinators. Reduce application timing to periods of low pollinator activity and not during peak bloom season.

1.4 Water Quality BMP

In addition to BMP required for a TCEQ Storm Water Pollution Prevention Plan and/or 401 Water Quality Certification:

- 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.
- Wet-Bottomed detention ponds are recommended to benefit wildlife and downstream water quality. Consider potential wildlife-vehicle interactions when siting detention ponds.
- Rubbish found near bridges on TxDOT ROW should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

1.2 Vegetation BMP

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind on-site replacement/restoration of native vegetation.
- To minimize adverse effects, activities should be planned to preserve mature trees, particularly acorn, nut or berry producing varieties. These types of vegetation have high value to wildlife as food and cover.
- It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced. TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.
- Replacement trees should be of equal or better wildlife quality than those removed and be regionally adapted native species.
- When trees are planted, a maintenance plan that ensures at least an 85 percent survival rate after three years should be developed for the replacement trees.
- The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.
- The use of seed mix that contains seeds from only regional ecotype native species is recommended.

5. List all TxDOT species protection specifications that will be applied to this project (e.g., Amphibian and Reptile Exclusion Fence, Bat Houses, etc.)

Species protection specifications to be implemented:

From: Mohammed Shaikh
To: Eric Quintana
Cc: Natalie Bettger; "Dan Perge"; Kibru Andargie
Subject: CSJ 069-01-026 - FM 6 CMP Disclosure Form
Date: Friday, March 10, 2023 10:31:00 AM
Attachments: DRAFT 0619-01-027 FM 6 - CMP Form 03.2023.xlsm

Good Morning Eric,

Please see attached CMP form for the FM 6 widening project in Collin County. Please let me know if you have any questions or require additional information.

Thank you,
Mohammed Shaikh
Environmental Program Manager
DAL - ENV
Texas Department of Transportation
4777 E. Highway 80
Mesquite, TX 75150-6643
Tel: 214-320-6148

Fill in orange fields ONLY

2022 Congestion Management Process Project Form

Submitter Name	Agency Name	Date
Kibru Andargie	TxDOT	3/10/2023
Email		**Phone Number**
Kibru.Andargie@txdot.gov		214-320-6244

City
Nevada

Project Name
FM 6 Widening

Facility Name
FM 6

Project Limits (From)
SH 78

Project Limits (To)
East of FM 1777

Does project add roadway capacity?
Yes

Project Description (Including TSM&O and TDM Strategies)
The proposed project would widen FM 6 to a 4 lane interim (6 lane ulitmate) roadway from SH 78 to East of FM 1777. The project also includes 10' shared-use paths along the both sides of the proposed roadway alignment.

Link to TIPINS Database

Complementary TDM and TSM&O Projects in TIP (2020-2025)

Project Name	TIP Code	CSJ #
Collin County Outer Loop	20088	N/a

Other Complementary Projects not in TIP

Project Name	Implementing Agency
FM 1777 Widening - from SH 66 to FM 6	TxDOT

Are the project limits within a current Metropolitan Transportation Plan Corridor?

Yes	MTP Reference #
	NRSA1-DAL-230

MTP Webpage

Roadway Reccomentdations Listing

Non-Regionally Significant Arterials

Was the segment evaluated in the 2021 CMP Update?
No

Link to CMP Corridor Fact Sheets

CMP Segment Number	CMP Segment Facility	Facility Limit (From)	Facility Limit (To)

Functional Class

Number	Description

5	Major Collector

Area Type

Rural

Divided/Undivided

Divided

Number of Lanes

Enter Current	Enter Proposed
2	4

Next Step:

Continue to Corridor Evaluation

CMP Corridor Evaluation Sheet

Facility Type: Arterial

Performance Measures:

Crash Rate	0.5	**Travel Time Reliability**	0.5
Travel Time Index	1	**Bridge/Pavement Condition**	
Performance Measure Deficiencies?	2		

Eligibility Corridor is eligible, continue to asset evaluation and strategy selection

Asset Category Scores

Roadway Infrastructure	High
Modal Options	Medium
Roadway Operations	Low

Potential CMP Strategy Matches

SOV Trip Reduction Programming / Commuter Financial Incentives
Active Parking Mgmt
Intersection Improvements
Probe Surveilance
Speed Harmonization and Monitoring
511
Integrated Transportation Management/Route Guidance

Specify deficiency-correcting congestion mitigation strategy that will be implemented as part of the project.
Strategies can be selected from above or from Appendix C of the 2021 Congestion Management Process.
Link to Appendix C

If not implementing a congestion mitigation strategy, please select an exemption category from dropdown list.

Click to Select

Please provide a description of reason for exemption below.

Form Status **(Select one from option)**

Click to Select

COMANCHE NATION

Texas Department of Transportation
Attn: Ms. Melanie Johnson
118 E. Riverside
Texas 78704

September 22, 2023

Re: TXDOT Sec. 106 Consultation Request – CSJ-619-01-027, FM 6 from SH 78 to FM 1777 Collin County, Dallas District

Dear Mr. Oksanen;

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of ***"No Properties"*** have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 492-1153) if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Comanche Nation Historic Preservation Office
Theodore E. Villicana , Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502