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MEMORANDUM

TO: T. Clay Schultz, Ph.D., Regional Water Project Development Clay Schultz Digitally signed by Clay Schultz Date: 2026.05.22 14:49:59 -05'00'

THROUGH: Joe Koen, P.E., Regional Water Project Development Joe Koen Digitally signed by Joe Koen Date: 2026.05.19 14:02:54 -05'00'

FROM: Kylie Beard, Environmental Protection Specialist Kylie Beard Digitally signed by Kylie Beard Date: 2026.05.19 14:00:29 -05'00'

SUBJECT: City of Irving, Dallas County, Texas
TWDB FIF Project No. 40206
West Irving Creek Channel Improvements
Phase D
Total Commitment Amount: $45,000,000
Loan No. L1001613
Grant No. G1001614

As required by the rules of the Texas Water Development Board (TWDB), 31 Texas Administrative Code (TAC) § 363.14 and 363.16, an environmental review has been performed for the West Irving Creek Channel Improvements project, Phase D by the City of Irving (City) in Dallas County, Texas. The City is proposing to use $45,000,000 in financing from the Flood Infrastructure Fund (FIF) program for the construction of the project. The Environmental Determination (ED) completed for the proposed project is based primarily on the Environmental Data Form (EDF)[1] received by the TWDB.

The City is constructing the West Irving Creek Channel Improvements project in multiple phases that function independently of each other and have therefore elected to conduct environmental review under separate environmental findings. This ED corresponds to Phase D. Phase D includes bridge and channel modifications for flood control in West Irving Creek, as well as a trash rack to filter litter from the channelized portion of the stream before it enters a gravel pit that drains to the West Fork Trinity River. An ED for Phase A was issued by the TWDB on February 21, 2024. Phases B and C are currently pending environmental review.

PURPOSE AND NEED

The purpose of the proposed project is to expand drainage capacity and resolve frequent flooding within residential and recreational areas between Rogers Road and Oakdale Road

[1] City of Irving (April 10, 2026). Environmental Data Form (EDF), West Irving Creek Channel Improvements Project, Phase D, Prepared by Freese and Nichols, Inc. Received by TWDB on April 14, 2025. The EDF is complete with the supplementary materials submitted to the TWDB on April 10, 2026.

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Bryan McMath, Executive Administrator

in Irving, Texas. The City proposes the construction of bridge and channel modifications at MacArthur Boulevard, Dallas College Irving Center, Shady Grove Trail Park, Vilbig Street, and Oakdale Road to culverted, riprap, and concrete-lined sections of West Irving Creek.

The existing trash rack at the creek outfall is undersized and frequently overtops, allowing trash to be conveyed by stormwater flows into the aquatic system downstream. The proposed trash rack would improve trash collection and management within the rock riprap and concrete-lined section of West Irving Creek.

PROJECT DESCRIPTION

The proposed project is located in four areas along West Irving Creek between Rogers Road and Oakdale Road in Irving, Dallas County, Texas. The City proposes to perform various bridge and channel modifications along West Irving Creek in these areas, as well as the construction of a trash rack at the outlet of the channelized portion of the creek. 253 structures would be removed from the floodplain as a result of this project.

In the first area of the project, between Rogers Road and Shady Grove Road, the City proposes various modifications to increase drainage capacity and decrease flooding of residences around Markwood Park and the Dallas College Irving Center. The City proposes replacing the existing culverted section of South MacArthur Boulevard with a raised bridge to prevent road overtopping. A 100-foot-wide drop structure would be installed east of S. MacArthur Boulevard, which would maintain the existing impoundment of West Irving Creek between Rogers Road and S. MacArthur Blvd. This would also protect the creek and new bridge from instabilities within the channel. A new 400-foot segment of trail would be constructed in Markwood Park that would pass underneath the new bridge crossing at MacArthur Blvd. to provide pedestrian transport between the Dallas College property and Markwood Park. Between S. MacArthur Blvd. and Shady Grove Road, 100 feet of the floodplain along the left bank of West Irving Creek would be graded to increase drainage capacity of the channel. Likewise, 100 feet of floodplain along the right bank of West Irving Creek would be graded.

As part of the construction of the S. MacArthur Blvd. Bridge where it crosses West Irving Creek, three utility lines (two water and one wastewater) would be relocated during construction. An existing 265 linear feet (LF) of 8-inch water line west of S. MacArthur Blvd. would be relocated deeper to avoid conflict with proposed drainage improvements within approximately the same location. An existing 310 LF of 18-inch water line would be relocated approximately 20 feet to the east of its original location just east of MacArthur Boulevard. An existing 90 LF of 12-inch wastewater line would be relocated deeper to avoid conflict with proposed drainage improvements within approximately the same location during construction. All utility line relocations would take place within the proposed limits of construction for the project and would be installed via trenchless method where they cross West Irving Creek.

In the second area of the project, between Shady Grove Road and Vilbig Street, the City proposes additional modifications to decrease flooding. North of Vilbig Street, 500 feet of the floodplain along the right bank, facing downstream, of West Irving Creek in Shady Grove Trail Park would be graded to increase drainage capacity of the channel. A new 550-foot segment of trail would be constructed in Shady Grove Trail Park adjacent to Shady Grove Road and West Irving Creek to provide pedestrian transport between the park and the Dallas College Irving Center. The existing culverted section of Vilbig Street, where it crosses West Irving Creek, would be lowered by one foot to prevent road overtopping. A drop structure would be constructed to the north of the crossing to maintain the existing water levels of the creek.

The third area of the project at Oakdale Road at the crossing of West Irving Creek would include the replacement of the existing culverts to a two-span bridge crossing to prevent road overtopping.

The City will also replace and improve approximately 200 LF of vertical trash rack at the southern terminus of a concrete lined segment of West Irving Creek, west of Markland Street installed to capture and retain excess trash. Additionally, energy dissipation features would be installed to slow the channel flow in order to capture more trash in the basin along West Irving Creek. The proposed work includes reconstruction of the existing trash rack apron, reconstruction of the channel outfall, and installation of energy dissipation features. Minor channel grading will also be completed to tie improvements into the existing channel.

The following proposed project components are included in this ED:

<u>MacArthur Boulevard</u>

- Replacement of the culverted section of MacArthur Blvd. across West Irving Creek with a raised bridge
- Installation of a drop structure in West Irving Creek west of Mac Arthur Blvd.
- Construction of a new 400-foot trail segment in Markwood Park
- Approximately 100 feet of floodplain grading along the left and right banks of West Irving Creek between MacArthur Blvd. and Shady Grove Road
- Construction of a new 550-foot trail segment in Shady Grove Trail Park
- Approximately 575 LF of water pipeline and 90 LF of wastewater pipeline will be relocated within 20 feet of their existing locations

<u>Vilbig Street</u>

- Approximately 500 feet of floodplain grading along the right bank, facing downstream, of West Irving Creek north of Vilbig Street
- Installation of a drop structure in West Irving Creek north of Vilbig Street
- Lowering of the culvert by one foot where Vilbig Street crosses West Irving Creek

Oakdale Road

- Replacement of a culvert with a bridge where Oakdale Road crosses West Irving Creek

West Irving Creek Outfall

- Reconstruction of approximately 200 LF of vertical trash rack
- Reconstruction of the channel outfall
- Installation of energy dissipation features
- Minor channel grading to tie improvements into the existing channel

PUBLIC PARTICIPATION

The project is consistent with local, regional, and statewide planning. Coordination with the appropriate governmental agencies has been made and no adverse comments have been received.

In its application for project funding, the City provided a completed copy of TWDB-0172, confirming: the City acted cooperatively with other eligible political subdivisions to address flood control needs in the area; all eligible political subdivisions that would be substantially affected by the proposed flood project participated in the project development process or elected not to participate following adequate notice and ample opportunity; and the County held public meetings to accept comments on the proposed flood project from interested parties.

Due to proposed construction in Markwood Park and Shady Grove Trail Park, in conformance with Chapter 26 of the Parks and Wildlife Code, the City conducted a public meeting on November 6, 2025, which was advertised in a newspaper of general circulation in the service area. The City issued a resolution on November 6, 2025 that there is no feasible and prudent alternative to using a portion of the parkland for drainage improvements and the project includes all reasonable planning to minimize harm to the land, as a park, recreation area, scientific area, wildlife refuge, or historic site resulting from the proposed use.

AGENCY COORDINATION

This environmental review included coordination with state and federal regulatory agencies, local authorities, and other stakeholders and interested parties regarding the project's potential impact. The City submitted notifications to and requests for input from all required parties. Some entities did not require a response. The respondents are listed below, and the results of coordination are summarized in the EDF and reflected in the environmental conditions listed below:

- Texas Historical Commission (THC), in accordance with the Antiquities Code of Texas (THC Tracking Nos. 202408298, 202408297, 202407895, and 202604813)

- United States Army Corps of Engineers (USACE), Regulatory Branch, Fort Worth District, in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (Project Numbers SWF-2024-00250, SWF-2024-00305, and SWF-2024-00306, Nationwide Permit (NWP) 14 for Linear Transportation Projects; Project Number SWF-2025-00501, NWP 43 for Stormwater Management Facilities)
- Texas Parks and Wildlife Department (TPWD), Wildlife Division, Ecological & Environmental Planning Program, Austin, in accordance with the Endangered Species Act of 1973, as amended; Migratory Bird Treaty Act; Texas Parks and Wildlife Code; and other applicable regulations (TPWD Project No. 52939 and 57987)
- United States Fish and Wildlife Service (USFWS), Arlington Ecological Services Field Office, in accordance with the Endangered Species Act and statutes affecting other federally protected species (USFWS Project Codes 2024-0072389, 2024-0100024, 2024-0099996, and 2025-0155265)
- TWDB, National Flood Insurance Program (NFIP) State Coordinator, pursuant to the Flood Insurance Reform Act of 2004, federal Executive Order 11988, Texas Water Code Section 16.315, and local floodplain development ordinances
- Local Floodplain Administrator pursuant to the NFIP and Flood Emergency Management Agency (FEMA) regulations

Texas Historical Commission

The THC was given the opportunity to review the project and concurred that no historic properties, archeological sites, or other cultural resources would be affected by the project, in correspondence dated May 2024 and February 6, 2026. (THC Tracking Nos. 202408298, 202408297, 202407895, and 202604813). There were no previously recorded significant or potentially significant sites within or adjacent to the project footprint according to THC Archeological Sites Atlas. The project is not within the protected area surrounding a historic cemetery, structure, or district.

United States Army Corps of Engineers

West Irving Creek is an intermittent stream that is primarily concrete lined upstream of the proposed trash rack. The MacArthur segment of the proposed project would remove the culverted section of South MacArthur Blvd. at the West Irving Creek crossing and replace it with a raised bridge and drop structure, which would remove the roadway from the floodplain and improve channel conditions. The project also includes trail improvements in Markwood Park, west of South MacArthur Blvd., and the grading of approximately 925 LF of the left (east) bank and 1,200 LF of the right (west) bank of West Irving Creek, east of South MacArthur Blvd. near Dallas College, to provide additional floodwater conveyance. The construction footprint for this segment encompasses an area of 10.27 acres.

Temporary and permanent impacts would occur to West Irving Creek due to proposed project construction. Temporary impacts include 0.02 acres from the installation of the drop structure and 0.14 acres for the concrete work under South MacArthur Blvd., totaling 0.16 acres of temporary impacts at the creek. Permanent impacts include the proposed placement of 0.006 acres of rip rap and the proposed 0.011-acre concrete drop structure, totaling 0.017 acres of permanent impacts to West Irving Creek, east of MacArthur Blvd.

Proposed construction activities would include temporary and permanent impacts to Impoundment 1, an impoundment of West Irving Creek. Temporary impacts associated with the replacement of the bridge would affect 0.07 acres of the impoundment. Stabilization of approximately 100 LF of the south (right) bank would permanently impact 0.017 acre of Impoundment 1.

On September 26, 2024, the USACE staff verified that the MacArthur Boulevard project appeared to be authorized under NWP 14 for Linear Transportation Projects (Project Number SWF-2024-00250).

The Vilbig segment would increase the capacity of the culverts beneath Vilbig Street at the West Irving Creek crossing by installing a drop structure and lowering of the culvert by one foot where Vilbig Street crosses West Irving Creek, grade approximately 500 L) of the right bank of West Irving Creek upstream of Vilbig Street, outside the ordinary high water marks (OHWMs) of the channel, and extend Shady Grove Park trail south of Shady Grove Road. The limits of construction extend approximately 420 LF south of Shady Grove Road along the west bank of West Irving Creek and west approximately 220 LF. The construction area also includes the right bank of West Irving Creek 620 LF north of Vilbig Street, and the West Irving Creek channel from 40 LF north of Vilbig Street to 135 LF south of Vilbig Street. The Vilbig segment has been designed to avoid permanent impacts to relatively permanent water features. The proposed construction footprint comprises 1.39 acres. 0.175 acres of temporary impacts would occur.

On September 26, 2024, the USACE staff verified that the Vilbig Street project appeared to be authorized under NWP 14 (Project Number SWF-2024-00306).

The Oakdale segment proposes to increase the size of the culverts at the West Oakdale Road crossing of West Irving Creek to reduce flooding of the roadway. The proposed project would extend approximately 330 LF east and west along West Oakdale Road and approximately 50 LF north and 70 LF south of West Oakdale Road along West Irving Creek. The Oakdale segment has been designed to avoid permanent impacts to relatively permanent water features. This segment would result in 0.095 acres of temporary impacts to the creek. A total of 0.66 acres comprises the project area.

On September 19, 2024, the USACE staff verified that the Oakdale Boulevard project appeared to be authorized under NWP 14 (Project Number SWF-2024-00305).

General conditions 12 and 25 of NWP 14 require sediment and erosion control best management practices, which will be implemented for all three segments to satisfy Texas Surface Water Quality Standards under the authority of Section 401 of the Clean Water Act. A stormwater pollution prevention plan (SWPPP) will be implemented with water quality best management practices during construction (Texas Commission on Environmental Quality (TCEQ), Texas Pollution Discharge Elimination System (TPDES) Construction General Permit (CGP) TXR15000.

The City re-coordinated with the USACE for the addition of the trash rack to the proposed project and on January 6, 2026, the USACE staff verified that this project appeared to be authorized under NWP 43 for Stormwater Management Facilities (Project Number SWF-2025-00501).

Work on the trash rack would involve the addition of 0.08 acres of concrete to the existing concrete and gabions of the existing trash rack within the project area. The limits of construction for the trash rack would include approximately one acre. Two waterbodies, totaling 0.218 acre, are located within the limits of construction. The proposed trash rack construction activities would include the permanent fill of approximately 0.026 acres within West Irving Creek and an adjacent open water. Water from the proposed project area would be discharged to the south into a former gravel pit that was in operation from the 1950s through the early 2000s. Due to the former gravel pit, the natural hydrology south of the project area has been significantly altered. West Irving Creek drains into a gravel pit and a stream/wetland mosaic which includes an area known as Bear Slough, which then flows to the West Fork Trinity River.

Texas Parks and Wildlife Department

The TPWD Wildlife Division, Ecological & Environmental Planning Program staff reviewed the project in accordance with the Texas Parks and Wildlife Code, and provided a response dated October 25, 2024 (TPWD Project No. 52939). The TPWD staff made recommendations to prevent impacts to protected, aquatic, and to avoid the transmission of invasive species. Specifically, TPWD estimated that grading of the creek banks would require the removal of approximately four acres of riparian forest and resultingly, recommendations focused on mitigating potential impacts to migratory bird species, tricolored bats, aquatic species, and species of greatest conservation need.

The northern latitudes of Texas (including the city of Irving) are considered within the hibernating range of the tricolored bat (*Perimyotis subflavus*). Within the hibernating range, tricolored bats are estimated to hibernate November 16-March 14, conduct spring staging March 15-April 30, occupy summer tree roosting habitat March 15-September 30, have a pup season of May 15-July 31, and conduct fall swarming September 1-November 15. In the northern Texas range, protection of hibernacula, avoiding tree removal near known hibernacula, avoiding tree removal during pupping, and minimizing overall tree removal are conservation practices for the species.

The project occurs in a suburban environment and contains approximately four acres of riparian woodland areas that would be cleared for construction and may provide suitable maternity season habitat for the tricolored bat. Project culverts may provide suitable habitat for hibernating tricolored bats, depending on the size of the culverts. Culverts with a tunnel length of 23 feet or greater and a height of three feet tall or greater are considered suitable for tricolored bat winter hibernation.

In addition to bat conservation measures, the TPWD recommended that the City consider an alternative flood reduction design that avoids disturbance to the existing stream banks and riparian woodlands by diverting high flows to an off-system detention basin, such as excavations within the parkland that fill only during high flows and drain back to the creek as water recedes.

Due to potential impacts to aquatic species such as mussels, TPWD recommended coordinating with the TPWD Kills and Spills Team (KAST) regarding permitting for dewatering activities during construction and potential impacts to aquatic species. Freese and Nichols, Inc., (FNI) on behalf of the City coordinated with TPWD-KAST, finding that the West Irving Creek watershed is highly urbanized and the stream is concrete-lined through much of the project area. Despite its intermittent flow status, stream reach sections upstream of MacArthur and Vilbig tend to hold water due to a poor drainage elevation at the bridge culvert crossings. The areas with pools likely experience high temperature spikes and low dissolved oxygen during the summer months and are not likely to contain viable perennial mussel habitat. No Corbicula or Unionid valves or fragments were identified in the project area during multiple site visits, including a Freshwater Mussel Reconnaissance Survey conducted on November 6, 2024. In correspondence dated November 12, 2024, TPWD-KAST concurred that an Aquatic Resource Relocation Plan (ARRP) would not be required.

The TPWD further noted that:

Waterways, floodplains, riparian corridors, ponds, and wetlands provide valuable wildlife habitat, and TPWD recommends protecting them to the maximum extent feasible. Riparian vegetation provides soil and bank stability, the shade from canopy trees helps regulate water temperatures, which is important for aquatic life, leaves and sticks provide refuge and nutrient input which supports aquatic food webs, and stream banks provide burrow opportunities for nesting or roosting animals.

TPWD recommends the City of Irving consider an alternative flood reduction design that avoids disturbance to the existing stream banks and riparian woodlands by diverting high flows to an off-system detention basin such as excavations within the parkland that fill only during high flows and drain back to the creek as water recedes.

In correspondence dated November 12, 2024, FNI, on behalf of the City, responded regarding their commitment to the recommendations. The City responded to the above recommendation as follows:

Alternatives that involved grading above the OHWM throughout both natural creek areas at Markwood Park were considered during the design phase. Other alternatives were considered that involved excavating various slopes between Rogers Road and Shady Grove Trail Park. Additionally, an off-channel detention basin was considered in Shady Grove Trail Park during the planning phase which would fill during high flows. The grading effort for these alternatives would result in the removal of park land in a heavily urbanized segment of the City, which would no longer be usable for that purpose and would conflict with the existing sewer line infrastructure. Due to the potential loss to park area, impacts to existing infrastructure, and additional impacts below the OHWM of West Irving Creek, the City determined that these alternatives would not be implemented.

The City conducted additional coordination with TPWD EEEP and KAST staff on January 6, 2026 for the trash rack and received a final response on February 25, 2026, resulting in no additional recommendations (TWPD Project No. 57987).

In order to mitigate or avoid potential impacts, TPWD recommendations are summarized as environmental special conditions in this ED.

United States Fish and Wildlife Service

The USFWS Arlington Ecological Services Field Office, in accordance with the Endangered Species Act and statutes affecting other federally protected species, was given the opportunity to review the project through the Information for Planning and Consultation (IPaC) system separately for each project segment (MacArthur, Vilbig, Oakdale, and the trash rack: USFWS Project Codes 2024-0072389, 2024-0100024, 2024-0099996, and 2025-0155265, respectively). The USFWS consistency letters dated May 16, May 20, and May 20, 2025, and March 3, 2026, respectively, all issued a *No Effect* determination for the listed species in the project area and a formal Section 7 consultation was not required.

No known occurrences of or potential habitat for federally listed candidate, threatened, or endangered species were present within or adjacent to the project area during the site visit conducted by FNI. There was no designated critical habitat within the project area. FNI determined that no state-listed threatened or endangered species or their preferred habitat are expected to be significantly impacted by the proposed project due to the disturbed nature of the project area.

Local Floodplain Administrator and NFIP Coordinator

To ensure compliance with FEMA requirements, FNI notified the local floodplain administrator (FPA) for the City of Irving and the Texas State NFIP Coordinator. No response was received.

Project construction will occur within the floodway, 100-year, and 500-year floodplain, as designated by the Federal Emergency Management Agency (FEMA). Projects involving construction in a Special Flood Hazard Area (SFHA) require a floodplain development permit from the City of Irving FPA prior to construction.

This environmental finding is conditioned to require a floodplain development permit prior to clearing or construction activities within a SFHA in order to comply with requirements of the Federal Emergency Management Agency (FEMA) regarding implementation of the National Flood Insurance Act, Flood Disaster Protection Act, National Flood Insurance Reform Act, Federal Executive Orders 11988 and 11990, and to comply with related state statutes.

CONDITIONS AND RECOMMENDATIONS

An environmental review of the project has been completed consistent with the guidelines provided in 31 TAC § 363.14 and 363.16. The environmental review is documented by this ED, which contains environmental conditions that will be applied to the project to avoid significant adverse impact on floodplains, cultural or historical resources, threatened or endangered species, and protected migratory bird species.

The TWDB may not fund testing, remediation, removal, disposal, or related works for contaminated or potentially contaminated materials. However, the project proponent should ensure that, if found, such materials are tested, removed, and disposed of in accordance with applicable state and federal laws.

The project must comply with the following special and standard environmental conditions:

<u>Special Environmental Conditions</u>

- Consistent with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899, the proposed project will comply with the terms and conditions of United States Army Corps of Engineers Nationwide Permit (NWP) 14 for Linear Transportation Projects (Project Numbers SWF-2024-00250, SWF-2024-00305, and SWF-2024-00306) and NWP 43 for Stormwater Management Facilities (Project Number SWF-2025-00501).

- Consistent with the Flood Insurance Reform Act of 2004, federal Executive Order (EO) 11988 as amended by EO 13690, Texas Water Code Section 16.315, and local floodplain development ordinances, a floodplain development permit will be obtained from the City of Irving floodplain administrator prior to construction in, across, or under a Special Flood Hazard Area, and any requirements contained therein will be adhered to.

- As per an agreement with the Texas Parks and Wildlife Department (TPWD), Ecological & Environmental Planning Program (Project No. 52939), to ensure compliance with 31 Texas Administrative Code (TAC) Chapter 57, Texas Parks and Wildlife Code, Chapters 1, 12, 64, and 67, the Endangered Species Act of 1973, as amended, the Migratory Bird Treaty Act, and applicable federal regulations pertaining to protected species, the following measures will be implemented:
    - Vegetation clearing must be excluded during the general bird nesting season and tricolored bat pupping season, March 15 through September 15, to avoid adverse impacts to breeding birds and tricolored bats (*Perimyotis subflavus*). If vegetation clearing during this time is unavoidable, the area proposed for disturbance will be surveyed by a qualified biologist to identify occupied nests and pupping habitat, not more than five days prior to clearing activities. If occupied nests or bat roosts or hibernacula are observed during surveys, a vegetation buffer area of no less than 100 feet in diameter will remain around the nest or roost until all young have fledged; however, the size of the buffer zone depends on various factors and can be coordinated with the local or regional USFWS office. State and federal regulations as currently interpreted do not permit incidental take.
    - Culverts will be inspected for bats prior to construction. If bats are found to occupy a culvert, culvert construction activities will be avoided during the November 16 through March 14 hibernating season.
    - Contractors and construction crews will be provided with informational materials identifying potential protected species, including the tricolored bat and species of greatest conservation need (SGCN) that may occur in the project area and instructing them on how to avoid impacts to wildlife that are encountered: If wildlife are encountered, the animals will be allowed to leave the area safely. Wildlife in danger from project activities that will not readily leave the site can be translocated to a nearby area with similar habitat. Any translocation of reptiles will occur within 100-200 yards from the initial encounter location. State-listed species will be handled only by persons with authorization obtained through the Texas Parks and Wildlife Department.
    - For soil stabilization and revegetation, no-till drilling, hydromulching (avoiding plastic ingredients), and/or hydroseeding will be used rather than erosion control blankets or mats, which pose an entanglement hazard to wildlife. If erosion control blankets or mats cannot be avoided, products that contain no netting or loosely woven natural fiber netting will be used, avoiding any type of plastic netting.
    - During construction, trucks and equipment will use existing bridges to cross creeks. Disturbance to inert microhabitats in waterways such as snags, brush piles, fallen logs, pools, and gravel stream bottoms will be avoided.
    - The City of Irving (City) will minimize vegetation removal and retain vegetative riparian buffers along waterbodies to the extent practicable. The City will avoid the removal of trees that have hollows to the extent practicable, as they provide suitable habitat for roosting bats such as the tricolored bat.

- If tricolored bats, alligator snapping turtle (*Macrochelys temminckii*), or the Monarch butterfly (*Danaus plexippus*) become federally listed prior to vegetation clearing and/or construction, the City will conduct additional coordination with the USFWS to ensure compliance with the ESA.
- The City will utilize trenchless construction methods for proposed water and wastewater pipeline crossings of West Irving Creek, avoiding impacts to potential waters of the U.S., including wetlands and aquatic habitat.

<u>Standard Environmental Conditions</u>

- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of cultural resources.

- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of threatened and endangered species.

Therefore, it is recommended that an Environmental Determination be issued.