Final Environmental Assessment

US 380 Princeton Project, Dallas District

From Farm-to-Market (FM) Road 1827 to County Road (CR) 560
Collin County, Texas
October 2024

CSJ Number(s): 0135-04-036, 0135-03-056, and 0135-16-002

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 United States Code (U.S.C.) 327 and a Memorandum of Understanding dated 12-9-2019, and executed by FHWA and TxDOT.

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Acronyms

AADT	Annual Average Daily Traffic
ACT	Antiquities Code of Texas
ADA	Americans with Disabilities Act
AOI	Area of Influence
APE	Area of Potential Effects
AST	Aboveground Petroleum Storage Tank
BG	Block Group
BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMAQ	Congestion Mitigation and Air Quality Improvement
CMP	Congestion Management Process
CO	Carbon Monoxide
CR	County Road
CT	Census Tract
CWA	Clean Water Act
dB(A)	A-weighted Decibel
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMST	Ecological Mapping Systems of Texas
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ETC	Estimated Time of Completion
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FM	Farm-to-Market
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GHG	Greenhouse Gas
IBWC	International Boundary Water Commission
IPaC	Information for Planning and Consultation
ISA	Initial Site Assessment
LCP	Lead-Containing Paint
LEP	Limited English Proficiency
Leq	Average/Equivalent Sound level
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MPH	Miles per Hour
MS4	Municipal Separate Storm Sewer System
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSAT	Mobile Source Air Toxics

NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOI	Notice of Intent
NOT	Notice of Termination
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PA	Programmatic Agreement
PCN	Pre-construction Notification
PM	Particulate Matter
PS&E	Plans, Specifications, and Estimates
PWC	Parks and Wildlife Code
ROE	Right-of-Entry
ROW	Right-of-Way
RSA	Resource Study Area
RTEST	Rare, Threatened, Endangered Species of Texas
SAL	State Antiquities Landmark
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Officer
Sq. Ft.	Square Feet
SWP3	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TAQA	Traffic Air Quality Analysis
TCEQ	Texas Commission on Environmental Quality
TCMP	Texas Coastal Management Plan
TEAM	Texas Ecosystem Analytical Mapper
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TSS	Total Suspended Solids
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
TxNDD	Texas Natural Diversity Database
U.S.	United States
U.S.C.	United States Code
US 380	United States Route 380
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDOT	United State Department of Transportation

USFWS	United States Fish and Wildlife Service
VPD	Vehicles Per Day
WMA	Wildlife Management Area

1 Introduction

The Texas Department of Transportation (TxDOT), in conjunction with Collin County, is proposing the construction of a new location, controlled-access freeway north of the City of Princeton from west of County Road (CR) 337 to east of CR 458 and the reconstruction and widening of the existing United States (U.S.) 380 roadway from Farm-to-Market (FM) 1827 to west of CR 337 and east of CR 458 to CR 560. The distance of the proposed US 380 Princeton project is approximately 11.7 miles. The existing US 380 roadway would remain.

The purpose of this environmental assessment (EA) is to study the potential environmental consequences of the proposed project and determine whether such consequences warrant preparation of an Environmental Impact Statement (EIS). Since the proposed project would be funded in part by the Federal Highway Administration (FHWA), this EA complies with National Environmental Policy Act (NEPA) regulations as well as relevant TxDOT rules for environmental review of projects and guidance for conducting NEPA studies on behalf of FHWA.

This Draft EA addresses the potential environmental impacts for the proposed project. See **Project Location Map** and **Project Photos** in **Appendix A**, **Exhibit 1** and **Appendix B,** respectively. The Draft EA will be made available for public review followed by a public hearing. TxDOT will consider comments submitted during the comment period. If TxDOT determines that the project would result in 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 Project Description

2.1 Existing Facility

The existing US 380 roadway, also known as Princeton Drive, consists of four 12-foot wide lanes (two in each direction), divided urban roadway with raised curbed medians, six- to 10-foot wide outside shoulders, and open vegetated drainage ditches or swales. The right-of-way (ROW) width for the existing facility ranges from approximately 120 to 160 feet. The existing bridge crossing Lavon Lake consists of four 12-foot wide lanes (two in each direction) with six- to 12-foot wide shoulders. The existing ROW width at the existing Lavon Lake bridge is approximately 200 feet.

The existing US 380 roadway, classified as principal arterial, runs east and west through the cities of McKinney, Princeton, and Farmersville and is intersected by several county roads, city streets, and driveways. The posted speed limit along US 380 varies from 45 to 60 miles per hour (MPH). There are no bicycle or pedestrian facilities along the existing US 380 roadway. See **Project Photos** in **Appendix B** and **Typical Sections** in **Appendix C**.

2.2 Proposed Facility

The proposed US 380 Princeton project would create a new location, controlled-access freeway extending north of the City of Princeton from west of CR 337 to east of CR 458, with reconstruction and widening of the existing US 380 roadway from FM 1827 to west of CR 337 and east of CR 458 to CR 560. The proposed US 380 Princeton project crossing at Lavon Lake includes reconstructing the existing US 380 and adding frontage roads. The proposed US 380 Princeton project includes one main alignment that diverges from the main alignment at CR 458, heading southeast, traversing US Army Corps of Engineers (USACE) property, specifically a Wildlife Management Area (WMA), and converging back with the main alignment at CR 492.

The new location alignment would be constructed as an eight to 10 lane divided freeway with 12-foot wide main lanes, auxiliary lanes, ramps, and 10-foot wide outside and 15-foot wide inside shoulders. The proposed project would also include continuous, one-way frontage roads with two to three 12-foot wide lanes with raised curbs and continuous 10-foot wide shared-use paths on both sides of the facility. The proposed project would be constructed within a proposed ROW width of approximately 320 to 536 feet, depending on location.

US 380 crosses Lavon Lake; the freeway would be reconstructed within the existing ROW over the lake, including continuous frontage roads on bridge structures.

The proposed facility would be a controlled-access freeway with entrance and exit ramps. In addition, the proposed US 380 Princeton project would construct grade-separated interchanges at major cross streets to accommodate connectivity to existing and future roadways and bicycle/pedestrian networks. The proposed project would maintain the existing US 380 roadway through the City of Princeton with connectivity at proposed interchanges on both the east and west sides of the city. **Appendix A** shows the project location in relation to the cities of McKinney, Princeton, and Farmersville. **Appendix B** contains photographs of the project area.

The proposed facility would include overpasses at the following cross streets to accommodate connectivity to existing and future roadways and bicycle/pedestrian networks: CR 337, Future CR 404 (by others), Future Princeton Parkway (by others), FM 75, FM 1377, CR 458, East Princeton Drive, Twin Groves Park Road/Future Road, and Caddo Park Road. The proposed project would bridge over 11 stream crossings. All bridges would be prestressed concrete with girders. See the **Typical Sections** and **Schematic Layout** in **Appendix C** and **Appendix D**, respectively.

The construction limits account for transitions into the existing US 380 roadway. The construction limits extend approximately 2,070 feet, or 0.39 mile, east of FM 1827 and approximately 1,120 feet (0.21 mile) west of CR 560. Construction limits are shown in the

Schematic Layout and Environmental Resources Map in Appendix D and Appendix E-3, respectively.

The total project cost is estimated to be approximately $979.2 million. The project would be funded by state, federal, and local funds.

2.3 Logical Termini and Independent Utility

2.3.1 Logical Termini

Federal regulations require that federally funded transportation projects have logical termini [23 Code of Federal Regulations (CFR) 771.111(f)(1)]. Simply stated, a project must have a rational beginning and endpoint. Those endpoints may not be created simply to avoid proper analysis of environmental impacts. The logical terminus for the US 380 Princeton project is CR 560 to the east and FM 1827 to the west. CR 560 and FM 1827 were determined to be the logical termini because these facilities are considered major crossroads. These facilities have a functional classification of collectors per the North Central Texas Council of Governments (NCTCOG) *Mobility 2045: The Metropolitan Transportation Plan for North Central Texas – 2022 Update* (Mobility 2045 Update) roadway networks (NCTCOG 2022). The proposed project would be a new location realignment, and the existing US 380 facility would remain; therefore, it includes transition zones to and from the existing US 380.

2.3.2 Independent Utility

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 that the project does 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 is of independent utility and reasonable expenditure even if no additional transportation improvements in the area are made, and there are no restrictions on considering alternatives for other reasonably foreseeable projects including those in the Mobility 2045 Update (NCTCOG 2022). As proposed, the project addresses specific transportation needs identified within the project limits. Specifically, the proposed project would improve mobility and safety when compared with existing conditions. The proposed project can stand on its own without the implementation of other traffic improvements because the project provides congestion relief between major cross streets by providing a new location alternative, which satisfies the project's need, and this would be true even if no other roads were built nearby. Because the project stands alone, it cannot and does not irretrievably commit federal funds for other future 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 US 380 Princeton proposed project would not restrict the consideration of alternatives for other foreseeable transportation improvements. Ongoing design coordination has occurred to ensure the proposed project could accommodate projects by others in the area. Other projects within the project limits include improvements to US 380 between Airport Drive and west of Bridgefarmer Road, between west of Bridgefarmer Road and 4th Street, between State Highway (SH) 5 and FM 1827, and between 4th Street and CR 458. The proposed project and these projects are included in the transportation planning documents of the region (TxDOT 2023a, 2023d). See **Appendix A**, **Appendix C**, and **Appendix D** for **Project Location Map**, **Typical Sections**, and **Schematic Layout**, respectively.

2.4 Planning Consistency

The proposed project is included in the NCTCOG Mobility 2045 Update (NCTCOG 2022) and in the Draft 2023-2026 Transportation Improvement Program (TIP) (TxDOT 2023a). The proposed project letting date would be 2027, and the estimated time of completion (ETC) would be 2031.

3 Purpose and Need

3.1 Need

The project is needed because the existing US 380 from CR 560 to FM 1827 (1) offers inadequate capacity to meet the future increase in traffic demand stemming from projected population growth, (2) safety concerns along existing US 380 through Princeton, and (3) the existing facility does not meet current design standards.

3.2 Supporting Facts and Data

3.2.1 Traffic Demand

US 380 through Collin County and the City of Princeton is a heavily traveled US highway that serves as a primary route for both local trips within and trips through Princeton. These roadways can become highly congested during peak volume hours, which can lead to gridlock conditions if there is an incident.

According to the United States Census Bureau (USCB), Collin County and the cities of McKinney, Princeton, and Farmersville experienced robust population growth between 2010 and 2020 (USCB 2022). The City of McKinney population increased by approximately 49 percent from 131,117 persons in 2010 to 195,308 persons in 2020. The City of Princeton population increased by approximately 220 from 6,807 persons in 2010 to 17,573 persons in 2020. The City of Farmersville population increased by approximately 9 percent from

3,301 persons in 2010 to 3,612 persons in 2020. Collin County's population increased by approximately 36 percent from 782,341 persons in 2010 to 1,064,465 persons in 2020. Population growth in the area is shown in Table 3-1. According to NCTCOG, Collin County's population is projected to increase by approximately 68 percent from a Census-documented population of 1,064,465 in 2020 to a forecasted population of 1,789,009 by 2045. The NCTCOG also projects strong employment growth for Collin County in the year 2040. According to NCTCOG, employment in Collin County is projected to increase by approximately 126 percent from 472,000 estimated jobs in 2015 to 1,068,555 jobs in 2045.

Table 3-1. Population Growth

Region	2000	2010	% Change 2000-2010	2020	% Change 2010-2020
Farmersville	3,118	3,301	6	3,612	9
McKinney	54,369	131,117	141	195,308	49
Princeton	3,542	6,807	349	17,573	220
Collin County	491,675	782,341	59	1,064,465	36

Source: USCB. 2000, 2010, 2020; Texas Demographics.

As Collin County population and employment continues to grow, a need to improve east/west mobility, provide safe and efficient transportation that meets current and forecasted demand, and provide connectivity throughout the county is anticipated and identified in the *Farmersville, Texas Comprehensive Plan* (City of Farmersville 2013), the *Princeton, Texas Comprehensive Plan* (City of Princeton 2019b), and the *One McKinney 2040 Comprehensive Plan* (City of McKinney 2018). The need to accommodate increasing traffic capacity is supported through analysis of the future traffic demand that is anticipated to utilize the facility. According to TxDOT Transportation Planning and Programming Division traffic projections, the annual average daily traffic (AADT) along US 380 between CR 560 and FM 1827 is projected to increase by 50 percent by the year 2050.

3.2.2 Safety

Table 3-2, on the following page, shows reported vehicle crash data from 2018 to 2021 for US 380 within the project limits. When compared to the statewide average for urban US Highways (4 or more lanes, divided), the rate of crashes along US 380 are below average for 2018, 2019, 2020, and 2021.

Despite the crash rate being lower by comparison for the US 380, the roadway has a mix of local traffic and through freight traffic that causes varying levels of speed and access issues in the project area. In some sections of the roadway, faster vehicles may need to reduce speed and may not be able to pass slower moving vehicles. Vehicles slowing to turn onto

driveways and cross-roads to access property may also disrupt the flow of traffic hindering mobility for through traffic. Additionally, four-year (2018-2021) historical crash data

Table 3-2. Vehicle Crash Data for US 380 (2018–2021)

Crash Year	US 380 Total Crashes	US 380 Crash Rate *	Statewide Average Crash Rate * on Urban US Highway (4 or more lanes, divided)
2018	132	78.73	170.37
2019	209	124.65	174.67
2020	158	94.24	145.52
2021	219	130.62	169.98

Source: TXDOT 2021b

- Crash rate for the road segments expressed as crashes per 100 million vehicles-miles of travel.

provided by TxDOT's Crash Records Information System (TxDOT 2023g) indicates that crashes within the project limits have occurred from unsafe turning movements, speed, and improper passing. Approximately 269 crashes occurred in the segments between intersections, with 5 percent attributed to driveways. Single-vehicle crashes was the predominant crash type, followed by rear-end crashes. Four fatal crash was reported during the four-year period related to an unsafe turn.

3.2.3 Design Deficiencies (Geometry)

The existing US 380 is a principal arterial roadway; therefore, it does not meet current design standards for the proposed freeway facility. The existing facility has a design speed of 45 MPH with several horizontal and vertical curves that do not meet the 70 MPH freeway design speed. Existing US 380 has raised curb medians, turn lanes, and openings, at-grade signalized intersections, numerous driveways that violate the access control manual requirements, and discontinuous bicycle and pedestrian accommodations, which are now recommended by the US Department of Transportation (USDOT) (USDOT 2010).

3.2.4 Design Deficiencies (Drainage)

The existing drainage is undersized to accommodate design year drainage discharge for a freeway facility. Ditches along both sides of the roadway provide surface drainage from FM 1827 to Tickey Creek, from west of CR 458 to CR 560, and a curb and gutter section between Tickey Creek and west CR 458, which are all undersized. The existing bridges and culverts are undersized for all Federal Emergency Management Agency (FEMA) crossings, Big Branch, Tickey Creek and Tributary 4, Sister Creek Tributaries, and Pilot Creek/Lavon Lake. For further details about surface water in the project area, refer to Section 5.10. For non-FEMA crossings, the existing pipes are also undersized compared with the current TxDOT design standards (TxDOT 2023e).

3.3 Purpose

The purpose of the proposed project is to improve mobility, accommodate future traffic demand, improve safety, and comply with current roadway design standards.

4 Alternatives

4.1 Build Alternative

The Build Alternative as described in Section 2.2 would meet the project's purpose and need. The proposed project would improve mobility and safety by providing an alternate route for traffic in Princeton, thereby reducing congestion and crashes on US 380 within the project limits. The proposed project would be designed per current TxDOT design standards.

4.2 No-Build Alternative

The No-Build Alternative consists of leaving US 380 as it is today, without a new location realignment. The No-Build Alternative would not require the conversion of proposed ROW for transportation use. However, under the No-Build Alternative, design deficiencies would not be addressed, and the anticipated traffic demand would not be met. Mobility and operational efficiency would not be improved. The No-Build Alternative would not construct the new location realignment following the latest design standards or increase capacity; therefore, it would not improve mobility or meet anticipated future traffic demand. The No-Build Alternative would not meet the purpose of and need for the project.

The No-Build Alternative is carried forward throughout the document as a baseline comparison to the Build Alternative.

4.3 Preliminary Alternatives Considered but Eliminated from Further Consideration

In the spring of 2020, TxDOT completed a feasibility study that evaluated conceptual alternatives for US 380 in Collin County (TxDOT 2020). During the alignment evaluation process, TxDOT considered many factors and constraints, which included engineering analysis, traffic analysis, safety and crash data, ROW requirements, existing and planned residential and commercial developments, and environmental constraints, among others. Alignments were eliminated from consideration if they did not address the problems (needs) identified in the feasibility study.

TxDOT conducted further evaluations and reduced the number of alignments to two alignments with options that minimized environmental impacts (referred to as the "Red" and "Green" alignments). The "Green" alignment follows the existing US 380, while the "Red" alignment is on new location. These alignments were presented to the public during the second series of public meetings in the fall of 2018. Following the fall 2018 public meetings, TxDOT presented the recommended alignment and results of additional studies during the third series of public meetings held in the spring of 2019. In the feasibility study,

TxDOT recommended the "Red" alignment for the US 380 segment between FM 1827 and CR 560 because it would result in fewer residential and business relocations and would cost less compared to the "Green" alignment. TxDOT identified an 8 to 10 lane divided freeway (4 to 5 lanes in each direction) alternative to be carried forward to schematic refinement, public involvement, and detailed environmental evaluation processes. The alternative represents the reasonable alternative and corresponds to the Build Alternative in this report. In June 2020, TxDOT began the project's design schematic, detailed alternatives analysis, and environmental studies. Two steps were completed from 2020 through 2022 to study the alternatives. Each alternative and its refinements considered the project purpose and need, critical constraints, and stakeholder engagement.

During the development of the alternatives between 2020 and 2022, TxDOT held biweekly stakeholder meetings with the city of Princeton and Collin County and coordinated with the US 380 McKinney, Spur 399 Extension, and US 380 Farmersville projects and the cities of McKinney and Farmerville to ensure consistency and connectivity in the county-wide corridor design.

During the first step of the alternatives analysis, TxDOT reviewed refinements to the recommended alignment determined during the feasibility study. Also, TxDOT conducted field reconnaissance from publicly accessible locations, constraints map development, stakeholder meetings, and detailed evaluations.

During the next step of the alternative analysis (Step 2), a detailed evaluation of the Refined Alignments, including Options A and B, was conducted. A schematic design was developed, field reconnaissance was carried out, and a detailed review of existing and proposed commercial development in the area was performed. A detailed evaluation matrix (**Evaluation of Alignments Matrix** in **Appendix A, Exhibit 2**) was utilized for the evaluation process. Publicly available data was reviewed by TxDOT to access the rapid development of residential subdivisions in order to minimize impacts to existing and reasonably foreseeable proposed residential and commercial developments. The Option A alignment would cross predominantly through the Princeton Crossroads subdivision, while the Option B alignment slightly north of Option A would cross predominately through the USACE WMA property (refer to the **Project Location Map** in **Appendix A, Exhibit 3**). The impacts that each option would have on the human and natural environment were evaluated using a combination of desktop research and field investigations where right-of-entry was available. Major environmental constraints considered in the option development included:

- residential and commercial displacements
- community facilities
- threatened and endangered species habitat
- riparian corridors
- water features
- 100-year floodplains

- cultural resources (including archeological sites and historic properties)

Engineering factors considered included constructability, cost, and the Refined Alignment's ability to meet the project's need and purpose. Due to varying environmental and engineering constraints, these two alignment options were presented at a public meeting on August 2, 2022.

During previous communications with the USACE, opposition to Lavon Lake property encroachment was expressed during the feasibility study and Steps 1 and 2. TxDOT addressed these concerns in a September 13, 2021, letter to Collin County, leading to ongoing coordination. Subsequent discussions, including a July 13, 2022, letter, outlined considerations and led to the development of a MOA executed on May 15, 2023. Following the August 2, 2022, public meeting, TxDOT continued coordination with the USACE and held a meeting on September 22, 2022, to present the alignments illustrated in **Appendix A, Exhibit 3**. Discussions in a September 22, 2022, meeting focused on aligning with existing transportation and utility corridors identified in the 2016 Lavon Lake Master Plan. The project kick-off meeting on July 20, 2023, reiterated the USACE's request for further alignment studies, including those avoiding impacts to wildlife management areas and the Princeton Crossroad subdivision. These discussions and evaluations constitute Step 3 of the project, with Alternatives 1 and 2 representing Refined Alignments Option A and Option B, and Alternatives 3 through 8 resulting from discussions with USACE, exploring various alignments to address environmental and community concerns (refer to the **Alignment Alternatives Map** in **Appendix A, Exhibit 4**). A detailed evaluation matrix (**Evaluation of Alignment Alternatives Matrix** in **Appendix A, Exhibit 5**) was utilized for the evaluation process. A detailed analysis on USACE property can be referred to in both **Appendix G, Section 4(f) Documentation** and **Appendix J, Study On Properties Managed by the USACE**.

The eight preliminary build alternatives considered, and the reasons for their elimination from further consideration, are detailed below:

Alternative 1

From a transportation demand and mobility perspective, Alternative 1 and Alternative 2, most thoroughly meets the purpose and need of the proposed project because it is projected to carry the highest volume of traffic (82,542 vpd), and best accommodates future traffic demand and improves mobility better than Alternatives 3 through 8. It largely follows the alignment recommended from the 2020 Feasibility Study which received consensus from various local and county municipality. This alternative has the third lowest construction cost ($1.56 billion) among the eight alternatives and is the second shortest in length at 11.9 miles. Alternative 1 involves the use of multiple section 4(f) properties, and although it minimizes impacts to the USACE WMA relative to Alternative 2, it would displace a total of 62 residences, including 45 homes in the Princeton Crossroads subdivision. This alternative has the second most impacts to various established communities, Alternative 1 is not seen

as a prudent alternative under Section 4(f) regulations and is therefore eliminated from further study.

Alternative 2

Similar to Alternative 1, Alternative 2 best meets the purpose and need of the project because it is projected to carry the highest volume of traffic (82,542 vpd). It accommodates future traffic demand and improves mobility better than Alternatives 3 through 8. Alternative 2 has the fourth lowest construction cost ($1.6 billion) among the eight alternatives and is the shortest in length at 11.7 miles. Alternative 2 has the least impacts to established businesses and residential neighborhoods among all the alternatives. It avoids dividing an established subdivision, Princeton Crossroads; however, it does increase encroachment into USACE wildlife management area adjacent to Princeton Crossroads, comparing to Alternative 1. It still involves the use of other Section 4(f) properties such as Caddo Park and Twin Groves Park like Alternative 1, it Since this alternative would have the least amount of disruption to established communities, Alternative 2 is being carried forward for further consideration.

Alternative 3

Alternative 3 is projected to carry 65,208 vpd, 21 percent fewer vehicles than Alternatives 1 and 2. It is much less effective at accommodating future traffic demand and improving mobility than either Alternative 1 or Alternative 2. Compared to the other alternatives, Alternative 3 would carry the third lowest volume of traffic. This alternative has an estimated construction cost of $2.22 billion, the second highest cost among the eight alternatives and $600 million more than the lowest cost alternative. Alternative 3 is the second longest route (17.3 miles) compared to the other alternatives. This alternative avoids causing displacements in the Princeton Crossroads neighborhood and minimizes the use of Section 4(f) properties to the greatest extent (along with Alternative 5) comparing to the other alternatives. Although it would cross the USACE Lavon Lake property along a designated transportation corridor, it would still require the conversion of 46 acres of the property (11 acres of WMA and 35 acres of Environmentally Sensitive Area). Alternative 3 is therefore not a true Section 4(f) avoidance alternative. Furthermore, Alternative 3 would involve new location roadway improvements to the east of CR 560, the logical terminus of the proposed project.

In addition, Alternative 3 termini is located at nearly mid-way of the US 380 Farmersville project, which has a different purpose and need than this current project. Alternative 3 is not consistent with the purpose and need for this current project because it would extend beyond the project limits. Right of way acquisition for the US 380 Farmersville project has already begun and offers have been made to the property owners starting October 2023. It would be unreasonable for TxDOT to proceed with Alternative 3 considering the stated purpose and need for the proposed project. This alternative would also result in additional

construction costs of an extraordinary magnitude, and it would require a NEPA re-evaluation of an already NEPA approved project. Therefore, Alternative 3 is not prudent under Section 4(f) regulations and is therefore eliminated from further study.

Alternative 4

Alternative 4 is projected to carry the second highest volume of traffic (78,415 vpd), 4.9 percent less than Alternatives 1 and 2. This alternative therefore meets the purpose and need of the project better than Alternatives 3 and 5 through 8, and not quite as well as Alternatives 1 and 2, and then veers to the northeast west of CR 463. Alterative 4 continues east and utilizes an existing roadway corridor (FM 1377) to cross the USACE Lavon Lake property before it turns south at CR 561 and utilizes another existing roadway corridor (CR 559) to cross the Lavon Lake property a second time. This crossing of Lavon Lake would require a new bridge outside the dedicated CR 559 corridor due to the horizontal curvature needed to align with existing US 380 across the lake. It would also require construction of a new interchange with existing US 380 and reconstruction of a portion of the existing bridge on the US 380 alignment across Lavon Lake. The construction of the new permanent structure would extend beyond the existing US 380 corridor across Lavon Lake. Alternative 4 would require abandoning portions of multiple existing roadways, including FM 1377, CR 561, and CR 559.

Alternative 4 has the fourth highest construction cost among the eight alternatives ($1.72 billion) and is the third shortest route at 12.1 miles. Alternative 4 avoids causing displacements in Princeton Crossroads neighborhood; however, it would still cause 32 residential displacements, 16 commercial displacements, and one church. Although it avoids impacts to the Princeton Crossroads subdivision, it would still cause more displacements than Alternative 2. Alternative 4 still involves the use of multiple Section 4(f) properties, including the USACE Lavon Lake property, Caddo Park, and the Caddo Park Lavon Lake Historic District, similar to other alternatives. Alternative 4 would require a new crossing of Lavon Lake, overtaking existing CR 559, and construction of a new interchange to connect the proposed project with the existing US 380 facility with permanent structures beyond the footprint of the existing US 380 facility.

Although Alternative 4 crosses the Lavon Lake property through transportation corridors identified in the 2016 Lavon Lake Master Plan, the proposed right of way for the alignment would impact the Lavon Lake WMA, the Lavon Lake Vegetative Management Area, and the Lavon Lake Environmentally Sensitive Area. It would also impact water resources (including potentially six acres of wetlands, 13 streams, and Lavon Lake), and would have minimal impacts to cultural resources and wildlife habitat.

Alternative 4 involves the use of multiple Section 4(f) properties, similar to other alternatives, and is therefore not a true Section 4(f) avoidance alternative. Alternative 4 would require a new US 380 crossing of Lavon Lake, along the existing CR 559 alignment.

To meet current design standards, the construction of a new interchange to connect Alternative 4 with the existing US 380 facility would require extensive permanent bridge column structures beyond the footprint of the existing US 380 facility. The connection of a new bridge crossing of the lake and a new interchange with the existing US 380 alignment would result in severe environmental impacts to Lavon Lake, which is protected under the Federal Water Pollution Control Act (commonly, the Clean Water Act). The connection of a new bridge crossing of the lake and a new interchange with the existing US 380 alignment cannot be built as a matter of sound engineering judgement. Alternative 4 is therefore not a feasible and prudent alternative under Section 4(f) regulations and is eliminated from further study.

Alternative 5

Alternative 5 is projected to carry the second lowest volume of traffic (65,208 vpd), 22.6 percent fewer vehicles than Alternatives 1 and 2. It is therefore much less effective at accommodating future traffic demand and improving mobility than either Alternative 1 or Alternative 2. Alternative 5 has the highest estimated construction cost of among the alternatives at $2.4 billion, which is more than $800 million more than the lowest cost alternative. Alternative 5 is also the longest route of any of the alternatives at 18.9 miles,

This alternative avoids causing displacements in the Princeton Crossroads neighborhood and minimizes the use of Section 4(f) properties to the greatest extent (along with Alternative 3) comparing to the other alternatives. It would cross the USACE Lavon Lake property along the existing transportation corridor in the same location as Alternative 3, and it would still require the conversion of 46 acres of the property (11 acres of WMA and 35 acres of Environmentally Sensitive Area). Alternative 5 is therefore not a true Section 4(f) avoidance alternative. Furthermore, Alternative 5 would involve new location roadway improvements to the east of CR 560, the logical terminus of the proposed project. Alternative 5 would completely bypass the City of Farmersville and the NEPA approved US 380 Farmersville project, which had a different purpose and need compared to this current project. Alternative 5 would not be consistent with the purpose and need of the current project because it would extend beyond the project limits. Right of way acquisition for the US 380 Farmersville project has already begun and offers has been made to the property owners starting October 2023.

It would be unreasonable for TxDOT to proceed with Alternative 5 in light of the stated purpose and need for the proposed project. This alternative would also result in additional construction costs of an extraordinary magnitude, and it would require a NEPA re-evaluation of an already NEPA approved project. Therefore, Alternative 5 is not prudent under Section 4(f) regulations and is therefore eliminated from further study.

Alternative 6

Alternative 6 is projected to carry 72,967 vpd, the fourth highest traffic volume of the alternatives and 11.6 percent lower than Alternatives 1 and 2. This alternative is less effective at accommodating future traffic demand and improving mobility than Alternatives 1, 2, and 4 and more effective than Alternatives 3, 5, 7, and 8. Alternative 6 has the third highest estimated construction cost among the eight alternatives ($2.09 billion), which is $500 million more than the lowest cost alternative, and is the third longest route at 15.7 miles. Alternative 6 avoids causing displacements to the Princeton Crossroads neighborhood; however, it would still displace 43 residential homes and 16 businesses. This alternative does minimize the use of Section 4(f) properties comparing to the other alternatives. This alternative crosses the USACE Lavon Lake property in two separate locations and would require the conversion of 102 acres (71 acres of WMA, 12 acres of Environmentally Sensitive Area, and 19 acres of High-density Recreation Area). One of the crossings of the USACE Lavon Lake property is along a utility corridor, identified in the Lavon Lake Master Plan, that is not intended for transportation use according to the USACE. This would therefore be considered a new location roadway crossing of Lavon Lake. Alternative 6 would also include new location roadway improvements to the east of CR 560, the logical terminus of the proposed project. Like Alternative 3, this alternative's east terminus is located at nearly mid-way of the US 380 Farmersville project, which had a different purpose and need than this current project. Alternative 6 is not consistent with the purpose and need for this current project because it would extend beyond the project limits. Right of way acquisition for the US 380 Farmersville project has already begun and offers have been made to the property owners starting October 2023. It would be unreasonable for TxDOT to proceed with Alternative 6 considering the stated purpose and need for the proposed project. This alternative would also result in additional construction costs of an extraordinary magnitude. Therefore, Alternative 6 is not prudent under Section 4(f) regulations and is therefore eliminated from further study.

Alternative 7

Alternative 7 is the least effective among the eight alternatives in meeting the purpose and need of the proposed project because it would carry the least amount of traffic (61,907 vpd). It does not accommodate future traffic demand and improving mobility relative to the other alternatives. Alternative 7 has the second lowest estimated construction cost of the eight alternatives at $1.52 billion and is the fourth longest route at 14.1 miles. This alternative avoids causing displacement in the Princeton Crossroads neighborhood; however, it would still displace 37 residences and 37 businesses. In addition, it would cause a substantial number of residential and commercial displacements in platted subdivisions currently under construction in the southern part of Princeton.

Alternative 7 would impact a total of 50 acres of the USACE Lavon Lake property and require the use of multiple other Section 4(f) properties. Due to the proximity of the route to the

future FM 546 project by Collin County, it would carry substantially fewer vehicles in the future comparing to Alternative 1 and Alternative 2 because of a redundant planned transportation corridor in the southern limit of the city. This alternative is not prudent under Section 4(f) regulations because it would cause severe social and environmental impacts and severe disruption to established communities due to requiring substantially more displacements than other alternatives. For these reasons, Alternative 7 is eliminated from further study.

Alternative 8

Alternative 8 would carry the fourth lowest volume of traffic (66,034 vpd) and is therefore much less effective at meeting the purpose and need than Alternatives 1, 2, 4, and 6. Alternative 8 has the lowest estimated construction cost of the eight alternatives at $1.38 billion and is the fourth shortest route at 12.5 miles. This alternative avoids displacements in the Princeton Crossroads neighborhood; however, it would still displace 66 residences and 37 businesses along the other part of the alignment corridor, bisect platted subdivisions currently under construction in the southern part of Princeton, and result in a substantial number of residential and commercial displacements.

Alternative 8 would impact a total of 50 acres of the USACE Lavon Lake property and require the use of multiple other Section 4(f) properties. Due to the proximity of the route to the future FM 546 project by Collin County, it would carry substantially fewer vehicles in the future comparing to the best performing alternative because of a redundant planned transportation corridor in the southern limit of the city. This alternative is not prudent under Section 4(f) regulations because it would cause severe social and environmental impacts and severe disruption to established communities due to bisecting a neighborhood and requiring substantially more displacements than other alternatives. For these reasons, Alternative 8 is eliminated from further study.

As previously mentioned, six alternatives based on USACE consultation were evaluated in addition to Alternatives 1 and 2. Desktop review and field work were completed in order to identify and evaluate environmental constraints associated with each of the primary build alternatives. Major environmental constraints considered in the evaluation included residential, commercial, and community facility displacements; the use of Section 4(f) properties; and impacts to water resources, wildlife habitat, and cultural resources (including archeological sites and historic properties).

The primary build alternative is described below, along with their associated environmental constraints, which are summarized in **Appendix A, Exhibit 5.**

Following the evaluation of the eight build alternatives, it was decided to carry Alternative 2 forward for further evaluation and eliminate the Alternatives 1 and 3 through 8 from further consideration due to potential adverse impacts on established communities due to bisecting neighborhoods, bisecting platted subdivisions currently under construction, and affecting a

substantial number in both residential and commercial displacements. Alternative 2 would have the least impacts to established businesses and residential neighborhoods among all the alternatives and would avoid dividing an established subdivision, Princeton Crossroads.

The Alternatives Evaluation Report is currently available for review at the TxDOT Dallas District.

5 Affected Environment and Environmental Consequences

In support of this EA, the following documents were prepared and are currently available for review at the TxDOT Dallas District:

- Congestion Management Process Disclosure Statement
- Mobile Source Air Toxics (MSAT) Technical Report
- Transportation Conformity Report Form (in progress)
- Species Analysis Form
- Species Analysis Summary Spreadsheet
- Documentation of Texas Parks and Wildlife Department (TPWD) Best Management Practices
- Surface Water Analysis Form
- Water Features Delineation Report
- Community Impacts Assessment Technical Report Form
- Hazardous Materials Initial Site Assessment (ISA)
- Indirect Effects Technical Report
- Cumulative Effects Technical Report
- Archeological Background Study
- Antiquities Permit Application Form – Archeology
- Texas Historical Commission (THC) Permit
- Archeological Survey Interim Report
- Project Coordination Request for Historical Studies Project
- Historical Studies Research Design
- Historical Resources Survey Report
- Traffic Noise Analysis Report
- Farmland Conservation Impact Rating Form
- Public Meeting Summary (2022)
- Study On Properties Managed by the USACE, Alternatives 3, 4, and 5

In 2023, the project's geometric schematic design underwent modifications in October. These changes to the proposed project's ROW limits and acreages to the proposed project were made to accommodate adjustments for access, drainage, and design modifications. The Addendum to Environmental Technical Reports includes any changes to the results to the documents referenced above. This Addendum is currently available for review at the TxDOT Dallas District.

5.1 Right-of-Way/Displacements

The proposed ROW width varies from approximately 320 to 536 feet. The proposed project would require approximately 396 acres of proposed ROW, and 25.06 acres of permanent easement (USACE property). The proposed project and current usage shall be in accordance with the USACE operation and real estate management regulations and policy. The proposed ROW would be necessary to accommodate the ultimate facility, including proposed pavement width, side slope grading, existing terrain, cross drainage structures, utilities, and property access. TxDOT would be responsible for these property acquisitions. The **Schematic Layout** in **Appendix D** provides further detail.

The potential displacements, shown in the **Resource-specific Maps** in **Appendix E**, include 17 businesses (Progressive Water Treatment, Inc., Parkway Auto Sales, Collin County Truck Parts and Drive Shaft Services, Big City Tire, C & E Auto Sales, J&J Tires, Auto Hail Repair Group, Roy Miller Auto Salvage, Mecanica General, Felix Auto Care, Red River Auto and 4-Wheel Drive, Pretty Polished Paw, Mixed Use Residential/Commercial, Danco Excavation, Lonestar Sheds, JXN Trucks Trailers Equipment, LLC, and A & A Landscape Irrigation); 18 single-family residences; and a non-residential/non-commercial property (Apostolic Church of Jesus Christ located in McKinney, Texas). The Community Impacts Assessment Technical Report Form includes more information on these potential displacements.

TxDOT will provide relocation assistance. The ROW acquisition and relocation process will be conducted in accordance with the Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970.

The No-Build Alternative would not result in displacements; no acquisitions of proposed ROW and no proposed easements would be required.

5.2 Land Use

The project is in a developing area north of existing US 380 in the City of Princeton. Land use in the project area is primarily agricultural and ranchland in the northern portion; however, the area is quickly developing with several existing and planned residential developments underway. Existing residential areas can be found along both sides of US 380 in the City of Princeton. Large areas of newly built single-family residential developments are within the City of Princeton. These residential developments consist of subdivided tracts of land that includes high-density single residences with demonstrated unifying characteristics, including similar housing styles, lot size, and shared access along the dedicated local streets within the subdivision.

The land use is generally urban (commercial properties and some residential properties) at both the west and east termini. Commercial properties include auto repair shops, retail commercial businesses, and gas stations. An electrical substation occurs near the eastern project terminus. The remainder of the project and surrounding area is generally rural in

nature; however, there is extensive development pressure on the north and east sides of the City of Princeton, resulting in the rapid development of residential subdivisions.

Community facilities are present along the existing alignment of US 380 including the Apostolic Church of Jesus Christ near the western terminus of the project, the recently constructed Princeton City Hall east of CR 458, and the Princeton Police Training Facility near CR 492. Several schools are located within the study area in the City of Princeton, including Lovelady High School and Princeton High School, adjacent to CR 458. In addition, two USACE-owned parks are located immediately adjacent to the existing US 380 alignment. These are Twin Groves Park located on the western shore of Lavon Lake and Caddo Park located on the eastern shore of Lavon Lake. In addition to the two parks, the project would cross USACE Lavon Lake property that is designated as a WMA and used for recreational purposes. Impacts to Twin Groves Park, Caddo Park, and the WMA are discussed further in Section 5.9 and Appendix J.

According to the City of Princeton Future Land Use map, growth and highway commercial development is anticipated along the proposed project (City of Princeton 2019a). Land use within the proposed ROW would change from agricultural, residential, open space, or commercial to transportation use. Potential indirect impacts on land use resulting from the proposed project are discussed in more detail in Section 5.15.

The Build Alternative would directly convert approximately 396 acres of proposed ROW north of the existing US 380 from mostly agricultural/undeveloped land to highway ROW (transportation use).

The No-Build Alternative would not require proposed ROW; therefore, it would not result in the conversion of land into transportation uses.

5.3 Farmlands

The Farmlands Protection Policy Act (FPPA) of 1981 requires a farmland impact evaluation for applicable, federally funded projects. The purpose of the FPPA is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The FPPA protects prime, unique, or statewide/locally important farmland. It is TxDOT's policy to comply with the FPPA in accordance with the Natural Resources Conservation Service (NRCS) policy for implementing the act and for soliciting approval of transportation projects through the NEPA process.

According to NRCS, approximately 287.25 acres of prime farmland soils are located within the project limits (NRCS 2018). An additional 29.02 acres with soil classified as farmland of statewide importance are included.

The proposed project would convert farmland subject to the FPPA to non-agricultural, transportation use. A Farmland Conservation Impact Rating Form NRCS-CPA-106 was completed in November 2022 resulting in a score of 60 points on Part VI of the form.

Therefore, coordination with NRCS was required and initiated November 22, 2022. Per an NRCS email dated November 29, 2022, the rating of the site is 147. The FPPA states that sites with a rating less than 160 will need no further consideration for protection and no additional evaluation is necessary. Coordination documents, including the **NRCS-CPA-106 Form**, are included in **Appendix F**.

The No-Build Alternative would not require proposed ROW and therefore, it would not result in impacts to farmlands subject to the FPPA.

5.4 Utility Relocation

It is reasonably foreseeable that utilities would be relocated as a result of this project. The impacts resulting from removal of any utilities from within existing highway 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 in this EA.

Several utilities are present within the project limits. Based on the proposed design, utility relocations would be required throughout the project; however, these relocations would have minimal impacts to residences and businesses. Utility crossings and potential parallel conflicts include water lines, gas service lines, three natural gas pipelines, sewer lines, fiber optic and overhead electric. Utility agreements and notice to owners would be required for this project. Conflicting utilities would be either adjusted or relocated prior to the construction of the proposed project using standard TxDOT procedures. Access to private utility services will be maintained as part of the proposed project. Specific adjustments will be identified during the preparation of the construction plans.

No ROW impacts to public facilities are anticipated from the Build Alternative. There are no police stations, fire stations or hospitals adjacent to the proposed project. Police and fire departments are located within the city limits of McKinney, Princeton, and Farmersville. Because the new location realignment of US 380 is over 1 mile north of the existing US 380, the proposed project is not anticipated to result in direct impacts on local response times. In the event emergency responders need to pass through Princeton, the proposed project would improve response times by providing an alternate route around the city. This, in conjunction with continuous frontage roads included as part of the Build Alternative, would further benefit response times by providing ample opportunities to avoid traffic backups in the region.

Under the No-Build Alternative, current conditions would remain; therefore, emergency response times would not change. However, there would not be an alternate route available and consequently no improvement on response times in the event emergency responders need to pass through Princeton. An increase in traffic demand, over time, would result in traffic congestion within the project limits, which could result in increases in emergency response times. The No-Build Alternative would not result in utility relocations.

5.5 Bicycle and Pedestrian Facilities

The *U.S. Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations* (USDOT 2010) provides guidance on incorporating pedestrian and bicycling facilities into transportation projects. The policy guidance encourages local planning authorities to implement planning and incorporate design features to facilitate increased pedestrian and bicycling activity. In accordance with this policy, TxDOT proactively plans, designs, and constructs facilities to safely accommodate bicyclists and pedestrians.

Additionally, the Mobility 2045 Update includes policies, programs, and projects that support a range of mobility options such as bicycle and pedestrian facilities (NCTCOG 2022). Improving roadway design to accommodate bicycles and pedestrians can help reduce accidents and injuries.

The proposed project would include bicycle and pedestrian accommodations in compliance with TxDOT's *Bicycle Accommodation Design Guidance* (TxDOT 2021a). This guidance implements USDOT and FHWA policy regarding bicycle and pedestrian accommodations. The proposed project would include a 10-foot shared-use path along the outside of the proposed eastbound and westbound frontage roads. Sidewalks would be at cross streets and would be constructed in accordance with Americans with Disabilities Act (ADA) guidelines.

Under the No-Build Alternative, no bicycle and pedestrian facilities would be implemented.

5.6 Community Impacts

A community impacts assessment for the proposed project includes analyses of regional and community growth; public facilities and services; potential ROW acquisitions, easements, displacements, and relocations; community cohesion; Limited English Proficiency (LEP) population impacts; and EJ population impacts. Refer to the Community Impacts Assessment Technical Report Form for detailed information on the socioeconomic resource analysis prepared for the project.

5.6.1 Displacements

Sixteen commercial businesses would potentially be displaced. The businesses that may be potentially displaced include the Progressive Water Treatment, Inc., Parkway Auto Sales, Collin County Truck Parts and Drive Shaft Services, Big City Tire, C & E Auto Sales, J&J Tires, Auto Hail Repair Group, Roy Miller Auto Salvage, Mecanica General, Felix Auto Care, Red River Auto and 4-Wheel Drive, Pretty Polished Paw, Mixed Use Residential/Commercial, Danco Excavation, Lonestar Sheds, JXN Trucks Trailers Equipment, LLC, and A & A Landscape Irrigation. These businesses may need to close or relocate.

One community facility would potentially be displaced (Apostolic Church of Jesus Christ located in McKinney, Texas) along the proposed project. The Apostolic Church of Jesus Christ is located on an approximate 1.0-acre parcel. The proposed project would potentially

displace two structures located on the parcel and may require the acquisition of the total parcel. Coordination with the church has been initiated and is ongoing.

Eighteen single-family residences would be displaced as a result of the proposed project. The alignment is located within USACE property and would not require any displacements within the Princeton Crossroads development; therefore, the proposed project would displace fewer residences by avoiding the Prince Crossroads subdivision. Residential, commercial, and utility facilities of comparable type, size and value are available for purchase within the study area.

5.6.2 Access and Travel Patterns

The proposed project would be a new location roadway; therefore, access and travel patterns within the study area would be altered by the proposed project. Users of US 380 south of the proposed project would no longer be able to directly access a section of US 380 west of CR 337, and vice versa, because the section of US 380 within the proposed area would be removed. The proposed project would relocate the section of US 380 with proposed access road approximately 0.3 mile west of CR 337 to align with the new proposed West Princeton Drive onto the existing US 380 roadway.

Users of US 380 east of the proposed project would no longer be able to directly access a section of US 380 west of CR 490, connecting to the Proposed East Princeton Drive and east of CR 490 relocating approximately 1.7 miles of roadway along US 380.

Implementation of the proposed project would result in changes of access to and from US 380 within the proposed project limits. Changes in access and travel patterns would likely result from the introduction of the controlled-access facility in rural portions of the project on new location areas and introduction of shared-use paths for the length of the proposed project. Users of the existing US 380 would continue to have access where the route does not change, and the roadway would still be considered US 380. Access would change at the beginning of the project at the Proposed Access Road and West Princeton Drive, and at East Princeton Drive east of the Princeton Crossroads subdivision. The roadway would be maintained and provide the same access points.

Access would be reduced for travelers who need to travel to roads that the proposed project would cross. Travelers would need to turn right onto the US 380 frontage roads, drive to an interchange area, make a U-turn, and turn onto the road from the frontage road from the other direction. Travelers would need to find alternative routes to properties that would be cut off by the proposed US 380 roadway.

Adverse impacts could include travelers from outside of Princeton bypassing the area, leading to loss in revenue for the city. As the city continues to grow, new access would be created with the proposed improvements and new residential, commercial, and industrial opportunities exist in properties along the new location. Sidewalks and shared used paths

are also proposed as part of the project to allow pedestrians and bicyclist safe routes along the corridor and to other parts of the communities.

5.6.3 Community Cohesion

The proposed project corridor is primarily located in a rural, developing area. The US 380 Princeton project has been identified in transportation planning efforts for a number of years and the majority of newly constructed and planned subdivisions were designed to accommodate and have access to the proposed US 380 Princeton corridor.

The proposed project would be adjacent to the existing/platted/planned subdivisions of Whitewing Trails, Princeton Landmark, Sicily, Balu Mahi, Monticello Park, Princeton Heights, Princeton 83, Princeton Crossroads, Walton Tract, Princeton Lakes, Dimauro, and Harvest Point.

The proposed project would not directly or indirectly separate or isolate a group of people. The proposed project would increase mobility throughout the community study area by providing an east-west controlled -access freeway with frontage roads for the growing community. The alignment would be located within USACE property and would not require any displacements within the Princeton Crossroads development. Those living between former US 380 and the new roadway would not be enclosed by high-speed roadways. Cars are the primary mode of transportation within the study area and the proposed project would not permanently remove any access for cars within the study area.

As the majority of the community study area and the land adjacent to the proposed project is rural, the overall impacts to the community cohesion would be beneficial as there would be more direct access between the northern and southern portions. Community cohesion would also be improved due the addition of shared-use paths that would allow for pedestrians and bicyclists to use the facility where there is currently no infrastructure for these modes.

5.6.4 Environmental Justice

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations (February 11, 1994), requires each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” FHWA has identified three fundamental principles of EJ:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low income populations;
- To ensure the full and fair participation by all potentially affected communities in the decision-making process; and

- To prevent the denial of, reduction in, or substantial delay in the receipt of benefits by minority and low-income populations.

FHWA defines disproportionately high and adverse human health or environmental effects as those that:

- Are predominantly borne by a minority population and/or a low-income population; or
- Will be suffered by the minority population and/or low-income population and are appreciably more severe or greater in magnitude than the adverse effects that will be suffered by the non-minority population and/or non-low-income population.

Information was compiled using USCB American Community Survey 5-year estimates for 2016-2020 and the 2020 Census. Census areas partially or wholly contained within the proposed project represent the project study area for this analysis.

The proposed project would potentially displace 18 single-family residences, 16 commercial properties, and a non-residential/non-commercial property as a result of the proposed project. The proposed project is located within USACE property and would not require any displacements within the Princeton Crossroads development. Potentially displaced businesses do not serve a specific population.

Twenty-three displacements are located in EJ census geographies on or adjacent to the proposed project. Fifteen commercial displacements would occur in Block Group (BG) 3 Census Tract (CT) 310.03 Blocks 3021, 3029, 3030, 3031: and BG 2 CT 310.05 Block 1004. Seven residential displacements would occur in BG 3 CT 310.03 Blocks 3021, 2030, and 3031: BG 1 CT 310.05 Blocks 1001, 1004. A church displacement (Apostolic Church of Jesus Christ) would occur in BG 3 CT 310.03 Block 3030. The remaining displacements would occur in non-EJ geographies.

There would be no negative access and/or travel patterns impacts to the minority populations in the EJ census geographies. Access and/or travel pattern impacts in the area would benefit minority populations in that area by providing alternative travel options.
Limited English Proficiency

LEP persons within the community study area predominantly speak Spanish, with some speaking other Indo-European and Asian and Pacific Island languages. Reasonable steps have been, and will continue to be, taken to ensure LEP persons have meaningful access to the programs, services, and information TxDOT provides. Meeting notices as well as meeting materials were provided in both English and Spanish. Interpreters were not requested but will continue to be available, if requested, for all future meetings. The public hearing legal notice will also be provided in traditional Chinese to the Kalachakra Buddhist Meditation Center, and Chinese interpreters may be provided if requested.

Based on the information provided in this analysis, the proposed project would not result in disproportionately high and adverse impacts to EJ populations. The proposed project would

maintain the existing community cohesion of the Cities of McKinney, Princeton, and Farmersville and would result in mobility and access improvements that would equally benefit both EJ and non-EJ populations.

The No-Build Alternative would neither result in displacements, nor would it result in mobility and access improvements that would equally benefit both EJ and non-EJ populations.

5.7 Visual/Aesthetic Impacts

Section 136 of the Federal Aid Highway Act of 1970 (Public Law 91-605) requires consideration of aesthetic values in the highway planning process.

The proposed project would include a new location realignment with elevated bridge sections that would alter existing views at these specific areas. Obstructed views would occur at grade-separated roadways and overpasses that would be approximately 15 to 20 feet above ground. US 380 overpasses would be constructed at CR 337, Future CR 404, Future Princeton Parkway, FM 75, FM 1377, CR 458, East Princeton Drive, Twin Groves Park Road/Future Road, and Caddo Park Road. Overpasses would also be constructed over the Big Branch, unnamed tributaries of Tickey Creek, unnamed tributary of Pilot Grove Creek, Tickey Creek, and floodplains.

The view towards the new roadway would be nondescript and span to the other side of the facility. The views from the road would generally be of open fields and farmland. Parts of the cities of McKinney, Princeton, and Farmersville would possibly be visible, though partially obscured by scattered tree cover. The proposed project would change the views and setting from the existing conditions within the project limits where there is currently no roadway. The proposed bridges would block existing views, resulting in moderate visual impacts. The overall benefit from the bridges would outweigh the potential visual impacts by minimizing floodplain and Waters of the U.S. impacts. Considering the overall benefits from the proposed bridge structures, it is anticipated that the improvements would outweigh the overall visual impacts resulting from the proposed project. The views to and from the existing US 380 would not change.

The main visual impact of the proposed project is the construction of a new highway within a mostly undeveloped rural area. Aesthetic treatments will be applied to help mitigate any adverse visual impacts. The proposed project will apply aesthetic treatments to the proposed structures. Urban design concepts will be developed to help blend the project into the adjacent communities. Additional aesthetic design concepts could be incorporated into the project if additional funding from local governments, interest groups, and organizations could be secured. Additional features such as railings and lighting would be at the discretion of the local jurisdictional areas along the project corridor. Aesthetic improvements associated with the proposed project will follow current TxDOT aesthetic guidelines and will be equal to or improve the existing conditions. In July 2022, a meeting was held with the City

of Princeton to discuss potential aesthetic treatments. The aesthetic preliminary concepts will be available at the public hearing for review and comment.

The No-Build Alternative would not change the existing visual and aesthetic qualities of the project area.

5.8 Cultural Resources

Evaluation of impacts to cultural resources has been conducted under Section 106 of the National Historic Preservation Act of 1966 (NHPA) in accordance with the Programmatic Agreement (PA) among FHWA, TxDOT, the Texas State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings.

At the time of this EA, not all parcels that intersect the project area were field delineated for cultural resources due to lack of right-of-entry (ROE). Fieldwork will be completed after further ROW acquisition.

Cultural resources are structures, buildings, archeological/historic 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, among others, apply to transportation projects such as this one. In addition, state laws such as the Antiquities Code of Texas (ACT) apply to this project. Compliance with these laws often requires consultation with the 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

The purpose of the archeological survey is to ensure compliance with Section 106 of the NHPA, as amended, and the ACT. An inventory of archeological resources (as defined by 36 CFR 800.4) was conducted within the proposed project area to identify and evaluate any identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP), as per Section 106 (36 CFR Part 800), or for designation as State Antiquities Landmarks (SAL) under the ACT and Texas Administrative Code (TAC), Title 13, Chapter 26 (13 TAC 26).

Much of the ROE for the proposed project was denied during the development of this EA. Shovel tests would need to be completed prior to initiation construction. TxDOT would complete the remaining shovel tests (and deep trenching if needed) after TxDOT has acquired the ROW for the proposed project. TxDOT would coordinate with the THC if any additional sites are found. Following the completion of surveys, in the event unanticipated archeological deposits are encountered during construction, work in the immediate area will

cease, and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.

The Archeological Background Study was completed in October 2022 (TxDOT 2022a), which recommended that an archeological survey be conducted throughout the proposed ROW within the area of potential effects (APE). Recommended investigations consisted of intensive pedestrian survey supplemented by shovel testing. Mechanical excavations were recommended in areas determined to contain deep deposits along the drainage crossings.

The intensive archeological survey consisted of a pedestrian visual inspection and photographic documentation of the existing ROW and proposed ROW parcels exhibiting heavy disturbances. Within the parcels recommended for survey, in accessible areas where ROE was granted, the investigations included visual inspections of the proposed ROW APE, supplemented with the excavation of 187 shovel tests in areas exhibiting intact soils. The archeological investigations performed for the project were conducted under Texas Antiquities Permit Number 30911, issued November 16, 2022.

Project archeologists conducted an intensive archeological survey of the project area between December 12 and December 23, 2022, with additional investigations conducted between September 5, 2023, and October 20, 2023, to identify possible cultural resources within the APE. No archeological sites were identified within the APE, and no artifacts were collected as this was a non-collection survey. No archeological resources were identified that meet eligibility requirements for designation as a SAL according to 13 TAC 26, or for listing in the NRHP under 36 CFR 60.4.

A phased approach is being implemented for the survey effort to comply with Section 106, as provided for in 36 CFR 800.4(b)(2). Given the phased nature of the survey and reporting, the interim report presented the results of the initial phase of the intensive-level archeological resources survey conducted as of December 23, 2022 (TxDOT 2023b). Appendix J includes the investigations conducted between September 5, 2023, and October 20, 2023. Subsequent survey and reporting will be required; thorough investigation of areas not surveyed during these investigations as a result of the lack of ROE, shall be completed after ROW is purchased and before construction begins.

The proposed project is currently 11 meters (37 feet) southeast of the Johnson Cemetery, located south of the intersection of CR 405 and CR 406. If the final design is within 75 feet of the cemetery, ground truthing by scraping will be conducted within the proposed ROW to ensure no unmarked burials are within 75 feet of all areas of ground disturbing activities during construction. The Archeological Background Study Report, Antiquities Permit Application for Archeology, THC Permit, and Archeological Survey Report prepared for the proposed project are available at the TxDOT Dallas District office.

Consultation with federally recognized Native American tribes was initiated on February 10, 2023, with a 30-day review period ending on March 10, 2023. See **Appendix F** for tribal coordination documentation.

If unanticipated archeological deposits are encountered during construction, work in the immediate area will cease and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.

Under the No-Build Alternative, construction of the proposed project would not occur; therefore, there would be no project-related impacts to archeological resources.

5.8.2 Historic Properties

A historic resources reconnaissance survey of architectural and engineering resources located along the US 380 project was conducted to identify historic-age resources in compliance with Section 106 of the NHPA. 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 reconnaissance survey report included data concerning resources constructed in or prior to 1981 (TxDOT 2023c). The report concluded that 72 properties have historic-age resources within the APE. The historic-age resources and properties were evaluated for NRHP eligibility.

A review of the NRHP, the list of SAL, the list of Recorded Texas Historic Landmarks, the THC Texas Historic Sites Atlas, and TxDOT historical files indicate that there are no previously identified historic resources located within the APE. In accordance with provisions of 36 CFR 800, a TxDOT pre-certified historian conducted a historic studies survey in November 2022 to identify additional properties listed and potentially eligible for listing in the NRHP. One property was recommended as eligible for listing in the NRHP, Caddo Park, shown in the exhibits located in **Appendix F** and the Figures in **Appendix J** Caddo Park is recommended as NRHP-eligible because it was part of a USACE pilot program to design and offer wheelchair-accessible parks 15 years prior to the passing of ADA in 1990. The Park was recommended eligible as a historic district at the state level under Criterion A in the Entertainment/Recreation area of significance for its association with the movement to provide access to public facilities for people with disabilities and under Criterion C for Design/Construction. It has wheelchair-accessible restrooms, trails, picnic tables, grills, fishing ponds, and water fountains. No new information was identified during the investigation to dispute the previous determination; therefore, the property is recommended eligible for listing in the NRHP as a Historic District at the State Level.

The proposed project would require approximately 0.17 acres of proposed ROW from Caddo Park Lavon Lake Historic District (Resource 68) along the existing US 380 ROW. The area of proposed ROW contains no buildings, structures, or objects and would not affect the function of the resource and is over 400 feet from the nearest contributing resource. Furthermore, the area of proposed ROW is along an existing transportation corridor.

Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the Memorandum of Understanding (MOU), TxDOT historians determined that the proposed impact to the Caddo Park Lavon Lake Historic District (Resource 68) would qualify under an individual Section 4(f).

There would be no indirect effects due to traffic noise at Caddo Park. No direct, indirect, or cumulative effects are anticipated for these resources.

The proposed project would have no adverse effects on historic properties/districts within the APE. Coordination for concurrence with non-archeological Section 106 findings of eligibility and effects is in progress. The Section 106 documentation available to date is included in **Appendix F.**

Under the No-Build Alternative, there would be no changes to existing conditions; therefore, no impacts to historic resources would occur.

5.9 Protected Lands

Three properties within and adjacent to the US 380 Princeton project area meet the definitions of protected public lands and recreational facilities described in this section. Caddo Park, Twin Groves Park, and WMA are operated by USACE and would require a total of approximately 23.72 acres of proposed ROW. The locations of these properties are depicted on the **Environmental Resources Map** provided in **Appendix E-3.**

5.9.1 Caddo Park

Operated by USACE, Caddo Park encompasses 515 acres at Lavon Lake. Caddo Park is directly adjacent to the project near the eastern project limits, east of Lavon Lake Bridge. The park includes 3 fishing ponds, 13 picnic sites, 2 restrooms, and a four-lane boat ramp. Caddo Park was identified as an eligible historic property (Caddo Park Lavon Lake Historic District). The proposed alignment would not displace contributing resource or change the function of the parks, shown in the exhibits located in **Appendix G.** Approximate total of 0.17 acres of proposed USACE easement would be required from this public park; therefore, the proposed project would require a Section 4(f) evaluation.

5.9.2 Twin Groves Park

Operated by USACE, Twin Groves Park covers approximately 115 acres. Twin Groves Park, is directly adjacent to the project near the eastern project limits, west of Lavon Lake Bridge. The park features two restrooms, a two-lane boat ramp and two large parking lots. Approximately 0.02 acres of proposed ROW and 0.53 acres of proposed USACE easement would be required from this public park; therefore, the proposed project would require a Section 4(f) evaluation.

5.9.3 USACE Wildlife Management Area

The WMA at Lavon Lake encompasses approximately 6,480 acres. These lands are typically open to the public, including adjacent landowners, for pedestrian traffic and are frequently used by adjacent landowners for access to the shoreline near their homes. Recreational use includes hiking, horseback riding, bank fishing, canoeing, and kayaking.

Following further consultation with the USACE, it was determined that an additional two acres would be required from the WMA, for a total of 23 acres. The portion located northwest of the Princeton Crossroads neighborhood no longer serves the purpose for the WMA. These additional WMA acres would be incorporated into the mitigation efforts, involving the transfer of property as part of the new TxDOT easement. A total of 23 acres of USACE property within the WMA at Lavon Lake would potentially be impacted; therefore, the proposed project would require a Section 4(f) evaluation.

5.9.4 Section 4(f)

The proposed project would require the use of, or substantially impair the purposes of publicly owned land from a park, recreational area, wildlife and waterfowl refuge lands, or historic sites of national, state, or local significance; therefore, a Section 4(f) evaluation is required. The Section 4(f) evaluation available to date is included in **Appendix G, Section 4(f) Documentation**.

5.9.5 Section 6(f)

There are no Section 6(f) properties adjacent to the project. The proposed project would not require the conversion of properties funded by the Land and Water Conservation Fund program to a non-outdoor public recreation use; therefore, a Section 6(f) evaluation is not required.

5.9.6 Chapter 26 Texas Parks and Wildlife Code

The proposed project would require the use or acquisition of public land designated and used prior to the arrangement of the project as a park, recreation area, scientific area, wildlife refuge, or historic site; therefore, Chapter 26 of the Texas Parks and Wildlife Code would apply to the proposed project.

5.9.7 No-Build Alternative

Under the No-Build Alternative, construction of the proposed project would not occur; therefore, there would be no project-related impacts to Section 4(f), Section 6(f), or Chapter 26 properties.

5.10 Water Resources

5.10.1 Clean Water Act Section 404

This project will involve regulated activity in jurisdictional waters and therefore will require authorization under Section 404. At the time of this EA, most water features were desktop delineated due to the lack of ROE. Approximately 15-percent of the impacted parcels were surveyed for water resources during field surveys conducted in September 2023, January 2024, and April 2024. Fieldwork will be completed after ROW acquisition, prior to project construction.

Table 5-1 lists the waters that are potentially jurisdictional waters in which regulated activity is anticipated to take place. It also indicates whether the impacts are anticipated to be authorized under Section 404 by a Non-Reporting Nationwide Permit (NWP) (i.e., no pre-construction notification (PCN) required), or if it is anticipated that an NWP with PCN, Individual Standard Permit, Letter of Permission, or Regional General Permit will be required.

Impacts to Waters of the U.S. within the limits of the proposed project would result from both the widening of the existing US 380 roadway and construction on new location. See Appendix E-1 Water Features Map and Section 404/10 Impacts Table for more detailed information. A Water Features Delineation Report was prepared for the Build Alternative and is available at the TxDOT Dallas District office.

Field delineations would be conducted following ROW acquisition for the Build Alternative. At that time, Section 404 permit mechanism required for the project would be identified. Based on project activities and potential impacts, it is anticipated that an NWP 14 with PCN would be needed. The need for an individual standard permit under Section 404 is likely not required. If it is later determined that an individual standard permit under Section 404 is needed, compliance with the Environmental Protection Agency's (EPA's) Section 404(b)(1) Guidelines would be confirmed prior to submittal of the individual standard permit application.

The activity will comply with all permit general and regional conditions applicable as well as any special conditions set forth by the USACE. Appropriate measures would be taken to maintain normal downstream flows and minimize flooding. Temporary fills will consist of clean materials and will be placed in a manner that would not be eroded by expected high flows. Temporary fills will be removed in their entirety and the affected area returned to preconstruction elevations and revegetated as appropriate. If the project would involve stream modification, stream channel modifications, including bank stabilization, will be limited to the minimum necessary to construct or protect the structure and the immediate vicinity of the project.

Under the No-Build Alternative, construction of the proposed project would not occur; therefore, no project-related impacts on Waters of the U.S. would occur.

Table 5-1. Water Features

Number (Name) of Water Feature	Type of Water Feature	Location of Water Feature (Appendix E-1 Water Features Map)	Covered by Non-Reporting Nationwide Permit under Section 404?	Nationwide Permit with Pre-Construction Notification, Individual Standard Permit, Letter of Permission, or Regional General Permit Required
Water 00	Intermittent Stream	Sheet 1 of 12	No	Yes
Water 01 (Big Branch)	Perennial Stream	Sheet 1 of 12	No	Yes
Water 02	Palustrine Forested Wetland	Sheet 1 of 12	No	Yes
Water 06	Intermittent Stream	Sheet 3 of 12	Yes	No
Water 07	Intermittent Stream	Sheet 3 of 12	No	Yes
Water 08	Riverine Wetland	Sheet 3 of 12	No	Yes
Water 09 (Unnamed Tributary of Ticky Creek)	Intermittent Stream	Sheet 4 of 12	No	Yes
Water 11 (Ticky Creek)	Intermittent Stream	Sheet 5 of 12	No	Yes
Water 14	Intermittent Stream	Sheet 6 of 12	No	Yes
Water 15	Palustrine Forested Wetland	Sheet 6 of 12	No	Yes
Water 16	Freshwater Pond	Sheet 6 of 12	No	Yes
Water 18	Intermittent Stream	Sheet 7 of 12	No	Yes
Water 19	Ephemeral Stream	Sheet 7 of 12	No	Yes
Water 22	Intermittent Stream	Sheet 7 of 12	No	Yes
Water 23	Riverine Wetland	Sheet 7 of 12	No	Yes
Water 30	Intermittent Stream	Sheet 8 of 12	No	Yes
Water 32	Intermittent Stream	Sheet 9 of 12	No	Yes

Number (Name) of Water Feature	Type of Water Feature	Location of Water Feature (Appendix E-1 Water Features Map)	Covered by Non-Reporting Nationwide Permit under Section 404?	Nationwide Permit with Pre-Construction Notification, Individual Standard Permit, Letter of Permission, or Regional General Permit Required
Water 34	Intermittent Stream	Sheet 9 of 12	No	Yes
Water 36	Intermittent Stream	Sheet 9 of 12	Yes	No
Water 37	Perennial Lake/Pond	Sheet 12 of 12	No	Yes

5.10.2 Clean Water Act Section 401

For projects that require an NWP under Section 404 that is covered by Texas Commission on Environmental Quality (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 (CWA) by implementing TCEQ conditions for NWPs. For projects that require authorization under an NWP under Section 404 that is not covered by TCEQ's blanket 401 water quality certifications; 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 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. See the **Water Features Map** in **Appendix E-1** for the location of water features within the project limits.

Under the No-Build Alternative, construction of the proposed project would not occur; therefore, no project-related impacts on Waters of the U.S. would occur and compliance with Section 401 of the CWA would not be needed.

5.10.3 Executive Order 11990 Wetlands

This project is federally funded and therefore is subject to EO 11990, Protection of Wetlands, and would involve construction in wetlands.

The project includes expansion of an existing roadway (with portions of the expansion including new location construction) for the purpose of providing congestion relief to the existing west-east trending US 380 through Princeton, and tributaries and associated wetlands trend north-south through the landscape surrounding Princeton; therefore, there is no practicable alternative to construction in wetlands. The project design avoids impacts on

wetlands to the maximum extent practicable. Practicable measures to minimize harm to wetlands will include the use of stormwater best management practices during construction. Additionally, measures taken to minimize harm to wetlands include the use of bridges and elevated roadway sections to span water features where practicable.

Under the No-Build Alternative, construction of the proposed project would not occur; therefore, no project-related impacts on wetlands would occur.

5.10.4 Rivers and Harbors Act

Based on the project scoping analysis, it was determined that neither the Build nor the No-Build Alternative would have an impact on this resource category or subject matter. The proposed project does not include construction activities in or over a navigable Water of the U.S.; therefore, Sections 9 and 10 of the Rivers and Harbors Act of 1899 do not apply.

5.10.5 Clean Water Act Section 303(d)

This project would not be located within five linear miles (not stream miles) of, and is not within the watershed of, or does not drain to an impaired assessment unit under Section 303(d) of the federal CWA (TCEQ 2022). The Build and the No-Build Alternative would not result in impacts to Section 303(d) waters.

5.10.6 Clean Water Act Section 402

Since the Texas Pollutant Discharge Elimination System (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 [NOI] 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.

Under the No-Build Alternative, as construction of the proposed project would not occur, there would be no alteration on the amount of runoff generated within the proposed project area. Therefore, no compliance with runoff associated permits would be required.

5.10.7 Floodplains

This project is federally funded and therefore is subject to EO 11988, Floodplain Management. However, the project would not involve an encroachment in the floodplain.

A review of FEMA Flood Insurance Rate Maps (FIRMs) indicated that the project area crosses multiple FEMA flood zones (FEMA 2009). These flood zones are identified as Zone A 100-year flood zone (special flood hazard areas inundated by the 100-year flood with no base flood elevations determined), Zone AE 100-year flood zone (special flood hazard areas inundated by the 100-year flood with base flood elevations determined), and Zone AE floodway (the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height).

Within the proposed project, flood zones comprise a total of approximately 81.5 acres as follows: 67.5 acres of Zone A 100-year flood zone, 6.1 acres of Zone AE 100-year flood zone, and 7.9 acres of AE floodway. The Environmental Resources Map included in Appendix E-3 displays the floodplain areas crossed by the proposed project.

The No-Build Alternative would not alter the existing level of roadway encroachments into floodplains.

5.10.8 Wild and Scenic Rivers

Based on project scoping analysis, it was determined that both the Build and the No-Build Alternative would not have an impact on wild and scenic rivers. This project would not involve work within the designated segment of the Rio Grande; therefore, coordination with the National Park Service would not be required.

5.10.9 Coastal Barrier Resources

The Coastal Barrier Resources Act of 1982 does not apply.

5.10.10 Coastal Zone Management

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

5.10.11 Edwards Aquifer

The TCEQ Edwards Aquifer Rules do not apply. The EPA Edwards Aquifer MOU does not apply.

5.10.12 International Boundary and Water Commission

This project would 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. The Texas Water Development Board (TWDB) Water Data Interactive map was utilized to identify any known water wells within the project limits (TWDB 2023). Based on a review of the data, there are no registered water wells identified within the project limits.

5.11 Biological Resources

5.11.1 Impacts to Vegetation

Per the 2021 MOU TPWD, a habitat assessment of the project limits was performed and potential impacts to vegetation/habitat were determined (TPWD 2021). The potential vegetation impacts are included in the Texas Ecosystem Analytical Mapper (TEAM) Vegetation and Ecosystems Table available at the TxDOT Dallas District office. In accordance with the 2021 MOU, TxDOT will coordinate with TPWD, as this project required an EA. Coordination (collaborative review) was initiated on January 23, 2023.

The proposed project would impact approximately 134.9 acres of Tallgrass Prairie, Grassland; 197.4 acres of Urban land; 135.0 acres of Agricultural land; 76.1 acres of Disturbed Prairie; 11.9 acres of Riparian; 17.6 acres of Floodplain; and 3.8 acres of Edwards Plateau Savannah, Woodland, and Shrubland habitat categories. Refer to **Appendix E-2** for the **TEAM Mapped and Field Verified Ecological Mapping Systems of Texas (EMST) Vegetation Map** for the location of these features.

Potential impacts to vegetation would be confined to the existing and proposed ROW. Impacts to vegetation will be avoided or minimized by limiting disturbance to only that which is necessary to construct the proposed project. The removal of native vegetation, particularly mature native trees and shrubs, will be avoided to the greatest extent practicable. Seeding and replanting with TxDOT-approved seed mixes containing native species will be used in the revegetation of disturbed areas.

The Texas Natural Diversity Database (TxNDD) data obtained from TPWD in November 2023, were reviewed along with the TPWD Rare, Threatened, and Endangered Species of Texas (RTEST) list for Collin County, accessed on December 6, 2023 (TPWD 2023). The TxNDD radii of 1.5 miles and 10 miles from the project area were searched for element of occurrence records within 1.5 and 10 miles of the proposed project. Within 1.5 miles of the proposed project is one record for the Vertisol Blackland Prairie. The record for the Vertisol Blackland Prairie is located in the far eastern portion of the proposed project south of US 380. Access was granted on the parcel. Grazing was evident due to the land being leased for cattle. However, this area was not overgrazed. There was a variety of grasses and forbs observed, including desirable species such as little bluestem (*Schizachyrium scoparium*),

eastern gamagrass (*Tripsacum dactyloides*), and native wildflowers, as well as less desirable species, including Johnsongrass (*Sorghum halepense*) and brome (*bromus* sp.). The proposed construction of retaining walls has been implemented along portions of the eastbound US 380 mainlines and US 380 eastbound frontage road lanes to help minimize impacts to the Vertisol Blackland Prairie in that area. Further design consideration to extend the retaining walls are being considered to ensure the entire length of the Vertisol Blackland Prairie area is protected with retaining wall installation. Along with the proposed retaining wall installation, TPWD Best management practices (BMPs) will be implemented before, during, and after construction to minimize the effects of vegetation clearing on protected species. Several records are present between 1.5 miles and 10 miles of the proposed project. Each of these occurrences are located outside of the project area and would not be impacted by the proposed project.

Collaborative review with TPWD was concluded on March 21, 2023. Coordination with the TPWD is ongoing. Appendix F includes documentation on the initiation of this coordination. The Species Analysis Form, Species Analysis Summary Spreadsheet, and Documentation of Texas Parks and Wildlife Department Best Management Practices form prepared for the proposed project are available at the TxDOT Dallas District office.

Under the No-Build Alternative, the proposed project would not be constructed. No effects to vegetation related to the construction of the proposed project would occur. Existing land use and activities would continue to periodically affect vegetation communities.

5.11.2 Executive Order 13112 on Invasive Species

This project is subject to and will comply with federal EO 13112 on Invasive Species. TxDOT 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 will comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. TxDOT 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 is located in Collin County. Developed and undeveloped lands are present within the proposed project area. Developed land includes single-family residences and retail and commercial facilities. Undeveloped lands comprise vacant (not utilized), agriculture (ranch and pasture), woodlands, disturbed prairies, fence row vegetation, streams, and ponds. Wildlife species expected to inhabit the proposed project area are likely adapted to both a rural environment as well as an urban, developed environment.

Mammalian species that likely inhabit the area include the feral hog (*Sus scrofa*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and eastern fox squirrel (*Sciurus niger*). Various avian species likely to inhabit the area include species such as the Northern Mockingbird (*Mimus polyglottos*), Mourning Dove (*Zenaida macroura*), Blue Jay (*Cyanocitta cristata*), Great Blue Heron (*Ardea herodias*), Turkey Vulture (*Cathartes aura*), American Crow (*Corvus brachyrhynchos*), and Red-tailed Hawk (*Buteo jamaicensis*). Amphibian and reptilian species would also utilize the different available habitats. The species would include various snakes, turtles, lizards, and frogs native to north-central Texas. Examples would be the Texas rat snake (*Elaphe obsoleta lindheimeri*), red-eared slider (*Trachemys scripta*), western ribbon snake (*Thamnophis proximus*), and northern cricket frog (*Acris crepitans*). Various waterfowl species could utilize the aquatic habitat.

The presence or evidence of the following wildlife species was observed during field reconnaissance: raccoon tracks, Mourning Dove, Turkey Vulture, Great Blue Heron, red-eared slider (*Trachemys scripta elegans*), water moccasin (*Agkistrodon piscivorus*), and leopard frogs (*Rana sphenocephala*). There is suitable habitat present within the proposed project area for federal and state-listed species as well as Species of Greatest Conservation Need (SGCN) as discussed in **Section 5.11.10**.

Substantial impacts to wildlife are not anticipated. The proposed project is the construction of a new location roadway and would result in habitat fragmentation. Some mortality to individual species that are less mobile such as reptiles and amphibians may occur during the initial construction. The constructed roadway would contain a concrete traffic barrier along the main lanes that would restrict wildlife movement. An increase in wildlife mortality would likely occur to wildlife attempting to cross the roadway due to vehicle strikes. The proposed culverts and bridge structures would provide a safer means of crossing the roadway. More mobile species such as mammals and avian species would most likely relocate to suitable surrounding habitats. Wildlife that does currently inhabit adjacent urban development and existing transportation structures (culverts, utility poles, etc.) would be temporarily impacted due to potential structure displacements/relocations and roadway structure reconstruction and relocation. It is likely that some wildlife species would recolonize the available habitat once construction of the proposed project is complete.

As detailed in Section 5.14, while there could be increase in noise during construction that could potentially impact wildlife, these impacts are anticipated to be temporary, short-term, and localized in nature. Long-term, significant impacts to migratory birds as a result of noise post-construction is not anticipated to be higher than pre-construction due to the urbanized nature, and existing highway facilities crossing Lavon Lake. See **Section 8.1** for a list of BMPs to be implemented.

Under the No-Build Alternative, the proposed project would not be constructed; thus, there would be no project-related impacts to wildlife.

5.11.5 Migratory Bird Protections

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

Additional preemptive and preventive measures that may be applied, where appropriate and practicable, are described in TxDOT's guidance – Avoiding Migratory Birds and Handling Potential Violations (TxDOT 2023f).

5.11.6 Fish and Wildlife Coordination Act

The project is anticipated to require a permit issued under Section 404 of the CWA. Compliance with the Fish and Wildlife Coordination Act will be accomplished by complying with the terms and conditions of the applicable permit.

5.11.7 Bald and Golden Eagle Protection Act of 2007

The proposed project is not within 660 feet of an active or inactive Bald or Golden Eagle nest. The project area does include suitable habitat for the Bald Eagle to the east where it crosses tributaries of Sister Grove Creek and the forested habitat adjacent to Lavon Lake.

Based on limited ROE, additional fieldwork would be required to determine whether the proposed project is within 660 feet of an active or inactive Bald or Golden Eagle nest. Coordination with the U.S. Fish and Wildlife Service (USFWS) may be 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

The proposed project must comply with federal and state regulations for protecting and managing threatened and endangered fish, wildlife, and plant species. The Endangered Species Act of 1973 (ESA) affords protection for federally listed threatened and endangered species and, where designated, critical habitat for these species. In general, the ESA protects both the species and the habitat. Details concerning state endangered or threatened animal species are contained in Chapters 67 and 68 of the Texas Parks and

Wildlife Code and Sections 65.171 - 65.176 of Title 31 of the TAC. Details concerning endangered or threatened plant species are contained in Chapter 88 of the TPW Code and Sections 69.01 - 69.9 of the TAC.

The USFWS Official Species List from the Information for Planning and Consultation (IPaC) was obtained on August 26, 2024 (USFWS 2024), for the proposed project. The TPWD Annotated County Lists of Rare Species data, accessed on August 13, 2024 (TPWD 2023), was also obtained for the proposed project.

Based on the *Federal Register* 16776 filed on March 20, 2023, the status of two mussel species, Louisiana pigtoe (*Pleurobema riddellii*) and Texas heelsplitter (*Potamilus amphichaenus*), has changed. At the time of the original documentation, the Louisiana pigtoe was state-threatened with no federal listing status and is now federally proposed threatened, while the Texas heelsplitter was state-threatened with no federal listing status and is now federally proposed endangered. Suitable habitat for both of these species was identified within the project area as part of the original assessment. See below for updated information.

There were no changes to listed species' status within the time period between the approved Species Analysis Spreadsheet (May 24, 2023) and the latest USFWS and TPWD species lists (August 26 and August 13, 2024, respectively).

Federal and State Listed Species

The USFWS Official Species List includes eight federally listed threatened, endangered, proposed threatened, proposed endangered, or candidate species that could potentially occur within the project area. These species include the tricolored bat (*Perimyotis subflavus*), Whooping Crane (*Grus Americana*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), alligator snapping turtle (*Macrochelys temminckii*), Texas fawnsfoot (*Truncilla macrodon*), Texas heelsplitter, and monarch butterfly (*Danaus plexippus*). Though not included on the USFWS Official Species List, the Louisiana pigtoe is included as federally proposed threatened and the Black Rail (*Laterallus jamaicensis*) is included as federally threatened on TPWD's RTEST list for Collin County.

For these federally listed species, either USFWS has not designated critical habitat or, if critical habitat has been designated, there is no critical habitat within the project area. The following discussion of these species also notes which ones are included on TPWD's RTEST list.

The tricolored bat is included on the USFWS Official Species List as proposed endangered. There is suitable habitat consisting of forest, woodland, and riparian areas in the project area. The tricolored bat has been proposed as a federally endangered species, and consultation with USFWS is not required at this time. However, it is anticipated that this

species will receive full listing status prior to project construction. Therefore, TxDOT is moving forward with informal consultation, including a Conference Opinion, with the USFWS.

The Whooping Crane is listed as endangered on the federal and state lists. Suitable stopover habitat consisting of ponds and wetlands is present within the project area. The project area is outside of the breeding and wintering ranges for the species. Any use of potential stopover habitat within the project area would be incidental and ephemeral. The project would have no effect or impact on the Whooping Crane.

The Piping Plover and Red Knot are listed as threatened on the federal and state lists. These species are included in the species list as needing consideration for wind energy projects. As this is not a wind energy project and no suitable habitat is present within the project area for either species, the project would have no effect or impact on the Piping Plover or Red Knot.

The alligator snapping turtle is listed as proposed threatened on the federal list and threatened on the state list and can be found in deep perennial water bodies. Suitable habitat for this species may be present within Big Branch, Lavon Lake, and Tickey Creek. A Habitat assessment will occur once ROE is granted or acquisition attained to determine whether further actions are required. The alligator snapping turtle is a federally proposed threatened species, and consultation with USFWS is not required at this time. If the species is listed, effects will be re-evaluated to determine the appropriate course of action, which may include consultation with USFWS.

The Texas fawnsfoot is listed as threatened on the federal list. The Louisiana pigtoe is listed as federally proposed threatened, but only on the state list for Collin County. The Louisiana pigtoe is also listed as state threatened. One perennial stream, Big Branch, is present within the project area. Big Branch is categorized by USFWS as Group 5 - streams where no federally- or state-listed freshwater mussels occur, but mussels are known to occur; or perennial streams where it is anticipated that live freshwater mussels may occur, but presence or diversity have not been confirmed. The NHD also mapped two perennial streams, Sister Grove Creek and Pilot Grove Creek, within the project area. These streams are part of Lavon Lake, which does not provide suitable habitat as these species do not tolerate impoundments. Based on the NHD, Ticky Creek is Considered intermittent. Ticky Creek is ungrouped by USFWS. Because these streams are categorized as Group 5 and ungrouped, the USFWS-TPWD protocol (May 2023) assumes the streams to not be occupied by state or federally listed mussel species. The proposed project would have no effect or impact to the Texas fawnsfoot or Louisiana pigtoe.

The Texas heelsplitter is listed as proposed endangered on the federal list and threatened on the state list. Lavon Lake is categorized by USFWS as Group 2 - large stream reaches that include designated or proposed Critical Habitat for federally-listed or federally-proposed mussel species, or reaches known to or may be inhabited by federally-listed species. Lavon Lake could provide suitable habitat for the Texas heelsplitter because this species can be

found in reservoirs. Freshwater Mussel BMPs, including survey/relocation of native mussels, applies in compliance with USFWS-TPWD Protocol. This species is currently proposed as federally threatened/endangered and USFWS consultation is not required at this time. If this species receives full federal listing status during the life of this project, it will be re-evaluated to determine the appropriate course of action, which may include consultation with USFWS. The proposed project may affect/may impact the Texas heelsplitter.

The monarch butterfly is listed as a candidate species on the federal list and can be found in a variety of habitats. The action area contains pastures, open woodlands, and urbanized areas with various nectar plant species. The project may affect the monarch butterfly; 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 whether further action is required if the species becomes proposed for federal listing.

No suitable habitat is present for the Black Rail. The project would have no effect or impact to the Black Rail.

TPWD's RTEST list also included the following species listed only as state threatened: White-faced Ibis (*Plegadis chihi*), Wood Stork (*Mycteria americana*), and Texas horned lizard (*Phrynosoma cornutum*). No suitable habitat is present for the Texas horned lizard. The project would not impact the Texas horned lizard. Potential stopover habitat is present for the White-faced Ibis and Wood Stork. The project limits are outside of the breeding and year-round ranges for these species. Any use of potential stopover habitat within the project limits would be incidental and ephemeral. Therefore, the proposed project would not impact these species.

Species of Greatest Conservation Need

The TPWD RTEST list included an additional 27 species listed as SGCN. Suitable habitat was identified within the proposed project limits for the following 18 SGCN species: American bumblebee (*Bombus pensylvanicus*), Bald Eagle (*Haliaeetus leucocephalus*), big brown bat (*Eptesicus fuscus*), eastern box turtle (*Terrapene carolina*), eastern red bat (*Lasiurus borealis*), eastern spotted skunk (*Spilogale putorius*), hoary bat (Lasiurus cinereus), long-tailed weasel (*Mustela frenata*), muskrat (*Ondatra zibethicus*), slender glass lizard (*Ophisaurus attenuatus*), southern crawfish frog (*Lithobates areolatus areolatus*), Sutherland hawthorn (*Crataegus viridus var. glabriuscula*), swamp rabbit (Sylvilagus aquaticus), Texas garter snake (*Thamnophis sirtalis annectens*), timber (canebrake) rattlesnake (*Crotalus horridus*), western box turtle (*Terrapene ornata*), Western Burrowing Owl (*Athene cunicularia hypugaea*), and Woodhouse's toad (*Anaxyrus woodhousii*). No

suitable habitat for the remaining species listed only as SGCN is present within the project limits.

ROE was not provided for many of the parcels within the project limits. Areas where ROE was not provided would need to be assessed after ROW is acquired. If suitable habitat is observed in those areas, it may result in a change to effect/impact determinations.

The TPWD "Beneficial Management Practices – Avoiding, Minimizing, and Mitigating Impacts of Transportation Projects on State Natural Resources" was utilized to determine the BMPs to be implemented for this project and coordinated with TPWD during the Collaborative Review process (TPWD 2021). Refer to **Section 8** for the list of BMPs that will be used to avoid or minimize impacts and to the **Documentation of Texas Parks and Wildlife Department Best Management Practices Form**, included in **Appendix F**, for the complete list of BMPs.

Under the No-Build Alternative, the proposed project would not be constructed; thus, there would be no effects to federally and state-listed threatened, endangered, or candidate species and SGCNs.

5.12 Air Quality

5.12.1 Transportation Conformity

This project is located in Collin County, which is within the Dallas-Fort Worth area that has been designated by EPA as severe nonattainment area for the 2008 Ozone national ambient air quality standards (NAAQS) and moderate nonattainment for the 2015 ozone NAAQS; therefore, the transportation conformity rules apply. Conformity for older standards is satisfied by conformity to the more stringent 2008 and 2015 ozone NAAQS, as applicable.

Both NCTCOG's financially constrained Mobility 2045 Update (NCTCOG 2022) and 2023-2026 TIP were found to conform to the TCEQ State Implementation Plan (TCEQ 2023) by FHWA and Federal Transit Administration (FTA) on December 15, 2022. The proposed action is consistent with the Mobility 2045 Update and the Draft 2023–2026 TIP, as amended. All projects in the NCTCOG's TIP that are proposed for federal or state funds were initiated in a manner consistent with federal guidelines in 23 CFR 450 and 49 CFR 613.200 Subpart B.

Per the TxDOT-TCEQ MOU, TCEQ will be afforded the opportunity to review and comment on the Draft EA. TxDOT will provide TCEQ with a Notice of Availability (NOA) notifying them that the environmental documents are available for review. The NOA will provide information on how to access the document electronically or request a hard copy.

5.12.2 Hot-Spot Analysis

The proposed project is not located within a carbon monoxide (CO) or particulate matter (PM) nonattainment or maintenance area; therefore, a project level hot-spot analysis is not required.

5.12.3 Carbon Monoxide Traffic Air Quality Analysis

Traffic data for the main lanes in Section 1, from FM 1827 to FM 75 at the ETC year (2030) and design year (2050) is 36,325 vehicles per day (VPD) and 59,775 VPD, respectively, while traffic data for the main lanes in Section 2, from FM 75 to CR 560 at the ETC year (2030) and design year (2050) is 51,475 VPD and 92,675 VPD, respectively. Traffic data for the frontage roads in Section 1, from FM 1827 to FM 75 at the ETC year (2030) and design year (2050) is 44,500 VPD and 70,575 VPD, respectively, while traffic data for the frontage roads in Section 2, from FM 75 to CR 560 at the ETC year (2030) and design year (2050) is 18,000 VPD and 31,500 VPD, respectively. The AADT projections for the project do not exceed 140,000 VPD; therefore, triggering the need for a carbon monoxide traffic air quality analysis (CO TAQA) is not required.

A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that the CO standard would ever be exceeded as a result of any project with an AADT below 140,000 VPD.

5.12.4 Mobile Source Air Toxics

A qualitative MSAT assessment has been conducted relative to the Build and No-Build Alternative. As documented in the Mobile Source Air Toxics Technical Report, all project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposure are uncertain. Due to this uncertainty, the health effects from these emissions cannot be estimated. However, 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. Detailed information of this qualitative analysis can be found in the Mobile Source Air Toxics Technical Report available for review at the TxDOT Dallas District office (TxDOT 2022c).

5.12.5 Congestion Management Process

The proposed project is adding single-occupant vehicle (SOV) capacity, is a project with FHWA/FTA involvement, and is within the Dallas-Fort Worth Transportation Management Area; therefore, a Congestion Management Process (CMP) analysis is required. The 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 was adopted by the NCTCOG in August 2021.

The project-level CMP analysis is available for review at the NCTCOG. The Congestion Management Process Disclosure Statement prepared for the proposed project is available for review at the TxDOT Dallas District office.

Committed congestion reduction strategies and operational improvements within the study boundary will consist of modal options, system reliability, and roadway infrastructure improvements including addition of new lanes, shared-use path for bicyclists and pedestrians, turn lanes, and intersection improvements.

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 Mobility 2045 Update (NCTCOG 2022). 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 available for review at NCTCOG.

5.12.6 Construction Air 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.

The No-Build alternative would not meet TxDOT and NCTCOG goals for congestion reduction goals through CMAQ, the CMP and the Mobility 2045 Update (NCTCOG 2022); would not result in increased exposure to MSAT emissions along the proposed new roadway; or increase construction emission; however, over time, traffic volumes increase, and traffic congestion could worsen within the existing roadway system.

5.13 Hazardous Materials

A Hazardous Materials ISA report was completed to summarize potential hazardous materials within and adjacent to the project corridor. The ISA included a site reconnaissance

and environmental regulatory database search for the project area. The ISA was completed to identify sites or facilities that might pose a potential for hazardous materials impacts to the proposed project. The ISA, completed in December 2022, is maintained in the TxDOT Dallas District project files.

The proposed project would potentially impact hazardous materials. Based on the ISA, there is a possibility for hazardous materials impacts to the proposed project from existing hazardous materials sites within the proposed ROW and/or adjoining the project. One landfill facility, the Osttend Landfill, was identified as having a potential environmental risk to the proposed US 380 Princeton project at the eastern project alignment limits. One unmapped site, Metro Stone, was identified as having a potential environmental risk to the proposed US 380 Princeton project.

The Osttend Landfill facility, displayed in the **Environmental Resource Map** included in **Appendix E-3**, located at 2540 East University Dr., McKinney, TX 75069, is adjacent and within proposed ROW near the western alignment study area. This facility has operated under four different names, however, the main Owner Operator listed with TCEQ is Osttend Landfill LTD. This is a large property of which the small driveway entrance portion and an undeveloped portion are adjacent to the alignment study area.

This facility has five landfill listings but only one approved landfill permit application. The first three landfill permit applications were submitted and withdrawn between 1986 and 1999. The fourth landfill permit application, submitted in 1999, was approved in 2003 and operable (accepting waste) by 2019. A fifth landfill permit application, to increase the excavation depth of the landfill, was submitted in September 2021. The total permitted area is shown as 146.8 acres with 57 non-fill acres. The landfill is listed as a construction and demolition landfill with a total tonnage of 1,518 reported. In addition, there is one 6,000-gallon diesel (installed 2019) and two 2,000-gallon diesel (installed 2020) aboveground petroleum storage tanks (ASTs). No releases have been reported for this facility. Noted in the ISA, based on historic aerials, the eastern and western portions of this site were originally utilized as stone quarries. The landfill portion of this large property is approximately 1,200 feet south of proposed ROW along US 380 Princeton alignment study area. ROW would be acquired from the portion of the property that has the landfill's driveway entrance and office, and undeveloped area along US 380 Princeton. Based on distance of the active landfill portion from proposed US 380 Princeton alignment study area, ROW, and proposed work activity, this site is considered a low environmental risk. A low environmental risk determination indicates the issue has a low or no potential to affect the proposed US 380 Princeton project and no further investigations are required.

The Metro Stone site was identified on the Unmapped Sites Summary, within the regulatory database report, and was determined to be adjacent south of the western alignment study area. Based on Collin Central Appraisal District (CCAD) and historic aerials, the possible former AST property was 3110 East University Dr., McKinney, TX 75069, displayed in the

Environmental Resource Map included in Appendix E-3. This site formerly utilized two 8,000-gallon diesel and one 12,000-gallon ASTs installed in 1982 and 1986, respectively. The ASTs were listed as out of use in 1987 and 2006 (8,000-gallon) and in 1988 (12,000-gallon). No releases are reported for the former facility. Current use of the property consists of auto repair and/or used car sales. The current business is not identified as a regulatory site. No ROW is proposed for this location. Proposed work activity adjacent to this site consists of removal of current US 380 Princeton roadway and driveway improvements. Based on no reported release and proposed work activity, this site is considered a low environmental risk.

Several automobile salvage, sales, heavy equipment, repair/maintenance facilities were observed on historic aerials and during the site visit. None of these facilities are associated with a regulatory listing. Any abandoned vehicles, debris, contaminated surface soils, etc. that may be present on these sites will be handled during the ROW acquisition process. These sites are considered low environmental risks to the project.

The acquisition of oil and gas wells and sites is performed during early negotiations between ROW and the property/mineral rights owners. Any environmental issues associated with the well sites will be addressed during the ROW acquisition process. The proposed project would also include the demolition of buildings as well as bridges and bridge class culverts. Asbestos-containing Materials (ACMs) and lead-containing paint (LCP) may be present in the structures. Asbestos and LCP inspections, notification, and removal, as applicable, would be addressed prior to demolition in accordance with regulatory requirements.

Based on the review and assessment of regulatory and non-regulatory sites adjacent to the project, no further investigation is warranted for hazardous materials sites. Any unanticipated hazardous materials and/or petroleum contamination encountered during construction would be handled according to applicable federal and state regulations per TxDOT Standard Specifications.

Under the No-Build Alternative, the proposed project would not be constructed; thus, project-related hazardous materials impacts would not occur.

5.14 Traffic Noise

A traffic noise analysis was prepared in accordance with TxDOT's FHWA-approved Traffic Noise Policy (TxDOT 2019). Details on the traffic noise analysis can be found in the Traffic Noise Technical Report available for review at the TxDOT Dallas District office.

Existing noise levels at selected receiver locations were measured to characterize the existing noise environment along the new location sections of the project. Existing noise levels were modeled along the existing roadway sections where the proposed project would transition into US 380.

Predicted traffic noise levels were modeled at representative receivers for land use activity areas adjacent to the project that might be impacted by traffic noise and would potentially benefit from feasible and reasonable noise abatement. Modeled locations were primarily residential, both single- and multi-family residential, recreational (at Caddo Park and Twin Groves Park picnic area), and a church. The receiver locations are listed in **Table 5-2** and shown in the **Environmental Resources Map** included in **Appendix E-3**.

Table 5-2. Traffic Noise Levels dB(A) Leq

Representative Receiver	Land Use	NAC Category	NAC dB(A) Leq	Existing	Predicted (2050)	Change (+/-)	Noise Impact (Yes/No)
R1	Residential	B	67	67	73	6	Yes
R2	Residential	B	67	63	69	6	Yes
R3	Residential	B	67	54	63	9	No
R4	Residential	B	67	65	63	-2	No
R5	Residential	B	67	59	65	6	No
R6	Residential	B	67	46*	69	22	Yes
R7	Residential	B	67	46*	70	24	Yes
R8	Residential	B	67	50*	68	18	Yes
R9	Residential	B	67	50*	66	16	Yes
R10	Residential	B	67	56*	59	3	No
R11	Residential	B	67	56*	57	1	No
R12	Residential	B	67	54*	61	7	No
R13	Residential	B	67	64*	68	4	Yes
R14	Residential	B	67	64*	65	1	No
R15	Residential	B	67	64*	65	1	No
R16	Residential	B	67	43*	65	22	Yes
R17	Residential	B	67	60*	65	5	No
R18	Residential	B	67	60*	68	8	Yes
R19	Residential	B	67	60*	63	3	No
R20	Residential	B	67	45*	68	23	Yes

Representative Receiver	Land Use	NAC Category	NAC dB(A) Leq	Existing	Predicted (2050)	Change (+/-)	Noise Impact (Yes/No)
R21	Residential	B	67	48*	72	24	Yes
R22	Residential	B	67	48*	73	25	Yes
R23	Residential	B	67	52*	70	18	Yes
R24	Residential	B	67	59	65	6	No
R25	Residential	B	67	55	60	5	No
R26	Residential	B	67	55	64	9	No
R27	Park	C	67	54	62	8	No
R28	Picnic Area	C	67	54	57	3	No
R29	Church	C	67	46	49	3	No

* Existing noise level near new location roadway determined using on site noise measurements.
Abbreviations: NAC, Noise Abatement Criteria; dB(A), A-weighted decibel; Leq, average/equivalent sound level.

As indicated in **Table 5-2**, the Build Alternative would result in a traffic noise impact at one or more representative receiver locations under each project alternative and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone, and the construction of noise barriers.

Noise abatement measures were considered for each location with predicted noise impacts. Noise barriers would be feasible and reasonable for the following impacted receptors, and therefore, are proposed for incorporation into the project (**Table 5-3**). Details regarding the abatement analysis can be found in the Traffic Noise Technical Report.

R21B through R23B – These receivers represent 19 residences in the Princeton Crossroads subdivision with backyards that face the roadway. All of the first-row receptors have predicted traffic noise impacts. Based on preliminary calculations, a continuous noise barrier totaling approximately 1,850 feet in length and 6 feet in height would reduce noise levels by at least 5 dB(A) for 15 benefited receptors and meet the noise reduction design goal of 7 dB(A) for at least two of the benefitted receivers at a total cost of $388,500 or $25,900 for each benefited receiver (**Table 5-3**). The proposed noise barrier would be elevated and located along the edge of pavement on the US 380 Princeton bridge structure alongside the Princeton Crossroad neighborhood. Refer to the Environmental Resources Map, **Appendix E-3**, Sheet 8 of 12 and Sheet 9 of 12 for the location of the proposed Noise Barrier 1B.

Table 5-3. Noise Barrier Proposal

Barrier	Representative Receivers	Total # Benefited	Length (feet)	Height (feet)	Total Sq. Ft.	Sq. Ft. per Benefited Receptor
1B	R21 through R23	15	1,850	6	11,100	740

Abbreviations: Sq. Ft., Square Feet

Any subsequent project design changes may require a reevaluation of this preliminary noise barrier proposal. The final decision to construct the proposed noise barrier will not be made until completion of the project design, utility evaluation, and polling of all benefited and adjacent property owners and residents.

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, no new activities are planned or constructed along or within the following predicted (2050) noise impact contours identified in **Table 5-4**.

Table 5-4. Predicted Traffic Noise Contours

Location	Distance from Proposed ROW	
	NAC Category B & C 66 dB(A)	NAC Category E 71 dB(A)
Along US 380 west of BUS 380W	200 feet	60 feet
Along US 380 west of FM 75	120 feet	ROW
Along US 380 between BUS 380E and Twin Groves Park Road	210 feet	60 feet

Impact contours are 1 dB(A) lower than the NAC per category to reflect impacts that would occur as a result of approaching the NAC for the respective contours.

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

Under the No-Build Alternative, traffic noise levels along the new location alignment would remain similar to existing conditions or would increase with increasing traffic on adjacent existing roadways. However, traffic noise along the existing US 380 would be expected to increase with an associated increase in traffic volumes.

5.15 Induced Growth

An Indirect Effects Technical Report was prepared to evaluate the potential of the proposed project to influence local and regional land use decisions and determine the likelihood of the proposed project to result in induced growth and related effects. Local planning experts at the City of Princeton, Town of New Hope, and City of Farmersville provided input on the potential induced growth effects of the proposed project. These local planning experts provided feedback on development of the Area of Influence (AOI) (see **Figure 1** in **Appendix H**), the likelihood of the proposed project to affect land use decisions within the AOI, and how the proposed project would support or conflict with local plans for future development. The AOI measures approximately 33,708 acres and is primarily characterized by agricultural/undeveloped land; developed land (including suburban and commercial development); and parks/open space (see **Figure 2** in **Appendix H**). A total of 9,329 acres were determined to be developable, or approximately 28 percent of the AOI as a whole (see **Figure 3** in **Appendix H**).

Population growth within the AOI and Collin County has been substantial over the past two decades. Rapid growth within the communities of Princeton, Farmersville, and McKinney is expected to continue in the future, regardless of whether the proposed project is constructed; however, the proposed improvements are considered an important component of reducing congestion and improving mobility and connectivity throughout the US 380 corridor. The proposed project was determined likely to encourage development of parcels adjacent and nearly adjacent to the proposed project through the 2050 timeframe. Based on cartographic analysis, land use expert feedback, and planning judgment, the proposed project would potentially result in a total of 4,350 acres of induced growth by 2050 (see **Figure 4** and **Figure 5** in **Appendix H**). This represents approximately 47 percent of developable land in the AOI and approximately 13 percent of the AOI as a whole.

Induced growth effects to ecological resources were assessed using the EMST habitat categories. The habitat category that would be most affected by induced growth related to the project would be Agriculture (2,058 acres), followed by Tallgrass Prairie, Grassland (1,329 acres) and Disturbed Prairie (561 acres) (see **Figure 5** in **Appendix H**). 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. Induced growth effects could also include effects on water resources related to increases in impervious cover. However, based on the regulatory protections in place, including the ESA of 1973 and Sections 401, 402, and 404 of the CWA, induced growth effects to ecological resources would not be substantial.

Induced growth effects to socioeconomic resources would include a continued shift away from rural to more suburban development, a pattern that is already evident in the AOI and across the Dallas-Fort Worth Metroplex. The changes that would be expected to occur within the 2050 timeframe—including low-density residential development in predominantly

agricultural areas—would be consistent with the planning documents for the municipalities within the AOI. Therefore, socioeconomic effects related to induced growth would not be substantial and could positively contribute to serving population and employment growth in the future.

The proposed project would not be expected to change the trajectory of the strong development trends that have occurred over the last two decades and are expected to continue in the future within the AOI and regionwide. Moreover, the induced development anticipated to occur within the AOI would be consistent with the land use plans at the city, county, and regional levels. Future growth that would be induced 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 project would not be expected to be substantial.

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

5.16 Cumulative Impacts

A Cumulative Impacts Analysis was prepared for the proposed project and 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. Direct and indirect impacts to each resource were considered to determine which resources warranted further consideration in the Cumulative Impacts Analysis. Archeological resources, historic resources, socioeconomic resources, and vegetation in the overall Resource Study Area (RSA are considered to not be in poor or declining health and would not undergo substantial impacts as a result of the proposed project; therefore, these resources were not carried forward for detailed evaluation in the Cumulative Impacts Analysis.

Water resources in general would not undergo substantial impacts and are not considered to be in poor or declining health; however, potential cumulative impacts to aquatic habitat for sensitive species that would potentially be impacted by the proposed project were assessed given the inherently at-risk nature of these species. The sensitive species considered in the Cumulative Impacts Analysis include:

- Louisiana pigtoe; state-listed threatened, proposed for federal listing as threatened
- Texas fawnsfoot; state-listed threatened, proposed for federal listing as threatened
- Texas heelsplitter; state-listed threatened, proposed for federal listing as Endangered
- Alligator snapping turtle; state-listed threatened, proposed for federal listing as threatened

The RSA that was used in the Cumulative Impacts Analysis measures approximately 115,170 acres and includes the following five subwatersheds: Tickey Creek-Lavon Lake,

Clemons Creek-East Form Trinity River, Stiff Creek-Sister Grove Creek, Sister Grove Creek-Pilot Grove Creek, and Elm Creek-Lavon Lake (see **Figure 6** in **Appendix H**). The RSA consists of approximately 8,333 acres of waterbodies and 2,444,505 linear feet of streams (see **Figure 7** in **Appendix H**). The four mollusk species and one aquatic reptile species that potentially occur in the RSA use flowing streams and rivers with varying substrates.

The proposed project could impact approximately 10,402 linear feet of streams, which equates to approximately 0.43 percent of the total linear feet of intermittent streams within the RSA. Additionally, other reasonably foreseeable future development (including planned transportation projects) could impact up to approximately 96,498 linear feet of streams, which is approximately four percent of the total linear feet of streams within the RSA (see **Figure 8-1** through **Figure 8-6** in **Appendix H**). This equates to a total cumulative impact to 106,900 linear feet of streams, or approximately four percent of linear streams within the RSA.

Cumulative impacts to aquatic habitat for sensitive species would primarily be related to increases in impervious cover and altered hydrology that could result from construction of this and other future transportation and development projects. As a result of these changes, increased runoff into receiving waters could affect both surface and groundwater quality. The reasonably foreseeable future actions discussed in this analysis would convert some rural portions of the RSA to more suburban land uses as well as increase the urban nature of other portions of the RSA, through either new or expanded development or transportation network expansion. 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.

The proposed project would be constructed in full compliance with the CWA, and BMPs would be implemented to further minimize potential degradation of surface water quality. Additionally, post-construction BMPs would be implemented to minimize the conveyance of runoff contaminants to surface water resources. See **Section 8.1** for a list of BMPs to be implemented. Given the existing regulatory protections provided to habitats associated with rivers and streams and associated floodplains, cumulative impacts to aquatic habitat for sensitive species within the RSA would not be substantial. Additionally, the contribution of the proposed project to cumulative impacts to these resources would be minor and would not adversely affect the overall sustainability or long-term health of these resources.

Under the No Build Alternative, the proposed project would not contribute to cumulative impacts to any resource.

5.17 Construction Phase Impacts

During the construction phase of the proposed project, there is the potential for noise, dust, or light pollution; impacts associated with physical construction activity; temporary lane,

road, or bridge closures (including detours); and other traffic disruptions. Under the Build Alternative, these potential impacts are discussed as follows:

5.17.1 Construction Noise

Noise associated with the construction of the 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 will 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.

5.17.2 Fugitive Dust and Air Pollution

As discussed in Section 5.12.6, temporary increases in PM and MSAT emissions may occur during the construction phase of the project. These impacts would be minimized by using fugitive dust control measures, the encouragement of the use of TERP, and compliance with applicable regulatory requirements. Considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this project will have a significant impact on air quality in the area. Additional discussion on fugitive dust and air emissions are included in Section 5.12.6 and in the Mobile Source Air Toxics Technical Report which is available for review at the TxDOT Dallas District office.

5.17.3 Light Pollution

Construction normally occurs during daylight hours; however, construction could occur during the night-time hours to minimize impacts to the traveling public during the daylight hours. Due to the close proximity of businesses and residents to the project, if construction were to occur during the night-time hours, it would be of short duration. Construction during the night-time hours would follow any local policies and ordinances established for construction activities, such as light limitations.

5.17.4 Construction Vibration Impacts

Construction activities would be limited to the proposed project footprint. Vibration from construction equipment would be of short duration; however, excessive vibration from construction is not anticipated.

5.17.5 Temporary Lane, Road, or Bridge Closures (Including Detours)

During the construction phase, traffic would follow the existing traffic patterns. Traffic control plans would be prepared and implemented in coordination with the City of Princeton

and Collin County. Construction that would require cross street closures would be scheduled so only one crossing in an area is affected at one time. If detours are required, clear and visible signage for an alternative route would be displayed. Work on US 380 would be phased in such a manner to allow the existing roadways to remain open during construction. In the event that road closures or detours are required, county and local public safety officials would be notified of the proposed road closures or detours. Detour timing and necessary rerouting of emergency vehicles would be coordinated with the proper local agencies. Motorists would be inconvenienced during construction of the project due to lane and cross-street closures; however, these closures would be of short duration and alternate routes would be provided.

Residents and businesses in the immediate construction area would be notified in advance of proposed construction activity using a variety of techniques, including signage, electronic media, community newspapers, and other techniques. The proposed project would not restrict access to any existing public or community services, businesses, commercial areas, or employment centers.

Under the No-Build Alternative, construction would not occur and would not result in noise, dust, or light pollution; impacts associated with physical construction activity; temporary lane or road closures; and other traffic disruptions associated with construction.

5.18 Greenhouse Gas Emissions and Climate Change

The public hearing for the proposed project is programmed for early June of 2023. TxDOT has prepared a *Statewide On-Road Greenhouse Gas Analysis and Climate Change Assessment Technical Report*. The report discloses: 1) an analysis of available data regarding statewide greenhouse gas (GHG) emissions for on-road GHG emissions,[1] 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 statewide 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, this increase in GHG emissions is projected to contribute to future changes in climate.

[1] GHG emissions consist of on-road tailpipe emissions and upstream fuel cycle emissions. Upstream fuel cycle emissions are the emissions generated by extracting, shipping, refining, and delivering fuels.

5.18.1 Statewide On-road Greenhouse Gas Emissions

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 in 2050 and reach a minimum in 2032 at 161 million metric tons. 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 USDOT, which includes Corporate Average Fuel Economy standards;
- "Cash for clunker" programs which remove older, higher-emitting vehicles from roads;
- Traffic system management 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 which provides reductions in vehicle miles traveled (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 vehicle miles traveled, 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 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 included in the statewide technical report.

6 Agency Coordination

This section identifies all coordination with agencies outside TxDOT that are required to be conducted for the Build Alternative. The list below identifies the agencies requiring coordination and the status of efforts to coordinate the proposed project.

- SHPO (see **Section 5.8**): Coordination with the THC/SHPO regarding historic resources and archeological resources is complete. Coordination letters are included in **Appendix F**.
- TPWD (see **Section 5.11**): Collaborative review with the TPWD was concluded on March 21, 2023. Coordination with the TPWD is ongoing. The coordination correspondence is included in **Appendix F**.
- Tribal Coordination: Coordination documentation with federally recognized Native American tribes is available in **Appendix F**.
- NRCS: Because the proposed Build Alternative scored higher than 60 points using the NRCS-CPA-106 form, FPPA coordination was required. Per NRCS email dated November 29, 2022, the combined rating of the site is 147. No further consideration for protection and no additional evaluation is necessary (see **Appendix F**).
- TCEQ: Per the TxDOT-TCEQ MOU, TxDOT will provide TCEQ with the final draft EA for review and comment. Results of this coordination will be included in the final EA.
- USACE: Coordination with the USACE is ongoing regarding impacts to the USACE WMA and two USACE-owned parks immediately adjacent to the existing US 380 alignment. Coordination includes initial stakeholder meeting with USACE/TxDOT, regular biweekly meetings between USACE/TxDOT, USACE/TxDOT meetings with the City of Princeton, and site visits with USACE to evaluate alternative alignments, including US 380 and WMA alignments. Impacts to waters of the U.S. will be coordinated with the USACE, permits obtained, and mitigation accomplished, as appropriate.

7 Public Involvement

TxDOT held a public meeting (in-person and virtually) for the proposed project Tuesday, August 2, 2022. Public meeting notices were published in seven newspapers. Six newspapers published the notice in English; *The Dallas Morning News* on Monday, July 18, 2022, the *Collin County Commercial Record* on Tuesday, July 19, 2022, the *Princeton Herald* on Thursday, July 21, 2022, the *Farmersville Times* on Thursday, July 21, 2022, the *McKinney Courier Gazette* on Sunday, July 24, 2022, and the *Celina Record* on Monday, July 25, 2022. The newspaper *Al Dia* published the Spanish version of the notice on Wednesday, July 20, 2022. The legal notice was mailed to adjacent property owners, elected officials, various public and private stakeholders and public agencies. The notice was also sent via email to elected officials, various public and private stakeholders, public agencies and members of the public who signed up previously for project updates. The Cities of Princeton,

McKinney, and Farmersville posted the notice to their websites and social media prior to the public meeting.

The in-person public meeting was held in an open house format at the Princeton High School Cafeteria, located at 1000 E Princeton Dr, Princeton, Texas. The virtual public was available at https://www.keepitmovingdallas.com/ US380Princeton from Tuesday, August 2, 2022 to Wednesday, August 17, 2022. The same materials were available at the in-person and virtual public meetings. In total, 136 members of the public attended the in-person meeting and there were 630 unique visits to the virtual public meeting web page. The narrated YouTube presentation received 812 views. The YouTube presentation can be found at: https://youtu.be/an4K2-XEXQw.

Comments were received over the 15-day comment period. The comments submitted regarded a variety of topics, including property impacts, utilities, noise, and lighting. Several commenters requested alignment changes. Commenters expressed both support and opposition to the proposed project. The comment and response matrix public meeting is included for reference in **Appendix I**.

The NOA of the Draft EA will be published in both English and Spanish in various newspapers that serve the project area, including a general circulation newspaper that is published at least six days a week for three consecutive weeks not less than one week or more than two weeks before the public hearing date to address Chapter 26 of the Texas Parks and Wildlife Code (PWC; 3 PWC 26.002). The notice will also be available online at www.txdot.gov and www.keepitmovingdallas.com. A separate written notice will be provided to the USACE at least 30 days before the public hearing date. In addition, the public hearing legal notice will be provided in traditional Chinese to the Kalachakra Buddhist Meditation Center. This Chinese notice will specify that Chinese interpreters may be provided at the public hearing, if requested.

A NOA of the final EA will be issued, and the FONSI will not be signed until 30 days after the NOA of the final EA. Because the project involves construction of a highway on a new location, a notice of impending construction will 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 ROW, mailed notice, printed notice distributed by hand, or website. This notice will be provided after the environmental decision, but before earthmoving or other activities requiring the use of heavy equipment begin.

8 Post-Environmental Clearance Activities and Design/Construction Commitments

8.1 Post-Environmental Clearance Activities

Activities to be completed after environmental clearance are listed and discussed as follows:

- Utilities: Utility relocations would be required throughout the corridor. Utility agreements and notice to owners would be required for this project prior to construction.
- Traffic Noise: Following the environmental clearance, a Notification of Noise letter will be sent to the Local Officials in the Cities of McKinney, Princeton, and Farmersville about traffic noise and its potential impacts on the communities adjacent to the project. A noise workshop meeting would be held to solicit input from the affected property owners and residents associated with the proposed noise abatement measure and finalize TxDOT's noise mitigation measures for the project.
- Section 404: The proposed project would require an NWP 14 with a PCN and a non-reporting NWP 14. The PCN will be obtained before construction. The proposed project would comply with all general conditions of the NWP. All mitigation banks with a service area covering the project will be contacted and a quote will be requested for any required mitigation credits for this project.
- Section 401: The Section 401 Certification requirements for NWP 14 would be met by implementing a SWP3. The SWP3 would include at least one BMP for erosion control, sediment control, and post-construction Total Suspended Solids (TSS) control from the Tier 1 Section 401 Water Quality Certification Conditions for NWPs as published by the TCEQ.
- Section 402: The project contractor will comply with the CGP, SWP3, and complete the appropriate authorization documents.
- Wetlands: The project contractor will minimize impacts to wetlands during construction by keeping the construction footprint as small as possible while enabling construction that meets all requirements for the proposed project's implementation. BMPs would be implemented during construction.
- Floodplains: Notification and coordination with the local floodplain administrator is required because portions of the project are within the 100-year floodplain. This coordination will be completed prior to the start of construction.
- Invasive Species: The project contractor is required to preserve native vegetation to the extent practical. The contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, and 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.
- Migratory Birds: Before construction begins, the project contractor will 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.

- Threatened, Endangered, and Candidate Species: The following BMPs would be implemented per the 2021 MOU for the proposed project. The full BMPs are included on the Documentation of Texas Parks and Wildlife Department Best Management Practices form included in Appendix F.
    - General Design and Construction BMP
    - Vegetation BMP
    - Stream Crossing BMP
    - Water Quality BMP
    - Insect Pollinator BMP
    - Freshwater Mussel BMP
    - Bird BMP
    - Bat BMP
    - Terrestrial Amphibian and Reptile BMP
    - Aquatic Amphibian and Reptile BMP
    - Rare Plant BMP
    - Invasive Species BMP
- Detours: County and local public safety officials would be notified of any road closures or detours during construction. Detour timing and necessary rerouting of emergency vehicles would be coordinated with the proper local agencies during construction.
- Air Quality: Implement fugitive dust control measures contained in standard specifications to minimize potential impacts of PM emissions during construction.
- Hazardous Materials for Building and Bridge/Bridge Class Culvert Demolition: Structures being demolished will need to be assessed and mitigated for asbestos and LCP. Asbestos and LCP inspections, notification, and removal, as applicable, would be addressed prior to demolition in accordance with regulatory requirements.
- Public Involvement: Before construction, a notice of impending construction will be provided to owners of adjoining property and affected local governments and public officials.

8.2 Design/Construction Commitments

- Archeological Resources: Thorough investigation of areas identified for high potential for intact archeological deposits not surveyed during these investigations as a result of the lack of ROE, shall be completed after ROW is purchased and before construction begins. If unanticipated archaeological deposits are encountered during construction, work in the immediate area will cease, and TxDOT archaeological staff will be contacted to initiate post-review discovery procedures.

- Wetlands: The construction contractor would be required to avoid and minimize unnecessary impacts on wetlands during construction.
- Construction (TPDES): Contractor shall comply with the CGP and SWP3. Complete, post and submit NOI and notice of termination (NOT) to TCEQ and the MS4 operator. Inspect the project to ensure compliance with the CGP.
- Drinking Water Systems: If any unknown wells are encountered during construction activities, they would need to be properly plugged in accordance with state statutes.
- Hazardous Materials: The contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. 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.
- Vegetation: 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.
- Migratory Birds: Take 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. Refer to **Section 8.1** for applicable BMPs.
- Air Quality: 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.
- Threatened, Endangered, and Candidate Species: As indicated in **Section 8.1**, the TPWD-recommended BMPs that will be applied to this project are indicated in the Documentation of Texas Parks and Wildlife Department Best Management Practices form prepared for the project, which is included in **Appendix F**. If any species on Collin County threatened and endangered species list is sighted in the project area during construction, construction would stop, and contractor would notify the TxDOT Area Engineer. Refer to **Section 8.1** for applicable BMPs.

9 Conclusion

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

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11 Names and Qualifications of Persons Preparing the EA

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

Doug Booher, Director of ENV, 25 years, Document Approver

Michelle Lueck, Project Delivery Manager, 23 years, Document Reviewer

Ray Umscheid, ENV Project Planner, ENV Traffic Noise Specialist, 15 year, Traffic Noise Reviewer/Approver

Susan M. Shuffield, ENV Project Planner, Water Team Lead, 24 years, Water Resources Analysis/404 Permitting Reviewer/Approver

Rebekah Dobrasko, Cultural Resources Section Director, 18 years, Historic Resources Survey and Report Reviewer/Approver

Scott Pletka, Archeology Program Manager, 19 years, Archeological Resources Survey, Permitting, and Report Reviewer/Approver

Nicolle Kord, Community Impacts Specialist, 10 years, Community Impacts Assessment Reviewer/Approver

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

Tim Wood, Air Quality Specialist, 10 years, Air Quality Analysis Reviewer/Approver

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

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

Leslie Mirise, ENV Project Planner, ENV Biologist, 21 years, Biologist/Approver

Adam Fouts, ENV Project Planner, ENV Water Resources Specialist, 11 years, Water Resources Specialist/Approver

Stirling Robertson, Ph.D., Environmental Specialist, Biology Team Lead, 28 years, Biological Resource Analysis Reviewer/Approver

Sonya Hernandez, Project Delivery Management, Section Director – 17 years

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

Stephen Endres, P.E., Transportation Engineer, 24 years, Project Manager

Dan Perge, P.E., Transportation Engineer, 35 years, APD Section Director

Mohammed Shaikh, Environmental Program Manager, 20 years, District Environmental Lead

Melissa Meyer, Public Involvement Specialist, 13 years, District Public Involvement Lead

Manuel Trevino, Environmental Specialist, 16 years, District Traffic Noise Specialist

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

Kerry Winkler, Senior Project Manager, 25 years, Environmental Task Lead

Erin Lee, Environmental Task Lead, 18 years, Quality Control/Quality Assurance NEPA Reviewer

Daniel Salazar, Environmental Planner IV, 15 years, Air Quality Analyst and Community Impacts Analyst

Brad Hernandez, Project Manager VI, 21 years, Project Manager

Jeff Puskos Jr, Project Manager V, 22 years, Deputy Project Manager and Schematic Task Lead

Jodi Hodges, Public Relations Supervisor, 34 years, Public Involvement Analyst

Devin Engelke, Public Relations Specialist I, 1 year, Public Involvement Coordination

Shelley Hartsfield, Principal Investigator, 18 years, Cultural Resources Lead and Cultural Resources Analyst

Tanya Mcdougall, Historian V, 18 years, Cultural Resources Analyst

Beth Reed, Historian II, 20 years, Cultural Resources Analyst

Josh Orr, Science Supervisor, 19 years, Water Resources Analyst

Jennifer Oakley, Science Manager, 13 years, Water Resources Analyst

Joseph Jandle, Biologist II, 7 years, Biological Resources Analyst

Bill Tillar, Senior Environmental Scientist, 28 years, Air Quality Analyst and Noise Analyst

Amy Hall, Ecologist II, 4 years, Water Resources Analyst and Report Preparation

Hayden Blice, Environmental Scientist I, 3 years, Hazardous Materials Analyst

Regina Geren, Administrative Assistant IV, 25 years, Document Control

Helen Potter, GIS Specialist III, 11 years, GIS Analyst

Hicks and Company personnel name and title, years of experience, and role:

Samantha Champion, Planning Program Manager, 14 years, NEPA Specialist

Jason Buntz, Environmental Planner, 24 years, NEPA Oversight, Indirect and Cumulative Impacts

Natasia Moore, Environmental Planner, 6 years, NEPA Specialist, Indirect and Cumulative Impacts

Allison Smith, Environmental Planner, 3 years, NEPA Specialist, Indirect and Cumulative Impacts

Jerod McCleland, GIS Specialist, 15 years, GIS Analyst, Indirect and Cumulative Impacts

Paul Starkel, GIS Specialist, 7 years, GIS Analyst, Indirect and Cumulative Impacts

Allison Smith, Environmental Planner, 4 years, NEPA Specialist, Indirect and Cumulative Impacts

Patricia Frost, P.G. Senior Geoscientist/Project Manager, 34 years, Hazardous Materials

12 Appendices

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