ENVIRONMENTAL ASSESSMENT

for the proposed

Howard Road — Leon Creek 138 kV Phase 2 Transmission Line Rebuild Project in Bexar County, Texas

Prepared for

CPS Energy

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Acronyms and Abbreviations

amsl	Above mean sea level
AD	*anno Domini* (after Christ)
AFB	Air Force Base
AM Radio	Amplitude Modulation Radio
BEG	Bureau of Economic Geology
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
BP	Before present
C	Candidate species
CAS	Center for Archeological Studies
CCN	Certificate of Convenience and Necessity
CFR	Code of Federal Regulations
CLF	Civilian Labor Force
CMP	Coastal Management Program
CMZ	Coastal Management Zone
CPS Energy	City Public Service Board
CSJ	Control Section Job
DoD	Department of Defense
EA	Environmental Assessment
EAA	Edwards Aquifer Authority
e.g.	*exempli gratia* (for example)
EMST	Ecological Mapping Systems of Texas
EOID	Element Occurrence Identification number
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
et al.	*et alia* (and others)
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
FEMA	Federal Emergency Management Agency
FM	Farm-to-Market Road (e.g., FM 3503)
FM Radio	Frequency Modulation Radio
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
GLO	Texas General Land Office
Halff	Halff Associates, Inc.
HPA	High Probability Area
HTC	Historic Texas Cemetery
i.e.	*id est* (that is)
IH	Interstate Highway (e.g., IH 20)
IPaC	Information for Planning and Conservation (USFWS)
ISD	Independent School District
JBSA	Joint Base San Antonio
kcmil	thousand circular mils
kV	kilovolt (1,000 Volts)
LRR	Land Resource Region

LWCF	Land and Water Conservation Fund Act
MBTA	Migratory Bird Treaty Act
MLRA	Major Land Resource Area
MVA	Megavolt-amperes
NDD	Natural Diversity Database
NCED	National Conservation Easement Database
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Parks Service
NRCS	Natural Resources Conservation Service (an agency of the USDA)
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nationwide Permit
NWSRS	National Wild and Scenic Rivers System
OHP	Office of Historic Preservation
OTHM	Official Texas Historical Markers
PE	Proposed Endangered
PELA	Pre-existing Landing Areas
Project	Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project
PUC	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
ROW	Right-of-Way
RRC	Railroad Commission of Texas
SAL	State Antiquities Landmark
SARA	San Antonio River Authority
SAWS	San Antonio Water System
SCS	Soil Conservation Service (agency was renamed NRCS, see above)
Section 404	Section 404 of the Clean Water Act
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Office
spp.	Species (plural)
SL	State Loop
SWPPP	Stormwater Pollution Prevention Plan
T	Threatened Species
TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
TASA	Texas Archeological Sites Atlas
TCEQ	Texas Commission on Environmental Quality
TDC	Texas Demographic Center
TEA	Texas Education Agency
THC	Texas Historical Commission
THSA	Texas Historical Sites Atlas

TLC	Texas Land Conservancy
TNC	The Nature Conservancy
TNRIS	Texas Natural Resources Information System
TPWC	Texas Parks and Wildlife Code
TPWD	Texas Parks and Wildlife Department
TSS	Texas Speleological Survey
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
U.S.	United States
US	United States
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
var.	Variation
WHAB	Wildlife Habitat Assessment

1.0 DESCRIPTION OF THE PROPOSED PROJECT

1.1 Scope of Project

The City of San Antonio (San Antonio or City), acting by and through City Public Service Board (CPS Energy) proposes to rebuild an existing 138 kilovolt (kV) transmission line. The Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project (Project) begins at the existing CPS Energy-owned Leon Creek Substation, which is located southeast of the intersection of Quintana Road and Pitluk Avenue in San Antonio, Texas, and continues 1.77 miles to a CPS Energy transmission line structure (Structure #17) located north of Leon Creek. The entire project will be within the City of San Antonio city limits. The Project will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The Project will utilize the existing easements and require additional easements along its length. Each of these project endpoints are shown relative to the local road network on **Figure 1-1**. The existing and proposed right-of-way (ROW) necessary to safely operate the Project on private property will be approximately 95 to 110 feet in width depending on the location. Subject to appropriate regulatory approvals for the Project, the Project is anticipated to be in service by summer of 2026.

CPS Energy retained Halff Associates, Inc. (Halff) to prepare this Environmental Assessment (EA) to aid in the City's evaluation of the Project. The EA may also be used to support any additional federal, state, or local permitting activities that might be required in association with construction of the Project. To assist Halff in the evaluation of the Project, CPS Energy provided Halff with information regarding the need, construction practices, and ROW requirements for the Project. CPS Energy also provided information regarding the engineering and design requirements for the EA.

Following this section describing the Project, this document includes an explanation of the EA methodology (**Section 2.0**), a description of the existing environmental and social conditions in the study area (**Section 3.0**), and an evaluation of expected environmental impacts of the proposed transmission line route (proposed Project route) (**Section 4.0**). A discussion of effort to solicit information from local, state, and federal officials and agencies (**Section 5.0**), description of the public involvement program (**Section 6.0**), a list of report preparers (**Section 7.0**) and bibliographical references used in preparing this report (**Section 8.0**) are also provided. The appendices include copies of agency correspondence (**Appendix A**), public participation meeting information (**Appendix B**), and an environmental and land use constraints map (**Appendix C**).

1.2 Purpose and Need

The proposed project is needed to increase the resiliency and reliability of Texas' electric grid by adding another transmission pathway to increase support of the accelerating load growth south of San Antonio.

1.3 Description of Proposed Design

A general description of the transmission line design is provided below. Some details of the proposed installation will be determined following approval of the Project.

1.3.1 Transmission Line Design

The Project will include two parallel, double circuit capable 138 kV transmission lines. One transmission line will have two circuits installed using a 1,272 thousand circular mils (kcmil) trapezoidal aluminum conductor steel-supported Pheasant with one conductor per phase and one static wire each. The other transmission line will have one circuit installed, utilizing 795 kcmil trapezoidal aluminum conductor steel-supported Drake with bundled two conductors per phase and one static wire. In most areas, the project will be installed on new structures and within existing and new easements. A variable width ROW of approximately 95 to 110 feet is required to accommodate constraints and meet engineering clearance specifications.

The Project will be rated for operation at 1,964 amperes, yielding a nominal 469-megavolt ampere (MVA) capacity for the circuits utilizing the Pheasant conductor, and 2,922 amperes, yielding a nominal 698-MVA capacity for the circuit using the bundled Drake conductor. The configurations of the conductor and shield wire will provide adequate clearance for operation at 138 kV, considering icing and wind conditions. The Project will be designed and constructed to meet or exceed the specifications set forth in the current edition of the National Electric Safety Code (NESC) and will comply with all applicable state and federal statutes and regulations.

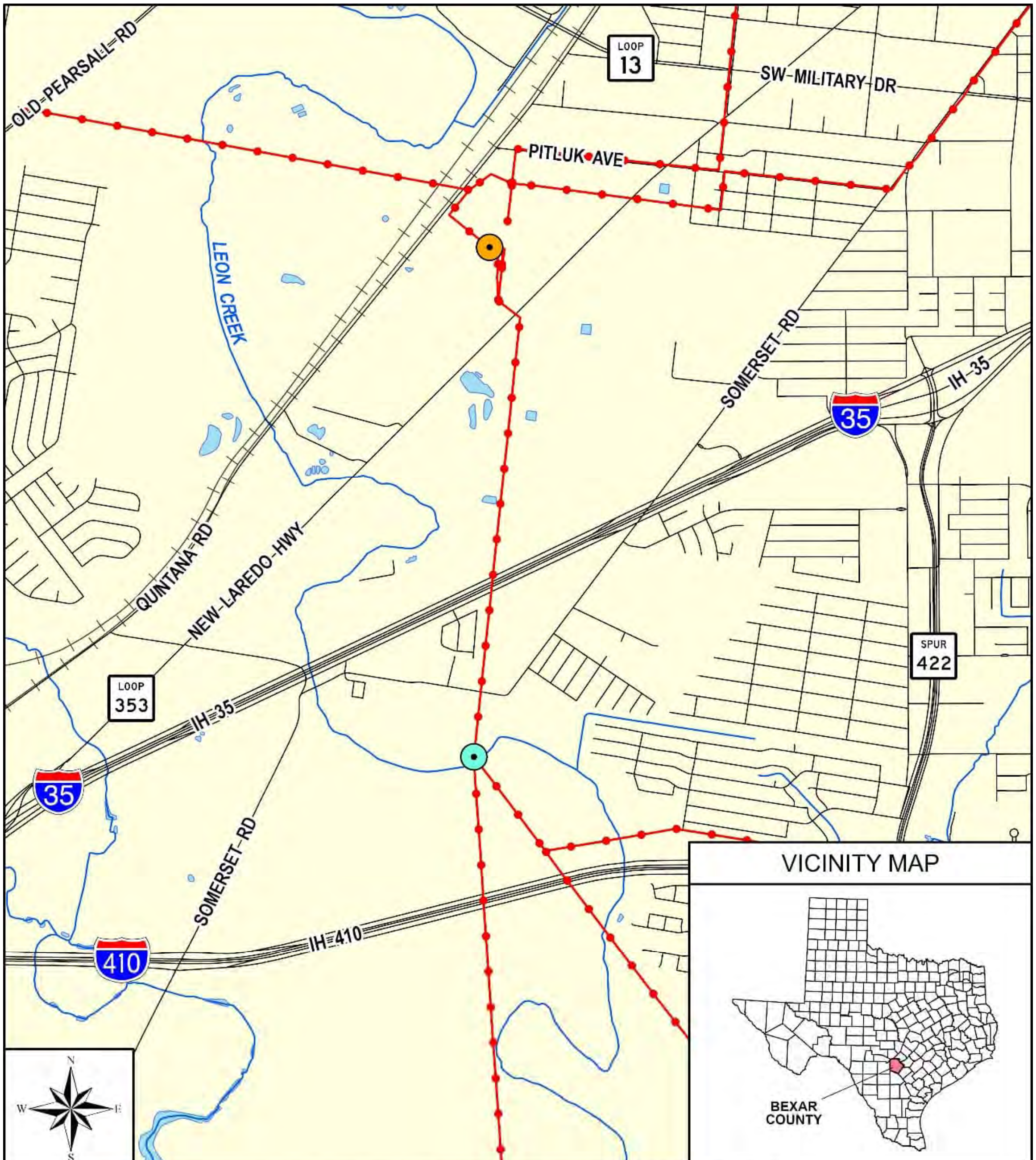

FIGURE 1-1. PROJECT LOCATION MAP

HOWARD ROAD — LEON CREEK 138 kV PHASE 2 TRANSMISSION LINE PROJECT

LEON CREEK SUBSTATION
EXISTING TRANSMISSION LINE
ROAD
RAILROAD
STRUCTURE #17
0 1,500 3,000 6,000
FEET
CREEK / STREAM

BASE MAP: TEXAS NATURAL RESOURCES INFORMATION SYSTEM (TNRIS), 2024

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1.3.2 Typical Transmission Line Structures and Easements

CPS Energy proposes to use new 138 kV double-circuit monopole structures for typical tangent, angle, and dead-end structures. The illustrative geometries of the proposed typical tangents and dead-end structures are shown in **Figures 1-2** through **1-4**. Actual proposed structure types may differ slightly based on newer or different designs available at the time of construction. The Project will be constructed in existing and new ROW, within a variable width easement approximately 95 to 110 feet in width, with spans that typically range from approximately 400 to 710 feet. In some areas, easement width and span length could be more or less than the typical depending on terrain and other engineering considerations. Access easements and/or temporary construction easements may be needed in some areas.

1.3.3 Construction Schedule

Subject to appropriate regulatory approvals for the Project, CPS Energy plans to construct the Project primarily between October 2025 and May 2026. The specific construction schedule will be refined following CPS Energy Board of Trustees approval of the Project, as new ROW is acquired and surveyed, engineering designs are finalized, and any necessary endangered or threatened species accommodations are considered. The transmission line is proposed to be constructed by contractors.

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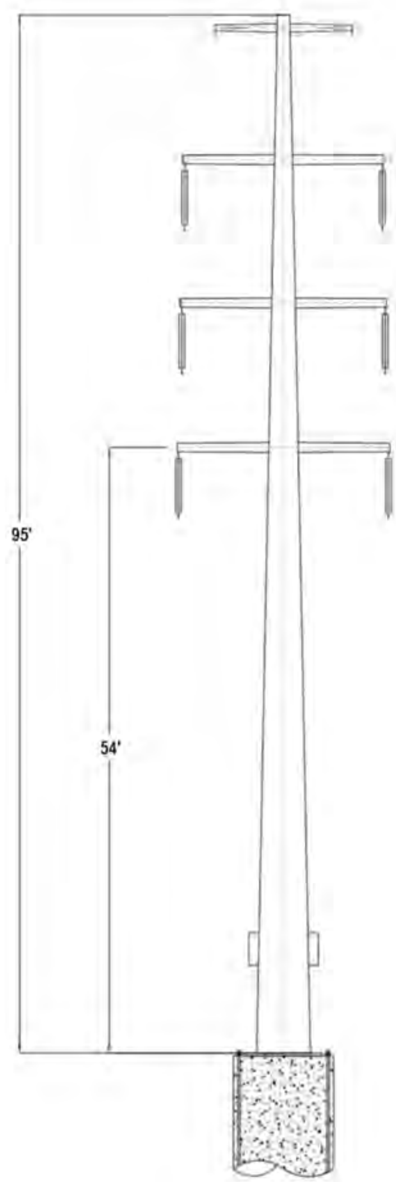

FIGURE 1-2.
TYPICAL 138 kV DOUBLE CIRCUIT I-STRING TANGENT STRUCTURE
HOWARD ROAD — LEON CREEK 138 kV PHASE 2 TRANSMISSION LINE PROJECT

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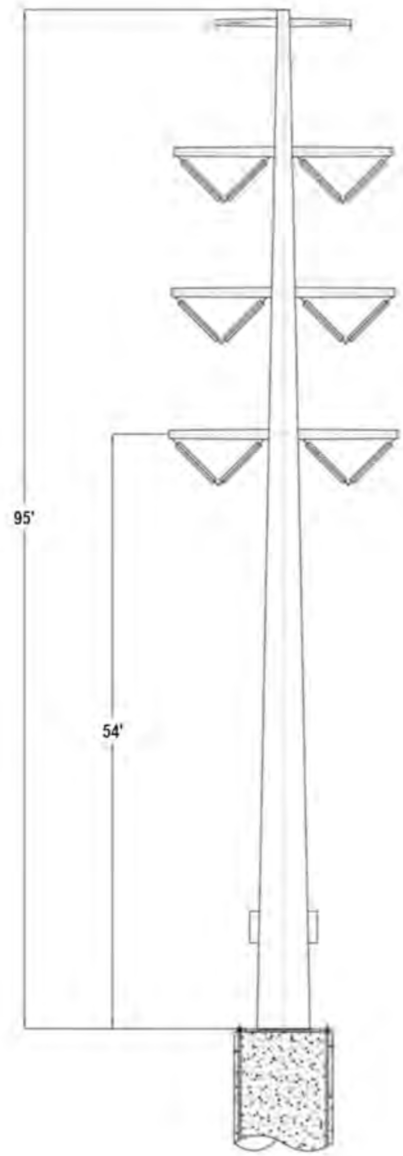

FIGURE 1-3.
TYPICAL 138 kV DOUBLE CIRCUIT V-STRING TANGENT STRUCTURE
HOWARD ROAD — LEON CREEK 138 kV PHASE 2 TRANSMISSION LINE PROJECT

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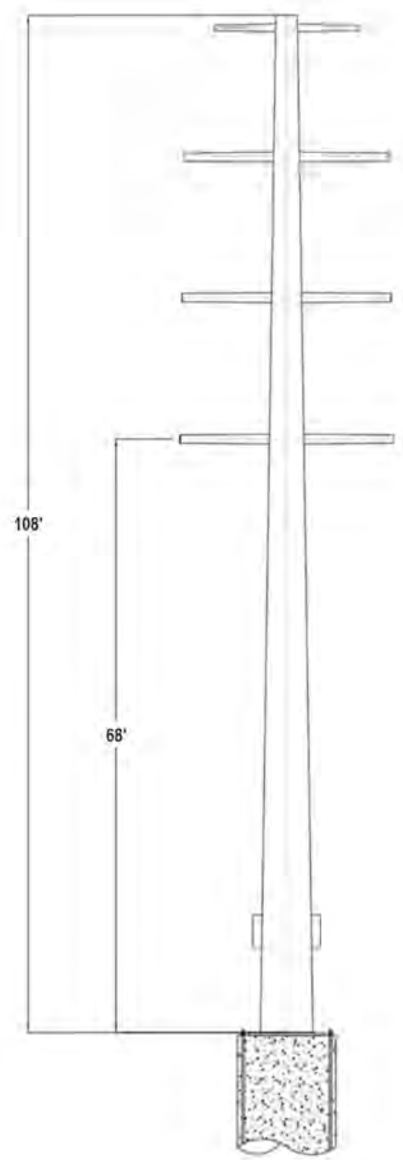

FIGURE 1-4.
TYPICAL 138 kV DOUBLE CIRCUIT DEAD-END STRUCTURE
HOWARD ROAD — LEON CREEK 138 kV PHASE 2 TRANSMISSION LINE PROJECT

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1.4 Construction Considerations

Projects of this type require clearing, structure assembly and erection, conductor and shield wire installation, and cleanup when the Project is completed. The following criteria will be taken into consideration (these criteria are subject to potential adjustment in befitting the regulations and determinations of public agencies whose lands or managing resources may be impacted by the Project):

1. Clearing and grading of construction areas (e.g., storage areas, setup sites, etc.) will be minimized to the extent practicable. These areas will be graded in a manner that will minimize erosion and conform to the natural topography.

2. Soil that has been excavated during construction and not used will be evenly backfilled onto a cleared area or removed from the site. The backfilled soil will be sloped gradually to conform to the terrain and the adjacent land. All disturbed areas, as a result of construction activity, will be restored and re-vegetated with native grasses.

3. Soil disturbance during construction will be minimized and erosion control devices will be utilized, where necessary. The Project will comply with Texas Commission on Environmental Quality (TCEQ), Bexar County, and the City of San Antonio requirements for stormwater discharges.

4. Clearing and construction activities in the vicinity of streambeds will be performed in a manner to minimize damage to the natural condition of the area. If new service and access roads are required, construction will take place concurrently. Roads will not be constructed on unstable slopes. Side drainage ditches and culverts will be utilized to prevent soil or road erosion as required. Construction of any roads and drainage structures required for the Project will adhere to all applicable local, state, or federal permit requirements.

5. Tension stringing of conductors may be employed to reduce the amount of vegetation clearing before final conductor locations are established.

6. When possible, in areas of high wildlife use or in areas of known endangered or threatened species habitat, construction will be performed during seasons

of low wildlife occurrence, such as between periods of peak migrations (generally spring and fall) and during nonbreeding seasons (species dependent).

7. If any archeological materials are uncovered during construction, work will stop in the immediate area of the discovery for evaluation.

1.4.1 Clearing and ROW Preparation

Clearing plans, methods, and practices are extremely important to minimize the potential adverse effects of transmission lines on the environment. The ROW will not be clear cut, unless necessary, and only trees and vegetation that may interfere with the construction, operation, and maintenance of the transmission line will be removed in accordance with the San Antonio tree ordinance requirements. Trees and brush that are removed will be mulched and spread in the ROW to help stabilize the ground and prevent erosion. CPS Energy does not intend to use herbicides in ROW clearing and preparation.

1.4.2 Structure Assembly and Erection

Survey crews will stake or otherwise mark structure locations. Construction crews will install structures by excavating holes and placing a reinforced concrete drilled pier foundation. After the foundations have cured sufficiently, crews will set the structures and install the conductor and shield wire suspension assemblies. Since a large amount of vehicular traffic will occur during this operation, construction crews will take care to minimize impacts to the ROW by minimizing the number of pathways traveled.

1.4.3 Conductor and Shield Wire Installation

The conductors and shield wires are typically installed via a tensioning system. Conductors and shield wires are pulled by ropes and held taut by a tensioner to prevent contact with the ground and other potentially damaging objects. Temporary guard structures will be installed at points where the transmission line crosses overhead electric power lines, overhead telephone lines, roadways, or other areas requiring sag. After the wire is pulled, it is placed in suspension and dead-end clamped for permanent attachment.

1.4.4 Cleanup

The cleanup operation typically involves returning disturbed areas to as close to the original contour as possible, the removal of debris, and the restoration of any items damaged by construction of the project. Upon the completion of the construction work, all scrap, trash, excavated materials, waste materials, and debris resulting from construction of the transmission line will be promptly removed. All construction equipment and materials will be removed from the site, and waste disposal will be conducted in a legal manner. All disturbed areas will be re-vegetated with native grass seed mixture.

1.5 Maintenance Considerations

Following construction, CPS Energy will periodically inspect the transmission line ROW, structures, and line to ensure the safe and reliable operation of the facilities. The completed project will require routine maintenance, including, but not limited to, the removal or pruning of trees that could pose a risk to the conductors or structures. Preservation of natural resources requires a thoughtful, comprehensive maintenance program. The following factors are key components of CPS Energy's maintenance program that will be utilized for the Project.

- Native vegetation that is important for fish and wildlife and does not pose a risk to the safe operation and maintenance of the transmission line will be permitted to grow in the ROW. Likewise, if ecologically appropriate, native grass cover and low-growing shrubs will be left in the area immediately adjacent to transmission structures. Where grading is necessary, access roads will be graded to the proper slope to prevent soil erosion.
- A cover of vegetation will be maintained within the ROW in a manner that minimizes erosion and does not interfere with the safe and reliable operation of the transmission facilities.
- If used, United States Environmental Protection Agency (EPA)-approved herbicides will be carefully selected to have a minimal effect on desirable indigenous plant life, and selective application will be used whenever appropriate.
- CPS Energy performs routine maintenance inspections at appropriate intervals. Routine maintenance will be performed, when possible, when access roads are firm or dry.

- Aerial and ground maintenance inspection activities of the transmission line facility will include observation of soil erosion problems, fallen timber, and conditions of the vegetation that require attention. Where necessary, based on erosion control, native shrubs or grasses may be planted.
- CPS Energy intends for the ROW to be used for compatible purposes, provided that activity does not impact public safety or hinder the safe operation and maintenance of the electrical system. The results of natural resources and cultural resources assessments will be followed as necessary and appropriate during maintenance of the ROW.

1.6 Agency Actions

A portion of the Project is located within or across the ROW of a county or state-maintained road or highway. Therefore, CPS Energy will obtain the appropriate permit(s) from the controlling government entity, if necessary. Since more than one acre will be cleared or disturbed during construction, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared. If disturbance thresholds are met, a Notice of Intent (NOI) will be submitted to the TCEQ, and a construction notice will be submitted by CPS Energy to San Antonio Water System (SAWS). The controls specified in each SWPPP will be monitored in the field. Permits or regulatory approvals may also be required from the TCEQ, Texas Historical Commission (THC), United States Army Corps of Engineers (USACE), and the United States Fish and Wildlife Service (USFWS). Following the identification of environmental and ROW concerns, appropriate measures will be taken during engineering design to incorporate special provisions in construction documents, specifications, or other instructions. Following completion of the design, a preconstruction conference will be held, which will include a review of these provisions. Physical inspections of the Project will be performed to assure all appropriate measures have been taken during construction.

Numerous federal, state, and local regulatory agencies and organizations have developed rules and regulations regarding the routing and potential impacts associated with the construction of the Project. This section describes the major regulatory agencies and additional issues that are involved in project planning and permitting of transmission lines in Texas. Halff solicited comments from various regulatory entities during the development of this document, and records of correspondence and additional discussions with these agencies and organizations are provided in **Section 5.0** and **Appendix A**.

1.6.1 United States Army Corps of Engineers

The USACE is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [U.S.C.] § 403) and Section 404 of the Clean Water Act (33 U.S.C. § 1344) to implement these statutes. Under Section 10, the USACE regulates all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States. The intent of this law is to protect the navigable capacity of waters important to interstate commerce. Under Section 404 of the Clean Water Act (Section 404), the USACE regulates the discharge of dredged and fill material into all waters of the United States, including associated wetlands. The intent of this law is to protect the waters of the United States and aquatic ecosystems from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical, and biological integrity. The Project is located within the jurisdiction of the USACE – Fort Worth District.

Review of the National Hydrography Dataset (NHD) and National Wetlands Inventory (NWI) maps indicate surface waters of the United States. Upon CPS Energy Board of Trustees approval of the Project, additional coordination, jurisdictional wetland verifications and permitting with the USACE – Fort Worth District for a Section 404 Permit might be required. Based on the Project footprint and construction techniques proposed, the construction of the Project will likely meet the criteria for the Nationwide Permit (NWP) No. 57 - Electricity Utility Line and Telecommunications Activities, which applies to activities associated with any cable, line, or wire for the transmission of electrical energy. A Section 10 permit will not be required for this Project.

1.6.2 United States Fish and Wildlife Service

The USFWS is charged with the responsibility for enforcement of federal wildlife laws and providing comments on proposed construction projects with a federal nexus under the National Environmental Policy Act (NEPA) and within the framework of several federal laws including the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA). Halff reviewed the USFWS' Information for Planning and Conservation (IPaC) (Project Code: 2025-

0001342) website for federally protected species and designated critical habitats within the study area.

Upon CPS Energy Board of Trustees approval and prior to construction, surveys will be completed as determined necessary and appropriate to identify any potentially suitable habitat for federally listed species. If suitable habitat is identified, then informal consultation with the USFWS – Austin Ecological Services Field Office might need to occur to determine the need for any required species-specific surveys and/or permitting under Section 10 of the ESA.

1.6.3 Federal Aviation Administration

According to Federal Aviation Administration (FAA) regulations, Title 14 Code of Federal Regulations (CFR) 77.9 the construction of a transmission line requires FAA notification if a transmission tower structure height will exceed 200 feet or the height of an imaginary surface extending outward and upward at one of the following slopes:

- A 100:1 slope for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of 14 CFR 77.9 having at least one runway longer than 3,200 feet, excluding heliports;
- A 50:1 slope for a horizontal distance of 10,000 feet from the nearest runway of a public or military airport described in paragraph (d) of 14 CFR 77.9 where its longest runway is no longer than 3,200 feet in length, excluding heliports; or
- A 25:1 slope for a horizontal distance of 5,000 feet for a heliport described in paragraph (d) of 14 CFR 77.9.

Paragraph (d) of 14 CFR 77.9 includes public-use airports listed in the Airport/Facility Directory (currently the Chart Supplement), public-use or military airports under construction, airports operated by a federal agency or the Department of Defense (DoD), or an airport or heliport with at least one FAA-approved instrument approach procedure.

Notification is not required for structures that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height and will be located in a congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.

It is not currently anticipated that the Project will require FAA notification. Following CPS Energy Board of Trustees approval of the Project, CPS Energy will make a final determination of the need for FAA notification, based on specific structure locations and design. If any of the FAA notification criteria are met for the approved route, a Notice of Proposed Construction or Alteration, FAA Form 7460-1, will be completed and submitted to the FAA Southwest Regional Office in Fort Worth, Texas, at least 30 days prior to construction. The result of this notification, and any subsequent coordination with the FAA, could include changes in line design and/or potential requirements to mark and/or light the structures.

For purposes of the EA, private airstrips within 10,000 feet of the Project were also reviewed.

1.6.4 Military Aviation and Installation Assurance Siting Clearinghouse

The DoD Military Aviation and Installation Assurance Siting Clearinghouse works with industry to overcome risks to national security while promoting compatible domestic energy development. Energy production facilities and transmission projects involving tall structures, such as electrical transmission towers, may degrade military testing and training operations. The electromagnetic interference from electricity transmission lines can impact critical DoD testing activities. Title 16 Texas Administrative Code (TAC) §22.52 states that upon filing of the application, the DoD shall be notified and an affidavit attesting to the notification shall also be provided with the applicant's proof of notice. The DoD shall also be provided written notice of the public meeting and if a public meeting is not held, the DoD shall be noticed of the planned filing of the application prior to the completion of the routing study. On June 25, 2024, the DoD was contacted about the proposed Project to provide notification and to solicit any input from the DoD about the proposed Project. Upon CPS Energy Board of Trustees approval of the Project a notice will be sent to the DoD Military Aviation and Installation Assurance Siting Clearinghouse.

1.6.5 Texas Parks and Wildlife Department

The Texas Parks and Wildlife Department (TPWD) is the state agency with the primary responsibility for protecting the state's fish and wildlife resources in accordance with the Texas Parks and Wildlife Code (TPWC) Sections 12.0011(b), 64.003, 68.015 and 1.011. Halff solicited comment from TPWD during the scoping phase of the Project, and a copy of this EA will be submitted to TPWD upon approval of the Project by CPS Energy Board of Trustees. Halff also reviewed the Texas Natural Diversity Database (NDD) records of state-listed species occurrences and sensitive vegetation communities. Following approval of the Project, additional coordination with TPWD may be necessary to determine the need for any additional surveys, and to avoid or minimize any potential adverse impacts to sensitive habitats, threatened or endangered species, and other state regulated fish and wildlife resources.

1.6.6 Floodplain Management

Floodplain maps published by the Federal Emergency Management Agency (FEMA) were reviewed to identify the mapped 100-year floodplains within the study area. The mapped 100-year floodplains are typically associated with the larger creeks and streams or within the boundaries of a river. The 100-year floodplain represents a flood event that has a one percent chance of being equaled or exceeded for any given year. The construction of the proposed transmission line is not anticipated to create any significant permanent changes in the existing topographical grades and will not significantly increase the stormwater runoff within the study area due to increased areas of impermeable surfaces.

1.6.7 Texas Commission on Environmental Quality

The TCEQ is the state agency with the primary responsibility for protecting the state's water quality. Construction of the Project will require a Texas Pollutant Discharge Elimination System General Construction Permit (TXR150000) as implemented by the TCEQ under the provisions of Section 402 of the Clean Water Act and Chapter 26 of the Texas Water Code. Construction activities will be compliant with the TXR150000 permit conditions.

1.6.8 Texas Historical Commission

Cultural resources are protected by federal and state laws if they have some level of significance under the criteria of the National Register of Historic Places (NRHP) (36 CFR 60) or under state guidance (13 TAC § 2.26 (7-8)). Chapter 26 of the TAC requires state agencies and political subdivisions of the state to notify the THC of ground disturbing activity on public land. Halff contacted THC to identify known cultural resource sites within the study area boundary. Halff also reviewed Texas Archeological Research Laboratory (TARL) records for known locations of cultural resource sites and the THC's online, restricted-access Texas Archeological Sites Atlas (TASA) and Texas Historical Sites Atlas (THSA) for the locations of recorded cemeteries, NRHP properties, State Antiquities Landmarks (SALs) and Official Texas Historical Markers (OTHMs). Once the Project is approved by the CPS Energy Board of Trustees, depending on a state or federal nexus, additional coordination with the THC might be required to determine the need for archeological surveys or additional permitting requirements. CPS Energy proposes to implement an unanticipated discovery procedure during construction activities. If artifacts are discovered during construction, activities will cease near the discovery and will notify the State Historic Preservation Office (SHPO) for additional consultation.

1.6.9 Texas Department of Transportation

Halff notified the Texas Department of Transportation (TxDOT) of the Project during the development of the EA. A portion of the Project is located within or across TxDOT ROW. Therefore, once the Project is approved by the CPS Energy Board of Trustees, all construction activities for the Project will comply with TxDOT's rules, regulations, and policies, as applicable. Best Management Practices (BMPs) will be used as required to minimize erosion and sedimentation resulting from construction. Revegetation will occur as required under the "Revegetation Special Provisions" as contained in TxDOT Form 1023 (Rev. 9-93). Traffic control measures will comply with applicable portions of the Texas Manual of Uniform Traffic Control Devices.

1.6.10 Texas General Land Office

The Texas General Land Office (GLO) requires a miscellaneous easement for ROWs within any state-owned riverbeds or navigable streams or tidally influenced waters. Coordination with the GLO will be completed after CPS Energy Board of Trustees approval of the Project. The Texas Land Commissioner administers the Texas Coastal Management Program (CMP) under the GLO, which has the responsibility for implementing the Texas CMP. This program intends to help ensure the environmental and economic well-being of the Texas coast through proper management of coastal natural resource areas. The Texas CMP has federal and state project and permit action review processes to evaluate consistency with the program. As specified in the Coastal Coordination Act of 1991, the CMP of the Texas GLO must develop and implement a comprehensive plan for managing natural resources within the CMP boundary along the Texas coastline. The CMP boundary, as defined by 31 TAC § 503.1, delineates the coastal zone of Texas. The Project is not located within the Coastal Management Zone (CMZ), and no permitting action will be required under this program.

1.6.11 City of San Antonio

The Project is within the city limits of San Antonio; therefore, San Antonio has jurisdiction on tree mitigation according to San Antonio Unified Development Code Section 35-523. Throughout the process of designing the Project and clearing the ROW for the safe and reliable operation of the transmission line, CPS Energy will make every effort to save tree canopy and heritage trees where possible. The construction of the project will be subject to review by the City of San Antonio upon the approval of the Project by the CPS Energy Board of Trustees.

2.0 ENVIRONMENTAL ASSESSMENT METHODOLOGY

2.1 Objective of Study

The objective of this EA is to evaluate the proposed Project route in a manner consistent with Section 37.056(c)(4)(A)-(D) of PURA, the Public Utility Commission of Texas' (PUC) Substantive Rules located at 16 TAC § 25.101(b)(3)(B), including the PUC's policy of prudent avoidance, the PUC's Certificate of Convenience and Necessity (CCN) application requirements, the precedent established by the PUC for transmission line certification projects, and CPS Energy's transmission line routing manual. While a CCN application is not necessary for the Project, PUC's CCN application requirements were still applied for this EA. The study methodology utilized by Halff for this EA included study area delineation based on the Project endpoints; identification and characterization of existing land use and environmental constraints; and evaluation of the proposed Project route and potential impacts in relation to the environmental constraints. Halff identified potentially affected resources and considered each during the assessment process. Input from regulatory agencies and local officials was also considered during the route evaluation process.

The proposed Project route was analyzed using evaluation criteria to determine potential impacts to existing land use and environmental resources. CPS Energy considered certification criteria in PURA and the PUC Substantive Rules, engineering and construction constraints, grid reliability and security issues, and estimated costs to evaluate the Project.

2.2 Study Area Delineation

The first step in the identification of the Project was defining a study area. This area needed to encompass the existing endpoints (i.e., the Leon Creek Substation and Structure #17) and be large enough to adequately evaluate the proposed Project route. The purpose of delineating the study area for the Project was to establish boundaries and limits for the information gathering process (i.e., identifying environmental and land use constraints). The delineation of the study area also allowed Halff to focus its evaluation within a specific area.

Halff reviewed USGS 1:24,000 scale topographic maps and aerial photography (NearMap, 2024) to develop and refine the study area boundary for the proposed project. Halff located and depicted the proposed Project route and project endpoints on various maps to identify major features in or near the study area, such as Interstate Highway (IH) 35, IH 410, New Laredo Highway (State Loop [SL] 353) and Leon Creek. **Figure 2-1** shows the study area boundary Halff delineated overlaid on aerial photography (NearMap, 2024). **Figure 2-2** displays the study area boundary overlaid on a USGS topographic map (USGS, 2023). The study area is rectangular in shape with the longer axes (i.e., east and west boundaries) traversing 2.71 miles, whereas the shorter axes (i.e., north and south boundaries) traverse 1.10 miles. The study area covers approximately three square miles.

2.3 Data Collection and Constraints Mapping

After delineation of the study area, a constraints map was prepared and used to initially display resource data and constraints for the Project area. The constraints map provides a broad overview of various resource locations indicating land use or landscape features that may affect or be affected by the Project.

Several methodologies were utilized to collect and review environmental and land use data, including incorporation of readily available Geographic Information System (GIS) geospatial data with associated metadata; review of maps and published literature; and review of files and records from numerous federal, state, and local agencies. Data collected for each resource area was mapped within the study area utilizing GIS layers. The conditions of the existing environment are discussed throughout **Section 3.0** of this document. **Section 5.0** and **Appendix A** provide information regarding correspondence with agencies and officials.

Maps and/or data layers reviewed include (but are not limited to) USGS 7.5-minute topographic maps, NWI maps, TxDOT county highway maps, and recent aerial photography. Recent (July 2024) aerial photography was used as the background for the environmental and land use constraint map.

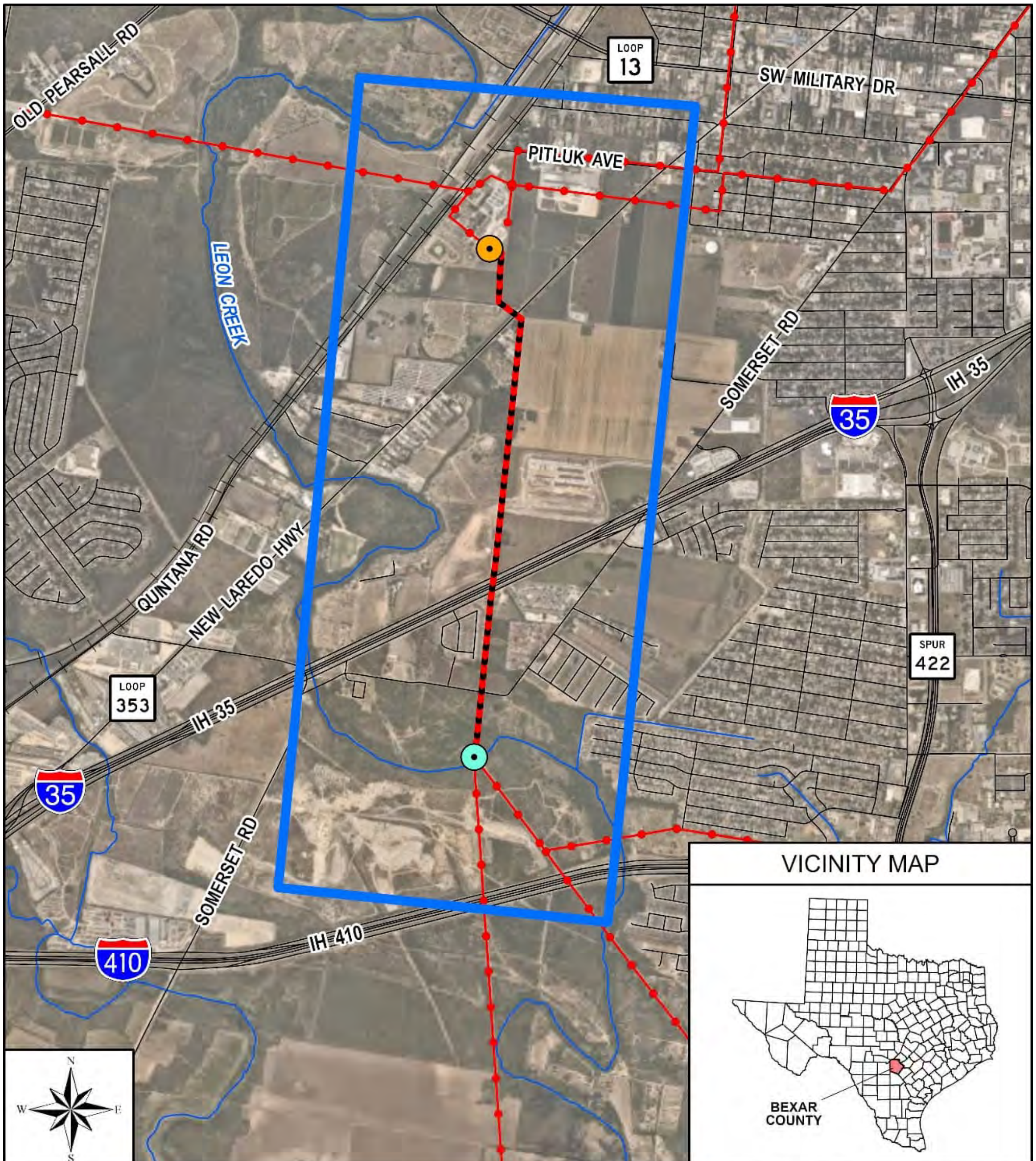

FIGURE 2-1. STUDY AREA BOUNDARY ON AERIAL PHOTOGRAPH MAP

HOWARD ROAD — LEON CREEK 138 kV PHASE 2 TRANSMISSION LINE PROJECT

LEON CREEK SUBSTATION
STUDY AREA
PROPOSED PROJECT ROUTE
EXISTING TRANSMISSION LINE
ROAD
RAILROAD
STRUCTURE #17
0 1,500 3,000 6,000
FEET
CREEK / STREAM

BASE MAP: TNRIS, 2024 AND NEARMAP, 2024

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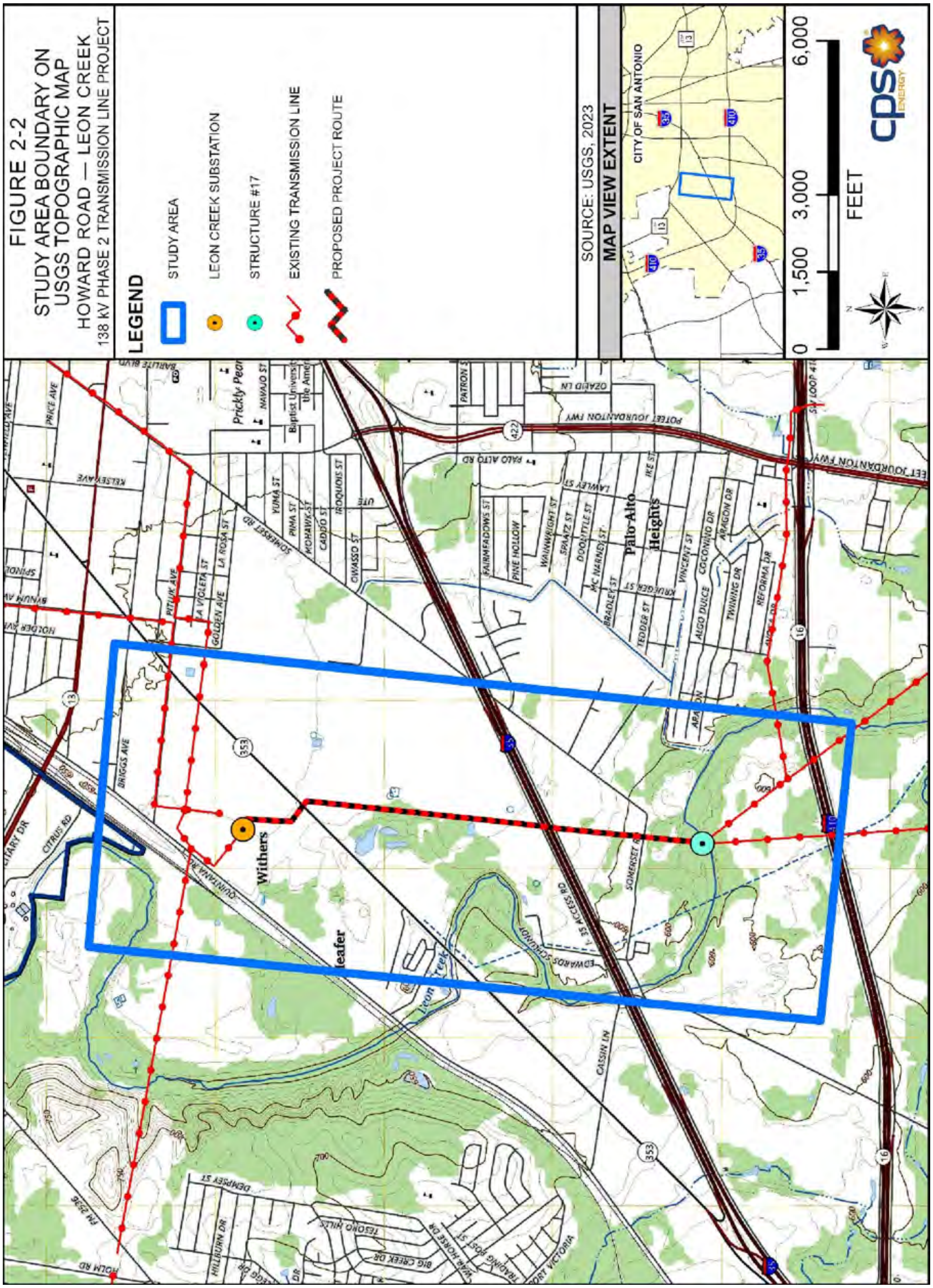

FIGURE 2-2
STUDY AREA BOUNDARY ON USGS TOPOGRAPHIC MAP
HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT

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Data typically displayed on the constraints map includes, but is not limited to:

- Major roads including local, county, and Farm-to-Market Roads (FM), and United States (US), State (SH), and Interstate Highways (IH)
- Existing transmission line and pipeline corridors.
- Airports, private airstrips, and heliports.
- Cultural resources (including historical markers, NRHP sites, and cemeteries).
- Communication towers.
- Parks and recreational areas.
- Major political subdivision boundaries.
- Lakes, reservoirs, rivers, streams, canals, and ponds.
- Mobile irrigation systems.
- Wells (including identifiable water, oil, and gas).

2.4 Agency Consultation

In consultation with CPS Energy, Halff developed a list of federal, state, and local regulatory agencies, elected officials, and organizations to receive a consultation letter regarding the Project. The purpose of the letter was to inform the various agencies and officials of the Project and provide them with an opportunity to provide information regarding resources and potential issues within the study area. A list of agencies contacted, and a summary of responses are included in **Section 5.0**. Copies of all correspondence with the various state/federal regulatory agencies and local/county officials and departments are included in **Appendix A**.

2.5 Field Reconnaissance

A reconnaissance survey of the study area (from public viewpoints) was conducted by Halff personnel to confirm the findings of the research and data collection activities, identify changes in land use occurring after the date of the aerial photography, and to identify potential unknown constraints that may not have been previously noted in the data. A reconnaissance survey of the study area was conducted by Halff on July 18, 2024, and August 29, 2024.

2.6 Public Meetings

CPS Energy and Halff presented the Project to the public at an open house meeting held on August 29, 2024. The purpose of the public open house meeting was to receive input, comments, and information regarding the Project and study area from the public which could be incorporated into the EA. A summary of the open house meeting is presented in **Section 6.0**. Copies of the public open house notice letter with map, brochure, frequently asked questions, and questionnaire provided in association with the public open house meeting are provided in **Appendix B**.

2.7 Route Evaluation

The proposed Project route was reviewed by CPS Energy to determine engineering requirements, constructability, and long-term maintenance considerations. Halff reviewed the proposed Project route using the environmental and land use constraints map while considering resource sensitivity. The proposed Project route was reviewed considering such factors as community values, parks and recreational areas, historical and aesthetic values, environmental integrity, route length utilizing and parallel to existing compatible corridors or parallel to apparent property boundaries, and prudent avoidance.

In evaluating the proposed Project route, land use and environmental evaluation criteria were developed to reflect accepted practices for routing electric transmission lines in the state of Texas (see **Table 2-1**). Evaluation criteria were further refined based on data collection and reconnaissance surveys.

The Project is shown in relation to environmental and other land use constraints on an aerial photographic base in **Figure 3-1** located in **Appendix C** (map pocket). The analysis of the Project involved inventorying and tabulating the number or quantity of each environmental criterion located along the route (e.g., number of habitable structures within 300 feet). The number or amount of each factor was measured by Halff using GIS layers, maps, recent aerial photography, and field verification from publicly accessible areas where practical. Potential environmental impacts are addressed in **Section 4.0** of this document.

Table 2-1. Land Use and Environmental Evaluation Criteria

EVALUATION CRITERIA	
Land Use	
1	Length of primary alternative route (miles)
2	Number of habitable structures[1] within 300 feet of right-of-way (ROW) centerline
3	Length of ROW using existing transmission line ROW
4	Length of ROW parallel and adjacent to existing transmission line ROW
5	Length of ROW parallel and adjacent to other existing ROW (roadways, railways etc.)
6	Length of ROW parallel and adjacent to apparent property lines (or other natural or cultural features, etc.)
7	Sum[2] of evaluation criteria 4, 5, 6
8	Percent of evaluation criteria 4, 5, 6
9	Length of ROW across parks/recreational areas[3]
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline
11	Length of ROW across cropland
12	Length of ROW across pasture/rangeland
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)
15	Length of route across gravel pits, mines, or quarries
16	Length of ROW parallel to existing pipeline ROW[4]
17	Number of pipeline crossings[4]
18	Number of transmission line crossings
19	Number of IH, US and state highway crossings
20	Number of FM or RM road crossings
21	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline
22	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline
23	Number of private airstrips within 10,000 feet of the ROW centerline
24	Number of heliports within 5,000 feet of the ROW centerline
25	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline
26	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline
27	Number of identifiable existing water wells within 200 feet of the ROW centerline
28	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells)
Aesthetics	
29	Estimated length of ROW within foreground visual zone[6] of US and state highways
30	Estimated length of ROW within foreground visual zone[6] of FM roads
31	Estimated length of ROW within foreground visual zone[6 & 7] of parks/recreational areas[3]
Ecology	
32	Length of ROW across upland woodlands/brushlands
33	Length of ROW across bottomland/riparian woodlands
34	Length of ROW across NWI mapped wetlands
35	Length of ROW across critical habitat of federally listed threatened or endangered species
36	Length of ROW across open water (lakes, ponds)
37	Number of stream and river crossings
38	Length of ROW parallel (within 100 feet) to streams or rivers
39	Length of ROW across Edwards Aquifer Artesian Zone
40	Length of ROW across 100-year floodplains
Cultural Resources	
41	Number of cemeteries within 1,000 feet of the ROW centerline
42	Number of recorded cultural resource sites crossed by ROW
43	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline
44	Number of NRHP-listed properties crossed by ROW
45	Number of additional NRHP-listed properties within 1,000 feet of ROW centerline
46	Length of ROW across areas of high archeological site potential

NOTES: All length measurements are shown in miles unless noted otherwise
[1]Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

EVALUATION CRITERIA
[2]Length of apparent property boundaries adjacent to and paralleling existing roads or highways are not "double-counted" in the sum length of ROW paralleled of criteria 4,5, and 6. [3]Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the proposed Project route. [4]Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations. [5]As listed in the Chart Supplement South Central US (FAA, 2024b formerly known as the Airport/Facility Directory South Central US) and FAA, 2024a. [6]One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of Interstates, US and state highway criteria are not "double-counted" in the length of ROW within the foreground visual zone of FM roads criteria. [7]One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of parks/recreational areas may overlap with the total length of ROW within the foreground visual zone of interstates, US and state highway criteria and/or with the total length of ROW within the foreground visual zone of FM roads criteria.

3.0 EXISTING ENVIRONMENT

3.1 Natural Resources/Environmental Integrity

Resource inventory data were collected for physiography, geology, soils, surface waters, wetlands, and ecological resource areas. These data were obtained from readily available sources and mapped within the study area utilizing GIS layers. Additional data collection activities consisted of file and record reviews conducted utilizing the various state and federal regulatory agencies, a review of published literature, and review of various maps and aerial photographs. Maps and data layers reviewed include USGS 7.5-minute topographic maps, aerial photography, Bureau of Economic Geology (BEG) Geologic Atlas, NWI maps, TxDOT county highway maps, and county appraisal district land parcel boundary maps.

A land use constraints map was developed that identifies the locations of environmentally sensitive areas and other land use constraints, all of which are mapped on an aerial photograph base that is shown on **Figure 3-1** located in **Appendix C** (map pocket). This assessment considered various natural resources, including local physiography, geology, and soils; all surface waters, groundwater, floodplains, wetlands, and vegetation; common wildlife, and rare, state, and federally listed threatened and endangered species. Detailed descriptions of the information obtained and reviewed during the route evaluation are provided in the following sections.

3.1.1 Physiography and Geology

The study area lies within the Northern Blackland Prairie subregion of the Texas Blackland Prairies (Griffith et al., 2007), which is part of the Great Plains physiographic ecoregion (or “province”). This region is characterized by rolling to nearly level plains. The study area features gently rolling topography, with most of the land at elevations around 650 feet above mean sea level (amsl). However, elevations decrease to approximately 550 feet amsl near Leon Creek, which runs through the south and western portions of the study area. The Northern Blackland Prairie is typified by dark, rich, fine-textured, calcareous soils underlain by interbedded chalks, marls, limestones, and shales from the Cretaceous period.

Geologic units found within the study area include Pleistocene epoch units such as Fluviatile terrace deposits (Qt) and the Leona formation (Qle) (**Figure 3-2**; USGS, 2022). Fluviatile terrace deposits, originating from Rio Grande River terraces, consist of gravel, sand, silt, and clay, typically found above flood level along entrenched streams. This geologic formation constitutes the majority of the study area. The Leona formation, found only in the southwest corner of the study area, is comprised of fine calcareous silt grading down into coarse gravel. The study area does not contain any known faults and is outside of any karst zones (USFWS, 2024a). Although karst geology occurs north of the study area, no karst geology is present within or adjacent to it.

3.1.2 Soils

Soil Associations

A desktop analysis using publicly available data from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2024a) was conducted to determine mapped soil units occurring within the study area and their characteristics. In 2006, the NRCS completed its Digital General Soil Map of the United States, which consists of a broad inventory and mapping of general soil association units. Soil associations are main patterns of soils defined and delineated based on criteria, such as soil texture, parent material, slope, characteristics of horizons in the soil profile, and degree of erosion (NRCS, 2017). The NRCS project merged soil association data from myriad county soil surveys into a seamless national data set. This soil mapping approach resolved a basic challenge in using individual county soil surveys, which often reflect different soil names for similar soils from one county to the next.

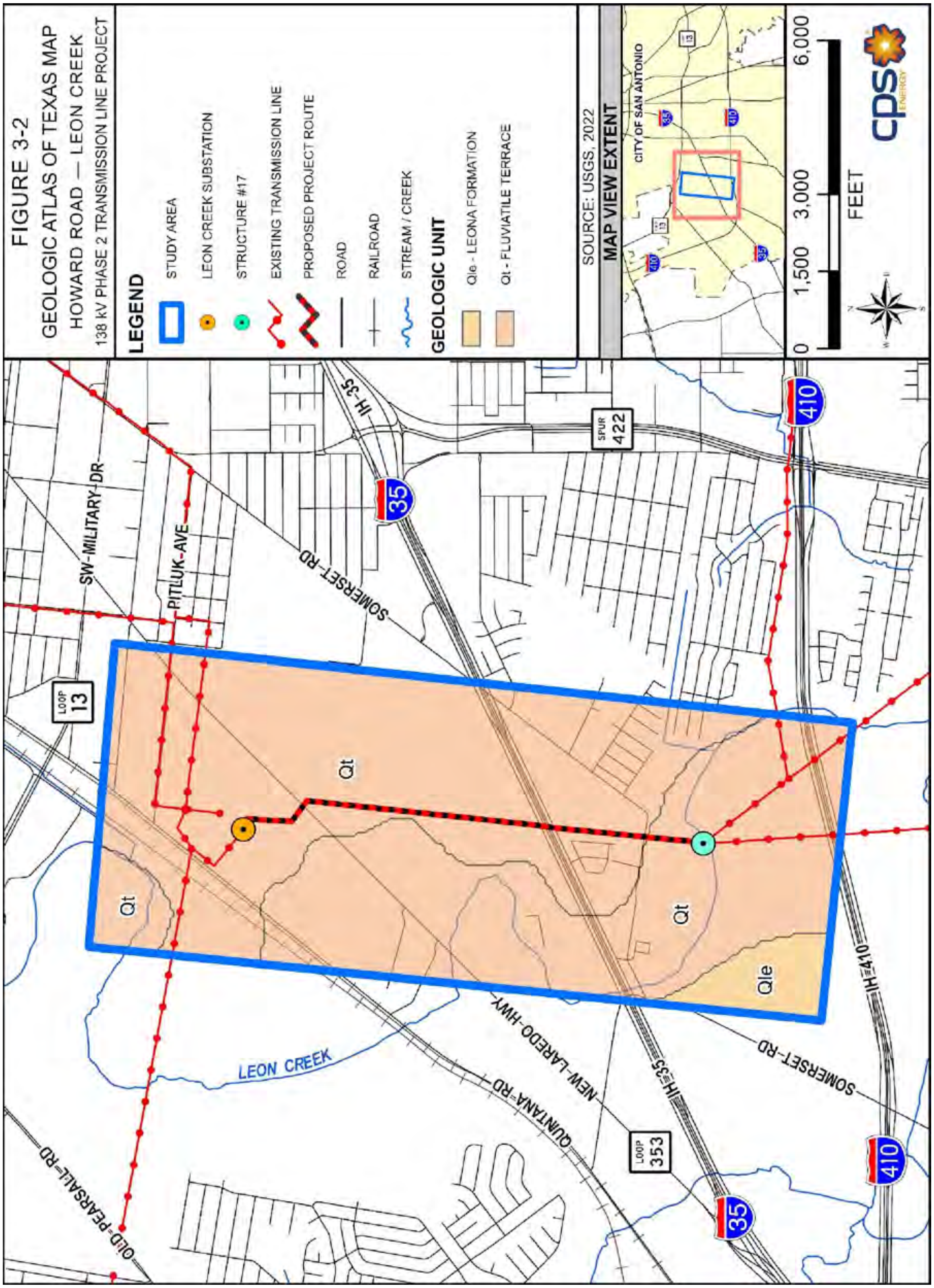
FIGURE 3-2
GEOLOGIC ATLAS OF TEXAS MAP
HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT
LEGEND
STUDY AREA
LEON CREEK SUBSTATION
STRUCTURE #17
EXISTING TRANSMISSION LINE
PROPOSED PROJECT ROUTE
ROAD
RAILROAD
STREAM / CREEK
GEOLOGIC UNIT
Qle - LEONA FORMATION
Qt - FLUVIATILE TERRACE
SOURCE: USGS, 2022
MAP VIEW EXTENT
CITY OF SAN ANTONIO
0
1,500
3,000
6,000
FEET
SW-MILITARY-DR
PITLUK-AVE
SOMERSET-RD
IH-35
35
SPUR 422
410
LOOP 13
Qt
Qle
LEON CREEK
NEW-LAREDO-HWY
QUINTANA-RD
IH-35
IH-410
LOOP 353
OLD-PEARSALL-RD

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A brief description of each soil association's general characteristics is provided in **Table 3-1**, and **Figure 3-3** shows the NRCS-mapped soil associations within the study area. The soil associations in the seamless NRCS map were compared graphically with the soil associations defined and mapped in the county-level soil survey for Bexar County (NRCS, 2024a; Soil Conservation Service [SCS], 1973). The column on the right side of **Table 3-1** shows the names of the corresponding soil association(s) from the Bexar County soil surveys, where applicable.

Table 3-1. Soil Descriptions for Mapped Units within the Study Area

Soil Association Map Unit # Name [1]	Study Area Percent	Description of Soil Association [2]	County Soil Survey: Soil Association Name [3]
s7662 - Sunev-Lewisville-Divot-Atco	74	Level to moderately steep, very deep and well drained, loamy alluvium and sediments, found in stream terraces, floodplains, or footslopes of valleys and ridges	Gullied land-Sunev complex, Sunev clay loam, Lewisville silty clay, Patrick soils, Pits and Quarries, Loire clay loam, Tinn and Frio soils
s7377 - Houston Black-Heiden-Altoga	2	Level to strongly sloping, very deep and well drained, mudstone and clayey residuum, found on interfluves and slopes on upland ridges and plains and on risers on stream terraces	Lewisville silty clay, Tinn and Frio soils
s7221 - Lewisville-Branyon	24	Upland level to gently sloping soils, very deep and well drained, ancient loamy and clayey sediments and alluvium.	Branyon clay, Lewisville silty clay, and Sunev clay loam
SOURCES: NRCS, 2017; SCS, 1973. NOTES: [1] Map unit # and name correspond with the number and name assigned to each association in the 2006 NRCS Digital General Soil Map of the U.S., as shown for the study area in **Figure 3-3**. [2] The description used for the soil association is a composite of descriptions for the soil associations from individual county soil surveys that correspond geographically with the 2006 NRCS Digital General Soil Map. [3] This column shows the soil association names from the county soil surveys that correspond to the 2006 NRCS Digital General Soil Map.			

Three different soil associations were identified within the study area, one of which is associated with floodplains consistent with its proximity to Leon Creek. Soil textures vary between silty clay loams, loams, and clay (NRCS, 2017; SCS, 1973). The surface geology described earlier underpins the soils observed, with soil maps generally mirroring the area's geological characteristics. Regardless of the type of underlying bedrock, the upland soils throughout the study area occur over relatively flat terrain with mild sloping in areas of local drainage.

Prime Farmland

In the Farmland Protection Policy Act (FPPA), federal law defines prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor..." (7 U.S. Code Section 4201(c)(1)(A)). These lands are distinguished by their soil quality, growing season, and moisture supply, which together enable the economic production of sustained high yields when managed properly, including the use of appropriate water management practices. Additionally, certain lands that do not currently meet the criteria for prime farmland due to insufficient water management or natural moisture may be classified as prime farmland if irrigated.

The study area includes many soil units protected by the FPPA. Soil units classified as Prime Farmland occupy 40 percent of the total study area. Soil units designated as Farmland of Statewide Importance occupy 39 percent of the total study area. The soil units identified in each of these prime farmland categories are shown in **Table 3-2**.

Table 3-2. Mapped Units of Prime Farmland Soils within the Study Area

Map Unit	Prime Farmland Category	Location in Study Area
Branyon clay, 0 to 1 percent slopes (HtA)	Prime Farmland	Northeastern portion of study area
Lewisville silty clay, 0 to 1 percent slopes (LvA)	Prime Farmland	Northeastern portion of study area
Lewisville silty clay, 1 to 3 percent slopes (LvB)	Prime Farmland	Northeastern portion of study area
Suney clay loam, 0 to 1 percent slopes (VcA)	Farmland of Statewide Importance	Western portion of the study area
Suney clay loam, 1 to 3 percent slopes (VcB)	Farmland of Statewide Importance	Western portion of the study area
SOURCE: NRCS, 2024b.		

While these soils are designated for agricultural importance, it is essential to note that land use is influenced by factors beyond soil quality, such as existing development. A review of aerial imagery indicates that some areas of prime farmland and farmland of statewide importance have been developed for commercial and residential purposes, limiting their availability for agricultural use.

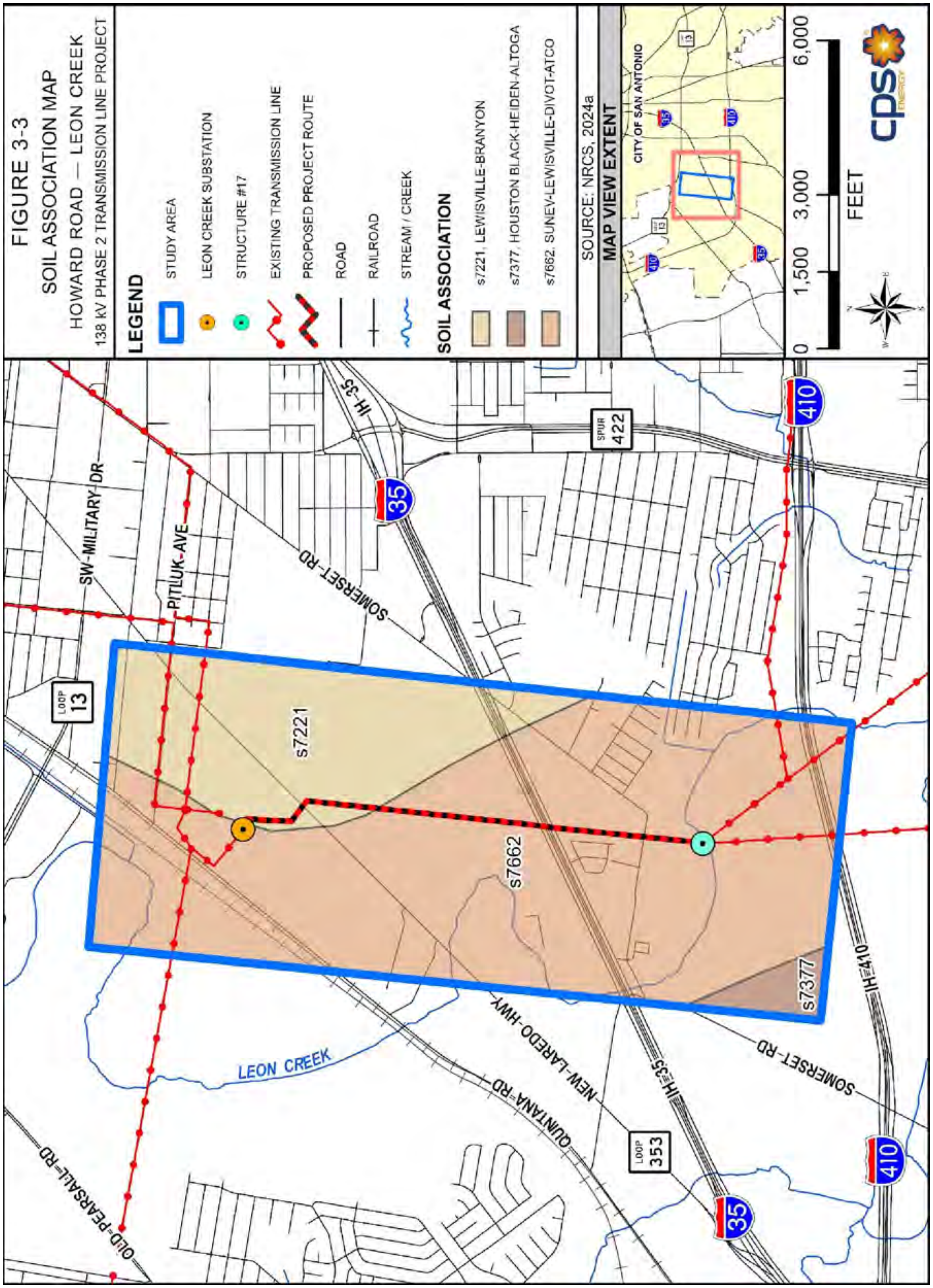
FIGURE 3-3
SOIL ASSOCIATION MAP
HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT
LEGEND
STUDY AREA
LEON CREEK SUBSTATION
STRUCTURE #17
EXISTING TRANSMISSION LINE
PROPOSED PROJECT ROUTE
ROAD
RAILROAD
STREAM / CREEK
SOIL ASSOCIATION
s7221, LEWISVILLE-BRANYON
s7377, HOUSTON BLACK-HEIDEN-ALTOGA
s7662, SUNEV-LEWISVILLE-DIVOT-ATCO
SOURCE: NRCS, 2024a
MAP VIEW EXTENT
CITY OF SAN ANTONIO
0 1,500 3,000 6,000
FEET
s7221
s7662
s7377
SW-MILITARY-DR
PITLUK-AVE
SOMERSET-RD
IH-35
OLD-PEARSALL-RD
LEON CREEK
QUINTANA-RD
NEW-LAREDO-HWY
IH-410
LOOP 13
LOOP 353
SPUR 422
35
410

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3.1.3 Surface Water

The study area lies within the Medina Subbasin of the San Antonio Basin (USGS, 2006, 2024b). The San Antonio Basin is relatively modest in terms of size and average annual watershed yield, with its yields further diminished by its reliance on groundwater (TWDB, 2024).

A review of aerial imagery, Texas Water Development Board (TWDB) GIS data (TWDB, 2024), the NHD (USGS, 2006, 2024a), and USFWS (2024b) sources identified two unnamed tributaries and Leon Creek, as depicted in the figures in **Section 3.0**. The study area is intersected by Leon Creek, a perennial waterbody that begins as a spring-fed stream in the Edwards Plateau region of south-central Texas. Leon Creek flows north to south within the study area ultimately discharging into the Medina River, 32 miles downstream (TCEQ, 2024a, 2024b).

State legislation in 1997 (see Texas Water Code Section 16.051) modified the state-wide water resources planning process by authorizing regional planning groups to recommend ecologically unique river and stream segments to the Texas State Legislature in regional and state water plans (TWDB, 2022b). A primary purpose for this approach is to ensure that future water impoundments do not destroy stream segments that are considered unique under specified designation criteria (see 31 TAC Section 357.8), which include biologic functions and habitat for threatened and endangered species. State designation as ecologically unique would also prevent state agencies or municipalities from acquiring property or easements that would destroy the ecological values forming the basis for the designation. Part of the process for designating ecologically unique stream segments requires regional water planning groups to coordinate with TPWD about candidate stream segments (Freese and Nichols, Inc. and LBG - Guyton Associates, Inc., 2021; TWDB, 2022a). No stream within or immediately adjacent to the study area is designated as ecologically significant under the relevant designation criteria (TPWD, 2005).

Section 303(d) of the Clean Water Act authorizes EPA to assist states, territories and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality (EPA, 2023a). A review of the 2022 Texas Integrated Report (TCEQ, 2022, 2024a) indicates that a segment of Leon Creek (segment 1906) that intersects the study area is listed on the 303d list as impaired, with a Fish Consumption Advisory related to the presence of PCBs (polychlorinated biphenyls) in fish (Texas Department of State Health Services, 2022).

3.1.4 Groundwater

A review of TWDB databases and TCEQ was conducted to identify potential groundwater including the presence of two major aquifers within the study area. The Edwards Aquifer and the Trinity Aquifer, both of which are designated by the EPA as sole source aquifers (EPA, 2023b). The Edwards Aquifer, located in the Balcones Fault Zone in south-central Texas, ranges in depth from 200 to 600 feet and is characterized by highly permeable dissolved limestone. This permeability makes the aquifer's water levels and spring flows particularly sensitive to changes caused by rainfall, drought, and pumping (TWDB, 2024). The Trinity aquifer, which serves as the catchment area for the Edwards Aquifer, intercepts some surface flow above the Edwards Aquifer Recharge Zone.

No minor aquifers are present within the study area (TWDB, 2024), and no freshwater springs or karst zones were identified (TWDB, 2024; USFWS, 2024a). Furthermore, the study area is not within the regulated recharge and contributing zones of the Edwards Aquifer (Edwards Aquifer Authority [EAA], 2024).

3.1.5 Floodplains

A review of the FEMA's Flood Insurance Rate Maps and National Flood Hazard Layers were reviewed for the study area. The 100-year floodplains within the study area are associated with Leon Creek, as shown on **Figure 3-1** located in **Appendix C** (map pocket). The 100-year flood (1.0 percent of flood or base flood) represents a flood event that has a 1.0 percent chance of being equaled or exceeded for any given year (FEMA, 2024).

3.1.6 Wetlands

Wetlands are areas defined by the USACE that, due to a combination of hydrologic and soil conditions, are capable of supporting hydrophytic vegetation. Wetlands are identified based on three technical parameters: hydrophytic vegetation, hydric soils, and hydrology. Data from the USFWS NWI (USFWS, 2024b) identified one freshwater emergent wetland, one freshwater forested/shrub wetland, numerous freshwater ponds, and three riverine resources, including Leon Creek and its tributaries, the latter of which were described in **Section 3.1.3**.

3.1.7 Coastal Management Program

The CPS Energy Board of Trustees must comply with CMP policies when approving an electric transmission line project located within the CMZ under the Coastal Zone Management Act of 1972. The study area is not located within the CMZ boundary as defined in 31 TAC § 503.1 and this excludes the Project from CMP conditions.

3.1.8 Vegetation

The NRCS has studied the characteristics of ecological regions for decades to better understand the biology and management of natural resources. The NRCS published a handbook in 2022 that maps general Land Resource Regions (LRRs) that share similar geology and land physiography, moisture and climate, and soils characteristics (NRCS, 2022, 2024a). The study area is located within the Southwestern Prairies Cotton and Forage Region. The Southwestern Prairies Cotton and Forage Region extends across central Texas up through central Oklahoma and into southeast Kansas. Average annual precipitation ranges from 32 to 46 inches throughout most of the region (NRCS, 2022; 2024a).

As shown in **Figure 3-4**, NRCS soil scientists have further subdivided the LRR into more detailed Major Land Resource Areas (MLRAs). As the criteria used to define both MLRAs and the larger LRRs focus fundamentally on soils and soil-forming factors, the delineation of MLRAs is closely linked to the various soil associations that have been mapped over the past half century. This approach to the study of vegetation focuses on the land's potential for supporting natural vegetation or agricultural practices, rather than simply reporting a snapshot of vegetation as it may exist at a single point in time. The study area is located entirely within the boundary of the Texas Blackland Prairie, Northern Part (MLRA 86A).

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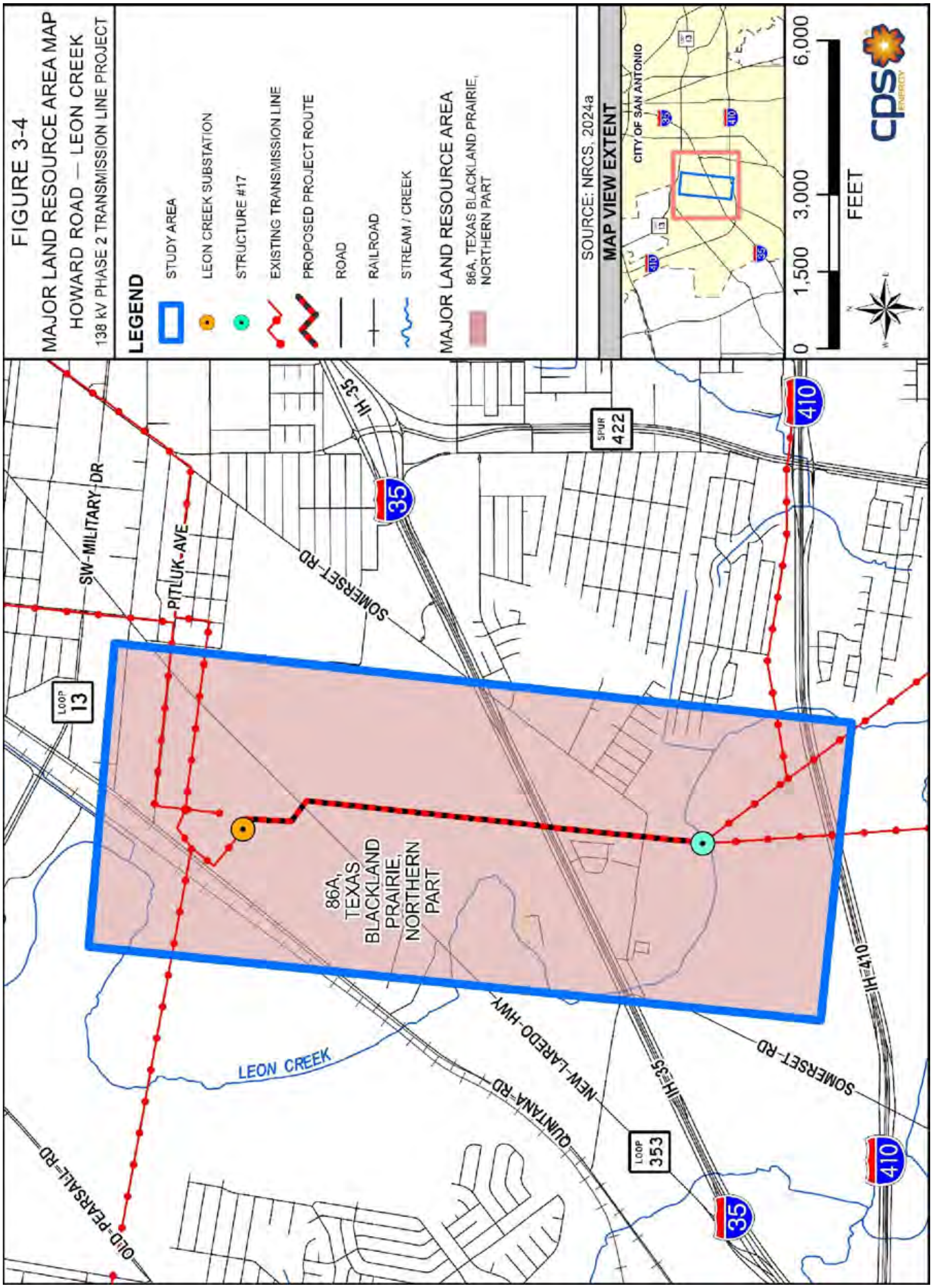
FIGURE 3-4
MAJOR LAND RESOURCE AREA MAP
HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT
LEGEND
STUDY AREA
LEON CREEK SUBSTATION
STRUCTURE #17
EXISTING TRANSMISSION LINE
PROPOSED PROJECT ROUTE
ROAD
RAILROAD
STREAM / CREEK
MAJOR LAND RESOURCE AREA
86A, TEXAS BLACKLAND PRAIRIE, NORTHERN PART
SOURCE: NRCS, 2024a
MAP VIEW EXTENT
CITY OF SAN ANTONIO
0 1,500 3,000 6,000
FEET
86A, TEXAS BLACKLAND PRAIRIE, NORTHERN PART
SW-MILITARY-DR
PITLUK-AVE
SOMERSET-RD
IH-35
SPUR 422
LOOP 13
LOOP 353
LEON CREEK
NEW-LAREDO-HWY
QUINTANA-RD
OLD-PEARSALL-RD
IH-410
35
410

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The physiography of Texas Blackland Prairie, Northern Part is distinguished by nearly level to gently sloping, dissected plain with steeper slopes along entrenched river and creek valleys and broad meander belts. The geology of this MLRA is underlain by chalk, claystone, marl, and shale in the Eagle Ford Group, the Austin Chalk, and the Navarro Group (including Taylor Marl) of Cretaceous age. The dominant soil orders found in this MLRA are Entisols, Mollisols, and Vertisols. The soils are well drained or moderately well drained and fine textured or medium textured (NRCS, 2022; 2024a).

This MLRA supports mixed tall and mid prairie grasses, dominated by little bluestem (*Schizachyrium scoparium*). Savanna vegetation is found along major waterways, including oaks (*Quercus* spp.), elm (*Ulmus* spp.), cottonwood (*Populus deltoides*), hackberry (*Celtis* spp.), and pecan (*Carya illinoinensis*) trees making up a canopy cover of about 30 percent.

The Ecoregions of Texas Level III and Level IV maps were prepared by a collaborative effort between the EPA, TCEQ, and NRCS (Griffith et al., 2007). Under the Ecoregions of Texas, the entire study area is located within the Northern Blackland Prairie ecoregion. The Northern Blackland Prairie ecoregion has historically been dominated by vast expanses of tallgrass prairie vegetation of little bluestem, big bluestem (*Andropogon gerardii*), yellow Indiangrass (*Sorghastrum nutans*), and tall dropseed (*Sporobolus compositus*). In more mesic areas, eastern gamagrass (*Tripsacum dactyloides*) and switchgrass (*Panicum virgatum*) dominate. Forbs of asters (*Aster* spp.), prairie bluet (*Stenaria nigricans*), prairie clovers (*Dalea* spp.), and black-eyed Susan (*Rudbeckia hirta*). Riparian forests primarily consist of bur oak (*Quercus macrocarpa*), Shumard oak (*Q. shumardii*), sugar hackberry (*Celtis laevigata*), elm, ash (*Fraxinus* spp.), eastern cottonwood (*Populus deltoides*), and pecan. This ecoregion is heavily used for agriculture and urban/suburban development.

The TPWD Ecological Mapping Systems of Texas (EMST) GIS data were used to estimate areas of major types of existing vegetation cover within the study area (TPWD, 2014). Data were developed from satellite imagery with 10-meter by 10-meter mapping resolution collected from 2005 to 2007 and refined with *in situ* data. Using this refined imagery, TPWD created a statewide land cover data set that includes enough land cover types to provide insights for planning and management at a variety of scales (Elliott, 2014; TPWD, 2014, 2024a). For this study area, the more specific ecological types were grouped into seven general land cover classes. **Figure 3-5** displays TPWD land cover data by different land/vegetation cover types, as it was grouped for the purposes of this study. **Table 3-3** shows the species likely to occur within cover classes as depicted on **Figure 3-5** that included more than one EMST type with the exception of Urban/Barren. The description of study area terrestrial vegetation in **Table 3-3** and in the text that follows is based on a review of reports and maps produced by TCEQ (Griffith et al., 2007). Cover types are provided in the general order as shown in **Figure 3-5**.

Table 3-3. Plant Species within EMST Cover Classes

Common Name	Scientific Name	EMST Cover Class		
		Upland Woodland/ Shrubland	Upland Grassland	Riparian Woodland/ Shrubland
Major Associated Grasses				
Bushy bluestem	*Andropogon glomeratus*			X
Purple threeawn	*Aristida purpurea*		X	
Threeawn species	*Aristida spp.*		X	
Cane bluestem	*Bothriochloa barbinodis*		X	
King Ranch bluestem	*Bothriochloa ischaemum var. songarica*	X	X	X
Silver bluestem	*Bothriochloa laguroides ssp. Torreyana*	X	X	
Sideoats grama	*Bouteloua curtipendula*		X	
Buffalograss	*Bouteloua dactyloides*		X	
Hairy grama	*Bouteloua hirsuta*		X	
Tall grama	*Bouteloua hirsuta var. pectinata*		X	
Tall grama	*Bouteloua pectinata*		X	
Texas grama	*Bouteloua rigidiseta*		X	
Red grama	*Bouteloua trifida*		X	
Creekoats	*Chasmanthium latifolium*			X
Saw-grass	*Cladium mariscus ssp. Jamaicense*			X
Bermudagrass	*Cynodon dactylon*		X	X
Virginia wildrye	*Elymus virginicus*			X
Fluffgrass	*Erioneuron pilosum*		X	
Lindheimer's muhly	*Mulenbergia lindheimeri*			X
Seep muhly	*Mulenbergia reverchonii*		X	
Texas wintergrass	*Nassella leucotricha*	X	X	X
Kleingrass	*Panicum coloratum*		X	
Switchgrass	*Panicum virgatum*			X
Bahiagrass	*Paspalum notatum*	X		
Little bluestem	*Schizachyrium scoparium*	X	X	
Southwestern bristlegrass	*Setaria scheelei*			X
Indiangrass	*Sorghastrum nutans*		X	
Johnsongrass	*Sorghum halepense*		X	X
Eastern gamagrass	*Tripsacum dactyloides*			X
Major Associate Herbaceous and Forbs				
Western ragweed	*Ambrosia psilostachya*		X	
Common broomweed	*Amphiachyris dracunculoides*		X	
Roosevelt weed	*Baccharis neglecta*			X
Saltwort	*Batis maritima*			X
Sea ox-eye daisy	*Borrichia frutescens*			X
Carices	*Carex spp.*			X
Spikerushes	*Eleocharis spp.*			X
Curly mesquite	*Helaria belangeri*		X	
Little barley	*Hordeum pusillum*			X
Water penny	*Hydrocotyle spp.*			X

Common Name	Scientific Name	EMST Cover Class		
		Upland Woodland/ Shrubland	Upland Grassland	Riparian Woodland/ Shrubland
Rushes	*Juncus spp.*			X
Smartweeds	*Polygonum spp.*			X
Bulrushes	*Schoenoplectus spp.*			X
Seepweeds	*Suaeda spp.*			X
Cattails	*Typha spp.*			X
Major Associate Woody Plants				
Guajillo	*Acacia berlandieri*	X		
Huisache	*Acacia farnesiana*	X	X	X
Blackbrush	*Acacia rigidula*	X		
Boxelder	*Acer negundo*			X
Whitebrush	*Aloysia gratissima*			X
False-willows	*Baccharis spp.*			X
Bricklebush	*Brickellia spp.*			X
American beautyberry	*Callicarpa americana*	X		X
Pecan	*Carya illinoinensis*			X
Granjeno	*Celtis ehrenbergiana*	X		
Sugar hackberry	*Celtis laevigata*	X		X
Netleaf hackberry	*Celtis laevigata var. reticulata*			X
Hackberries	*Celtisspp.*	X		X
Commonbuttonbush	*Cephalanthus occidentalis*			X
Texas redbud	*Cercis canadensis var. texensis*	X		X
Desert willow	*Chilopsis linearis*			X
Texas hogplum	*Colubrina texensis*	X		
Brasil	*Condalia hookeri*	X		
Roughleaf dogwood	*Cornus drummondii*			X
Texas persimmon	*Diospyros texana*	X	X	X
Common persimmon	*Diospyros virginiana*	X		
Texas kidneywood	*Eysenhardtia texana*	X		
Elbow bush	*Forestiera angustifolia*	X		
Ashes	*Fraxinus spp.*	X		
Texas ash	*Fraxinus texensis*			X
Green ash	*Fraxinus pennsylvanica*			X
Yaupon	*Ilex vomitoria*	X		
Possumhaw	*Illex decidua*			X
Arizona walnut	*Juglans major*			X
Little walnut	*Juglans microcarpa*			X
Ashe juniper	*Juniperus ashei*	X	X	X
Eastern redcedar	*Juniperus virginiana*	X		
American water-willow	*Justicia americana*			X
Sweetgum	*Liquidambar styraciflua*	X		
Agarito	*Mahonia trifoliolata*	X	X	X
Turk's cap	*Malvaviscus arboreus var. drummondii*			X
Chinaberry	*Melia azedarach*			X
Red mulberry	*Morus rubra*			X
Virginia creeper	*Parthenocissus quinquefolia*			X
Paper-shell pinyon	*Pinus remota*	X		X
Loblolly pine	*Pinus taeda*	X		X
American sycamore	*Platanus occidentalis*			X
Eastern cottonwood	*Populus deltoides*			X
Honey mesquite	*Prosopis glandulosa*	X	X	X
Water-ash	*Ptelea trifolata*			X
Texas oak	*Quercus buckleyi*	X		X
Plateau live oak	*Quercus fusiformis*	X	X	X
Bur oak	*Quercus macrocarpa*			X
Mohr's shin oak	*Quercus mohriana*	X		
Water oak	*Quercus nigra*	X		
White shin oak	*Quercus sinuata var. breviloba*	X	X	

Common Name	Scientific Name	EMST Cover Class		
		Upland Woodland/ Shrubland	Upland Grassland	Riparian Woodland/ Shrubland
Post oak	*Quercus stellata*	X		X
Vasey shin oak	*Quercus vaseyana*	X		
Coastal live oak	*Quercus virginiana*	X		
Prairie sumac	*Rhus lanceolata*	X		
Sumacs	*Rhus spp.*	X		
Evergreen sumac	*Rhus virens*	X		
Macartney rose	*Rosa bracteata*	X		
Black willow	*Salix nigra*			X
Western soapberry	*Sapindus saponaria var. drummondii*			X
Gum bumelia	*Sideroxylon lanuginosum*	X		X
Saw greenbrier	*Smilax bona-nox*	X		X
Texas mountain-laurel	*Sophora secundiflora*	X	X	X
Baldcypress	*Taxodium distichum*			X
Poison ivy	*Toxicodendron radicans*	X		X
Chinese tallow	*Triadica sebifera*	X		X
Winged elm	*Ulmus alata*	X		
Cedar elm	*Ulmus crassifolia*	X		X
Mexican buckeye	*Ungnadia speciosa*	X		X
Frostweed	*Verbesina virginica*			X
Mustang grape	*Vitis mustangensis*			X
Grapes	*Vitis spp.*			X
Hercules' club	*Zanthoxylum clava-herculis*	X		
Colima	*Zanthoxylum fagara*	X		
Lotebush	*Ziziphus obtusifolia*	X	X	
Major Associated Succulent or Cactus				
Texas pricklypear	*Opuntia engelmannii*	X		
Lindheimer pricklypear	*Opuntia engelmannii var. lindheimeri*	X		

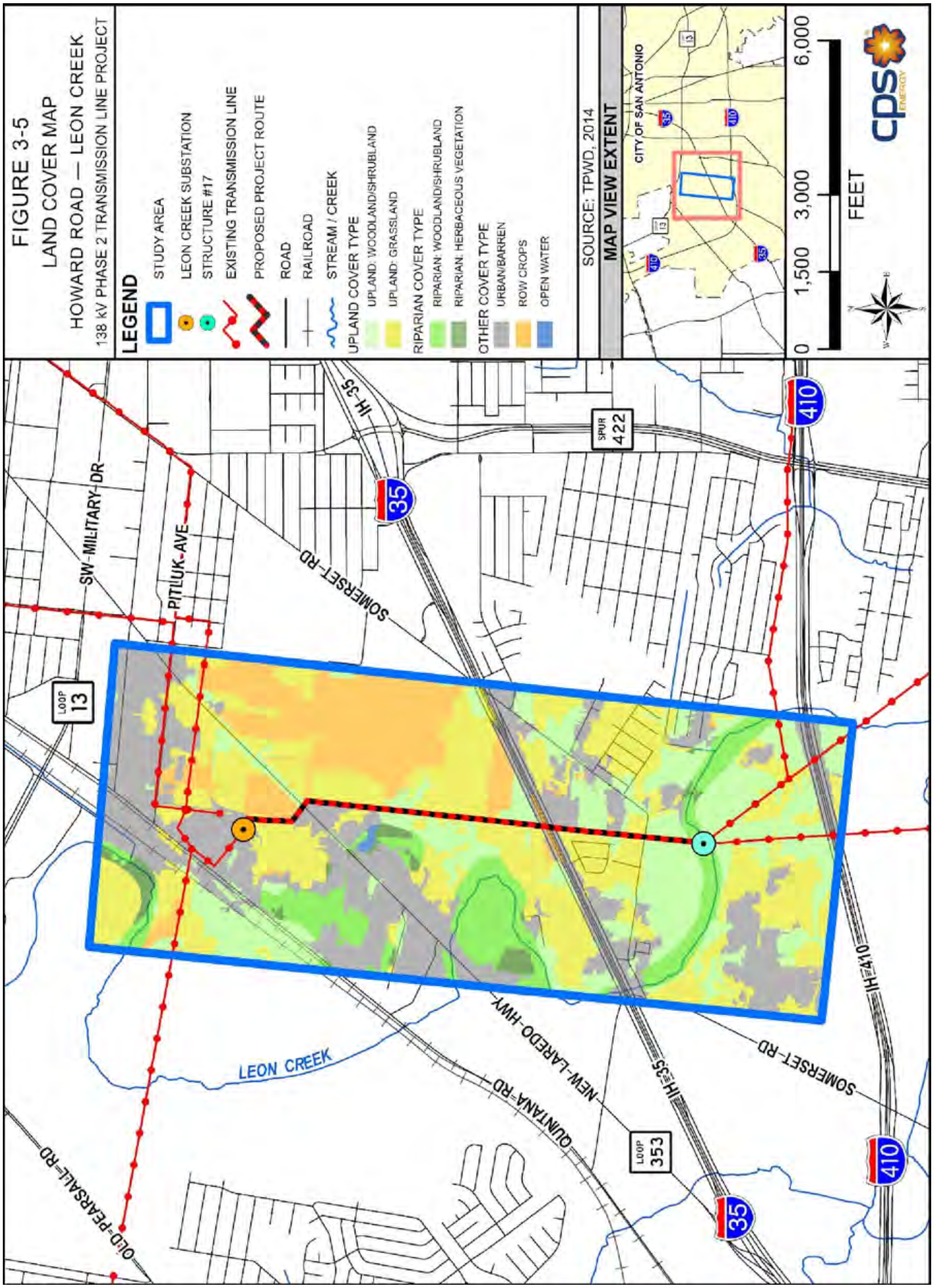
FIGURE 3-5
LAND COVER MAP
HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT
LEGEND
STUDY AREA
LEON CREEK SUBSTATION
STRUCTURE #17
EXISTING TRANSMISSION LINE
PROPOSED PROJECT ROUTE
ROAD
RAILROAD
STREAM / CREEK
UPLAND COVER TYPE
UPLAND: WOODLAND/SHRUBLAND
UPLAND: GRASSLAND
RIPARIAN COVER TYPE
RIPARIAN: WOODLAND/SHRUBLAND
RIPARIAN: HERBACEOUS VEGETATION
OTHER COVER TYPE
URBAN/BARREN
ROW CROPS
OPEN WATER
SOURCE: TPWD, 2014
MAP VIEW EXTENT
CITY OF SAN ANTONIO
0
1,500
3,000
6,000
FEET
SW-MILITARY-DR
PITLUK-AVE
SOMERSET-RD
IH-35
LOOP 13
SPUR 422
35
410
LEON CREEK
NEW-LAREDO-HWY
QUINTANA-RD
OLD-PEARSALL-RD
LOOP 353
IH-410

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Upland grassland is the predominant land cover class within the study area as shown in **Figure 3-5**. This cover class is composed of two EMST cover types (in order of prevalence):

1. Blackland Prairie: Disturbance or Tame Grassland
2. Edwards Plateau: Savanna Grassland

Upland woodland/shrubland is a land cover class comprising greater than 20 percent of the study area as shown in **Figure 3-5**. This cover class is composed of seven EMST cover types (in order of prevalence):

1. Native Invasive: Mesquite Shrubland
2. Native Invasive: Deciduous Woodland
3. Edwards Plateau: Oak - Hardwood Motte and Woodland
4. Native Invasive: Huisache Woodland or Shrubland
5. South Texas: Shallow Shrubland
6. Post Oak Savanna: Live Oak Motte and Woodland
7. Edwards Plateau: Ashe Juniper-Live Oak Shrubland

Riparian woodland/shrubland is a land cover class which includes a mixture of floodplain and riparian EMST cover types proximal to Leon Creek within the study area as shown in **Figure 3-5**. This cover class is composed of five floodplain and one riparian EMST cover types:

1. Edwards Plateau: Floodplain Hardwood Forest
2. Edwards Plateau: Floodplain Deciduous Shrubland
3. Edwards Plateau: Floodplain Live Oak Forest
4. Edwards Plateau: Floodplain Ashe Juniper Shrubland
5. Edwards Plateau: Floodplain Hardwood - Ashe Juniper Forest
6. Edwards Plateau: Riparian Hardwood Forest

Similarly, floodplain and riparian EMST cover types were combined into one riparian herbaceous is a land cover class within the study area as shown in **Figure 3-5**. This cover class is composed of three EMST cover types:

1. Edwards Plateau: Floodplain Herbaceous Vegetation
2. Edwards Plateau: Floodplain Herbaceous Wetland
3. Edwards Plateau: Riparian Herbaceous Vegetation

Urban/barren is the second most dominant land cover class identified within the study area as shown in **Figure 3-5**. This cover class is composed of three EMST cover types (in order of prevalence):

1. Urban Low Intensity
2. Urban High Intensity
3. Barren

Row Crops is a land cover class identified within the study area as shown in **Figure 3-5**. This cover class is composed of one EMST cover type, Row Crops. This type includes all cropland where fields are fallow for some portion of the year. Some fields may rotate into and out of cultivation frequently, and year-round cover crops are generally mapped as grassland.

Open water is a land cover class identified within the study area as shown in **Figure 3-5**. This cover class is composed of one EMST cover type, Open Water. In addition to large lakes, rivers, and marine water, ephemeral ponds may be mapped as open water. Some mapped areas may support vegetation with pioneering species such as black willow (Salix nigra), eastern cottonwood, Chinese tallow (Triadica sebifera), seepweeds (Suaeda spp.), sea ox-eye daisy (Borrichia frutescens), saltwort (Batis maritima), rushes (Juncus spp.), sedges (Carex spp.), cattails (Typha spp.), and spikerushes (Eleocharis spp.).

3.1.9 Wildlife and Fisheries

The term "wildlife" includes all animal species except those identified as protected by law, rare, and/or Species of Greatest Conservation Need (SGCN). This discussion is divided into the following vertebrate wildlife categories: amphibians and reptiles, fish, mammals, and birds. Additionally, mussels are also included within this discussion. **Table 3-4** through **Table 3-8** present the most common species with the potential to inhabit the study area based on ranges that intersect the study area, potential occurrence in relation to EMST vegetation types, and other species-specific habitat requirements. These tables are not all-inclusive for wildlife species that could occur in the study area.

Amphibians and Reptiles

Table 3-4 lists some of the most common amphibian and reptile species, organized by family. Most of these species are likely to occur in vegetation types associated with natural areas, including woodlands along drainages, greenspaces, and landscaped vegetation within the study area. Specifically, water snakes (*Nerodia* spp.), garter snakes (*Thamnophis* spp.), and the cottonmouth (*Agkistrodon piscivorus*), as well as salamanders, frogs, and toads, and turtle species, tend to occur in habitats near water and are more commonly found in the Central Texas EMST types, as well as any other vegetation type that occurs near a water source.

Table 3-4. Common Amphibian and Reptile Species with Potential to Occur in the Study Area

Common Name	Scientific Name
Frogs and Toads	
Couch's spadefoot	*Scaphiopus couchi*
Cliff chirping frog	*Eleutherodactylus marnockii*
Blanchard's cricket frog	*Acris blanchardi*
Green treefrog	*Hyla cinerea*
Gray treefrog	*Hyla cinerea*
Spotted chorus frog	*Pseudacris clarkii*
Green toad	*Anaxyrus debilis*
Gulf Coast toad	*Incilius nebulifer*
Rio Grande leopard frog	*Lithobates berlandieri*
Bullfrog	*Lithobates catesbeiana*
Western narrow-mouthed toad	*Gastrophryne olivacea*
Turtles	
Texas river cooter	*Pseudemys texana*
Pond slider	*Trachemys scripta*
Spiny softshell	*Apalone spinifera*
Lizards	
Mediterranean gecko [a]	*Hemidactylus turcicus*
Prairie lizard	*Sceloporus consobrinus*
Texas spiny lizard	*Sceloporus olivaceus*
Green anole [a]	*Anolis carolinensis*
Little brown skink	*Scincella lateralis*
Common spotted whiptail	*Aspidoscelis gularis*
Six-lined racerunner	*Aspidoscelis sexlineatus*
Snakes	
Texas threadsnake	*Rena dulcis*
Great Plains ratsnake	*Pantherophis emoryi*
Texas ratsnake	*Pantherophis obsoleta*
Eastern hog-nosed snake	*Heterodon platirhinos*
Common kingsnake	*Lampropeltis getula*
Western coachwhip	*Masticophis flagellum testaceus*
Blotched watersnake	*Nerodia erythrogaster*
Diamond-backed watersnake	*Nerodia rhombifer*
Rough greensnake	*Opheodrys aestivus*
Gophersnake	*Pituophis catenifer*
Black-necked gartersnake	*Thamnophis cryptopsis*
Checkered gartersnake	*Thamnophis marcianus*

Common Name	Scientific Name
Western ribbonsnake	*Thamnophis proximus*
Rough earthsnake	*Virginia striatula*
Texas coralsnake	*Micrurus tener*
Copperhead	*Agkistrodon contortrix*
Cottonmouth	*Agkistrodon piscivorus*
Western diamond-backed rattlesnake	*Crotalus atrox*
SOURCE: Dixon, 2013. NOTES: [a] Introduced	

Fish

The study area lies within the San Antonio Basin. Aquatic habitats within the study area are influenced by Leon Creek and its tributaries. Common species with potential to inhabit waters in and around the study area are listed in below in **Table 3-5**.

Table 3-5. Common Fish Species with Potential to Occur in the Study Area

Common Name	Scientific Name
Longnose gar	*Lepisosteus osseus*
Gizzard shad	*Dorosoma cepedianum*
Grass carp [a]	*Ctenopharyngodon idella*
Red shiner	*Cyprinella lutrensis*
Blacktail shiner	*Cyprinella venusta*
Common carp [a]	*Cyprinus carpio*
Golden shiner [a]	*Notemigonus crysoleucas*
Fathead minnow	*Pimephales promelas*
Bullhead minnow	*Pimephales vigilax*
River carpsucker	*Carpiodes carpio*
Smallmouth buffalo	*Ictiobus bubalus*
Black bullhead	*Ameiurus melas*
Yellow bullhead	*Ameiurus natalis*
Blue catfish	*Ictalurus furcatus*
Channel catfish	*Ictalurus punctatus*
Flathead catfish	*Pylodictis olivaris*
Western mosquitofish	*Gambusia affinis*
White bass	*Morone chrysops*
Striped bass [a]	*Morone saxatilis*
Redbreast sunfish [a]	*Lepomis auritus*
Green sunfish	*Lepomis cyanellus*
Warmouth	*Lepomis gulosus*
Orangespotted sunfish	*Lepomis humilis*
Bluegill	*Lepomis macrochirus*
Redspotted sunfish	*Lepomis miniatus*
Longear sunfish	*Lepomis megalotis*
Largemouth bass	*Micropterus salmoides*
White crappie	*Pomoxis annularis*
Black crappie	*Pomoxis nigromaculatus*
Freshwater drum	*Aplodinotus grunniens*
SOURCE: Thomas et al, 2007. NOTES: [a]Introduced	

Mammals

Common mammalian species with the potential to inhabit the study area are listed in **Table 3-6**. The study area is located within a highly urbanized environment; however, several mammalian species have adapted well to human-modified habitats. The Virginia opossum (*Didelphis virginiana*) and nine-banded armadillo (*Dasypus novemcinctus*) can be found in a variety of habitats, including all EMST vegetation types within the study area.

Bats that could occur within the study area are cave-adapted species that utilize man-made structures for roosting, such as Brazilian [Mexican] free-tailed bats (*Tadarida brasiliensis*), or are forest dwellers, such as evening bats (*Nycticeius humeralis*), that utilize trees and snags for roosting. Bats may be found in any of the EMST types, including row crops, Urban High Intensity and Urban Low Intensity. The riparian areas along Leon Creek and tributaries within the study area and undeveloped properties supporting mature trees can provide suitable habitat for tree dwelling bats.

Mexican free-tailed bats, one of the most abundant bat species in the U.S. and Mexico, including on the Edwards Plateau of Central Texas, provide important ecological and economic benefits including pest control. A primary food source of Mexican free-tailed bats is adult flying lepidopteran species, such as moths, the larvae of which are documented agricultural pests. Mexican free-tailed bats are considered a migratory species that spend summers in caves and bridges throughout Texas and beyond, and they overwinter in Mexico. Central Texas, however, is known to have large overwintering populations of Mexican free-tailed bats (Davis et al., 1962; Spenrath and LaVal, 1974; Glass, 1982; Scales and Wilkins, 2007). Recent observations suggest that overwintering populations of Mexican free-tail bats are increasing in size (Weaver, 2012).

Carnivores and even-toed ungulates mostly consist of habitat generalists that can also be found in all the EMST vegetation types. Rodents also occur in varying habitat types. According to Schmidly and Bradley (2016), squirrels are tree dwelling species that can be found in any of the woodland or forest vegetation types. Nutria (*Myocastor coypus*) are found in aquatic habitats and would mostly be associated with water in the central Texas EMST types, as well as any aquatic habitats within the study area. The white-footed deermouse (*Peromyscus leucopus*) is typically found in bottomland forests and woodlands associated with drainages and would potentially be found in all the central

Texas EMST types. The North American deermouse (*Peromyscus maniculatus*) and hispid cotton rat (*Sigmodon hispidus*) are habitat generalists and may be found in vegetated areas within any of the EMST types. The eastern cottontail (*Sylvilagus floridanus*) is also a habitat generalist, but typically inhabits areas with abundant brush cover. They would be expected to occur in any of the shrubland EMST types or in brushy areas found within other EMST types.

Table 3-6. Common Mammalian Species with Potential to Occur in the Study Area

Common Name	Scientific Name
Marsupials	
Virginia opossum	*Didelphis virginiana*
Armadillos	
Nine-banded armadillo	*Dasypus novemcinctus*
Bats	
Silver-haired bat	*Lasionycteris noctivagans*
Mexican free-tailed bat	*Tadarida brasiliensis*
Evening bat	*Nycticeius humeralis*
Carnivores	
Coyote	*Canis latrans*
Common gray fox	*Urocyon cinereoargenteus*
Bobcat	*Lynx rufus*
Striped skunk	*Mephitis*
Northern raccoon	*Procyon lotor*
Even toed Ungulates	
Feral hog [a]	*Sus scrofa*
White-tailed deer	*Odocoileus virginianus*
Rodents	
White-footed deermouse	*Peromyscus leucopus*
North American deermouse	*Peromyscus maniculatus*
Hispid cotton rat	*Sigmodon hispidus*
Rock squirrel	*Otospermophilus variegatus*
Eastern fox squirrel	*Sciurus niger*
Nutria [a]	*Myocastor coypus*
House mouse [a]	*Mus musculus*
Black rat [a]	*Rattus rattus*
Rabbits	
Eastern cottontail	*Sylvilagus floridanus*
SOURCE: Schmidly and Bradley, 2016. NOTES: [a]Introduced	

Birds

There are numerous year-round, summer, and winter resident, as well as migrant, avian species with potential to occur in the study area. The study area is located within the Central Flyway, a major bird migration corridor that leads to the Texas coast and Central/South America. **Table 3-7** lists some of the most common avian species, organized by family, with the potential to occur in the study area.

Additionally, **Table 3-7** identifies the species as year-round residents or migrants and provides what season migrants may be present. Note that all species except those denoted by an asterisk are native and protected from take under provisions of the MBTA. Avian families most commonly found in the central Texas EMST types, as well as any other vegetation type that occurs near ponds, wetlands, or other water sources, include swans, geese and ducks; grebes; cormorants; bitterns and herons; rails, gallinules and coots; plovers; sandpipers, phalaropes and allies; and gulls, terns and allies. Many of these species will form colonial wading bird colonies, which are considered sensitive wildlife features and tracked by TPWD. No NDD Element of Occurrence Records (EORs) for colonial wading bird colonies were identified within the study area. See **Section 3.1.10** for additional details regarding NDD EORs. Typical grassland- and savanna-associated families potentially found in the associated EMST types include New World sparrows and meadowlarks, as well as northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), and scissor-tailed flycatcher (*Tyrannus forficatus*). Species usually associated with woodlands and forests that could potentially occur in the associated EMST types, as well as any other woodland or forest EMST types, include eagles, owls, woodpeckers, and wood warblers. Other avian families and species listed below typically occur in a variety of habitats and can be found in any of the EMST types within the study area.

Table 3-7. Common Avian Species with Potential to Occur in the Study Area

Common Name	Scientific Name	Season
Swans, Geese and Ducks		
Black-bellied whistling-duck	*Dendrocygna autumnalis*	Year-round
Snow goose	*Chen caerulescens*	Migration
Canada goose	*Branta canadensis*	Winter
Mute swan [a]	*Cygnus olor*	Year-round
Wood duck	*Aix sponsa*	Year-round
Gadwall	*Anas strepera*	Winter
American wigeon	*Anas americana*	Winter
Mallard	*Anas platyrhynchos*	Winter
Blue-winged teal	*Anas discors*	Winter

Common Name	Scientific Name	Season
Northern shoveler	*Anas clypeata*	Winter
Northern pintail	*Anas acuta*	Winter
Green-winged teal	*Anas crecca*	Winter
Canvasback	*Aythya valisineria*	Winter
Redhead	*Aythya americana*	Winter
Ring-necked duck	*Aythya collaris*	Winter
Lesser scaup	*Aythya affinis*	Winter
Bufflehead	*Bucephala albeola*	Winter
Ruddy duck	*Oxyura jamaicensis*	Winter
Grebes		
Pied-billed grebe	*Podilymbus podiceps*	Year-round
Eared grebe	*Podiceps nigricollis*	Winter
Cormorants		
Double-crested cormorant	*Phalacrocorax auritus*	Winter
Neotropic cormorant	*Phalacrocorax brasilianus*	Summer
Bitterns and Herons		
Great blue heron	*Ardea herodias*	Year-round
Great egret	*Ardea alba*	Year-round
New World Vultures		
Black vulture	*Coragyps atratus*	Year-round
Turkey vulture	*Cathartes aura*	Year-round
Osprey, Eagles, Kites and Hawks		
Osprey	*Pandion haliaetus*	Winter
Bald eagle	*Haliaeetus leucocephalus*	Winter
Northern harrier	*Circus cyaneus*	Winter
Sharp-shinned hawk	*Accipiter striatus*	Winter
Cooper's hawk	*Accipiter cooperii*	Year-round
Red-shouldered hawk	*Buteo lineatus*	Year-round
Red-tailed hawk	*Buteo jamaicensis*	Year-round
Falcons		
Crested caracara	*Caracara cheriway*	Year-round
Peregrine falcon	*Falco peregrinus*	Year-round
American kestrel	*Falco sparverius*	Winter
Rails, Gallinules, and Coots		
American coot	*Fulica americana*	Year-round
Plovers		
Killdeer	*Charadrius vociferus*	Year-round
Sandpipers, Phalaropes and Allies		
Wilson's snipe	*Gallinago delicata*	Winter
Spotted sandpiper	*Actitis macularius*	Winter
Gulls, Terns and Allies		
Ring-billed gull	*Larus delawarensis*	Winter
Pigeons and Doves		
Rock pigeon [a]	*Columba livia*	Year-round
Eurasian collared-dove [a]	*Streptopelia decaocto*	Year-round
White-winged dove	*Zenaida asiatica*	Year-round
Mourning dove	*Zenaida macroura*	Year-round
Cuckoos and Allies		
Greater Roadrunner	*Geococcyx californianus*	Year-round
Owls		
Eastern screech owl	*Megascops asio*	Year-round
Great horned owl	*Bubo virginianus*	Year-round
Barred Owl	*Strix varia*	Year-round
Nighthawks and Nightjars		
Common nighthawk	*Chordeiles minor*	Summer
Swifts		
Chimney swift	*Chaetura pelagica*	Summer
Hummingbirds		
Ruby-throated hummingbird	*Archilochus colubris*	Summer
Woodpeckers		

Common Name	Scientific Name	Season
Red-bellied woodpecker	*Melanerpes carolinus*	Year-round
Ladder-backed woodpecker	*Dryobates scalaris*	Year-round
Downy woodpecker	*Dryobates pubescens*	Year-round
Tyrant Flycatchers		
Eastern phoebe	*Saynoris phoebe*	Year-round
Great-crested flycatcher	*Myiarchus crinitus*	Summer
Western kingbird	*Tyrannus verticalis*	Summer
Scissor-tailed flycatcher	*Tyrannus forficatus*	Summer
Vireos		
White-eyed vireo	*Vireo griseus*	Summer
Red-eyed vireo	*Vireo olivaceus*	Summer
Jays and Crows		
Blue jay	*Cyanocitta cristata*	Year-round
American crow	*Corvus brachyrhynchos*	Year-round
Martins and Swallows		
Purple martin	*Progne subis*	Summer
Cliff swallow	*Petrochelidon pyrrhonta*	Summer
Barn swallow	*Hirundo rustica*	Summer
Chickadees and Titmice		
Carolina chickadee	*Poecile carolinensis*	Year-round
Black-crested titmouse	*Baeolophus atricristatus*	Year-round
Wrens		
House wren	*Troglodytes aedon*	Winter
Carolina wren	*Thryomanes ludovicianus*	Year-round
Bewick’s wren	*Thryomanes bewickii*	Year-round
Kinglets		
Ruby-crowned kinglet	*Regulus calendula*	Winter
Thrushes		
Eastern bluebird	*Sialia sialis*	Summer
American robin	*Turdus migratorius*	Year-round
Mockingbirds and Thrashers		
Northern mockingbird	*Mimus polyglottos*	Year-round
Starlings		
European starling [a]	*Sturnus vulgaris*	Year-round
Wagtails and Pipits		
American pipit	*Anthus rubescens*	Winter
Cedar waxwing	*Bombycilla cedrorum*	Winter
Wood Warblers		
Black and white warbler	*Mniotilta varia*	Summer
Black-throated green warbler	*Setophaga virens*	Migration
Orange-crowned warbler	*Vermivora celata*	Winter
Nashville warbler	*Vermivora ruficapilla*	Migration
Yellow warbler	*Setophaga petechia*	Migration
Yellow-rumped warbler	*Setophaga coronata*	Winter
New World Sparrows		
Chipping sparrow	*Spizella passerina*	Winter
Vesper sparrow	*Pooecetes gramineus*	Winter
Field sparrow	*Spizella pusilla*	Winter
Lark sparrow	*Chondestes grammaus*	Year-round
Savannah sparrow	*Passerculus sandwichensis*	Winter
White-crowned sparrow	*Zonotrichia leucophrys*	Winter
White-throated sparrow	*Zonotrichia albicollis*	Winter
Song sparrow	*Melospiza melodia*	Winter
Lincoln’s sparrow	*Melospiza lincolnii*	Winter
Cardinals and Allies		
Summer tanager	*Piranga rubra*	Summer
Northern cardinal	*Cardinalis cardinalis*	Year-round
Painted bunting	*Passerina ciris*	Summer
Blackbirds, Meadowlarks and Orioles		
Red-winged blackbird	*Agelaius phoeniceus*	Year-round

Eastern meadowlark	*Sturnella magna*	Year-round
Orchard oriole	*Icterus spurius*	Summer
Common grackle	*Quiscalus quiscula*	Winter
Great-tailed grackle	*Quiscalus mexicanus*	Year-round
Brown-headed cowbird	*Molothrus ater*	Year-round
House finch	*Carpodacus mexicanus*	Year-round
Lesser goldfinch	*Spinus psaltria*	Year-round
American goldfinch	*Spinus tristis*	Winter
House sparrow [a]	*Passer domesticus*	Year-round
SOURCE: Lockwood and Freeman, 2014. NOTES: [a] Introduced		

<u>Freshwater Mollusks</u>

There are over 300 freshwater mussel species known to reside within North America, over 50 of which have been observed within Texas waters. Freshwater mussels are highly susceptible to habitat degradation and loss. Currently, fifteen native Texas mussel species are state listed as threatened. Within Texas, the Asian clam (*Corbicula fluminea*), purple-nacre corbicula (*Corbicula* sp.), and zebra mussel (*Dreissena polymorpha*) are prevalent and wide-spread exotic invasive species (Howells, 2014). The study area lies within the San Antonio Basin and includes Leon Creek and its tributaries. **Table 3-8** provides a list of mussel species found within the San Antonio Basin (Randklev et. al., 2023) and potentially within the study area.

Table 3-8. Mussel Species with Potential to Occur in the Study Area

Common Name	Scientific Name
Asian clam	*Corbicula fluminea*
Giant floater	*Pyganodon grandis*
Lilliput	*Toxolasma parvum*
Louisiana fatmucket	*Lampsilis hydiana*
Mapleleaf	*Quadrula quadrula*
Paper pondshell	*Utterbackia imbecillis*
Pimpleback	*Cyclonaias pustulosa*
Pistolgrip	*Tritogonia verrucosa*
Pondhorn	*Uniomerus tetralasmus*
Pondmussel	*Sagittunio subrostrata*
Rock pocketbook	*Arcidens confragosus*
Round pearlshell	*Glebula rotundata*
Tampico pearly mussel	*Cyrtonaias tampicoensis*
Tapered pondhorn	*Uniomerus declivis*
Texas Lilliput	*Toxolasma texasiense*
Threeridge	*Amblema plicata*
Washboard	*Megalonaias nervosa*
Yellow sandshell	*Lampsilis teres*
Zebra mussel	*Dreissena polymorpha*
SOURCES: Randklev et. al., 2023.	

3.1.10 Threatened and Endangered Species

The USFWS has the authority under the ESA to list and monitor species considered imperiled. The regulations implementing the ESA are codified and updated in 50 CFR Part 17 (USFWS, 1973). The federal process identifies potential candidates based on their biological vulnerability, considering many factors within the species' range and using the best available scientific data. Species listed as threatened or endangered by the USFWS receive full protection under the ESA, including a prohibition on indirect take, such as the destruction of critical habitat (i.e., areas formally designated by USFWS in the Federal Register).

In Texas, endangered species legislation established in 1973, and subsequent amendments (TPWD, 1975a, 1975b) created a state regulatory program for managing and protecting endangered (species in danger of extinction) and threatened species (likely to become endangered in the foreseeable future). Chapters 67 and 68 of the Texas Parks and Wildlife Code authorize the TPWD to create lists of threatened and endangered species and regulate their taking or possession. Under this authority, TPWD controls the taking, possession, transport, export, processing, selling, offering for sale, or shipping of threatened or endangered species.

The TPWD maintains the NDD to track known occurrences of threatened, endangered, and otherwise rare plant and animal species throughout Texas. The NDD provides information about the locations and descriptions of rare habitats and areas managed to achieve high species diversity as well as provide quality habitat for common and rare wildlife species. Typically, information obtained from the NDD includes a descriptive record with Element Occurrence Identification (EOID) numbers corresponding with mapped locations of all rare habitats within the study area. The NDD data was downloaded from TPWD NDD Information Request Tool in July 2024 (TPWD, 2024b). It is important to note that, because the NDD is based on the best data available to TPWD regarding rare species, these data cannot provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features in any area. Given the small proportion of public versus private land in Texas, the NDD does not include a representative inventory of rare resources in the state. Also, the data are not complete, as there are gaps in coverage due to the lack of access to land or data and a lack of staff and resources to collect and process data on all rare and significant resources.

A review of federal and state listed endangered or threatened species was conducted in Bexar County. Thirty-four federal- and state-listed threatened, endangered, proposed endangered, proposed threatened, and candidate species were identified by USFWS as having the potential to occur in the study area, with TPWD identifying these species as having the potential to occur in Bexar County. **Table 3-13** lists these species, their habitat descriptions, and suitable habitat determinations within the study area. The USFWS has designated or proposed critical habitat for certain species, which may require special management and protection. However, there are no designated or proposed critical habitat units within or intersecting the study area. Unless otherwise noted, the information below is drawn primarily from TPWD (2024b), USFWS (2024b, 2024c), and NatureServe Explorer (2024) online data and publications. Three listed or proposed species [Monarch butterfly (*Danaus Plexippus*), tricolored bat (*Perimyotis subflavus*), and Texas horned lizard (*Phrynosoma cornutum*)] are identified as having suitable habitat within the study area as demonstrated in **Table 3-9**.

Table 3-9. Threatened and Endangered Species

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
Amphibians						
Cascade Caverns Salamander	*Eurycea latitans*	-	T	This species inhabits springs, outflow channels, and subterranean voids in northern Bexar, western Comal, and southern Kendall counties. These areas are part of the southeastern Balcones Canyonlands, a subregion of the Edwards Plateau. Cascade Caverns salamanders require access to both surface and subsurface aquatic habitats year-round. These habitats must have flowing groundwater with chemical components within the natural range. Additionally, the natural physical form of spring openings, spring runs, creeks, and subterranean spaces must remain free from human-caused disturbances that could degrade or destroy these systems.	No	The study area is not located within an area known to have karst features or natural springs.
San Marcos Salamander	*Eurycea nana*	T	T	San Marcos salamanders inhabit areas with cobble, gravel, and boulder substrates, often covered by *Amblystegium* moss or filamentous algae. They avoid mud or silt substrates and rooted macrophytes, preferring thermally stable spring environments with water velocities around one centimeter per second. High velocities can erode their habitat, while low velocities allow sediment to fill the spaces they use. Determining subsurface habitat characteristics is challenging due to the difficulty of accessing subterranean environments.	No	The study area is not located within an area known to have karst features or natural springs.
Texas Salamander	*Eurycea neotenes*	-	T	This exclusively aquatic species is only known to occur in the immediate vicinity of freshwater spring outflows. The species is primarily found under rocks and leaves and in the gravel substrates of subaquatic springs.	No	The study area is not located within the species known range, or in an area known to have karst features or natural springs.
Texas Blind Salamander	*Eurycea rathbuni*	E	E	This rare salamander lives in the Edwards Plateau region, found in the relatively constant temperatures of the water-filled subterranean caverns of the Edwards Aquifer near San Marcos, Texas. The Texas blind salamander requires a constant supply of clean, cool water from the Edwards Aquifer.	No	The study area is not located within an area known to have karst features or natural springs.
Arachnids						
Cokendolpher	*Texella*	E	S1	A subterranean obligate, the species occurs in small	No	The study area is not located within an

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
Cave Harvestman	*cokendolpheri*			isolated karstic features within the Edwards Limestone Formation. Sensitive to low humidity and temperature, it is found under large rocks in dark cool parts of caves. The species is only known to inhabit a single mile-long cave system in a highly urbanized area of Bexar County, Texas.		area known to have karst features or natural springs.
Government Canyon Bat Cave Meshweaver	*Cicurina vespera*	E	S1	This species is endemic to Texas, where it is known to exist in only one Bexar County cave: the Government Canyon Bat Cave. This species is an obligate cave-dweller, spending all of its life within a subterranean environment. This troglobitic species requires high humidity and stable temperatures (around 22 degrees Celsius).	No	The study area is not located within an area known to have karst features or natural springs.
Government Canyon Bat Cave Spider	*Tayshaneta microps*	E	S1	Known from the following two caves in the Government Canyon State Natural Area, Bexar County, Texas: Government Canyon Bat Cave and Surprise Sink, this species is an obligate cave-dweller spending all of its life within these limestone features. This troglobitic species requires high humidity and stable temperatures (around 22 degrees Celsius).	No	The study area is not located within an area known to have karst features or natural springs.
Madla Cave Meshweaver	*Cicurina madla*	E	S1	A subterranean obligate, the species occurs in small isolated karstic features within the Edwards Limestone Formation. Sensitive to low humidity and temperature, it is found under large rocks in dark cool parts of caves. This species is known to originate from eight or nine caves in Bexar County, spending its entire life in subterranean environments.	No	The study area is not located within an area known to have karst features or natural springs.
Robber Baron Cave Meshweaver	*Cicurina baronia*	E	S1	This troglobitic species inhabits the limestone caves and mesocaverns of Bexar County, Texas. The species has only been identified in two Bexar County caves: the Robber Baron Cave and another in Alamo Heights. This species likely requires high humidity (near 100 percent) and stable temperatures (around 22 degrees Celsius).	No	The study area is not located within an area known to have karst features or natural springs.
Birds						
Golden-cheeked Warbler	*Setophaga chrysoparia*	E	E	This migratory species breeds in central Texas along the Balcones Escarpment on the eastern edge of the Edwards Plateau and ranges from southwest of Fort Worth to northeast of Del Rio. Breeding habitat consists of juniper-oak woodlands dominated by Ashe juniper (*Juniperus*	No	Juniper-oak woodlands with sufficient canopy coverage and age are not present in the study area and it is outside the modeled range of the species.

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				ashei) and various oak (*Quercus* sp.) species and deciduous trees found in areas with steep slopes, canyon heads, draws, and adjacent ridgetops. The species is dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are generally placed in upright forks of mature Ashe junipers or various deciduous species. Occupied sites usually contain junipers at least 40 years old.		
Piping Plover	*Charadrius melodus*	T	T	This migratory species overwinters in Texas, where it occurs on beaches, ephemeral sand flats, barrier islands, sand, mud, algal flats, washover passes, salt marshes, lagoons, and dunes along the Gulf Coast and adjacent offshore islands, including spoil islands in the Intracoastal Waterway. Sand flats appear to be preferred habitat, but algal flats appear to be the highest quality habitat because of their relative inaccessibility and their continuous availability throughout all tidal conditions.	No	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the piping plover.
Rufa Red Knot	*Caladris canutus rufa*	T	T	The species is a winter resident and migrant in Texas. It is primarily found in marine habitats such as sandy beaches, salt marshes, lagoons, mudflats of estuaries and bays, and mangrove swamps during winter months. It primarily occurs along the Gulf coast on tidal flats and beaches and less frequently in marshes and flooded fields. It has occasionally been observed along shorelines of large lakes and freshwater marshes.	No	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the rufa red knot.
White-faced Ibis	*Plegadis chihi*	-	T	The species is found in the Western Gulf Coastal Plains ecoregion of Texas. Preferred habitat includes freshwater wetlands, marshes, ponds, rivers, irrigated land, and sloughs, but it occasionally forages in brackish or saltwater marshes. It nests in marshes in low trees, on the ground in bulrushes (*Scirpus* sp.) or reeds, or on floating mats.	No	No freshwater marshes, sloughs, irrigated rice fields, or brackish habitats were identified within the study area.
Wood Stork	*Mycteria americana*	-	T	Prefers to nest in large tracts of bald cypress or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading	No	No large tracts of bald cypress or red mangrove, prairie ponds, or flooded pastures or fields were identified within the study area.

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.		
Whooping Crane	*Grus americana*	-	E	This migratory species breeds in the South Central Plains of east Texas and throughout the southeastern U.S. In Texas, breeding habitat occurs between sea level and 230 meters in elevation in bottomland forests, cypress swamps, pine glades, and freshwater marshes skirting large lakes. It nests near the tops of trees that are higher than the surrounding stand, often near a clearing or the edge of a forest or woodland. It prefers to nest in pines, but occasionally uses species such as bald cypress (*Taxodium distichum*), water oak (*Quercus nigra*), or cottonwood (*Populus deltoides*).	No	No lowland forested regions, including swamps and marshes with tall trees, were identified within the study area.
Crustaceans						
Peck's Cave Amphipod	*Sygobromus pecki*	E	-	This species inhabits the areas where the groundwater meets the surface found in the headwaters of the Comal Spring complex and Hueco Springs fed by the Edwards Balcones Fault Zone Aquifer groundwater. This species is primarily found near or within the hollowed-out limestone spaces in underground aquifers. This species is only known to occur in four cavern areas of Bexar County, Texas: Comal Springs, Hueco Springs, Landa Park, and Panther Canyon.	No	The study area is not located within the species known range, or in an area known to have karst features or natural springs.
Fishes						
Fountain Darter	*Etheostoma fonticola*	E	-	This species requires undisturbed stream floor habitats containing a mix of submergent plants, clear and clean water, invertebrates for food, constant water temperatures and adequate spring flows. The fountain darter is only found in the Comal and upper San Marcos rivers in Texas.	No	The study area is not located within the species known range.
Widemouth Blindcat	*Satan eurystomus*	PE	T	This species exists in total darkness, 900 feet below the surface under San Antonio, Texas. Thes species inhabits the groundwater in the Edwards Balcones Fault Zone Aquifer where it is presumed to eat invertebrates. The known range includes five artesian wells that penetrate the San Antonio Pool of the Edwards Aquifer (Edwards	No	This species occurs at depths not affected by the proposed project type.

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				Limestone, Lower Cretaceous) in and around San Antonio, Bexar County, Texas.		
Toothless Blindcat	*Trogloglanis pattersoni*	PE	T	This species exists in total darkness, 900 feet below the surface under San Antonio, Texas. Thes species inhabits the groundwater in the Edwards Balcones Fault Zone Aquifer where it is presumed to scavenge food sources from invertebrates and fungus. The known range includes five artesian wells that penetrate the San Antonio Pool of the Edwards Aquifer (Edwards Limestone, Lower Cretaceous) in and around San Antonio, Bexar County, Texas.	No	This species occurs at depths not affected by the proposed project type.
Flowering Plants						
Texas Wild-rice	*Zizania texana*	E	E	This species is known only from the spring-fed upper San Marcos River in Central Texas. This species is primarily found in shallow areas of the river (1 m) and at high current velocities (≥ 0.46 m/s^{-1}). Texas wild-rice is more commonly associated with native species than non-native, occupying sites with moderately coarse to coarse sandy soils.	No	The study area does not fall within the known range of this species, or an area with sufficient stream velocities.
Bracted twistflower	*Streptanthus bracteatus*	T	S1	This species primarily exists along the boundary of Edwards or Devils River limestone formations with the Glen Rose limestone formation. Typically found on rocky hillsides and slopes, it frequently grows near Ashe juniper (*Juniperus ashei*), Texas live oak (*Quercus fusiformis*), Texas mountain laurel (*Sophora secundiflora*), Texas red oak (*Quercus buckleyi*), and other trees. This plant often associates with shrubs, which likely serves as protection against deer herbivory rather than a requirement for shade.	No	Heavy land-use and associated disturbance exists throughout the study area. Suitable geologic and topographic criteria are also absent within the study area.
Insects						
Beetle (no common name)	*Rhadine exilis*	E	S1	Limited to only a few caves in north and northwest Bexar County, this troglobitic beetle is found in the subterranean limestone voids of 47 caves. This species likely requires high humidity (near 100 percent) and stable temperatures (around 22 degrees Celsius).	No	The study area is not located within the species known range, or in an area known to have karst features.
Beetle (no common name)	*Rhadine infernalis*	E	S1	Limited to only a few caves in north and northwest Bexar County, this troglobitic beetle is found in the subterranean	No	The study area is not located within the species known range, or in an area

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				limestone voids of 39 caves. This species likely requires high humidity (near 100 percent) and stable temperatures (around 22 degrees Celsius).		known to have karst features.
Comal Springs Dryopid Beetle	*Stygoparnus comalensis*	E	S1	This aquatic beetle lives in and out of the bubbling, boiling spring openings found in the headwaters of the Comal Spring complex and Fern Bank Springs fed by the Edwards Aquifer groundwater. Adults inhabit the subterranean species associated with springs, and their association with the surface can only be hypothesized. Once at the surface, they inhabit gravel and cobble-dominated substrates with aquatic vegetation and submerged wood present.	No	The study area is not located within the species known range, or in an area known to have karst features.
Comal Springs Riffle Beetle	*Heterelmis comalensis*	E	S1	This aquatic beetle lives in and out of the bubbling, boiling spring openings found in the headwaters of the San Marcos and Comal Spring complexes that are fed by the Edwards Balcones Fault Zone Aquifer groundwater. This species is primarily found where groundwater meets the surface.	No	The study area is not located within the species known range, or in an area known to have karst features.
Helotes Mold Beetle	*Batrisodes venyivi*	E	S1	Found exclusively in the dark zones of eight caves in Bexar County, Texas, these troglobitic beetles likely require high humidity (nearly 100 percent) and stable temperatures (around 22 degrees Celsius). This species is known only from Christmas Cave and Helotes Hilltop Cave.	No	The study area is not located within the species known range, or in an area known to have karst features.
Monarch Butterfly	***Danaus plexippus***	**C**	**-**	**Found statewide. Adults are found in a variety of habitats including native prairies, pastures, open woodlands and savannas, desert scrub, roadsides, and other habitats with abundant nectar plants, including urbanized areas. Although adults may be present year-round, they are primarily encountered between March and November, and are most commonly observed in the summer and fall during breeding and migration. Caterpillars are found on various species of the family Asclepiadaceae (occasionally treated as a subfamily of Apocynaceae). Common host plants in Texas include milkweeds (*Asclepias* spp.), milkvines (*Matelea* spp.), twinevines (*Funastrum* spp.), swallowworts (*Cynanchum* spp.)**	**Yes**	**This species is a habitat generalist and suitable habitat may be present along vegetated roadsides and other open areas with nectar plants, species of host plants in the Asclepiadaceae family, and/or other desirable species.**

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				and anglepod (*Gonolobus suberosus* [=*Matalea gonocarpus*]). Caterpillars are most frequently observed between April and September.		
Mammals						
Black Bear	*Ursus amerianus*	-	T	Black bears inhabit forests, forested wetlands, and nearby openings. They use various dens, including fallen trees, tree cavities, hollow logs, underground sites, and dense cover, with young born in these dens. Preferring mixed deciduous-coniferous forests with thick understory, they also thrive in large hardwood swamps and pocosins on the Atlantic Coastal Plain. Southeastern bears benefit from enhancing pocosins, mature gum, oak, and disturbed habitats.	No	The study area is highly urbanized and lacks suitable forested areas for this species.
White-nosed Coati	*Nasua narica*	-	T	This species is primarily found in woodlands, riparian corridors and canyons. Most individuals in Texas are probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade	No	The study area is highly urbanized and lacks woodlands of sufficient area, or suitable corridors for connecting habitat for the species.
Tricolored Bat	***Perimyotis subflavus***	**PE**	**NL**	**In Texas, tricolored bats may be found year-round. In the spring, summer, and fall they primarily nest on leaves or bark of live and dead trees, or epiphytic vegetation such as Spanish moss (*Tillandsia usneoides*). They may also roost among ferns and crevices on limestone and sandstone bluffs and cliffs during this time. From late winter to early spring, they may roost in culverts, abandoned buildings, and large hollow trees. In central Texas caves serve as important roost sites. Tricolored bats typically roost alone or in small groups. During the winter they may go into periods of torpor during colder temperatures however they will emerge to feed on warm evenings. Foraging habitat consists of open woodlands, riparian corridors, and forest edge.**	**Yes**	**Trees, abandoned buildings, and/or culverts may be present within the study area.**
Mollusks						
False Spike	*Fusconaia mitchelli*	-	T	Freshwater mussel currently known from the Colorado and Brazos River basins. The species occurs in small to medium-sized streams and rivers with various substrates	No	The proposed study area is not located within the species known river basins.

Common Name	Scientific Name	Listing Status		Habitat Description	Suitable Habitat within Study Area	Determination
		USFWS	TPWD			
				including mud and mixtures of sand, gravel, and cobble. It is often found in riffle and pool habitats, and host species include the red (*Cyprinella lutrensis*) and blacktail shiner (*C. venusta*).		
Reptiles						
Texas Tortoise	*Gopherus berlandieri*	-	T	The Texas tortoise lives in southern Texas and in north-east Mexico. In Mexico it inhabits semi-desert areas and in southern Texas it lives in scrub forests in humid, subtropical areas, preferring open scrub woods and well-drained, sandy soils.	No	The semi-arid desert habitat inhabited by this species is not present in the study area.
Cagle's Map Turtle	Graptemys caglei	-	T	This aquatic prefers shallow water with swift to moderate flow and gravel or cobble bottom, connected by deeper pools with a slower flow rate and a silt or mud bottom; gravel bar riffles	No	The portion of Leon Creek within the study area does not have adequate flow and/or deep pools suitable for this species.
Texas Horned Lizard	Phrynosoma cornutum	-	T	This lizard inhabits open arid and semiarid regions with sparse vegetation (deserts, prairies, playa edges, bajadas, dunes, foothills) with grass, cactus, or scattered brush. Soil may vary in texture from sandy to rocky.	Yes	There is an EO for this species within the study area (EOID 64) as well as areas of sparse vegetation and scattered brush that may provide suitable habitat for this species.

SOURCE: USFWS, 2024c; TPWD, 2024b.
NOTES:
*Does not include species under review for federal listing or delisted species in recovery.
C = Candidate, E = Endangered, NL = Not Listed, PE = Proposed Endangered, T = Threatened, S1 = State ranked as critically imperiled, extremely rare, vulnerable to extirpation
Bold entries include federally listed species that have the potential to occur in the study area (i.e., does not include the entire county) based on the IPaC (USFWS, 2024c). State-listed entries include the entire county.

Species of Greatest Conservation Need

Species designated as SGCN by TPWD whose geographic range includes any portion of Bexar County were reviewed. A total of 63 state-listed SGCN and rare species were identified by TPWD as having the potential to occur in Bexar County. Desktop review identified potential suitable habitat for 14 state-listed SGCN species within the study area. These species are shown in **Table 3-10** along with any associated EOIDs in the study area (TPWD, 2024b). Within the highly urbanized study area, suitable habitats for SGCN include both terrestrial and aquatic environments. Terrestrial habitats may consist of wooded floodplains, riparian zones, and patches of native prairie vegetation, which provide essential resources for species dependent on a mix of open spaces and cover. Aquatic habitats, particularly near Leon Creek, include streams and ponds with varying substrates, such as rocky or sandy beds, that are crucial for species requiring both terrestrial and aquatic elements for their life cycles. These habitats support species adapted to fragmented or modified landscapes, offering shelter, foraging opportunities, and breeding sites despite the urban context. However, it should be noted that these species do not receive additional protections beyond those provided under the BGEPTA and the MBTA.

Table 3-10. SGCN Species with Potential Habitat in the Study Area

Common Name	Scientific Name	EOID
Amphibians		
Strecker's chorus frog	*Pseudacris streckeri*	-
Mammals		
Cave myotis bat	*Myotis velifer*	-
Eastern spotted skunk	*Spilogale putorius*	-
Mollusks		
Pimpleback	*Cyclonaias pustulosa*	-
Reptiles		
Eastern box turtle	*Terrapene carolina*	12661
Western box turtle	*Terrapene ornata*	-
Tamaulipan spot-tailed earless lizard	*Holbrookia subcaudalis*	-
Slender glass lizard	*Ophisaurus attenuatus*	-
Plants		
Plateau milkvine	*Matelea edwardsensis*	-
Sandhill woolywhite	*Hymenopappus carrizoanus*	-
Correll's false dragon-head	*Physostegia correllii*	-
Osage Plains false foxglove	*Agalinis densiflora*	-
Texas amorpha	*Amorpha roemeriana*	-
Heller's marbleseed	*Onosmodium helleri*	-
SOURCE: TPWD, 2024b		

The NDD data also showed an element occurrence (EOID 109) for a cave obligate isopod (*Speocriola hardeni*) that intersected with the study area. This species does not have suitable habitat in the study area; therefore, it is not anticipated to be found in the study area. The species inhabits subterranean habitats, and no known karst or natural spring features are known within the study area.

3.2 Human Resources/Community Values

3.2.1 Land Use

The entire study area covers approximately three square miles and is located entirely within the City of San Antonio. The study area is located within the jurisdictional boundary of Bexar County. Jurisdiction does not necessarily represent land ownership. Potential conflicts that could arise from crossing jurisdictional boundaries were evaluated in this study.

Land uses within the study area consist of a mix of urban/developed, planned land use, agriculture, transportation/aviation/utility features, communication towers, floodplain, and parks and recreation areas. The primary sources of land use information were obtained from interpretation of aerial photographs, USGS topographical maps, and vehicular reconnaissance surveys from accessible public viewpoints. Planned land use features were limited to known features obtained from governmental entities and mobility authorities.

Residential Areas

The urban/developed classification represents concentrations of surface disturbing land uses, which include habitable structures and other developed areas, characterized with low, medium and high intensities. The various levels of development include a mix of institutional, commercial, and/or industrial land uses. Developed low, medium, and high intensity areas were analyzed using aerial photograph interpretation and reconnaissance surveys. These classifications are described below:

- **Developed Low Intensity** areas typically include rural settings with single-family housing units.
- **Developed Medium Intensity** areas typically include single-family housing units that are grouped in residential subdivisions and might include peripheral commercial structures.

- **Developed High Intensity** includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses, and commercial/industrial parks. Areas with the highest concentration of development are typically located closer to urban centers and major arterials.

The study area comprises a mix of rural and developed areas, with the highest concentration of residential subdivisions, commercial, and industrial developments situated along or near major thoroughfares. The habitable structures near New Laredo Highway (SL 353) would be classified as low intensity developments, while the habitable structures near IH 35 would be classified as medium intensity developments. Habitable structures were identified using aerial photographs (NearMap, 2024), Google Street View, and reconnaissance surveys. The PUC definition of a habitable structure was used for this EA. The PUC's Substantive Rules (16 TAC § 25.101(a)(3)) define habitable structures as "structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis. Habitable structures include, but are not limited to, single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, and schools."

Schools

The study area is located within the Southwest Independent School District (ISD). No schools were identified within the study area (Texas Education Agency [TEA], 2024).

Planned Land Use

The planned land use component identifies objectives and/or policies regarding land use goals and plans, including conservation easements, managed lands, and proposed developments. Cities and counties typically prepare comprehensive land use plans to provide strategic direction by goals and objectives for the individual city or county. City and county websites were reviewed, and correspondence was submitted to local and county officials to identify potential planned land use conflicts. The City of San Antonio also has a Master Plan intended to provide guidance in future decisions related to land use, infrastructure improvements, transportation, and more (City of San Antonio, 2024a, 2024b). Additionally, the City of San Antonio has set up zoning districts to provide information on how a property may be developed. No Neighborhood Conservation

Districts were identified within the study area, but there are platted subdivisions. Bexar County is implementing a parks master plan last updated in 2021 (Bexar County, 2024). No zoning was identified for Bexar County.

Conservation Easements

A conservation easement is a restriction that property owners voluntarily place on specified uses of their property to protect natural, productive or cultural features. The property owner retains legal title to the property and determines the types of uses to allow or restrict. The property can still be bought, sold, and inherited, but the conservation easement is tied to the land and binds all present and future owners to its terms and restrictions. Conservation easement language will vary as to the individual property owner's allowances for additional developments on the land. The land trusts facilitate the easement and ensure compliance with the specified terms and conditions.

According to a review of various non-governmental organizations (e.g., the Nature Conservancy [TNC], Texas Land Conservancy [TLC], and the National Conservation Easement Database [NCED]), which function as land trusts and maintain databases for conservation easements within Texas indicated there was one conservation easement intersecting the study area. The Leon Creek Greenway conservation easement, held by the City of San Antonio, intersects the western portion of the study area and encompasses approximately 1,060 acres (NCED, 2024). Most of this area is beyond the limits of the study area. No other conservation easements have been identified within or intersecting the study area (NCED, 2024; TNC, 2024; TLC, 2024).

3.2.2 Agriculture

Agriculture is an important component of the economy for Bexar County, as indicated by representative agricultural statistics from the United States Department of Agriculture (USDA) National Agricultural Statistics Service's 2017 and 2022 Census of Agriculture shown in **Table 3-11**. The 2022 Census of Agriculture shows that in Bexar County the total market value for agricultural products sold increased by almost eight percent from 2017. Livestock sales accounted for 34 percent of agricultural sales, while crop sales made up 66 percent. The total number of farms decreased by 20 percent and total farm acreage decreased by 25 percent from 2017 (USDA, 2017, 2022). Many of the vacant properties in the study area are maintained with some form of crop agriculture.

Table 3-11. Agricultural Statistics for Bexar and Medina Counties

Statistical Category	Bexar County 2017 / 2022
Crop Sales	\$50.6M / \$48.1M
Livestock Sales	\$17.3M / \$25.1M
Total Sales	\$67.9M / \$73.2M
Number	2,520 / 2,107
Total Acreage	331,904 / 248,545
SOURCE: USDA, 2017, 2022.	

3.2.3 Transportation/Aviation

Transportation

Federal, state, and local roadways were identified using TxDOT county transportation maps, Texas Natural Resources Information System (TNRIS) data, and field reconnaissance surveys. The major roadway transportation system within the study area includes IH 35, IH 410 and New Laredo Highway (SL 353). Numerous local public and private roadways were identified in the study area as well (TxDOT, 2022a).

TxDOT's "Project Tracker," which contains detailed information by county for every project that is or could be scheduled for construction, was reviewed to identify any state roadway projects planned within the study area. The TxDOT Project Tracker indicated there are eight state roadway projects planned or underway within the study area (TxDOT, 2022b). **Table 3-12** summarizes the planned or underway projects within the study area. A review of the City of San Antonio Transportation and Capital Improvements did not indicate any city roadway projects planned within the study area (City of San Antonio, 2024c). None of the projects in **Table 3-12** involve the expansion of the road ROW or the installation of structures that may influence a transmission line.

Table 3-12. TxDOT Projects within Study Area

Roadway	CSJ*	County	Limits	Project Description	Status
SL 353	0017-01-026	Bexar	From Loop 13 to IH 35	Seal coat	Construction underway or begins soon
IH 35	0017-09-106	Bexar	From 0.3 Miles North of IH 410 to W. Mayfield Dr	Overlay	Construction underway or begins soon
IH 35	0017-09-107	Bexar	From IH 410 to Somerset Rd	Seal coat	Construction underway or begins soon
IH 35	0017-09-108	Bexar	From SL 353 to Somerset Rd	Seal coat	Construction underway or begins soon

Roadway	CSJ*	County	Limits	Project Description	Status
IH 35	0017-09-110	Bexar	From 0.3 Miles North of IH 410 to Loop 13	Safety improvement projects	Construction underway or begins soon
IH 35	0017-09-111	Bexar	From 0.34 Miles West of Somerset Rd to 0.71 Miles West of Cassin Rd	Safety improvement projects	Construction underway or begins soon
IH 35	0017-09-112	Bexar	From 0.34 Miles West of Somerset Rd to 0.71 Miles West of Cassin Rd	Safety improvement projects	Construction underway or begins soon
IH 35	0017-09-114	Bexar	From Somerset Rd to Loop 13	Overlay	Construction begins within 4 years

SOURCE: TxDOT, 2022b.
NOTES:
*Control Section Job (CSJ) is TxDOT nomenclature for referencing project numbers.

Railroads

There are two railroads owned by Union Pacific which cross the northwest portion of the study area (TxDOT, 2022a). None of these cross the existing transmission line corridor.

Aviation

Halff reviewed the San Antonio Sectional Aeronautical Chart (FAA, 2024a) and the Chart Supplement for the South Central US (formerly the Airport/Facility Directory) (FAA, 2024b) to identify FAA registered facilities within the study area subject to notification requirements listed in 14 CFR Part 77.9. Facilities subject to notification requirements listed in 14 CFR Part 77.9 include public-use airports listed in the Airport/Facility Directory (currently the Chart Supplement), public-use or military airports under construction, airports operated by a federal agency or DoD, or an airport or heliport with at least one FAA-approved instrument approach procedure.

The Chart Supplement for the South Central US used in conjunction with the San Antonio Sectional Aeronautical Chart, contains all public-use airports, seaplane bases and public-use heliports, military facilities, and selected private-use facilities specifically requested by the DoD for which a DoD Instrument Approach Procedure has been published in the US Terminal Procedures Publication.

There were no FAA registered public-use airports identified within the study area. One, military-use airport, Lackland Air Force Base (AFB) Joint Base San Antonio (JBSA), was identified within 20,000 feet of the study area boundary (FAA, 2024a), approximately 6,000 feet north of the existing Leon Creek Substation.

Although pre-existing landing areas (PELAs) for air ambulance services may exist in the study area, no public-use heliports or heliports with an instrument approach procedure are listed for the study area in the Chart Supplement for the South Central US (FAA, 2024b). No heliports were identified within 5,000 feet of the study area.

In addition, Halff also reviewed the FAA database (FAA, 2024c), USGS topographic maps, recent aerial photography, and conducted field reconnaissance from publicly accessible areas to identify private-use airstrips and private-use heliports not subject to notification requirements listed in 14 CFR Part 77.9. There were no private-use airstrips within the study area or within 10,000 feet of the study area.

3.2.4 Communication Towers

Review of the Federal Communication Commission (FCC) database indicated that there are no amplitude modulation radio (AM radio) transmitters within 10,000 feet of the study area. There are five frequency modulation radio (FM radio) transmitter/microwave tower/other electronic installations identified within the study area. There are two additional FM radio transmitters/microwave towers/other electronic installations within 2,000 feet of the study area boundary (FCC, 2024).

3.2.5 Utility Features

Utility features reviewed include existing electrical transmission lines, distribution lines, pipelines, water and gas/oil wells, and water and gas/oil storage tanks. Data sources used to identify existing electrical transmission and distribution lines include utility company and regional system maps, aerial imagery, USGS topographic maps, additional available planning documents, and field reconnaissance surveys. Existing transmission lines identified within the study area include multiple transmission lines that originate from the Leon Creek Substation, as well as additional transmission line segments that extend south of Structure #17 as shown on **Figure 3-1** located in **Appendix C** (map pocket). Distribution lines are prevalent throughout the developed portions of the study area; however, these features were not mapped or inventoried.

Data was obtained from the Railroad Commission of Texas (RRC) which provided a GIS layer for existing oil and gas wells, pipelines, and supporting facilities (RRC, 2024). The 2024 RRC dataset along with aerial photograph interpretation and field reconnaissance were used to identify and map existing oil and gas related facilities. Three natural gas pipelines cross portions of the southern and northern boundaries of the study area. Three oil and gas wells within the study area were identified that are classified as "Dry Holes" according to the RRC Public GIS Viewer (RRC, 2024). Water wells were more common within the study area as shown on **Figure 3-1** located in **Appendix C** (map pocket). Within the study area, there are a total of 22 water wells, with three designated for public water supply (TWDB, 2024). There are no SAWS infrastructure projects planned within the study area (SAWS, 2024).

3.2.6 Socioeconomics

This section presents a summary of economic and demographic characteristics for Bexar County and describes the socioeconomic environment of the study area. Literature sources reviewed include publications of the United States Census Bureau (USCB), and the Texas Demographic Center (TDC).

Population Trends

Bexar County experienced a population increase between 2010 and 2020 of 17 percent. By comparison, population at the state level increased by nearly 16 percent during this same time period (USCB, 2010a, 2020). According to TDC projections, Bexar County is projected to experience a 26 percent population growth in the next 30 years (from 2020 to 2050), while the population of Texas is expected to increase by nearly 22 percent over the next three decades. (TDC, 2022). **Table 3-13** presents the past population trends and projections for the study area county and the state of Texas.

Table 3-13. Population Trends

State/County	Past		Projected		
	2010	2020	2030	2040	2050
Texas	25,145,561	29,145,505	31,621,474	33,772,879	35,465,604
Bexar County	1,714,773	2,009,324	2,211,656	2,387,174	2,524,414
SOURCES: USCB, 2010a, 2020; TDC, 2022.					

Employment

From 2010 to 2022, the civilian labor force (CLF) in Bexar County increased by almost 28 percent (220,706 people). During this same time period the CLF at the state level grew by almost 23 percent (2,711,288 people) (USCB, 2010b, 2022). **Table 3-14** presents the CLF for the study area county and the state of Texas for the years 2010 and 2022.

Between 2010 and 2022, Bexar County's unemployment rate decreased from 6.9 percent in 2010 to 5.5 percent in 2022. Over the same period, Texas also saw a decrease in its unemployment rate, which dropped from 7.0 percent in 2010 to 5.2 percent in 2022. (USCB, 2010b, 2022). **Table 3-14** presents the employment and unemployment data for the study area county and the state of Texas for the years 2010 and 2022.

Table 3-14. Civilian Labor Force and Employment

State/County	2010	2022
Civilian Labor Force	11,962,847	14,674,135
Employment	11,125,616	13,908,128
Unemployment	837,231	766,007
Unemployment Rate (Percent)	7	5.2
Civilian Labor Force	793,358	1,014,064
Employment	738,564	957,948
Unemployment	54,794	56,116
Unemployment Rate (Percent)	6.9	5.5
SOURCES: USCB, 2010b, 2022.		

Leading Economic Sectors

The main occupations in Bexar County in 2022 fall under the category of management, business, science, and arts, followed by sales and office occupations (USCB, 2022). **Table 3-15** presents the number of persons employed in each occupation category during 2022 in the study area county.

Table 3-15. Employment Occupations

Occupation	Bexar County
Management, business, science, and arts occupations	359,381
Service occupations	177,740
Sales and office occupations	221,469
Natural resources, construction, and maintenance occupations	91,230
Production, transportation, and material moving occupations	108,128
SOURCES: USCB, 2022.	

In 2022 the industry group that employed the highest number of people in Bexar County was educational services, health care, and social assistance (USCB, 2022). **Table 3-16** presents the number of persons employed in each of the industries in the study area county for 2022.

Table 3-16. Industry Occupations

Occupation	Bexar County
Agriculture, forestry, fishing and hunting, and mining	9,829
Construction	78,240
Manufacturing	52,214
Wholesale trade	20,302
Retail trade	112,093
Transportation and warehousing, and utilities	50,748
Information	15,106
Finance and insurance, and real estate and rental and leasing	84,923
Professional, scientific and management, and administrative and waste management services	117,949
Educational services, and health care and social assistance	221,059
Arts, entertainment, recreation, accommodations and food services	105,164
Other services, except public administration	45,614
Public administration	44,707
SOURCE: USCB, 2022.	

3.2.7 Community Values

The term “community values” is included for the evaluation of the project consistent with Section 37.056(c)(4) of the Texas Utilities Code which requires an assessment of values and resources important to the local community. At times, community values and resources could include the following:

- habitable structure locations;
- AM, FM, microwave, and other electronic installations in the study area;
- FAA-registered airstrips, private airstrips, and heliports located in the study area;
- irrigated pasture or croplands utilizing center-pivot or other traveling irrigation systems;
- approvals or permits required from other governmental agencies; and
- comments received from community leaders and members of the public.

In addition, Halff also evaluated the Project for community values and resources that might not be specifically listed by the PUC, but that might be of importance to a particular community as a whole. Although the term “community values” is not formally defined, the term “community values” may be defined as a shared appreciation of an area or other natural resource by a national, regional, or local community. Examples of a community resource would be a park or recreational area, historical or archeological site, or a scenic vista (aesthetics). Halff mailed consultation letters to various local elected and appointed officials to identify and collect information regarding community values and community resources.

3.3 Recreation and Park Areas

Recreational and park areas may include resources owned by a governmental body or an organized group, club, or church. Federal and state database searches and county/local maps were reviewed to identify any parks and/or recreational areas within the study area. A reconnaissance survey was also conducted to identify any additional park or recreational areas.

3.3.1 National/State/County/Local Parks

A review of federal, state, and local websites and maps, as well as a field reconnaissance survey, found only one park/recreational facility within the study area. The southernmost extents of the Leon Creek Greenway, which is also a conservation easement held by the City of San Antonio, extend into the western portion of the study area. As shown on **Figure 3-1** located in **Appendix C** (map pocket), most this southern component of the greenway, referred to as Pearsall Park, is located west of the study area. The park provides approximately 1.5 miles of hike and bike trails throughout this portion of the greenway. However, the trail network does not appear to extend into those portions of the park within the study area.

A review of the National Park Service (NPS) website did not indicate any national parks, national historic trails, national historic sites, national monuments, national memorials or national battlefields within the study area (NPS, 2024a, 2024b). There are no TPWD parks or public hunting units located within or near the study area (TPWD, 2024c, 2024d).

3.3.2 Wildlife Viewing Trails

Review of the TPWD Great Texas Wildlife Trails Heart of Texas East indicates there are no designated trails within the study area (TPWD, 2024e). No parks, recreation areas, scientific areas, wildlife refuges, or historic sites funded by the United States Land and Water Conservation Fund Act (LWCF) were found within the study area (LWCF Coalition, 2024). No wildlife management associations have been identified in the study area

3.4 Aesthetic Values

Aesthetics are included as a factor for consideration in the evaluation of transmission facilities consistent with Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code. There are currently no formal guidelines provided for managing visual resources on private, state, or county owned lands. For the purposes of this study, the term “aesthetics” is utilized by Halff to address the subjective perception of natural beauty in a landscape. This evaluation attempts to define and evaluate the scenic qualities of an area. Related literature, aerial photograph interpretation, and field reconnaissance surveys were used to describe the regional setting and to determine the landscape character types for the study area.

Consideration of the visual environment includes a determination of aesthetic values (where the major potential effect of an action on the resource is considered visual) and recreational values (where the location of a transmission line could potentially affect the scenic enjoyment of the area). Halff considered the following aesthetic values in this study, which combine to give an area its aesthetic identity:

- topographical variation (hills and valleys);
- prominence of water in the landscape (rivers and lakes);
- vegetation variety (woodlands, meadows);
- diversity of scenic elements;
- degree of human development or alteration; and
- overall uniqueness of the scenic environment compared to the larger region.

Based on its proximity to Leon Creek, the study area retains some forested components associated with the Leon Creek riparian corridor. However, the bulk of the study area is a balanced mixture of residential, agriculture, and industry, with industry as the prevailing aesthetic. Whereas agriculture and residential is more centrally located within the study area, industry tends to be concentrated between Quintana Road and New Laredo Highway (SL 353), with the Milton B. Lee Peaking Plant, West as a prominent feature near the northern project terminus. An expansive mining and recycling operation occupies the southern limits of the study area between Leon Creek and IH 410.

Halff conducted a review of Texas scenic drive locations that are identified as having particularly strong aesthetic views or settings and found that none of these scenic drives were located within the study area (TripAdvisor, 2024). In 1997, the THC designated Heritage Trail Regions throughout the state of Texas to create a statewide heritage tourism program centered on the original 10 scenic driving routes identified in the 1968 Texas Heritage Trails Program. These Heritage Trail Regions incorporate the historic highways, historic sites, hiking and biking paths, natural beauty, and cultural attractions unique to the 10 regions (THC, 2024a). The study area is within the Independence Trail Region. The suggested driving trail for this region incorporates the outer Loop 1604, which is east of the study area (THC, 2004). Several attractions are listed within the City of San Antonio, none of which are in the study area (THC, 2024a). A review of the National Wild and Scenic Rivers System (NWSRS) website did not indicate any wild and scenic rivers within the study area (NWSRS, 2024). No other aesthetic resources, designated as scenic views, scenic roadways, or unique visual elements, were identified from the literature review or field reconnaissance of the study area. Although some portions of the study area might be visually appealing, the aesthetic quality of the study area overall is not distinguishable from that of other nearby areas.

3.5 Historical (Cultural Resource) Values

PURA § 37.056(c)(4)(A-D) incorporates historical and aesthetic values as a consideration when evaluating proposed electric transmission facilities. While a CCN application is not necessary for the Project, PUC's CCN application requirements were still applied for this EA. Such requirements include listing, mapping, and calculating the distance from the centerline for known historical sites within 1,000 feet of a proposed route. Archeological sites within 1,000 feet of a proposed route are required to be listed and their distance from the centerline documented, but they need not be shown on maps for the protection of the site. Sources consulted to identify known sites (national, state, or local commission) must also be listed.

The THC is the state agency responsible for preservation of the state's cultural resources. The THC, working in conjunction with TARL and the Center for Archeological Studies (CAS), maintains records of previously recorded cultural resources as well as records of previous field investigations. Information from the THC's restricted-access TASA and THSA was acquired in addition to GIS shapefiles acquired from TARL, to identify and map locations of previously recorded cultural (archeological and historical) resources within the study area. TxDOT's historic bridges database was also reviewed for bridges that are listed or determined eligible for listing on the NRHP. At the national level, NPS websites and data centers were reviewed to identify locations and boundaries for nationally designated historic landmarks, trails, and battlefield monuments.

Together, Pre- and Post-Contact sites are often referred to as cultural resources. Under the NPS standardized definitions, cultural resources include districts, sites, buildings, structures, or objects important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. For this study, cultural resources have been divided into three major categories: archeological resources, historical resources, and cemeteries. These three categories correlate to the organization of cultural resource records maintained by the THC and TARL.

Archeological resources are sites where human activity has measurably altered the earth and left deposits of physical remains (e.g., burned rock middens, stone tools, petroglyphs, house foundations, trails, trash scatters). Most archeological sites in Texas are Native American (Pre-Contact), Euro/African American, or Hispanic in origin. **Historical** resources include standing buildings or structures (e.g., houses, barns and outbuildings), and may also include dams, canals, bridges, transportation routes, silos, etc., and districts that are non-archeological in nature and generally more than 50 years of age.

Cemeteries are locations of intentional human interment and may include large public burial grounds with multiple individuals, small family plots with only a few burials, or individual grave sites. In some instances, cemeteries may be designated as Historic Texas Cemeteries (HTCs) by the THC or recognized with an OTHM. Cemeteries may also be documented as part of the THC Record-Investigate-Protect Program.

3.5.1 Cultural Setting

The study area is within the Central Texas archeological region (Perttula, 2004), which spans from when humans first spread throughout North America (Pre-Contact Period) to the time of contact with European explorers (Contact Period). Within this framework, and for the purpose of this project, six generalized time periods (see **Table 3-17**) established for Central Texas by Collins (2004) are synthesized to characterize the Pre-Contact and Contact cultural chronologies of the study area. The before present (BP) intervals are based on radiocarbon dates with a cut off year of 1950.

Table 3-17. Cultural Chronology for Central Texas

Time Period	Interval (BP)	Interval (BC / AD)
European Contact	400 – 150 BP	AD 1550 – 1800
Austin and Toyah	1200 – 400 BP	AD 750 – 1550
Late Archaic	4000 – 1200 BP	2050 BC – AD 750
Middle Archaic	6000 – 4000 BP	4050 – 2050 BC
Early Archaic	8800 – 6000 BP	6850 – 4050 BC
Paleoindian	11,500 – 8800 BP	9550 – 6850 BC

Paleoindian Period (11,500 to 8,800 BP)

The Paleoindian period began toward the end of the Pleistocene epoch, a period during when now-extinct megafauna such as mammoth and bison species were among the prey of early Paleoindian hunter-gatherers. The early Paleoindian period is characterized primarily by the occurrence of distinct fluted and lanceolate-shaped projectile points such as Clovis and Folsom forms. Although Clovis is often viewed as the earliest cultural horizon in North America, recent studies suggest that the first inhabitants were present in Central Texas much earlier and well prior to 11,500 BP (Dillehay et al., 2008; Waters et al., 2011; Waters and Stafford, 2007). Sites common during the early Paleoindian include kill, quarry/stone-working, cache, camp, ritual, and burial types (Bousman et al., 2004; Collins, 2004). In addition to diagnostic projectile point forms produced from high quality local cherts and exotic stone materials (e.g., obsidian), chipped stone artifacts were also produced using prismatic blade techniques.

Subsistence during Clovis times in Central Texas (11,500 to 10,900 BP) was not exclusively reliant on large herbivores such as mammoth, bison, and horse. Investigations at Gault, Kincaid Rockshelter, Pavo Real, and Wilson-Leonard indicate, for example, that smaller animals such as turtles, alligator, mice, badger, and raccoon were also hunted (Black, 1989; Bousman et al., 2004; Collins, 1995). A variety of wild plants are presumed to have also been an important element of the Clovis diet. Subsistence strategies during the Folsom and Plainview intervals (10,900 to 8800 BP) seem to have been dependent on specialized hunting of big game such as bison. This transition in subsistence strategies is evidenced by a tool kit comprised of fluted (Folsom) and unfluted (Midland and Plainview) points, end scrapers, and large, thin bifaces, which are thought to represent the trappings of hunters (Collins, 2004). Settlement patterns during the late Paleoindian period consist of camps, stone working, and kill sites in or near grassland habitats, owing to the notion of a focus on hunting grazing herds of bison. Due to highly mobile settlement and exploitation patterns, the geographical range of hunter-gatherers during the Paleoindian period stretches throughout North America.

Archaic Period (8,800 to 1,200 BP)

The Archaic period has been divided into three subperiods: Early (8800 to 6000 BP), Middle (6000 to 4000 BP) and Late (4000 to 1200 BP) Archaic, which are differentiated primarily by changes in paleoclimate and chipped stone technologies. The Archaic period in Central Texas is perhaps best known by the ubiquitous use of heated stones that manifest archeologically as various forms of hearths, earth ovens, scatters and middens. The accumulation of burned rock middens represents the remnants of hearths, or heating elements of earth ovens that were used primarily to transform a variety of geophytes and desert succulents into edible foods (Black and Thoms, 2014). In general, discrete cultural elements of the Archaic period are difficult to demarcate given the wide geographical distribution of sites dating to the Early, Middle and Late periods, and the stratigraphic mixing of these components due to a host of formation processes.

The Early Archaic in Texas is marked by the extinction of Pleistocene megafauna and a warming climatic trend, which may have intensified the hunting and gathering of local resources. The transition to Archaic subsistence patterns is represented archeologically by a diverse material culture, which includes the application of groundstone technology (i.e., manos and metates). Chipped stone tools that are known from the Early Archaic include notched and split-stemmed Martindale and Uvalde projectile points, Clear Fork and Guadalupe bifaces or gouges thought to represent woodworking tools, and notched stones interpreted as net sinkers or bola stones. Site types containing Early Archaic components are usually campsites, represented archeologically at sites: Loeve, Wilson-Leonard, Richard Beene, Sleeper, Jetta Court, Youngsport, Camp Pearl Wheat, and Landslide. The wide distribution of artifacts across the Edwards Plateau and adjacent regions suggests that mobility was frequent, with undefined territories composed of small nomadic bands. Early Archaic sites appear concentrated along the Balcones Escarpment, which could reflect the greater availability of water resources afforded by this feature during arid climatic intervals (McKinney, 1981; Hester, 1989). Oscillations between mesic and xeric climates could have led to marked scarcities of bison and/or antelope, causing Early Archaic peoples to rely heavily on smaller animals and plant foods.

The Middle Archaic is marked by an increase in site densities, reflecting an expanding population, and changes in settlement, technology, social organization and perhaps territorial boundaries (Black and McGraw, 1985). Subsistence strategies during this interval are thought to have focused on resources such as acorns and white-tailed deer that are prominent on the Balcones Escarpment, and portions of the live oak savanna on the Edwards Plateau. Collins (2004) subdivides the Middle Archaic into three intervals based on projectile point styles, Bell-Andice-Calf Creek, Taylor, and Nolan-Travis. Collins accredits the first two intervals to a shift in technology to accommodate specialized bison hunting weaponry. The return of bison to the region is thought to have correlated with mesic conditions during the early part of the Middle Archaic. The transition to the Nolan-Travis projectile point forms during the last interval may have been in response to the onset of extremely xeric conditions in Central Texas. The Middle Archaic also marks the waning of large burned rock features (e.g., hearths and earth ovens) and the debut of burned rock middens. Although their exact function(s) remain unclear, the accumulation of burned rock middens is likely the product of a variety of different subsistence practices such as intensive utilization of acorns and cooking xerophytes such as sotol (Johnson and Goode, 1994). The latter plant food would have thrived during arid climatic episodes.

The Late Archaic is characterized by an intensification of the subsistence patterns observed in the Middle Archaic (Hester, 1989; Collins,1995). The xeric climate of the Late Archaic likely resulted in the spread of grasslands on the Edwards Plateau. This would have attracted bison, which may account for increasing human populations during this interval. In addition, burned rock middens peak during the Late Archaic, suggesting that the baking of succulents such as sotol and yucca remained an important element of subsistence.

The xeric conditions of the early part of the Late Archaic eventually waned and the climate gradually became more mesic over time. Johnson and Goode (1994) subdivide this interval into early (Late Archaic I) and late (Late Archaic II) subperiods based on changes in lithic technologies. Projectile points common to the Late Archaic I consist of Bulverde, Pedernales, Marshall, Montell, and Castroville styles. During the Late Archaic II, smaller expanding-stem points such as Marcos, Ensor, Frio, and Darl are common. The shift from the broad face stylistic tradition of the Late Archaic I projectile points (e.g., Pedernales and Montell), and the similarity of Late Archaic II projectiles to dart points on the Southern Plains may indicate the influx of hunter-gatherer groups from northern areas during the late subperiod. The large cemeteries noted during this interval could also reflect the incursion of new people and perhaps Eastern religious ideologies into the Edwards Plateau (Johnson and Goode, 1994; Prewitt, 1985), and the establishment of territories during the late interval. The recovery of non-local stone artifacts from Late Archaic burials on the Edwards Plateau and stone tools made from Edwards chert from Caddo areas in northeast Texas suggests an extensive trade network of goods and ideas.

Austin and Toya Phases (1,200 to 400 BP)

The period following the Archaic is marked by a variety of changes in the material culture. This is represented by the initial appearance of bow and arrow use, followed by pottery, and perhaps marginal agriculture. Two subperiods, consisting of an early (Austin) and late (Toyah) phase are recognized on the Edwards Plateau during this interval (Prewitt, 1981). According to Collins (2004), the only significant change seen at the beginning of the Austin interval is from a prevalence of dart points (atlatl use) to that of arrow points (bow and arrow use). Based on the premise that basic hunting and gathering continued during the Austin Phase, Johnson and Goode (1994) suggested that the Late Archaic should be extended from 1200 BP to 800 BP. The Austin Phase is characterized by a distinct expanding-stemmed projectile point known as Scallorn, although Darl points are also found.

The late subperiod, or Toyah Phase, is represented by a contracting-stemmed arrow point known as Perdiz, as well as large, thin bifaces, end scrapers, prismatic blades, and pottery that is both local and imported from the Caddo area. Although the presence of pottery in this interval has been associated with horticultural practice, the stone tool kit suggests intensive hunting of bison, deer and antelope, which dominate Toyah faunal assemblages. The Toyah culture area covers the largest geographical range in Texas and stretches from the northern perimeter of the Edwards Plateau to portions of the South Texas Plains and Gulf Prairies. The occurrence of distinctive cultural traits along a similar timeline and across a wide range begs the question of whether Toyah represents the spread of people (i.e., a single ethnic group) across the landscape or the spread of ideas and their adoption by different peoples.

European Contact Period (40 to 50 BP)

This period is marked by the initial contact between Indigenous and European cultures. Prior to the arrival of European explorers into Central Texas in the 17th century, Indigenous peoples from northern Mexico and southern Texas began migrating into the region to escape forced occupation and labor at Spanish mines, missions, and ranches. Around the same time, Spanish horses acquired by Apache bison hunters of the High Plains afforded a significant advantage over pedestrian Indigenous groups. In addition to an improved ability for long-distance travel and hunting game, mounted Apache groups forced many native groups to the east and southeast to flee, some into Central Texas (Newcomb, 1993). Due to the fragmentation of Indigenous groups resulting from Apache raids, the growth of Spanish missions, and spread of European diseases, the accounts of the first European explorers do not provide direct analogs to their lifeways, but rather reflect a time of drastic cultural change (Collins, 2004). However, some Indigenous cultural patterns prevailed during the early part of European contact, which is indicated archeologically by large encampments likely composed of mixed ethnic affiliations, and small band-sized residential camps. Spanish and French documents indicate continued hunting of bison, deer and antelope by Indigenous groups as well as extensive exchange of bison products.

Historic Context

The historic context for San Antonio has been synthesized by Jasinki (2023) to provide a basic overview of local history. San Antonio has a 300-year history that extends back to Spanish Texas with the establishment of a presidio, town, and five Franciscan missions along the San Antonio River. The city's strategic role in two separate struggles for independence—the fight for Mexican independence in 1811-13 and for Texas independence in 1835-36 - resulted in conflicts that eventually signified San Antonio as a symbol of the battle for self-government. During the second half of the nineteenth century, San Antonio, as the largest city in Texas, supported a diverse native and immigrant population representing a crossroads of cultures. The city prospered as a center of agricultural and ranching activities, and its growing industry, advances in transportation, establishment of educational institutions, and strong connection to the military carried it firmly into the twentieth century and the post-World War II era.

3.5.2 Records Review

A records review of previously recorded archeological historic properties was conducted to determine the likelihood of impacts to cultural resources within the study area. The research was conducted using the TASA database, which contains published and unpublished data on prior cultural resources surveys, districts and properties listed in or eligible for the NRHP, SALs, OTHMs cemeteries, and previously recorded archeological historic properties, including those listed in or eligible for listing in the NRHP or SAL designation (THC, 2024b). The results of the review are summarized in **Table 3-18.**

Table 3-18. Recorded Cultural Resources within the Study Area

Archeological Sites	NRHP-Listed Resources	NRHP Determined-Eligible Resources	State Antiquities Landmarks	Cemeteries	OTHM
3	0	0	0	0	0
SOURCE: THC, 2024b.					

A review of TASA conducted on July 1, 2024 revealed that the project area contains three previously recorded archeological sites, 41BX2371, 41BX2372 and 41BX2313 (see **Table 3-19**). Site 41BX2371 was recorded in 2020 by TTL, Inc. According to the TASA record, the full site boundary is at least 132 meters north-south by 50 meters east-west and contains six extant farmstead buildings. The site was determined as ineligible for NRHP and SAL designation. Site BX2372 was also recorded in 2020 by TTL, Inc., and consists of a series of wooden structures and metal buildings built between 1950 and 1970, measures 222 meters by 68 meters and is designated as ineligible for NRHP and SAL designation. Site 41BX2313 is a mid-20th century dairy farm and homestead complex and was recorded in 2019 by Horizon Environmental Services, Inc. The site encompasses an area of 1-acre and Bexar County Deed Records indicate that the site is associated with the Burkholder family, who purchased 50.57-acres in 1942 that encompass the complex. This site has an undetermined NRHP and SAL status.

Table 3-19. Archeological Sites Documented in the Study Area

Resource ID	Resource Type	Chronology	Explanation of Resource	Eligibility	Year Recorded
41BX2371	Farmstead	20th Century	Six extant historic structures	Ineligible	2020
41BX2372	Homestead	1950-1970	Series of extant wooden structures and metal buildings	Ineligible	2020

Resource ID	Resource Type	Chronology	Explanation of Resource	Eligibility	Year Recorded
41BX2313	Dairy farm and homestead	Mid-20th Century	One large, wooden dairy barn; two small extant structures; animal pen	Undetermined	2019
SOURCE: THC, 2024b.					

3.5.3 Previous Investigations

There have been at least four previous cultural resource investigations in the study area (THC, 2024c). TTL, Inc. surveyed the area in 2020 ahead of the Somerset Subdivision project, and Parsons Brinkerhoff Quade and Douglas, Inc. conducted one of these surveys for TxDOT in 2023. Horizon Environmental Services, Inc. conducted a survey within the project area in 2019. No information on the remaining survey identified in the project area is provided in TASA.

3.5.4 High Probability Areas

Despite previous studies and recorded sites, the records review results do not include all possible cultural resources sites within the study area. To further assess and avoid potential impacts to cultural resources, HPAs for Pre-Contact archeological sites were defined during the route analysis process. HPAs were designated based on a review of the site and survey data within the study area, as well as soils and geologic data, and topographic variables. Within the study area, the Pre-Contact HPAs typically occur near and along larger streams such as Leon Creek. Terraces and topographic high points that would provide flats for camping and expansive landscape views as well as access to fresh and perennial water sources are also considered to have a high probability for containing Pre-Contact archeological sites. Post-Contact age resources are likely to be found near water sources. However, they will also be near primary and secondary transportation routes (e.g., trails, roads, and railroads) which provided access to the sites.

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4.0 ENVIRONMENTAL IMPACT OF THE ALTERNATIVES

Potential impacts of the Project that could occur from, and are unique to, the construction and operation of a transmission line are discussed separately in this section of the EA. Evaluation of the potential impacts of the Project identified in **Section 3.0** was conducted by tabulating the data for each of the 46 evaluation criteria in **Table 2-1** for the proposed Project route. The data tabulation for land use and environmental criteria for the proposed Project route are presented below in **Table 4-1**.

Table 4-1. Land Use and Environmental Data for the Proposed Project Route

EVALUATION CRITERIA		
Land Use		
1	Length of primary alternative route (miles)	1.77
2	Number of habitable structures[1] within 300 feet of right-of-way (ROW) centerline	65
3	Length of ROW using existing transmission line ROW	1.77
4	Length of ROW parallel and adjacent to existing transmission line ROW	1.77
5	Length of ROW parallel and adjacent to other existing ROW (roadways, railways etc.)	0
6	Length of ROW parallel and adjacent to apparent property lines (or other natural or cultural features, etc.)	1.24
7	Sum[2] of evaluation criteria 4, 5, 6	1.77
8	Percent of evaluation criteria 4, 5, 6	100
9	Length of ROW across parks/recreational areas[3]	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline	0
11	Length of ROW across cropland	0.61
12	Length of ROW across pasture/rangeland	0.94
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0
15	Length of route across gravel pits, mines, or quarries	0
16	Length of ROW parallel to existing pipeline ROW[4]	0
17	Number of pipeline crossings[4]	0
18	Number of transmission line crossings	0
19	Number of IH, US and state highway crossings	2
20	Number of FM or RM road crossings	0
21	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline	1
22	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline	0
23	Number of private airstrips within 10,000 feet of the ROW centerline	0
24	Number of heliports within 5,000 feet of the ROW centerline	0
25	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline	0
26	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline	3
27	Number of identifiable existing water wells within 200 feet of the ROW centerline	1
28	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells)	0
Aesthetics		
29	Estimated length of ROW within foreground visual zone[6] of US and state highways	1.77
30	Estimated length of ROW within foreground visual zone[6] of FM roads	0
31	Estimated length of ROW within foreground visual zone[6 & 7] of parks/recreational areas[3]	0.26
Ecology		
32	Length of ROW across upland woodlands/brushlands	0
33	Length of ROW across bottomland/riparian woodlands	0
34	Length of ROW across NWI mapped wetlands	0

EVALUATION CRITERIA		
35	Length of ROW across critical habitat of federally listed threatened or endangered species	0
36	Length of ROW across open water (lakes, ponds)	0
37	Number of stream and river crossings	0
38	Length of ROW parallel (within 100 feet) to streams or rivers	0
39	Length of ROW across Edwards Aquifer Artesian Zone	1.35
40	Length of ROW across 100-year floodplains	0.29
Cultural Resources		
41	Number of cemeteries within 1,000 feet of the ROW centerline	0
42	Number of recorded cultural resource sites crossed by ROW	0
43	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	2
44	Number of NRHP listed properties crossed by ROW	0
45	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	0
46	Length of ROW across areas of high archeological site potential	1.63

NOTES: All length measurements are shown in miles unless noted otherwise
[1]Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.
[2]Length of apparent property boundaries adjacent to and paralleling existing roads or highways are not "double-counted" in the sum length of ROW paralleled of criteria 4,5, and 6.
[3]Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the proposed Project route.
[4]Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.
[5]As listed in the Chart Supplement South Central US (FAA, 2024b formerly known as the Airport/Facility Directory South Central US) and FAA, 2024a.
[6]One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of Interstates, US and state highway criteria are not "double-counted" in the length of ROW within the foreground visual zone of FM roads criteria.
[7]One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of parks/recreational areas may overlap with the total length of ROW within the foreground visual zone of interstates, US and state highway criteria and/or with the total length of ROW within the foreground visual zone of FM roads criteria.

4.1 Natural Resources/Environmental Integrity

4.1.1 Physiography and Geology

Construction of the proposed transmission line is expected to have negligible effects on physiographic features, geologic features and/or natural resources of the area. Erection of the pole structures proposed for the Project will require the excavation and/or minor disturbance of small quantities of near-surface materials. However, given that there are no known faults or karst features in the study area these construction activities should have no measurable impacts on the geologic resources along the proposed Project route.

4.1.2 Soils

Potential impacts to soils from the construction, operation, and maintenance of electric transmission lines include erosion and compaction. Such impacts can be avoided by CPS Energy's implementation of appropriate mitigative measures during construction. Conversion of prime farmland soils are anticipated to be insignificant and limited to the physical occupation of small areas at the base of the pole support structures.

The highest risk for soil erosion and compaction is associated with the clearing and construction phases of the Project. In accordance with CPS Energy standard construction specifications, woody vegetation would be cleared within the ROW, as necessary to achieve conductor to ground clearance of the transmission line. Areas with vegetation removed would have the highest potential for soil erosion and the movement of heavy equipment through the cleared ROW creates the greatest potential for soil compaction. Prior to construction, CPS Energy would develop a SWPPP to minimize potential impacts associated with soil erosion, compaction, and external ROW sedimentation. Implementation of this plan would incorporate temporary and permanent BMPs to minimize soil erosion on the ROW during rainfall events. The SWPPP would also establish the criteria for mitigating soil compaction and re-vegetation to maintain soil stabilization during the construction and post construction phases. The existing herbaceous layer of vegetation would be maintained, to the extent practical, during construction. Denuded areas would be seeded and/or further stabilized with the implementation of permanent soil berms or interceptor slopes to stabilize disturbed areas and minimize soil erosion potential. The ROW would be inspected during and post construction to identify potential high erosion areas to ensure that best management practices are implemented and maintained. The potential for erosion and compaction will be minimized by development and implementation of a SWPPP for the Project.

4.1.3 Surface Water

The proposed Project route does not cross any surface waters within the study area. In the event surface waters are identified during preconstruction surveys, CPS Energy proposes to span all surface waters and construct any structures outside of the ordinary high-water marks for any surface waters. CPS Energy will limit the removal of woody vegetation as necessary to meet the necessary conductor to ground clearances. The shorter understory and herbaceous layers of vegetation will remain, where allowable, and BMPs will be implemented in accordance with the SWPPP for the Project to reduce the potential for sedimentation into surface waters. Since CPS Energy intends to span all surface waters and a SWPPP will be implemented during construction, no significant impacts to surface waters are anticipated for the proposed Project route. Furthermore, the proposed Project route has no linear surface water crossings (i.e., stream or creek feature) and does not cross any rivers. No portion of the proposed Project route is parallel (within 100 feet) to any streams or creeks. These determinations are based on the NHD and, since the dataset's inception, the hydrology of some stream features may have been altered by construction of drainage ditches, impoundments, and residential areas. The length of open water crossings (i.e., lakes or ponds), number of streams and rivers crossed, and length of the proposed Project route paralleling (within 100 feet) streams or rivers are provided in **Table 4-1**.

4.1.4 Groundwater

The proposed Project route occurs within the EAA Jurisdictional Boundary but is not within the regulated recharge and contributing zones of the Edwards Aquifer (EAA, 2024). Due to the Project's location within the EAA Jurisdictional Boundary, CPS Energy will consult with the EAA to ensure compliance with program requirements. The construction, operation, and maintenance of the Project are not anticipated to adversely affect groundwater resources within the study area.

During construction activities, a potential impact to groundwater resources is related to fuel and/or other chemical spills. Avoidance and minimization measures of potential contamination of water resources will be identified in the SWPPP. CPS Energy will take all necessary precautions to avoid the occurrence of these spills. If an unauthorized discharge occurs during construction, CPS Energy will comply with EAA notification requirements.

The proposed Project route crosses 1.35 miles of the Edwards Aquifer Artesian Zone (see **Table 4-1**).

4.1.5 Floodplains

The construction of the proposed Project route is not anticipated to impact the overall function of any floodplains within the study area, or adversely affect adjacent or downstream properties. Engineering design should alleviate the potential of construction activities to adversely impact flood channels and proper structure placement will minimize any flow impedance during a major flood event. Typically, the small footprint of pole structures, as proposed for the Project, does not significantly alter the flow of water within a floodplain.

The proposed Project route crosses 0.29 miles of FEMA-mapped floodplain associated with Leon Creek (see **Table 4-1**).

4.1.6 Wetlands

As indicated in **Table 4-1**, the proposed Project route does not cross any NWI mapped wetlands. Two NWI mapped wetlands were identified within the study area; in addition, unmapped wetlands still have the potential to occur within the study area. Removal of vegetation in wetlands increases the potential for erosion and sedimentation, which can be detrimental to downstream plant communities and aquatic life. Wetland areas also provide habitat to a number of species and are often used as migration corridors for wildlife. Mitigation measures with BMPs will be implemented, as appropriate, in identified areas of wetland potential during construction activities to further avoid and minimize impacts to those areas. CPS Energy proposes to implement BMPs as a component of their SWPPP to prevent off-ROW sedimentation and degradation of potential wetland areas. With the use of these avoidance and minimization measures, the proposed Project route is not anticipated to have a significant impact on potential wetlands.

The temporary and/or permanent placement of fill material within jurisdictional waterways and wetlands may require a permit from the USACE under Section 404, as outlined in **Section 1.6.2**. If necessary, CPS Energy will coordinate with the USACE – Fort Worth District prior to clearing and construction to ensure compliance with Section 404. If a Section 404 permit is needed, it is anticipated that the Project would be authorized under a Nationwide Permit.

4.1.7 Coastal Natural Resource Areas

The study area is not located within the CMZ boundary as defined by 31 TAC § 503.1, which excludes the Project from CMP conditions.

4.1.8 Vegetation

Potential impacts to vegetation will result from clearing the ROW of woody vegetation and/or mowing/clearing of herbaceous vegetation. These activities facilitate ROW access for structure construction, line stringing, and future maintenance activities of the proposed transmission line. Impacts to vegetation will generally be limited to the transmission line ROW. Additional clearing might be necessary in temporary easements outside of the ROW to facilitate the construction of the transmission line. The clearing activities will be completed while minimizing the impacts to existing groundcover vegetation when practical. Future ROW maintenance activities might include periodic mowing and/or herbicide applications to maintain an herbaceous vegetation layer within the ROW. Clearing trees and shrubs from woodland areas typically generates a degree of habitat fragmentation. The proposed Project route will minimize habitat fragmentation by utilizing an existing transmission line corridor. Vegetation clearing will occur only where necessary to provide access, workspace, and future maintenance access to the ROW.

As indicated in **Table 4-1**, the proposed Project route does not cross any upland woodlands/brushlands or bottomland/riparian woodlands. **Table 4-1** values regarding ecology and land use reflect conditions relative to the proposed Project route centerline which is within an existing maintained ROW. For example, 1.55 miles of the proposed Project route centerline crosses either cropland or pasture/rangeland (see **Section 4.2.2**). However, south of the IH 35 corridor, portions of the expanded ROW width will clear 0.52 miles of upland woodlands/brushlands and bottomland/riparian woodlands along the east side of the existing ROW. Using the existing ROW will minimize effects of habitat fragmentation.

4.1.9 Wildlife

The primary impacts of construction activities on wildlife species are typically associated with temporary disturbances from construction activities, and with the removal of vegetation (habitat modification). Increased noise and equipment movement during construction might temporarily displace mobile wildlife species from the immediate workspace area. These impacts are considered short-term and normal wildlife movements would be expected to resume after construction is completed. Potential long-term impacts include those resulting from habitat modifications and/or fragmentation. The proposed Project route centerline is within an existing maintained ROW. Any loss of upland woodlands/brushlands, which can represent the highest degree of habitat fragmentation by converting the area within a maintained ROW to an herbaceous habitat, would occur in portions of the expanded ROW adjacent an already maintained ROW, therefore limiting further habitat fragmentation.

Construction activities might impact small, immobile, or fossorial (living underground) animal species through incidental impacts or from the alteration of local habitats. Incidental impacts to these species might occur due to equipment or vehicular movement on the ROW by direct impact or due to the compaction of the soil if the species is fossorial. Potential impacts of this type are not typically considered significant and are not likely to have an adverse effect on any species population dynamics.

If ROW clearing occurs during bird nesting seasons, potential impacts could occur within the ROW area related to bird eggs and/or nestlings. Increases in noise and equipment activity levels during construction could also potentially disturb breeding or other activities of species' nesting in areas immediately adjacent to the ROW. If ROW clearing activities are necessary during the migratory bird nesting season (March 15 to September 15), CPS Energy will comply with state (TPWC Chapter 64) and federal (MBTA) regulations regarding avian species by having a qualified biologist conduct surveys for active nests prior to vegetation clearing.

Transmission lines can also present additional hazards to birds due to electrocutions and/or collisions. Measures will be implemented to minimize this risk with transmission line engineering designs. The electrocution risk to birds will not be significant since the engineering design distance between conductors, conductor to structure, or conductor to ground wire for the proposed transmission line is greater than the wingspan of any bird typically within the area (i.e., greater than eight feet). The risk for avian collisions with the shield wire can be minimized by installing bird flight diverters or other marking devices on the line within determined high bird use areas.

Construction of the proposed Project route is not anticipated to have significant impacts to wildlife within the study area. Direct impacts to wildlife would be associated with the loss of woodland/brushland habitat, the removal of which is addressed in the vegetation analysis above. The proposed Project route will minimize habitat fragmentation by utilizing an existing transmission line corridor. While highly mobile animals might temporarily be displaced from habitats near the ROW during the construction phase, normal movement patterns should return after construction is complete.

4.1.10 Aquatic Resources

Potential impacts to aquatic resources would include potential effects of erosion, siltation, and sedimentation. Vegetation clearing of the ROW might result in increased suspended solids entering surface waters near the proposed Project route. Increases in suspended solids might adversely affect aquatic organisms that require relatively clear water for foraging and/or reproduction. Physical aquatic habitat loss or alteration could result wherever riparian vegetation is removed and at temporary crossings required for access. Increased levels of siltation or sedimentation might also potentially impact downstream areas primarily affecting filter feeding benthic and other aquatic invertebrates. Implementation of a SWPPP utilizing BMPs will minimize these potential impacts. No significant adverse impacts are anticipated to aquatic habitats that may be crossed or located adjacent to the ROW for the proposed Project route.

4.1.11 Threatened and Endangered Species

In order to assess potential impacts to threatened or endangered species, Halff utilized available information for the species under review. Known occurrence data from NDD for the study area and project scoping comments from TPWD were reviewed (TPWD, 2024b). A USFWS IPaC consultation, TPWD county listings, and USFWS designated critical habitat locations were included in the review and are summarized in **Section 3.1.10** (USFWS, 2024c, TPWD, 2024b).

The NDD data provides a GIS data record of state-listed, rare, and federally threatened and endangered species and special status vegetation communities that have been documented within a given area. The absence of species within the NDD database is not a substitute for a species-specific field survey. Prior to construction, a field survey would be completed of the approved proposed Project route to determine if suitable habitat for threatened and endangered species is present. Additional consultation with the USFWS and TPWD may be required if suitable habitat is observed during field surveys.

Threatened and Endangered Plant Species

Review of the TPWD (2024b) and USFWS (2024c) data identified two plant species that are federally listed, candidates or proposed for federal listing, and/or state-listed for Bexar County (see **Table 3-9** and **Table 3-10** in **Section 3.1.10**).

Both of the species (Texas wild-rice [*Zizania texana*] and bracted twistflower [*Streptanthus bracteatus*]) are not expected to occur as the Project study area is outside of their range and suitable habitat conditions are not present. Construction of the proposed Project is not anticipated to have any adverse effects on federally listed threatened or endangered plant species.

Threatened and Endangered Animal Species

Review of the TPWD (2024b) and USFWS (2024c) data identified 21 animal species that are federally listed, candidates or proposed for federal listing for Bexar County (see **Table 3-19** and **Table 3-10** in **Section 3.1.10**). A field survey for potential suitable habitat for federally protected species would be completed after CPS Energy Board of Trustees approval of the proposed Project route.

CPS Energy proposes to conduct ROW clearing activities in compliance with state (TPWC Chapter 64) and federal (MBTA) regulations regarding avian species and appoint a qualified biologist to conduct surveys for active nests prior to vegetation clearing. Additionally, CPS Energy proposes to implement BMPs within their SWPPP to minimize impacts to aquatic species. A field survey for potential suitable habitat for state and federal protected species will be completed upon approval of the proposed Project route. Additional consultation with TPWD and the USFWS for avoidance and mitigation measures may be required if suitable habitat is observed during the field survey of the Project.

Federally Listed and Candidate Species

As indicated in **Table 4-1**, none of proposed Project route crosses critical habitat of federally listed endangered or threatened species.

The study area is located outside of the known distributions for the San Marcos salamander (*Eurycea nana*), Texas blind salamander (*Eurycea rathbuni*), Cokendolpher Cave harvestman (*Texella cokendolpheri*), Government Canyon Bat Cave meshweaver (*Cicurina vespera*), Government Canyon Bat Cave spider (*Tayshaneta microps*), Madla Cave meshweaver (*Cicurina madla*), Robber Baron Cave meshweaver (*Cicurina baronia*), Golden-cheeked warbler (*Setophaga chrysoparia*), Peck's Cave amphipod (*Sygobromus pecki*), fountain darter (*Etheostoma fonticola*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterelmis comalensis*), Helotes mold beetle (*Batrisodes venyivi*), and two unnamed beetles (*Rhadine exilis* and *Rhadine infernalis*). Federally proposed endangered species includes the widemouth blindcat (*Satan eurystomus*) and toothless blindcat (*Trogloglanis pattersoni*). The piping plover (*Charadrius melodus*) and rufa red knot (*Caladris canutus rufa*) are not anticipated to occur within the study area due to the lack of potential suitable habitat. No impacts to these species are anticipated from the proposed Project due to the lack of suitable habitat within the study area.

The federally proposed endangered tricolored bat may also occur within the study area, particularly in trees, culverts, or abandoned buildings. Because tricolored bat habitat is highly adaptable and can include many types of forested communities, one must assume that suitable habitat may be removed, if ROW clearing is performed. CPS Energy will conduct surveys for active roosting sites and coordinate with USFWS to determine any necessary avoidance or mitigation measures if these sites are identified.

The monarch butterfly, listed as a candidate species, may also occur within the study area as a habitat generalist. It is commonly found along vegetated roadsides and open areas with nectar plants. CPS Energy will avoid impacting this species by minimizing habitat disruption during construction.

Although no longer federally listed, the bald eagle (*Haliaeetus leucocephalus*) is still afforded additional federal protections and may occur within the study area if suitable habitat is available. Bald eagles and their nests are protected under the MBTA and BGEPA. Nests are protected if they have been used within the previous five nesting seasons. If nests are identified or individuals are observed during the field survey of the approved Project route, CPS Energy will further coordinate with the TPWD and USFWS to determine avoidance or mitigation measures.

Field surveys for potential suitable habitat for federally protected species will be completed following CPS Energy Board of Trustees approval of the proposed Project route. If suitable habitat for any of the listed species is identified, CPS Energy will coordinate with USFWS to develop appropriate mitigation measures and follow the CPS Energy Habitat Conservation Plan.

State Listed Species

The white-faced ibis (*Plegadis chihi*), wood stork (*Mycteria americana*), whooping crane (*Grus americana*), zone-tailed hawk (*Buteo albonotatus*), black bear (*Ursus americanus*), white-nosed coati (*Nasua narica*), Cascade Caverns salamander (*Eurycea latitans*), false spike (*Fusconaia mitchelli*), Texas horned lizard (*Phrynosoma cornutum*), and Cagle's map turtle (G*raptemys caglei*) are not anticipated to occur within the study area due to the lack of potential suitable habitat. No adverse impacts to these species are anticipated due to the Project.

The Texas horned lizard (*Phrynosoma cornutum*) may occur within the study area if suitable habitat, such as arid and semi-arid regions with sparse vegetation and with harvester ant colonies, is available. CPS Energy will conduct field surveys to identify potential habitats and implement avoidance measures to minimize disturbance. If present, these species may experience temporary disturbance during construction or harm if they have burrowed. With avoidance measures, the Project is not expected to result in significant impacts to their populations.

4.2 Impacts on Human Resources/Community Values

4.2.1 Land Use

The magnitude of potential impacts to land use resulting from the construction of a transmission line is determined by the amount of land (land use type) temporarily or permanently displaced by the actual ROW and by the compatibility of the facility with adjacent land uses. During construction, temporary impacts to land uses within the ROW might occur due to the movement of workers, equipment, and materials through the area. Construction noise and dust, as well as temporary disruptions of traffic flow, might also temporarily affect local residents and businesses in the area immediately adjacent the ROW. Coordination between CPS Energy, their respective contractors, and landowners regarding ROW access and construction scheduling should minimize these disruptions.

The evaluation criteria used to compare potential land use impacts include overall route length, route length parallel to existing linear features (including apparent property boundaries), route proximity to habitable structures, route proximity to park and recreational areas, and route length across various land use types. An analysis of the existing land use within and adjacent to the existing and proposed ROW is required to evaluate the potential impacts.

Route Length

The length of a proposed route can be an indicator of the relative magnitude of land use impacts. Generally, all other factors being equal, a shorter route results in crossing less land, which can result in fewer potential impacts. The total length of the proposed Project route is 1.77 miles (see **Table 4-1**).

Compatible ROW

PUC Substantive Rule 25.101(b)(3)(B) requires that an applicant for a CCN, and ultimately the PUC, consider whether a new transmission line is within existing compatible ROWs and/or are parallel to existing compatible ROWs, apparent property lines, or other natural or cultural features. While a CCN application is not necessary for the Project, the PUC criteria were used to evaluate the use of existing transmission line ROW, length parallel and adjacent to existing transmission line ROW, length of route parallel to other existing linear ROWs, and length of ROW parallel and adjacent to apparent property lines. The Project will be rebuilt within an existing transmission line corridor which as part of this Project will be expanded (parallel and adjacent to the existing ROW) with additional easements to accommodate new structures. Therefore, the proposed Project route will be utilizing an existing transmission line ROW for the entire 1.77 miles of the route and will also be parallel and adjacent for this same distance (1.77 miles) to an existing transmission line ROW. The proposed Project route is not parallel to other existing ROW (roadways, railways, utilities, etc.) but is parallel or adjacent to apparent property lines for 1.24 miles (see **Table 4-1**).

Typically, a more representative account for the consideration of whether a new transmission line route is parallel to existing compatible ROWs, apparent property lines, or other natural or cultural features is demonstrated with the percentage of the total route length parallel to any of these existing linear features. This percentage can be calculated for the proposed Project route by adding up the total length parallel to existing transmission lines, other existing ROW, and apparent property lines and then dividing the result by the total length of the route. The percentage of the proposed Project route paralleling existing linear features is 100 percent (see **Table 4-1**).

Developed and Residential Areas

Typically, one of the most important measures of potential land use impacts is the number of habitable structures located in the vicinity of the route. Based on direction provided by the PUC, habitable structure identification is a necessary component of any new electric transmission line project. Halff determined the number and distance of habitable structures located within 300 feet of the centerline of the proposed Project route through the use of GIS software, interpretation of aerial photography and verification during reconnaissance surveys, where practical. To account for photographic interpretation limitations such as shadows, tree canopies, and horizontal accuracy of the photography, Halff identified all habitable structures within a measured distance of 320 feet of the proposed Project route. The proposed Project route has 65 habitable structures located within 320 feet of the proposed rebuilt electric transmission line centerlines (see **Table 4-1**).

Table 4-2 presents detailed information on the habitable structures. All known habitable structure locations are shown on **Figure 3-1** located in **Appendix C** (map pocket).

Table 4-2. Habitable Structures in the Vicinity of the Proposed Project Route

Figure 3 1 Habitable Structure Map ID	Structure Type	Approximate Distance from Route Centerlines (feet)[1]	Direction[2]
1	Industrial	252	Southeast
2	Industrial	128	Southwest
3	Industrial	75	Southwest
4	SFR[3]	135	Northeast
5	SFR	24	East
6	SFR	47	East
7	SFR	88	East
8	Commercial	35	East
9	SFR	315	East
10	SFR	284	East
11	SFR	245	East
12	SFR	310	West
13	SFR	316	West
14	SFR	299	West
15	SFR	305	West
16	SFR	299	West
17	SFR	294	West
18	SFR	306	West
19	SFR	216	East
20	SFR	167	East
21	SFR	124	East
22	SFR	79	East
23	SFR	79	East
24	SFR	115	East
25	SFR	238	East
26	SFR	103	East
27	SFR	237	East
28	SFR	100	East
29	SFR	236	East
30	SFR	93	East
31	SFR	235	East
32	SFR	87	East
33	SFR	234	East
34	SFR	111	East
35	SFR	234	East
36	SFR	91	East
37	SFR	233	East
38	SFR	99	East

Figure 3 1 Habitable Structure Map ID	Structure Type	Approximate Distance from Route Centerlines (feet)[1]	Direction[2]
39	SFR	233	East
40	SFR	80	East
41	SFR	232	East
42	SFR	85	East
43	SFR	231	East
44	SFR	93	East
45	SFR	231	East
46	SFR	82	East
47	SFR	230	East
48	SFR	93	East
49	SFR	229	East
50	SFR	105	East
51	SFR	228	East
52	SFR	86	East
53	SFR	228	East
54	SFR	93	East
55	SFR	227	East
56	SFR	103	East
57	SFR	227	East
58	SFR	83	East
59	SFR	91	East
60	SFR	102	East
61	SFR	90	East
62	SFR	218	East
63	SFR	76	East
64	SFR	35	West
65	Multi-Family Residence	281	West

NOTES:
[1] To account for photographic interpretation limitations such as shadows, tree canopies, and horizontal accuracy of the aerial photography, Halff identified all habitable structures within a measured distance of 320 feet of the proposed rebuilt electric transmission line centerlines.
[2] Direction represents the distance beginning from the habitable structure towards the nearest proposed route centerline.
[3] Denotes single-family residence

Lands with Conservation Easements

As discussed in **Section 3.2.1**, there is one known conservation easement within or intersecting the study area which is not crossed by the proposed Project route. Therefore, the proposed Project route would have no direct impact on lands with conservation easements.

4.2.2 Agriculture

Impacts to agricultural land uses can generally be ranked by degree of potential impact, with the least potential impact occurring in areas where cultivation is not the primary use (pastureland/rangeland), followed by cultivated croplands, which have a higher degree of potential impact. Most existing agricultural land uses may be resumed within the ROW following construction. The proposed Project route crosses 0.61 miles of cropland and 0.94 mile of land categorized as pastureland/rangeland. However, because the ROW for this project will not be fenced or otherwise separated from adjacent lands, there will be no significant long-term displacement of ongoing activities. The proposed Project route does not cross any lands with known traveling irrigation systems (rolling or pivot type). The length of the proposed Project route, which crosses cropland, pastureland/rangeland, and land with known mobile irrigation systems, is presented in **Table 4-1**.

4.2.3 Transportation/Aviation

Transportation Features

Potential impacts to transportation could include temporary disruption of traffic or conflicts with future proposed roadways and/or utility improvements. Traffic disruptions would include those associated with the movement of equipment and materials to the ROW, and slightly increased traffic flow and/or periodic congestion during the construction phase of the Project. In the less developed portions of the study area, these impacts are typically considered minor, temporary, and short-term. In the more developed portions of the study area, the temporary impacts to traffic flow can be significant during construction but would be temporary and short-term. As mentioned in **Section 3.2.3**, there are eight state roadway projects planned or underway within the study area. The proposed Project route is not expected to have any significant impacts on these roadway projects. The proposed Project route crosses New Laredo Highway (SL 353) and IH 35 for a total of two crossings (see **Table 4-1**). The proposed Project route does not cross any US highways or FM roads. CPS Energy will coordinate with the appropriate agencies to address any traffic flow impacts or necessary permits.

Aviation Facilities

According to FAA regulations, Title 14 CFR Part 77, the construction of a transmission line requires FAA notification if tower structure heights exceed the height of an imaginary surface extending outward and upward at a slope of 100:1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public or military airport having at least one runway longer than 3,200 feet. The FAA also requires notification if tower structure heights exceed a 50:1 slope for a horizontal distance of 10,000 feet from the nearest runway of a public or military airport where no runway is longer than 3,200 feet in length, and if tower structure heights exceed a 25:1 slope for a horizontal distance of 5,000 feet for heliports.

There is one FAA registered airstrip (Lackland AFB JBSA) having at least one runway longer than 3,200 feet located within 20,000 feet of the proposed Project route. The nearest portion of the proposed Project route to the Lackland AFB JBSA runway is approximately 5,930 feet (1.23 miles) to the south. The estimated runway length at Lackland AFB JBSA is 12,700 feet and the 50:1 slope is not expected to be exceeded by the proposed pole heights for this project. Following CPS Energy Board of Trustees approval of the proposed Project route, CPS Energy would make a final determination of the need for FAA notification, based on the specific route location and structure design of the approved route. The result of this notification, and any subsequent coordination with the FAA, could include changes in the line design and/or potential requirements to mark the conductors and/or light the structures.

No public FAA registered airports with no runway longer than 3,200 feet were identified within 10,000 feet of the proposed Project route. There were no private airstrips identified within 10,000 feet of the proposed Project route, nor were there any heliports identified within 5,000 feet.

The number of airports, airstrips, and heliports for the proposed Project route are presented in **Table 4-1**. The distance for each airport/airstrip from the nearest portion of the proposed Project route was measured using GIS software and aerial photography interpretation. All known airport/airstrip locations are shown on **Figure 3-1** located in **Appendix C** (map pocket). The proposed Project route is not expected to have a significant impact on aviation activities within the study area.

4.2.4 Communication Towers

All known facilities, including fifth generation, licensed with the FCC have been identified. No commercial AM radio transmitters were identified within 10,000 feet of the proposed Project route. However, there are three other electronic communication facilities (i.e., FM radio, microwave, cellular, etc.) located within 2,000 feet of the proposed Project route. The proposed Project route is not anticipated to have a substantial impact on electronic communication facilities or operations in the study area.

The number of other communication facilities located within 2,000 feet of the proposed Project route is presented in **Table 4-1**. The distance to these electronic communication facilities from the closest portion of the proposed Project route was measured using GIS software and aerial photograph interpretation (**see Table 4-3**) and displayed on **Figure 3-1** located in **Appendix C** (map pocket).

Table 4-3. Electronic Communication Facilities

Figure 3 1 Tower Map ID	Facility Type	Distance (ft)	Direction to Route
1	Microwave	1,520	East
2	Cellular	1,420	East
3	Cellular	1,120	East
SOURCE: FCC, 2024			

4.2.5 Utility Features

Utility features include existing electrical transmission lines, distribution lines, water wells, pipelines, and oil and gas wells. Numerous water wells were identified within the study area and are mapped on **Figure 3-1** located in **Appendix C** (map pocket). There is one water well within 200 feet of the proposed Project route that is not a public supply water well (see **Table 4-1**). The proposed Project route does not cross any existing electrical transmission lines. Three oil and gas wells or associated facilities were identified within the study area, but none are within 200 feet of the proposed Project route. The proposed Project route does not cross any identifiable pipelines and is not parallel or adjacent to any pipelines. Additionally, the proposed Project route does not cross any gravel pits, mines, or quarries (see **Table 4-1**). If additional unidentified utility features are crossed by or are in close vicinity to the approved proposed Project route, CPS Energy will coordinate with appropriate entities to obtain necessary permits or permission as required.

4.2.6 Socioeconomics

Construction and operation of the Project is not anticipated to result in a significant change in the population or employment rate within the study area. For this Project, some short-term employment would be generated. CPS Energy normally uses contract labor supervised by each entity’s respective employees during the clearing and construction phases of transmission line projects. Construction workers for the project would likely commute to the work site on a daily or weekly basis instead of permanently relocating to the area. The temporary workforce increase would likely result in an increase in local retail sales due to purchases of lodging, food, fuel, and other merchandise for the duration of construction activities. No additional CPS Energy staff would be required for line operations and maintenance.

4.2.7 Community Values

Adverse effects upon community values are defined as aspects of the project that would significantly and negatively alter the use, enjoyment, or intrinsic value attached to an important area or resource by a community. This definition assumes that community concerns are applicable to this specific project's location and characteristics, and do not include objections to electric transmission lines in general.

Potential impacts to community resources can be classified into direct and indirect effects. Direct effects are those that would occur if the location and construction of a transmission line and stations result in the removal or loss of public access to a valued resource. Indirect effects are those that would result from a loss in the enjoyment or use of a resource due to the characteristics (primarily aesthetic) of the proposed transmission line, structures, or ROW.

4.3 Impacts on Recreation and Park Areas

Potential impacts to parks or recreation areas include the disruption or preemption of recreation activities. As previously mentioned in **Section 3.3.1**, one park or recreational area (Leon Creek Greenway) meeting the definition set forth by the PUC was identified within the study area but is not crossed or within 1,000 feet of the proposed Project route. Thus, no significant impacts to the use of parks and recreation facilities are anticipated to result from the location of the proposed Project route. Also, no adverse impacts are anticipated for any of the fishing or hunting areas from the proposed Project route (see **Table 4-1**). All known park or recreational area locations are shown on **Figure 3-1** located in **Appendix C** (map pockets).

4.4 Impacts on Aesthetic Values

Aesthetic impacts, or impacts to visual resources, exist when the ROW, lines and/or structures of a transmission line system create an intrusion into, or substantially alter the character of the existing view. The significance of the impact is directly related to the quality of the view, in the case of natural scenic areas, or to the importance of the existing setting in the use and/or enjoyment of an area, in the case of valued community resources and recreational areas.

Construction of the Project could have both temporary and permanent aesthetic impacts. Temporary impacts would include views of the actual assembly and erection of the tower structures. If wooded areas are cleared, the brush and wood debris could have an additional negative temporary impact on the local visual environment. Permanent impacts from the Project would involve the views of the cleared ROW, tower structures, and lines from public viewpoints including roadways, recreational areas, and scenic overlooks.

The study area is located within the Texas Hill Country. However, there are no designated landscapes protected by legislation, and most forms of development exist within the study area. Potential visibility impacts were evaluated by estimating the length of the proposed Project route that would fall within the foreground visual zones (one-half mile with unobstructed views) of major highways, FM roads, and parks or recreational areas. The proposed Project route lengths within the foreground visual zone of US highways, state highways, FM roads, and parks or recreational areas were tabulated and are discussed below.

The entire proposed Project route, which is 1.77 miles, is situated within the foreground visual zone of state and US interstate highways (New Laredo Highway [SL 353] and IH 35). However, none of the proposed Project route is located within the foreground visual zone of an FM road. Additionally, 0.26 miles of the proposed Project route is located within the foreground visual zone of a park or recreational area (Leon Creek Greenway) (see **Table 4-1**).

Based on its proximity to Leon Creek, the study area retains some forested components associated with the Leon Creek riparian corridor. However, the bulk of the study area is a balanced mixture of residential, agriculture, and industry, with industry as the prevailing aesthetic. The aesthetic quality has been affected by residential subdivisions, commercial activities, industrial facilities, major roadways, and existing utility corridors. Therefore, the construction of the proposed Project route is not expected to significantly impact the landscape's aesthetic quality.

4.5 Impacts on Historical (Cultural Resource) Values

Methods for identifying, evaluating, and mitigating impacts to cultural resources have been established for federal projects or permitting actions, primarily for purposes of compliance with the National Historic Preservation Act (NHPA). Similar methods are often used when considering cultural resources affected by state-regulated undertakings. In either case, this process generally involves identification of significant (i.e., national- or state-designated) cultural resources within a Project's study area, determining the potential impacts of the Project on those resources, and implementing measures to avoid, minimize, or mitigate those impacts.

Impacts associated with the construction, operation, and maintenance of transmission lines can affect cultural resources either directly or indirectly. Construction activities associated with any proposed project can adversely impact cultural resources if those activities alter the integrity of key characteristics that contribute to a property's significance as defined by the standards of the NRHP or the Antiquities Code of Texas. These characteristics might include location, design, setting, materials, workmanship, feeling, or association for architectural and engineering resources or archeological information potential for archeological resources.

4.5.1 Direct Impacts

Typically, direct impacts could be caused by the actual construction of the line or through increased vehicular and pedestrian traffic and excavation for towers during the construction phase. If construction is required near historic structures, landscapes, or districts, proper mitigation and avoidance measures would avoid adversely impacting such features during construction of a transmission line. Additionally, an increase in vehicular and/or pedestrian traffic might damage surficial or shallowly buried sites. Excavation for transmission structures could impact shallow or deeply buried archeological sites. Direct impacts might also include isolation of cultural resource from or alteration of its surrounding environment.

4.5.2 Indirect Impacts

Indirect impacts include those affects caused by the Project that are farther removed in distance or that occur later in time but are reasonably foreseeable. These indirect impacts might include introduction of visual or audible elements that are out of character with the resource or its setting. Indirect impacts might also occur as a result of alterations in the pattern of land use, changes in population density, accelerated growth rates, or increased pedestrian or vehicular traffic. Absent best management practices, proper mitigation, and avoidance measures, historic buildings, structures, landscapes, and districts are among the types of resources that could be adversely impacted by the indirect impact of a transmission line.

The preferred form of mitigation for direct and indirect impacts to cultural resources is avoidance through project modifications. Additional mitigation measures for direct impacts might include implementing a program for data recovery excavations if an archeological site cannot be avoided. Indirect impacts on historic properties and landscapes can be lessened through careful design and landscaping considerations, such as using vegetation screens or berms, if practicable. Additionally, relocation might be possible for some structures.

4.5.3 Summary of Cultural Resource Impacts

A review of the THC, NPS, and TxDOT data, described in **Section 3.5**, indicated that two archeological sites are recorded within 1,000 feet of the proposed Project route (see **Table 4-4**) but none of these sites are crossed by the proposed Project route. The distance of each recorded site located within 1,000 feet of the proposed Project route was measured using GIS software and aerial photography interpretation. These archeological sites have been determined to be ineligible for listing on the NRHP. The cultural resources recorded within 1,000 feet of the proposed Project route are summarized below.

Although portions of the proposed Project route and study area have been previously surveyed for cultural resources, the potential for undiscovered cultural resources does exist along the route. To assess this potential, a review of site and survey data within the study area, as well as soils and geologic data, and topographic variables was undertaken by a professional archeologist to identify areas along the route where unrecorded archeological resources have a higher probability to occur. These HPAs were identified near and along Leon Creek and other water sources, terraces, topographic high points, near previously recorded sites, and particularly where previous surveys have not been conducted. To facilitate the data evaluation each HPA was mapped using GIS and the length of HPA tabulated. Based on the analysis, the proposed Project route crosses 1.63 miles of HPA (see **Table 4-1**).

Table 4-4. Archeological Sites Recorded within 1,000 Feet of the Proposed Project Route

Resource ID	Atlas Record Summary	NRHP Eligibility	Distance (ft) to Route Centerline
41BX2371	Six extant historic structures	Ineligible	975
41BX2372	Series of extant wooden structures and metal buildings	Ineligible	70
SOURCE: THC, 2024b.			

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5.0 AGENCY CORRESPONDENCE

A list of federal, state, and local regulatory agencies elected officials and organizations was developed to receive a consultation letter regarding the project. The purpose of the letter was to inform the various agencies and officials of the project and provide them with an opportunity to provide information regarding resources and potential issues within the study area. Various federal, state and local agencies and officials that may have potential concerns and/or regulatory permitting requirements for the proposed project were contacted. Halff utilized websites and telephone confirmations to identify local officials. Copies of all correspondence with the various state/federal regulatory agencies and local/county officials and departments are included in **Appendix A**.

Federal, state and local agencies/officials contacted are listed below.

Federal

- Federal Aviation Administration (FAA)
- Federal Emergency Management Agency (FEMA) – Region 6
- United States Army Corps of Engineers (USACE) – Fort Worth District
- Natural Resources Conservation Service (NRCS) – San Antonio Service Center
- United States Department of Defense (DoD) Military Aviation and Installation Siting Clearinghouse
- United States Environmental Protection Agency (EPA) – Region 6
- United States Fish and Wildlife Service (USFWS) – Austin Ecological Services Field Office
- United States House of Representative – District 20

State

- Railroad Commission of Texas (RRC)
- Texas Commission on Environmental Quality (TCEQ)
- Texas Department of Transportation (TxDOT) – Aviation Division and San Antonio District Engineer
- Texas General Land Office (GLO)
- Texas Historical Commission (THC)
- Texas House of Representatives – District 117

- Texas Parks and Wildlife Department (TPWD)
- Texas State Senators – District 19
- Texas State Soil and Water Conservation Board
- Texas Water Development Board (TWDB)
- The Nature Conservancy (TNC) – Texas Chapter

Local Agencies/Officials

- Alamo Area Council of Governments
- Alamo Soil and Water Conservation District – Chairman and Area 3 Representative
- City of San Antonio Mayor and City Council Member – District 4
- Office of Historic Preservation (OHP) Development and Business Services Center – City of San Antonio
- City of San Antonio Public Works Department
- City of San Antonio World Heritage Office
- Edwards Aquifer Authority (EAA) – Districts 5 and 7
- San Antonio River Authority (SARA)
- San Antonio Water System (SAWS) Resource Compliance Division and President, Chief Executive Officer
- South San Antonio Independent School District (ISD)
- Southwest ISD

In addition to letters sent to the agencies listed, Halff also requested and reviewed NDD Element Occurrence Records from TPWD (TPWD 2024b). Halff also requested and reviewed previously recorded archeological site information from TARL and reviewed the THC's TASA for additional cultural resource information. As of the date of this document, written responses to letters sent in relation to the study area that were received are listed and summarized below:

Federal

The NRCS responded by email on July 2, 2024, the agency encouraged the use of acceptable erosion control method during the construction of the Project and provided a Custom Soil Resources Report for the study area.

The USACE Regulatory Division responded by email on June 25, 2024, stating the Project has been assigned a regulatory project manager and Project Number SWF-2024-00328 for all future correspondence. They also noted that it is unlawful to start work without a Department of the Army permit if one is required. The USACE sent a follow-up email dated July 8, 2024, stating that they were unable to determine if a USACE permit would be required from the information provided and provided several documents related to permitting. Further stating they would close the current request and re-open it when additional information is received.

The United States DoD Military Aviation and Installation Siting Clearinghouse responded by email on June 26, 2024, expressing gratitude for the opportunity to review the project. A follow-up email was received on September 6, 2024, stating the project, as proposed, will have minimal impact on military operations conducted in the area. Furthermore, it stated only an informal review was conducted and the DoD is bound by this conclusion. The DoD requested that Project Number 2024-06-T-DEV-26 be provided in the comments section in the filing of the Obstruction Evaluation Airport Airspace Analysis (OE/AAA) process, to expediate the process.

<u>State</u>

The TPWD's Wildlife Habitat Assessment (WHAB) program sent an email on June 25, 2024, acknowledging receipt of notification about the Project. They followed up on August 6, 2024, with a list of state and federal regulations related to the Project and provided recommendations and BMPs for complying with these regulations. TPWD appreciated that the proposed Project route used an existing transmission line corridor or other previously disturbed area and recommended BMPs to minimize potential impacts on nesting and migratory birds, bird collisions with electrical transmission line facilities, and listed threatened, endangered, or rare species (state and federal).

<u>Local Agencies/Officials</u>

The City of San Antonio OHP responded with an email on July 9, 2024; by acknowledging the notification of the Project and stating that no approval or coordination from their office is required. Further stating that CPS' archaeology team will handle the archaeology review. Additionally, a Certificate of Appropriateness from the City of San Antonio OHP is not needed for this scope of work.

The City of San Antonio's Public Works Department responded with an email on July 8, 2024; by acknowledging the notification of the Project and stating that they do not have any active or planned projects along the route.

SARA responded by email on July 26, 2024, regarding the proposed Project route. They mentioned that the proposed Project route crosses the 100-year floodplain, with most of it near Leon Creek. Additionally, they stated that the agency does not have bed and bank ownership near the proposed Project route. They also advised conducting thorough due diligence with other entities and relevant environmental databases, as they are not aware of any environmental or land use constraints in the area but cautioned that their absence should not be assumed.

6.0 PUBLIC INVOLVEMENT

CPS Energy hosted a public open house meeting within the study area to solicit comments, concerns and input from residents, landowners, public officials, and other interested parties. The purpose of this meeting was to:

- Promote a better understanding of the Project, including the purpose, need, potential benefits and impacts.
- Inform the public with regard to the routing procedure, schedule, and decision-making process.
- Ensure that the decision-making process adequately identifies and considers the values and concerns of the public and community leaders.

The public meeting was held on August 29, 2024, from 6:00 p.m. to 8:00 p.m. at St. Clare Catholic Church, 7701 Somerset Road in San Antonio, Texas. Invitation letters were sent to landowners who owned property within 350 feet of the proposed Project route. CPS Energy mailed 82 invitation letters to landowners. Each landowner that received an invitation letter also received a map of the study area depicting the proposed Project route (see **Appendix B**). An advertisement for the open house was also published in the San Antonio Express News on August 18 and August 25, 2024, La Prensa on August 18, 2024, and in the Conexión on August 21, 2024 (see **Appendix B**).

At the meeting, engineers, GIS analysts, biologists, project managers, and regulatory professionals from CPS Energy and Halff were available to answer questions regarding the Project. Manned information stations were set up that provided typical 138 kV pole types, a list of agencies contacted, land-use and environmental criteria for transmission lines, and an environmental and land use constraints map on aerial base. The station displays shown at the public meeting are available in **Appendix B**. Since there were no changes to the proposed Project route after the open house meeting, the environmental and land use constraints map shown at that meeting is the same as **Figure 3-1** located in **Appendix C** (map pocket). CPS Energy also provided two GIS interactive stations operated by Halff GIS analysts. This GIS computer stations allowed attendees to view more-detailed digital maps of proposed Project route and submit comments digitally and spatially. The information station format is advantageous because it facilitates one-on-one discussions and encourages personalized landowner interactions.

Each individual in attendance was offered the opportunity to sign their name on the sign-in sheet and given three handouts. The first handout was an information brochure that provided general information about the Project. The second handout was a questionnaire that solicited comments on the Project and an evaluation of the information presented at the public meeting. Individuals were asked to fill out the questionnaire after visiting the information stations and speaking with Halff and CPS Energy personnel. The third handout was a Frequently Asked Questions document providing an overview of the Project as well as a description of the regulatory process. Copies of the brochure, questionnaire, and Frequently Asked Questions are located in **Appendix B**.

A total of four individuals signed in as attendees at the public meeting and no questionnaire responses were submitted at or after the public meeting.

7.0 LIST OF PREPARERS

Halff prepared this EA for CPS Energy; **Table 7-1** provides a list of the project team with primary responsibilities for the preparation of this document.

Table 7-1. List of Preparers

Responsibility	Name	Title
Project Manager	Jody Urbanovsky[1]	Project Manager
Physiography and Geology	Barrett Clark[2] Erin Berkencamp[2] Liza Colucci[2]	Environmental Scientist
Water Resources and Soils	Barrett Clark[2] Erin Berkencamp[2] Liza Colucci[2]	Environmental Scientist
Vegetation Ecology	Barrett Clark[2] Erin Berkencamp[2] Liza Colucci[2]	Environmental Scientist
Fish and Wildlife Ecology	Barrett Clark[2] Erin Berkencamp[2] Liza Colucci[2]	Environmental Scientist
Land Use/Aesthetics	Jody Urbanovsky[1]	Project Manager
Maps/Figures/Graphics	Alicin McCloud[1] Marie Church[1]	GIS Project Manager Environmental Scientist
GIS Data Management	Alicin McCloud[1] Jody Urbanovsky[1] Wendy Dickerson[2]	GIS Project Manager Project Manager
Cultural Resources	Mike Mudd[1] Annie Carter[1]	Archeologist
Quality Review	Russell Marusak[1]	Senior Project Manager
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Map Name	Year
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Appendix A

Agency and Other Correspondence

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Howard Road — Leon Creek 138 kV Phase 2 Transmission Line Rebuild Project in Bexar County, TX

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Texas State Soil and Water Conservation Board
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LOCAL

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100 East Guenther Street
San Antonio, TX 78204

Mr. Robert Puente
San Antonio Water System
P.O. Box 2449
San Antonio, TX 78298

Mr. Andrew Wiatrek, Manager
San Antonio Water System
P.O. Box 2449
San Antonio, TX 78298

Mr. Henry Yzaguirre
South San Antonio Independent School District
1450 Gillette Boulevard
San Antonio, TX 78224

Dr. Jeanette Ball
Southwest Independent School District
11914 Dragon Lane
San Antonio, TX 78252

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June 25, 2024
AVO 55396.001

Mr. Rob Lowe
Southwest Region Regional Administrator
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, Texas 76117

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Lowe:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

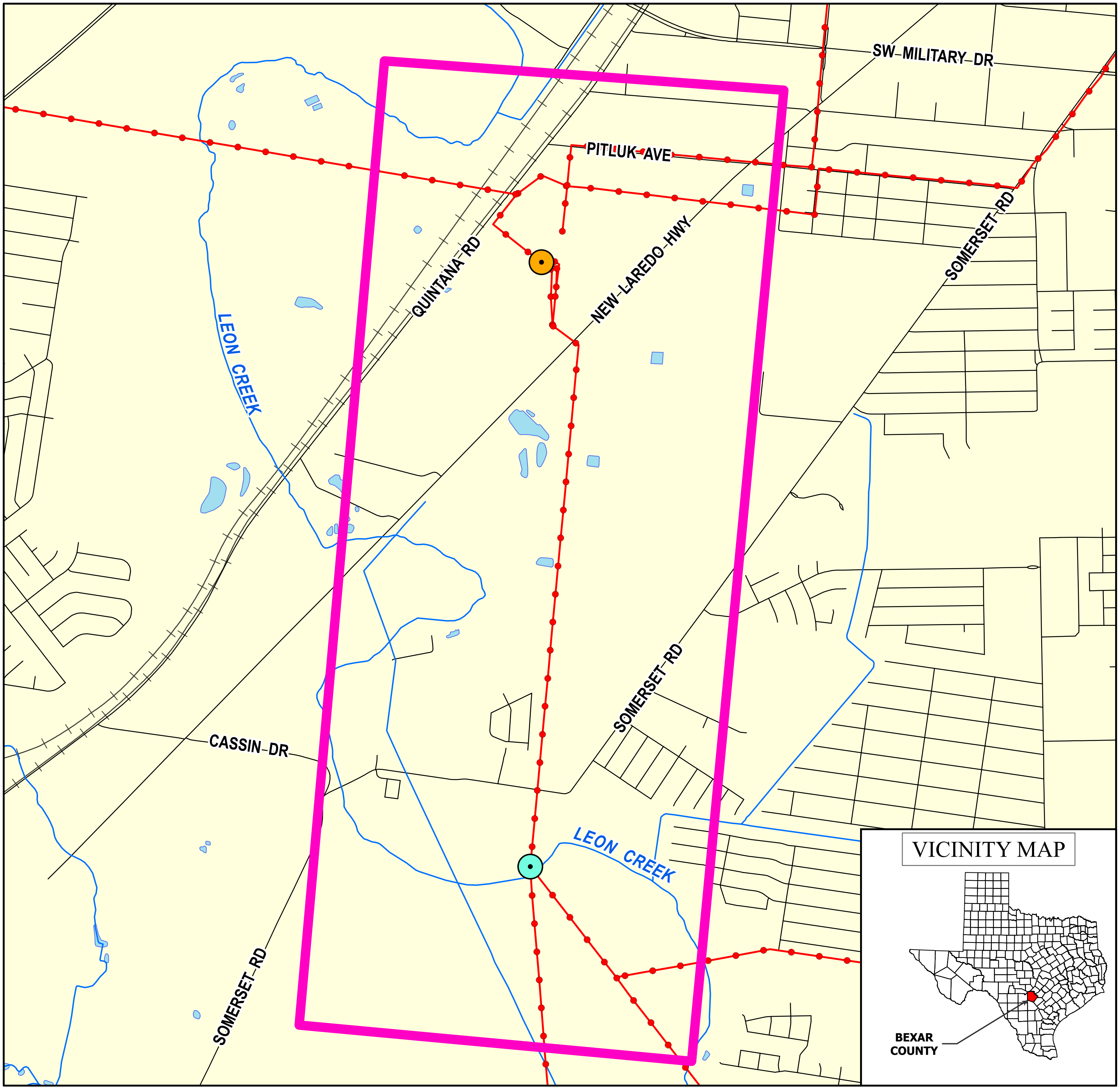
Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT



LEGEND

- STUDY AREA
- LEON CREEK SUBSTATION
- STRUCTURE #17
- EXISTING TRANSMISSION LINE
- SAN ANTONIO CITY LIMITS
- WATERBODY
- STREAM
- ROADWAY
- RAILROAD

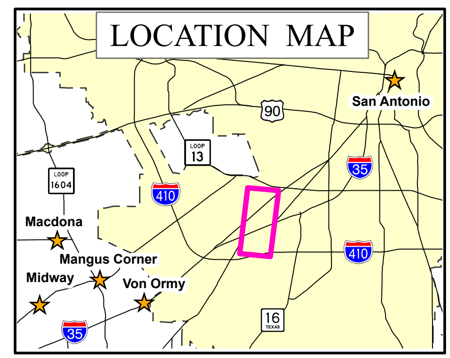
Notes:

1. Some legend symbols are enlarged for easier identification.

2. Data is for display purposes only. All features and boundaries have been approximated based on information gathered from review of public resources and from field reconnaissance.

Date Plotted: 06/17/2024

Date Revised: 06/17/2024



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FEET

halff

halff

June 25, 2024
AVO 55396.001

Mr. Tony Robinson
Region 6 Administrator
Federal Emergency Management Agency - Region VI
800 North Loop 288
Denton, Texas 76209

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Robinson:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024 Transmitted via U.S. mail and email: CESWF-Permits@usace.army.mil
AVO 55396.001

Ms. Jennifer Walker, Chief
Evaluation Branch Regulatory Division
U.S. Army Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Walker:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From: Gray, Natasha A CIV USARMY CESWF (USA) <Natasha.A.Gray@usace.army.mil>
Sent: Wednesday, July 3, 2024 5:00 PM
To: Jody Urbanovsky
Cc: Sewell, Valerie A CIV USARMY CESWF (USA)
Subject: SWF-2024-00328 (Howard Road-Leon Creek 138 kV Phase 2 Transmission Line)

Dear Ms. Urbanovsky:

Thank you for your letter received June 25, 2024, concerning a proposal for the rebuild of an existing 138 kilovolt transmission line located in Bexar County, Texas. The project has been assigned Project Number SWF-2024-00328, please include this number in all future correspondence concerning this project.

Ms. Valerie Sewell has been assigned as the regulatory project manager for your request and will be evaluating it as expeditiously as possible.

You may be contacted for additional information about your request. For your information, please refer to the Fort Worth District Regulatory Division homepage at http://www.swf.usace.army.mil/Missions/regulatory and particularly guidance on submittals at https://swf-apps.usace.army.mil/pubdata/environ/regulatory/introduction/submital.pdf and mitigation at https://www.swf.usace.army.mil/Missions/Regulatory/Permitting/Mitigation that may help you supplement your current request or prepare future requests.

If you have any questions about the evaluation of your submittal or would like to request a copy of one of the documents referenced above, please refer to our website at http://www.swf.usace.army.mil/Missions/Regulatory or contact Ms. Valerie Sewell by telephone (817) 886-1782, or by email valerie.sewell@usace.army.mil, and refer to your assigned project number. Please note that it is unlawful to start work without a Department of the Army permit if one is required.

Please help the regulatory program improve its service by completing the survey on the following website: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Brandon W. Mobley
Chief, Regulatory Division

Please assist us in better serving you by completing the survey at the following website:
https://regulatory.ops.usace.army.mil/customer-service-survey/

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

July 8, 2024

Regulatory Division

SUBJECT: Project Number SWF-2024-00328, Howard Road-Leon Creek 138 kV Phase 2 Transmission Line

Mr. Jody Urbanovsky
Halff Associates
1201 N. Bowser Road,
Richardson, Texas 75081
jurbanovsky@halff.com

Mr. Urbanovsky:

This letter is in regard to information received June 25, 2024, concerning a proposal to rebuild an existing 138 kilovolt transmission line located in the City of San Antonio, Bexar County, Texas. This project has been assigned Project Number SWF-2024-00328. Please include this number in all future correspondence concerning this project.

We have reviewed this project in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Under Section 404, the U. S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Our responsibility under Section 10 is to regulate any work in, or affecting, navigable waters of the United States. Any such discharge or work requires Department of the Army authorization in the form of a permit. For more information on the USACE Regulatory Program, please reference the Fort Worth District Regulatory Branch homepage at www.swf.usace.army.mil/regulatory.

We are unable to determine from the information that you provided in your letter whether Department of the Army authorization will be required, and if so, in what form. The proposed construction activities may be authorized by general permit, such as Nationwide Permit 57 for Electric Utility Line and Telecommunications Activities. I have enclosed a copy of these general permits for your reference. If the project does not meet the terms and conditions of a general permit, an individual permit would be required for authorization. If there are no impacts to Waters of the United States (WOUS), then it would not need a permit; however, if you need official documentation of that status, please request a No Permit Required Letter with appropriate Approved Jurisdictional Determination (AJD).

So that we may continue our evaluation of your proposed project, we request that you provide the following information:

1. A detailed project description.

2. A map (or maps) showing the entire route of the project.

3. An Aquatic Features Delineation Report defining potential waters and potential jurisdictional status of those waters.
    a. The report should contain maps showing all delineated features including ditches, swales, streams, wetlands and other special aquatic sites.
    b. Include maps and discussion of the proposed route of the project on 8 ½ by 11-inch copies of 7.5-minute United States Geological Survey (USGS) quadrangle maps, national wetland inventory maps, published soil survey maps, scaled aerial photographs, and/or other suitable maps.
    c. Identify all base maps, (e.g., "Fort Worth, Texas" 7.5-minute USGS quadrangle, Natural Resources Conservation Service Tarrant County Soil Survey sheet 10).
    d. Clearly mark (such as by circling and numbering) the location of each proposed utility line crossing of a WOUS and any appurtenant structure(s) in WOUS on the map.
        1. WOUS include relatively permanent waters such as intermittent or perennial streams and rivers and most lakes, ponds, mudflats, sandflats, certain wetlands, sloughs, wet meadows, abandoned sand and gravel mining and construction pits, and similar areas and potentially adjacent or connecting ditches, ephemeral stream, culverts systems.

4. For **each** potential utility line crossing or appurtenant structure in a WOUS, the following site specific information should be submitted when applicable:

    a. 7.5-minute USGS quadrangle map name, universal transverse mercator (UTM) coordinates, county or parish, waterway name.
    b. a brief characterization of the crossing area (stream, forested wetland, non-forested wetland, etc.) including the National Wetland Inventory classification and soil series.
    c. distance between ordinary high-water marks.
    d. proposed method of crossing (trench, bore, overhead, etc.).
    e. length of proposed crossing.
    f. width of temporary and permanent rights-of-way.
    g. type and amount of dredged or fill material proposed to be discharged.
    h. acreage of proposed temporary and permanent adverse impacts to waters of the United States, including wetlands; and
    i. a typical cross-section.
    j. Relevant cultural resources information for existing features
    k. Threatened and endangered species information for the project area.

Please refer to the enclosed guidance for Department of the Army submittals for additional details about what you should submit for this and future linear projects. Additional information, including more detailed jurisdictional determination data, may be needed to complete our evaluation of your project in some cases. We encourage you to consult with a qualified specialist (biologist, ecologist or other specialist qualified in preliminary jurisdictional determinations) who is familiar with the Great Plains Regional Supplement to the 1987 Corps of Engineers Wetlands Delineation Manual and the USACE Regulatory Program (33 CFR Parts 320-331).

Please consider the potential effects of your proposed action on cultural resources and endangered species in your planning efforts. For additional information about endangered and threatened species, please contact the U. S. Fish and Wildlife Service.

We encourage you to avoid and minimize adverse impacts to streams, wetlands, and other waters of the United States in planning this project. Please forward your response to us as soon as possible so that we may continue our evaluation of your request. If we do not receive the requested information within 30 days of the date of this letter, we will consider your application administratively withdrawn. If withdrawn, you may re-open your application at a later date by submitting the requested information.

Please note that it is unlawful to start work without a Department of the Army permit when one is required.

You may be contacted for additional information about your request. For your information, please refer to the Fort Worth District Regulatory Division homepage at http://www.swf.usace.army.mil/Missions/regulatory and particularly guidance on submittals at http://media.swf.usace.army.mil/pubdata/environ/Regulatory/introduction/submital.pdf, and mitigation at http://www.swf.usace.army.mil/Missions/Regulatory/Permitting/Mitigation that may help you supplement your current request or prepare future requests.

If you have any questions about the evaluation of your submittal or would like to request a copy of one of the documents referenced above, please contact Ms. Valerie Sewell at the address above, by telephone (817) 886-1782, or by email valerie.sewell@usace.army.mil, and refer to your assigned project number.

Sincerely,

Valerie Sewell

For: Brandon W. Mobley
Chief, Regulatory Division

Attachments:
Nationwide Permit 57
Preconstruction Notification Template NWP 57

Copy furnished to:
Mr. Russell Marusak, marusak@halff.com

From: Sewell, Valerie A CIV USARMY CESWF (USA) <Valerie.Sewell@usace.army.mil>
Sent: Monday, July 8, 2024 4:24 PM
To: Jody Urbanovsky
Cc: marusak@halff.com
Subject: SWF-2024-00328, Howard Road-Leon Creek 138 kV Phase 2
Attachments: USACE_2021_NWP_57_Application_Form.docx; 20240625 SWF-2024-00328 Location Map.pdf; NWP57TX Electric Utility Line and Telecommunications Activities.pdf; 20240703 SWF-2024-00328 NAI LTR.pdf

Mr. Urbanovsky,

Please see the attached Need Additional Information Letter and related attachments for your project SWF-2024-00328, Howard Road-Leon Creek 138 kV Phase 2.

If you have questions, please contact me. I also recommend a conference call under a Pre-Application to discuss your project prior to investing to much work to see if it qualifies for a No Permit Required or a non-reporting PCN status.

I will close the current request and re-open it when we receive additional information.

Thank you and have a great day.

Valerie Sewell
Project Manager
US Army Corps of Engineers
Fort Worth District CESWF-RDE
819 Taylor Street, Room 3A37
Fort Worth, Texas 76102-0300
☎ 817.886.1782
Email: valerie.sewell@usace.army.mil

USACE Fort Worth District Regulatory Division Website
https://www.swf.usace.army.mil/Missions/Regulatory/

USACE Fort Worth District Regulatory Division Electronic Submittal Process
https://www.swf.usace.army.mil/Missions/Regulatory/Electronic-Submittal-Instructions/

Please help the Regulatory Program improve its service by completing the survey on the following website: https://regulatory.ops.usace.army.mil/ords/f?p=136:4

NATIONWIDE PERMIT 57
Electric Utility Line and
Telecommunications Activities
Effective Date: March 15, 2021
(NWP Final Notice, 86 FR 8)

57. Electric Utility Line and Telecommunications Activities. Activities required for the construction, maintenance, repair, and removal of electric utility lines, telecommunication lines, and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Electric utility lines and telecommunication lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of electric utility lines and telecommunication lines. There must be no change in pre-construction contours of waters of the United States. An “electric utility line and telecommunication line” is defined as any cable, line, fiber optic line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the electric utility line or telecommunication line crossing of each waterbody.

Electric utility line and telecommunications substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with an electric utility line or telecommunication line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead electric utility line or telecommunication line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead electric utility line or telecommunication line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of electric utility lines or telecommunication lines, including overhead lines and substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize electric utility lines or telecommunication lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (see 33 CFR part 322). Electric utility lines or telecommunication lines constructed over section 10 waters and electric utility lines or telecommunication lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing electric utility lines or telecommunication lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing electric utility lines or telecommunication lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the electric utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) a section 10 permit is required; or (2) the discharge will result in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Where the electric utility line is constructed, installed, or maintained in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the electric utility line to protect navigation.

Note 2: For electric utility line or telecommunications activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Electric utility line and telecommunications activities must comply with 33 CFR 330.6(d).

Note 3: Electric utility lines or telecommunication lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

Note 4: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the electric utility line or telecommunication line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 5: This NWP authorizes electric utility line and telecommunication line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 6: For overhead electric utility lines and telecommunication lines authorized by this NWP, a copy of the PCN and NWP verification will be provided by the Corps to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Note 7: For activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, “District Engineer’s Decision.” The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

2021 Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water,

adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take'' means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available

under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. <u>Mitigation</u>. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously

received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

____

(Transferee)

____
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) *Timing*. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not

begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification*: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any

Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

2021 District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district

engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant’s submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

2021 Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

2021 Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

The following regional conditions apply within the Fort Worth District

1. Notification to the appropriate District Engineer in accordance with Nationwide Permit General Condition 32 - Pre-Construction Notification (PCN) is required for all activities proposed for authorization by any NWP into the below listed ecologically unique and sensitive areas located within waters of the United States. The Corps will coordinate with the resource agencies as specified in NWP General Condition 32(d)(3).

    a. Pitcher plant bogs ((*Sarracenia* spp.) and/or sundews (*Drosera* spp.) and/or Bald Cypress/Tupelo swamps ((*Taxodium distichum*) and/or water tupelo (*Nyssa aquatica*)).
    b. Karst Zones 1 and 2 located in Bexar, Travis and Williamson Counties (see https://www.fws.gov/southwest/es/AustinTexas/Maps_Data.html).
    c. Caddo Lake and associated areas that are designated as "Wetland of International Importance" under the Ramsar Convention (see

http://caddolakedata.us/media/145/1996caddolakeramsar.pdf or
http://caddolakedata.us/media/144/1996caddolakeramsar.jpg).

d. Reaches of rivers (and their adjacent wetlands) that are included in the Nationwide Rivers Inventory (see https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm).

2. For all activities proposed for authorization under any NWP at sites approved as compensatory mitigation sites (either permittee-responsible, mitigation bank and/or in-lieu fee) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899, the applicant shall notify the appropriate District Engineer in accordance with the Nationwide Permit General Condition 32 - PCN prior to commencing the activity.

ADDITIONAL INFORMATION

This nationwide permit is effective March 15, 2021, and expires on March 14, 2026.

Information about the U.S. Army Corps of Engineers regulatory program, including nationwide permits, may also be found at http://www.swf.usace.army.mil/Missions/Regulatory.aspx and http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 18, 2020

Colonel Timothy R. Vail
Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Re: 2020 USACE Nationwide Permits Reissuance

Dear Colonel Vail:

This letter is in response to your October 19, 2020, letter requesting Clean Water Act Section 401 certification of the United States Army Corps of Engineers (Corps) Nationwide Permits (NWPs). The Proposal to Reissue and Modify Nationwide Permits was published in the Federal Register (Vol. 85, No. 179, pages 57298-57395) on September 15, 2020. Regional conditions for NWPs in Texas were proposed in public notices on September 30, 2020 (Corps Galveston District) and October 1, 2020 (Corps Fort Worth District).

The Texas Commission on Environmental Quality (TCEQ) has reviewed the Proposal to Reissue and Modify Nationwide Permits and the proposed regional conditions. On behalf of the Executive Director and based on our evaluation of the information contained in these documents, the TCEQ certifies that any discharge associated with the activities authorized by NWPs 1, 2, 4, 5, 8, 9, 10, 11, 20, 23, 24, 28, 34, 35, 48, A, and B will comply with water quality requirements as required by Section 401 of the Federal Clean Water Act and pursuant to Title 30, Texas Administrative Code (TAC), Chapter 279.

The TCEQ conditionally certifies that any discharge associated with the activities authorized by NWPs 3, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, 54, C, D, and E will comply with water quality requirements as required by Section 401 of the Federal Clean Water Act and pursuant to Title 30, Texas Administrative Code, Chapter 279. Conditions for each NWP are defined in Attachment 1 and more detail on specific conditions is given below, including information explaining why the condition is necessary for compliance with water quality requirements as well as the supporting regulatory authorizations.

The TCEQ understands that a prohibition against the use of NWPs (except for NWP 3) in coastal dune swales, mangrove marshes, and Columbia Bottomlands in the Galveston District is included in the Draft 2020 Nationwide Permit (NWP) Regional Conditions for the State of Texas (Regional Conditions). A prohibition of using NWPs (except for NWP 3) in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District is a condition of this TCEQ 401 certification. This condition is necessary to ensure compliance with water quality requirements because impacts to rare and ecologically significant aquatic resources such as coastal dune swales, mangrove marshes, and Columbia bottomlands would not be considered minimal but significant, and therefore would not meet the purpose of a nationwide permit to authorize activities that will result in no more than minimal adverse environmental effects. Furthermore, activities that would result in impacts to these unique resources are more appropriately authorized under an individual permit to ensure that unavoidable impacts are adequately minimized (30 TAC §279.11(c)(2)) and mitigated (30 TAC §279.11(c)(3) and 30 TAC §307.4(i)).

The TCEQ wants to clarify the application of NWP 16 in Texas. NWP 16 should be limited to the return water from upland contained dredged material disposal areas. It is important to emphasize the intent for dredged material disposal. The TCEQ understands dredged material to be associated with navigational dredging activities, not commercial mining activities. To avoid confusion, the TCEQ requests that a regional condition be added or that the Corps commits to prohibiting the use of NWP 16 for activities that would be regulated under Standard Industrial Classification (SIC) codes 1442 and 1446 (industrial and construction sand and gravel mining).

Consistent with previous NWPs certification decisions, the TCEQ is conditionally certifying NWP 16 for the return water from confined upland disposal not to exceed a 300 mg/L total suspended solids (TSS) concentration. This condition is necessary to ensure that return water discharges will comply with water quality requirements in accordance with Texas Water Code §26.003 and antidegradation policy in 30 TAC §307.5, and not result in violations of general water quality criteria in 30 TAC 307.4(b)(2)-(5). The TCEQ encourages the Corps to consider that TSS limits are promulgated as effluent limits under Title 40 of the Code of Federal Regulations, and that the TCEQ effectively imposes TSS effluent limits in thousands of wastewater discharge permits issued in Texas under Section 402 of the federal Clean Water Act.

The TCEQ recognizes the usefulness of having an instantaneous method to determine compliance with the 300 mg/L TSS limit. However, existing literature and analysis of paired samples of turbidity and TSS from the Texas Surface Water Quality Information System indicate this relationship must be a site-specific characterization of the actual sediments to be dredged. To address this approach, we have continued language in the NWP 16 conditional certification that allows flexibility to use an instantaneous method in implementing the TSS limit when a site-specific correlation curve for turbidity (nephelometric turbidity units (NTU)) versus TSS has been approved by TCEQ. The TCEQ remains interested in working with the Corps in the development of these curves and in working together to find the best methods to implement this limit.

Regional Condition 17 applies to NWP authorizations in the Area of Concern (AOC) of the San Jacinto River Waste Pits Superfund Site. The TCEQ conditionally certifies Regional Condition 17 provided that the Permit Evaluation Requirement Process (Process), effective November 1, 2009, is adhered to for all proposed and existing permits within the AOC. The Process requires that all permit applicants and existing permittees within the AOC perform sampling to ensure that any activities conducted, especially activities involving dredging or disposal of dredged materials, do not impact site investigation and remediation and that existing water quality is maintained and protected in accordance with the Texas Water Code §26.003 and TCEQ antidegradation policy in 30 TAC §307.5.

The TCEQ is conditionally certifying NWP General Condition 12 *Soil Erosion and Sediment Controls*, and General Condition 25 *Water Quality*. The conditions address three broad categories of water quality management with specific recommendations for Best Management Practices (BMPs) for each category. These BMP conditions are necessary to enhance the water quality protection of these General Conditions by requiring the use of specific BMPs to control erosion, sedimentation, and/or post-construction TSS in permitted activities and therefore prevent violation of state general water quality criteria (30 TAC §307.4) and antidegradation policy (30 TAC §307.5). Runoff from bridge decks has been exempted from the requirement for post-construction TSS controls under General Condition 25. A list of TCEQ-recommended BMPs is included as Attachment 2. Attachment 3 is provided as a quick reference table identifying the BMP categories that are required for each NWP. A detailed description of the BMPs is provided in Attachment 4.

The Corps is proposing to remove the 300 linear foot (LF) limit for NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52, in part, to simplify the quantification of aquatic resource types (i.e., streams, wetlands, etc.) by using acreage as the preferred unit of measure. Removing the stream bed loss limit would mean that stream losses associated with activities covered by these 10 NWPs would only be limited by the existing ½-acre limit on overall impacts to waters of the U.S. This could significantly affect state stream resources by allowing upwards of several thousand linear feet of stream impacts under these permits, depending on the dimensions of the streams being impacted. The TCEQ has traditionally relied on and used linear feet as the preferred unit of measure of stream impacts and stream mitigation in our Section 401 water quality certification program. Therefore, the TCEQ does not support the proposed removal of the 300 LF stream bed loss limit in these NWPs and conditionally certifies NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 with a limit of 1,500 linear feet of stream bed loss. The condition is based on the amount of stream impacts considered minimal by the TCEQ, where certification is waived for projects impacting 1,500 LF of streams or less in accordance with the Memorandum of Agreement (August 2000) between the Corps and TCEQ. Any proposed impacts greater than 1,500 linear feet of impacts in stream length will need to undergo an individual TCEQ 401 certification review, preferably in the context of a Section 404 individual permit. This condition is necessary to ensure that the discharge associated with projects permitted using these 10 NWPs will comply with water quality requirements for aquatic life uses and habitat (30 TAC 307.4(i)), antidegradation implementation procedures (30 TAC

307.5(c)(1)(B), and minimization and mitigation requirements in 30 TAC 279.11(c)(2) and (3), as well as be consistent with the NWP goal of authorizing only minimal adverse environmental impacts.

This certification decision is limited to those activities under the jurisdiction of the TCEQ. For activities related to the production and exploration of oil and gas, a Railroad Commission of Texas certification is required as provided in the Texas Water Code §26.131.

The TCEQ has reviewed the Notice of Reissuance of Nationwide Permits for consistency with the Texas Coastal Management Program (CMP) goals and policies in accordance with the CMP regulations {Title 31, Texas Administrative Code (TAC), Chapter (§)505.30} and has determined that the action is consistent with the applicable CMP goals and policies.

This certification was reviewed for consistency with the CMP's development in critical areas policy {31 TAC §501.23} and dredging and dredged material disposal and placement policy {31 TAC §501.25}. This certification complies with the CMP goals {31 TAC §501.12(1, 2, 3, 5)} applicable to these policies.

The TCEQ reserves the right to modify this certification if additional information identifies specific areas where significant impacts, including cumulative or secondary impacts, are occurring, and the use of these NWPs would be inappropriate.

No review of property rights, location of property lines, nor the distinction between public and private ownership has been made, and this certification may not be used in any way with regard to questions of ownership.

If you require further assistance, please contact Ms. Lili Murphy, Water Quality Assessment Section, Water Quality Division (MC-150), at (512) 239-4595 or by email at lili.murphy@tceq.texas.gov.

Sincerely,

David W Galindo

David W. Galindo, Deputy Director
Water Quality Division
Texas Commission on Environmental Quality

DWG/LM/

Attachments

ccs: Mr. Joseph McMahan, U.S. Army Corps of Engineers Galveston District via e-mail at joseph.a.mcmahan@usace.army.mil
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Mr. Stephen Brooks, Branch Chief, U.S. Army Corp of Engineers Fort Worth District via e-mail at Stephen.Brooks@usace.army.mil
Ms. Allison Buchtien,and Mr. Jesse Solis, Texas General Land Office via e-mail at Federal.Consistency@glo.texas.gov
Ms. Leslie Savage, Texas Railroad Commission via e-mail at Leslie.Savage@RRC.texas.gov
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Regulatory Branch Chief, U.S. Army Corps of Engineers, Regulatory Branch CESWT-PE-R, 1645 South 101st East Avenue, Tulsa, Oklahoma, 74128
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<u>Attachment 1</u>

Conditions of Section 401 Certification for Nationwide Permits, Regional Conditions, and General Conditions

<u>General Condition 12 (Soil Erosion and Sediment Controls)</u>
Erosion control and sediment control best management practices (BMPs) are required with the use of this general condition. Attachment 2 describes the BMPs and the Nationwide Permits (NWPs) to which they apply. If the applicant does not choose one of the BMPs listed in Attachment 2, an individual 401 certification is required.

<u>General Condition 25 (Water Quality)</u>
Post-construction total suspended solids (TSS) BMPs are required with the use of this general condition. Attachment 2 describes the BMPs and the NWPs to which they apply. If the applicant does not choose one of the BMP's listed in Attachment 2, an individual 401 certification is required. Bridge deck runoff is exempt from this requirement.

<u>Regional Condition 17 condition</u>
The Permit Evaluation Requirement Process, effective November 1, 2009, is required for all proposed and existing permits within San Jacinto River Waste Pits Superfund Site Area of Concern.

<u>All NWPs except for NWP 3</u>
These NWPs are not authorized for use in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District, Texas.

<u>NWP 3 (Maintenance)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required.

<u>NWP 6 (Survey Activities)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required.

<u>NWP 7 (Outfall Structures and Associated Intake Structures)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required.

<u>NWP 12 (Oil or Natural Gas Pipeline Activities)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

<u>NWP 13 (Bank Stabilization)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required.

<u>NWP 14 (Linear Transportation Projects)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

<u>NWP 15 (U.S. Coast Guard Approved Bridges)</u>
Soil Erosion and Sediment Controls under General Condition 12 are required.

Attachment 1

Conditions of Section 401 Certification for Nationwide Permits, Regional Conditions, and General Conditions

NWP 16 (Return Water From Upland Contained Disposal Areas)
Activities that would be regulated under Standard Industrial Classification (SIC) codes 1442 and 1446 (industrial and construction sand and gravel mining) are not eligible for this NWP. Effluent from an upland contained disposal area shall not exceed a TSS concentration of 300 mg/L unless a site-specific TSS limit, or a site-specific correlation curve for turbidity (nephelometric turbidity units (NTU)) versus TSS has been approved by TCEQ.

NWP 17 (Hydropower Projects)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 18 (Minor Discharges)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 19 (Minor Dredging)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 21 (Surface Coal Mining Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 22 (Removal of Vessels)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 25 (Structural Discharges)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 29 (Residential Developments)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 30 (Moist Soil Management for Wildlife)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 31 (Maintenance of Existing Flood Control Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

Attachment 1
Conditions of Section 401 Certification for Nationwide Permits, Regional Conditions, and General Conditions

NWP 32 (Completed Enforcement Actions)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 33 (Temporary Construction, Access and Dewatering)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 36 (Boat Ramps)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 37 (Emergency Watershed Protection and Rehabilitation)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 38 (Cleanup of Hazardous and Toxic Waste)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 39 (Commercial and Institutional Developments)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 40 (Agricultural Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 41 (Reshaping Existing Drainage Ditches and Irrigation Ditches)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 42 (Recreational Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 43 (Stormwater Management Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 44 (Mining Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

Attachment 1

Conditions of Section 401 Certification for Nationwide Permits, Regional Conditions, and General Conditions

NWP 45 (Repair of Uplands Damaged by Discrete Events)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 46 (Discharges in Ditches)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 49 (Coal Remining Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP 50 (Underground Coal Mining Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 51 (Land-Based Renewal Energy Generation Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 52 (Water-Based Renewal Energy Generation Pilot Projects)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required. Stream bed losses are limited to 1,500 linear feet.

NWP 53 (Removal of Low-Head Dams)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 54 (Living Shorelines)
Sediment Controls under General Condition 12 are required.

NWP C (Electric Utility Line and Telecommunications Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP D (Utility Line Activities for Water and Other Substances)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

NWP E (Water Reclamation and Reuse Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Post-construction TSS controls under General Condition 25 are required.

Attachment 2

401 Water Quality Certification Best Management Practices (BMPs) for Nationwide Permits

I. Erosion Control

Disturbed areas must be stabilized to prevent the introduction of sediment to adjacent wetlands or water bodies during wet weather conditions (erosion). *At least one* of the following best management practices (BMPs) must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 13, 14, 15, 17, 18, 19, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, C, D, and E. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features.

- Temporary Vegetation
- Blankets/Matting
- Mulch
- Sod
- Interceptor Swale
- Diversion Dike
- Erosion Control Compost
- Mulch Filter Socks
- Compost Filter Socks

II. Sedimentation Control

Prior to project initiation, the project area must be isolated from adjacent wetlands and water bodies by the use of BMPs to confine sediment. Dredged material shall be placed in such a manner that prevents sediment runoff into water in the state, including wetlands. Water bodies can be isolated by the use of one or more of the required BMPs identified for sedimentation control. These BMP's must be maintained and remain in place until the dredged material is stabilized. *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, 54, C, D, and E. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features.

- Sand Bag Berm
- Rock Berm
- Silt Fence
- Hay Bale Dike
- Triangular Filter Dike
- Brush Berms
- Stone Outlet Sediment Traps
- Sediment Basins
- Erosion Control Compost
- Mulch Filter Socks
- Compost Filter Socks

III. Post-Construction TSS Control

After construction has been completed and the site is stabilized, total suspended solids (TSS) loadings shall be controlled by *at least one* of the following BMPs for NWPs 12, 14, 17, 18, 21, 29, 31, 36, 39, 40, 41, 42, 44, 45, 49, 50, 51, 52, C, D, and E. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features. Runoff from bridge decks has been exempted from the requirement for post construction TSS controls.

- Retention/Irrigation Systems
- Constructed Wetlands
- Extended Detention Basin
- Wet Basins
- Vegetative Filter Strips
- Vegetation lined drainage ditches
- Grassy Swales
- Sand Filter Systems
- Erosion Control Compost
- Mulch Filter Socks
- Compost Filter Socks
- Sedimentation Chambers*

* Only to be used when there is no space available for other approved BMPs.

Attachment 3
Reference to Nationwide Permits Best Management Practices Requirements

NWP	Permit Description	Erosion Control	Sediment Control	Post-Construction TSS
1	Aid to Navigation			
2	Structures in Artificial Canals			
3	Maintenance	X	X	
4	Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities			
5	Scientific Measurement Devices			
6	Survey Activities *Trenching	X	X	
7	Outfall Structures and Associated Intake Structures	X	X	
8	Oil and Gas Structures on the Outer Continental Shelf			
9	Structures in Fleeting and Anchorage Areas			
10	Mooring Buoys			
11	Temporary Recreational Structures			
12	Oil or Natural Gas Pipeline Activities	X	X	X
13	Bank Stabilization	X	X	
14	Linear Transportation Projects	X	X	X
15	U.S. Coast Guard Approved Bridges	X	X	
16	Return Water From Upland Contained Disposal Areas			
17	Hydropower Projects	X	X	X
18	Minor Discharges	X	X	X
19	Minor Dredging	X	X	
20	Response Operations for Oil or Hazardous Substances			
21	Surface Coal Mining Activities	X	X	X
22	Removal of Vessels	X	X	

Attachment 3
Reference to Nationwide Permits Best Management Practices Requirements

NWP	Permit Description	Erosion Control	Sediment Control	Post-Construction TSS
23	Approved Categorical Exclusions			
24	Indian Tribe or State Administered Section 404 Programs			
25	Structural Discharges	X	X	
26	[Reserved]			
27	Aquatic Habitat Restoration, Establishment, and Enhancement Activities	X	X	
28	Modifications of Existing Marinas			
29	Residential Developments	X	X	X
30	Moist Soil Management for Wildlife	X	X	
31	Maintenance of Existing Flood Control Facilities	X	X	X
32	Completed Enforcement Actions	X	X	
33	Temporary Construction, Access and Dewatering	X	X	
34	Cranberry Production Activities			
35	Maintenance Dredging of Existing Basins			
36	Boat Ramps	X	X	X
37	Emergency Watershed Protection and Rehabilitation	X	X	
38	Cleanup of Hazardous and Toxic Waste	X	X	
39	Commercial and Institutional Developments	X	X	X
40	Agricultural Activities	X	X	X
41	Reshaping Existing Drainage Ditches and Irrigation Ditches	X	X	X
42	Recreational Facilities	X	X	X
43	Stormwater Management Facilities	X	X	

Attachment 3
Reference to Nationwide Permits Best Management Practices Requirements

NWP	Permit Description	Erosion Control	Sediment Control	Post-Construction TSS
44	Mining Activities	X	X	X
45	Repair of Uplands Damaged by Discrete Events	X	X	X
46	Discharges in Ditches	X	X	
47	[Reserved]			
48	Existing Commercial Shellfish Aquaculture Activities			
49	Coal Remining Activities	X	X	X
50	Underground Coal Mining Activities	X	X	X
51	Land-Based Renewable Energy Generation Facilities	X	X	X
52	Water-Based Renewable Energy Generation Pilot Projects	X	X	X
53	Removal of Low-Head Dams	X	X	
54	Living Shorelines		X	
C	Electric Utility Line and Telecommunications Activities	X	X	X
D	Utility Line Activities for Water and Other Substances	X	X	X
E	Water Reclamation and Reuse Facilities	X	X	X

Attachment 4
Description of Best Management Practices (BMPs)

EROSION CONTROL BMPs

Temporary Vegetation

Description: Vegetation can be used as a temporary or permanent stabilization technique for areas disturbed by construction. Vegetation effectively reduces erosion in swales, stockpiles, berms, mild to medium slopes, and along roadways. Other techniques such as matting, mulches, and grading may be required to assist in the establishment of vegetation.

Materials:

- The type of temporary vegetation used on a site is a function of the season and the availability of water for irrigation.
- Temporary vegetation should be selected appropriately for the area.
- County agricultural extension agents are a good source for suggestions for temporary vegetation.
- All seed should be high quality, U.S. Dept. of Agriculture certified seed.

Installation:

- Grading must be completed prior to seeding.
- Slopes should be minimized.
- Erosion control structures should be installed.
- Seedbeds should be well pulverized, loose, and uniform.
- Fertilizers should be applied at appropriate rates.
- Seeding rates should be applied as recommended by the county agricultural extension agent.
- The seed should be applied uniformly.
- Steep slopes should be covered with appropriate soil stabilization matting.

Blankets and Matting

Description: Blankets and matting material can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are in channels, interceptor swales, diversion dikes, short, steep slopes, and on tidal or stream banks.

Materials:

New types of blankets and matting materials are continuously being developed. The Texas Department of Transportation (TxDOT) has defined the critical performance factors for these types of products and has established minimum performance standards which must be met for any product seeking to be approved for use within any of TxDOT's construction or maintenance activities. The products that have been approved by TxDOT are also appropriate for general construction site stabilization. TxDOT maintains a web site at https://www.txdot.gov/inside-txdot/division/maintenance/erosion-control.html which is updated as new products are evaluated.

Installation:

- Install in accordance with the manufacturer's recommendations.
- Proper anchoring of the material.
- Prepare a friable seed bed relatively free from clods and rocks and any foreign material.
- Fertilize and seed in accordance with seeding or other type of planting plan.
- Erosion stops should extend beyond the channel liner to full design cross-section of the channel.
- A uniform trench perpendicular to line of flow may be dug with a spade or a mechanical trencher.
- Erosion stops should be deep enough to penetrate solid material or below level of ruling in sandy soils.
- Erosion stop mats should be wide enough to allow turnover at bottom of trench for stapling, while maintaining the top edge flush with channel surface.

Mulch

Description: Mulching is the process of applying a material to the exposed soil surface to protect it from erosive forces and to conserve soil moisture until plants can become established. When seeding critical sites, sites with adverse soil conditions or seeding on other than optimum seeding dates, mulch material should be applied immediately after seeding. Seeding during optimum seeding dates and with favorable soils and site conditions will not need to be mulched.

Materials:

- Mulch may be small grain straw which should be applied uniformly.
- On slopes 15 percent or greater, a binding chemical must be applied to the surface.
- Wood-fiber or paper-fiber mulch may be applied by hydroseeding.
- Mulch nettings may be used.
- Wood chips may be used where appropriate.

Installation:

Mulch anchoring should be accomplished immediately after mulch placement. This may be done by one of the following methods: peg and twine, mulch netting, mulch anchoring tool, or liquid mulch binders.

Sod

Description: Sod is appropriate for disturbed areas which require immediate vegetative covers, or where sodding is preferred to other means of grass establishment. Locations particularly suited to stabilization with sod are waterways carrying intermittent flow, areas around drop inlets or in grassed swales, and residential or commercial lawns where quick use or aesthetics are factors. Sod is composed of living plants and those plants must receive adequate care in order to provide vegetative stabilization on a disturbed area.

Materials:

- Sod should be machine cut at a uniform soil thickness.
- Pieces of sod should be cut to the supplier’s standard width and length.
- Torn or uneven pads are not acceptable.
- Sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp.

- Sod should be harvested, delivered, and installed within a period of 36 hours.

Installation:

- Areas to be sodded should be brought to final grade.
- The surface should be cleared of all trash and debris.
- Fertilize according to soil tests.
- Fertilizer should be worked into the soil.
- Sod should not be cut or laid in excessively wet or dry weather.
- Sod should not be laid on soil surfaces that are frozen.
- During periods of high temperature, the soil should be lightly irrigated.
- The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other.
- Lateral joints should be staggered to promote more uniform growth and strength.
- Wherever erosion may be a problem, sod should be laid with staggered joints and secured.
- Sod should be installed with the length perpendicular to the slope (on the contour).
- Sod should be rolled or tamped.
- Sod should be irrigated to a sufficient depth.
- Watering should be performed as often as necessary to maintain soil moisture.
- The first mowing should not be attempted until the sod is firmly rooted.
- Not more than one third of the grass leaf should be removed at any one cutting.

Attachment 4
Description of Best Management Practices (BMPs)

Interceptor Swale

Interceptor swales are used to shorten the length of exposed slope by intercepting runoff, prevent off-site runoff from entering the disturbed area, and prevent sediment-laden runoff from leaving a disturbed site. They may have a v-shape or be trapezoidal with a flat bottom and side slopes of 3:1 or flatter. The outflow from a swale should be directed to a stabilized outlet or sediment trapping device. The swales should remain in place until the disturbed area is permanently stabilized.

Materials:

- Stabilization should consist of a layer of crushed stone three inches thick, riprap or high velocity erosion control mats.
- Stone stabilization should be used when grades exceed 2% or velocities exceed 6 feet per second.
- Stabilization should extend across the bottom of the swale and up both sides of the channel to a minimum height of three inches above the design water surface elevation based on a 2-year, 24-hour storm.

Installation:

- An interceptor swale should be installed across exposed slopes during construction and should intercept no more than 5 acres of runoff.
- All earth removed and not needed in construction should be disposed of in an approved spoils site so that it will not interfere with the functioning of the swale or contribute to siltation in other areas of the site.
- All trees, brush, stumps, obstructions and other material should be removed and disposed of so as not to interfere with the proper functioning of the swale.
- Swales should have a maximum depth of 1.5 feet with side slopes of 3:1 or flatter.
- Swales should have positive drainage for the entire length to an outlet.
- When the slope exceeds 2 percent, or velocities exceed 6 feet per second (regardless of slope), stabilization is required. Stabilization should be crushed stone placed in a layer of at least 3 inches thick or may be high velocity erosion control matting. Check dams are also recommended to reduce velocities in the swales possibly reducing the amount of stabilization necessary.

- Minimum compaction for the swale should be 90% standard proctor density.

Diversion Dikes

A temporary diversion dike is a barrier created by the placement of an earthen embankment to reroute the flow of runoff to an erosion control device or away from an open, easily erodible area. A diversion dike intercepts runoff from small upland areas and diverts it away from exposed slopes to a stabilized outlet, such as a rock berm, sandbag berm, or stone outlet structure. These controls can be used on the perimeter of the site to prevent runoff from entering the construction area. Dikes are generally used for the duration of construction to intercept and reroute runoff from disturbed areas to prevent excessive erosion until permanent drainage features are installed and/or slopes are stabilized.

Materials:

- Stone stabilization (required for velocities in excess of 6 fps) should consist of riprap placed in a layer at least 3 inches thick and should extend a minimum height of 3 inches above the design water surface up the existing slope and the upstream face of the dike.

- Geotextile fabric should be a non-woven polypropylene fabric designed specifically for use as a soil filtration media with an approximate weight of 6 oz./yd^2, a Mullen burst rating of 140 psi, and having an equivalent opening size (EOS) greater than a #50 sieve.

Installation:

- Diversion dikes should be installed prior to and maintained for the duration of construction and should intercept no more than 10 acres of runoff.

- Dikes should have a minimum top width of 2 feet and a minimum height of compacted fill of 18 inches measured form the top of the existing ground at the upslope toe to top of the dike and have side slopes of 3:1 or flatter.

- The soil for the dike should be placed in lifts of 8 inches or less and be compacted to 95 % standard proctor density.

- The channel, which is formed by the dike, must have positive drainage for its entire l length to an outlet.

- When the slope exceeds 2 percent, or velocities exceed 6 feet per second (regardless of slope), stabilization is required. In situations where velocities do not exceed 6 feet per second, vegetation may be used to control erosion.

Attachment 4
Description of Best Management Practices (BMPs)

Erosion Control Compost

Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:

New types of erosion control compost are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Material used within any TxDOT construction or maintenance activities must meet material specifications in accordance with current TxDOT specifications. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

ECC used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission (now named TCEQ) Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332.

Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections §332.71 Sampling and Analysis Requirements for Final Products and §332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for ECC to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC is a laboratory manual that provides protocols for the composting industry and test methods for compost analysis. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. Numerous parameters that might be of concern in compost can be tested by following protocols

or test methods listed in TMECC. TMECC information can be found at https://www.compostingcouncil.org/page/tmecc.
The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at https://www.compostingcouncil.org/page/SealofTestingAssuranceSTA.

Installation:

- Install in accordance with current TxDOT specification.
- Use on slopes 3:1 or flatter.
- Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
- When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks

Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end of the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:

New types of mulch and compost filter socks are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Mulch and compost filter socks used within any TxDOT construction or maintenance activities must meet material specifications in accordance with TxDOT specification 5049. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

Mulch and compost filter socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used for mulch and compost filter socks, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections §332.71 Sampling and Analysis Requirements for Final Products and §332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for mulch and compost filter socks to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC is a laboratory manual that provides protocols for the composting industry and test methods for compost analysis. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. Numerous parameters that might be of concern in compost can be tested by following protocols or test methods listed in TMECC. TMECC information can be found at https://www.compostingcouncil.org/page/tmecc. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at https://www.compostingcouncil.org/page/SealofTestingAssuranceSTA.

Installation:

- Install in accordance with TxDOT Special Specification 5049.
- Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
- Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.
- Inspect and maintain the socks in good condition (including staking, anchoring, etc.). Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

Attachment 4
Description of Best Management Practices (BMPs)

SEDIMENT CONTROL BMPS

Sandbag Berm

Description: The purpose of a sandbag berm is to detain sediment carried in runoff from disturbed areas. This objective is accomplished by intercepting runoff and causing it to pool behind the sandbag berm. Sediment carried in the runoff is deposited on the upstream side of the sandbag berm due to the reduced flow velocity. Excess runoff volumes are allowed to flow over the top of the sandbag berm. Sandbag berms are used only during construction activities in streambeds when the contributing drainage area is between 5 and 10 acres and the slope is less than 15%, i.e., utility construction in channels, temporary channel crossing for construction equipment, etc. Plastic facing should be installed on the upstream side and the berm should be anchored to the streambed by drilling into the rock and driving in T-posts or rebar (#5 or #6) spaced appropriately.

Materials:

- The sandbag material should be polypropylene, polyethylene, polyamide or cotton burlap woven fabric, minimum unit weight 4 oz/yd 2, mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70 percent.

- The bag length should be 24 to 30 inches, width should be 16 to 18 inches and thickness should be 6 to 8 inches.

- Sandbags should be filled with coarse grade sand and free from deleterious material. All sand should pass through a No. 10 sieve. The filled bag should have an approximate weight of 40 pounds.

- Outlet pipe should be schedule 40 or stronger polyvinyl chloride (PVC) having a nominal internal diameter of 4 inches.

Installation:

- The berm should be a minimum height of 18 inches, measured from the top of the existing ground at the upslope toe to the top of the berm.

- The berm should be sized as shown in the plans but should have a minimum width of 48 inches measured at the bottom of the berm and 16 inches measured at the top of the berm.

- Runoff water should flow over the tops of the sandbags or through 4-inch diameter PVC pipes embedded below the top layer of bags.

- When a sandbag is filled with material, the open end of the sandbag should be stapled or tied with nylon or poly cord.

- Sandbags should be stacked in at least three rows abutting each other, and in staggered arrangement.

- The base of the berm should have at least 3 sandbags. These can be reduced to 2 and 1 bag in the second and third rows respectively.

- For each additional 6 inches of height, an additional sandbag must be added to each row width.

- A bypass pump-around system, or similar alternative, should be used on conjunction with the berm for effective dewatering of the work area.

Silt Fence

Description: A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. If not properly installed, silt fences are not likely to be effective. The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow. Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Materials:

- Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in 2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

- Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft 2, and Brindell hardness exceeding 140.

- Woven wire backing to support the fabric should be galvanized 2-inch x 4-inch welded wire, 12 gauge minimum.

Installation:

- Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1 foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.

- Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is 3 acre/100 feet of fence.

- The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.

- The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

- Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

Triangular Filter Dike

Description: The purpose of a triangular sediment filter dike is to intercept and detain water-borne sediment from unprotected areas of limited extent. The triangular sediment filter dike is used where there is no concentration of water in a channel or other drainage way above the barrier and the contributing drainage area is less than one acre. If the uphill slope above the dike exceeds 10%, the length of the slope above the dike should be less than 50 feet. If concentrated flow occurs after installation, corrective action should be taken such as placing rock berm in the areas of concentrated flow. This measure is effective on paved areas where installation of silt fence is not possible or where vehicle access must be maintained. The advantage of these controls is the ease with which they can be moved to allow vehicle traffic and then reinstalled to maintain sediment.

Attachment 4
Description of Best Management Practices (BMPs)

Materials:

- Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in 2 , ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

- The dike structure should be 6 gauge 6-ing x 6-inch wire mesh folded into triangular form being eighteen (18) inches on each side.

Installation:

- The frame of the triangular sediment filter dike should be constructed of 6-inch x 6-inch, 6-gauge welded wire mesh, 18 inches per side, and wrapped with geotextile fabric the same composition as that used for silt fences.

- Filter material should lap over ends six (6) inches to cover dike to dike junction; each junction should be secured by shoat rings.

- Position dike parallel to the contours, with the end of each section closely abutting the adjacent sections.

- There are several options for fastening the filter dike to the ground. The fabric skirt may be toed-in with 6 inches of compacted material, or 12 inches of the fabric skirt should extend uphill and be secured with a minimum of 3 inches of open graded rock, or with staples or nails. If these two options are not feasible the dike structure may be trenched in 4 inches.

- Triangular sediment filter dikes should be installed across exposed slopes during construction with ends of the dike tied into existing grades to prevent failure and should intercept no more than one acre of runoff.

- When moved to allow vehicular access, the dikes should be reinstalled as soon as possible, but always at the end of the workday.

Rock Berm

Description: The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures further up the watershed.

Materials:

- The berm structure should be secured with a woven wire sheathing having opening of one inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
- Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:

- Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20-gauge woven wire mesh with 1 inch openings.
- Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
- Place the rock along the sheathing to a height not less than 18 inches.
- Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
- Berm should be built along the contour at zero percent grade or as near as possible.
- The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

Hay Bale Dike

Description: The purpose of a hay or straw bale dike is to intercept and detain small amounts of sediment-laden runoff from relatively small unprotected areas. Straw bales are to be used when it is not feasible to install other, more effective measures or when the construction phase is expected to last less than 3 months. Straw bales should not be used on areas where rock or other hard surfaces prevent the full and uniform anchoring of the barrier.

Attachment 4
Description of Best Management Practices (BMPs)

Materials:

Straw: The best quality straw mulch comes from wheat, oats or barley and should be free of weed and grass seed which may not be desired vegetation for the area to be protected. Straw mulch is light and therefore must be properly anchored to the ground.

Hay: This is very similar to straw with the exception that it is made of grasses and weeds and not grain stems. This form of mulch is very inexpensive and is widely available but does introduce weed and grass seed to the area. Like straw, hay is light and must be anchored.

- Straw bales should weigh a minimum of 50 pounds and should be at least 30 inches long.
- Bales should be composed entirely of vegetable matter and be free of seeds.
- Binding should be either wire or nylon string, jute or cotton binding is unacceptable. Bales should be used for not more than two months before being replaced.

Installation:

- Bales should be embedded a minimum of 4 inches and securely anchored using 2-inch x 2-inch wood stakes or 3/8-inch diameter rebar driven through the bales into the ground a minimum of 6 inches.
- Bales are to be placed directly adjacent to one another leaving no gap between them.
- All bales should be placed on the contour.
- The first stake in each bale should be angled toward the previously laid bale to force the bales together.

Brush Berms

Organic litter and spoil material from site clearing operations is usually burned or hauled away to be dumped elsewhere. Much of this material can be used effectively on the construction site itself. The key to constructing an efficient brush berm is in the method used to obtain and place the brush. It will not be acceptable to simply take a bulldozer and push whole trees into a pile. This method does not assure continuous ground contact with the berm and will allow uncontrolled flows under the berm.

Attachment 4
Description of Best Management Practices (BMPs)

Brush berms may be used where there is little or no concentration of water in a channel or other drainage way above the berm. The size of the drainage area should be no greater than one-fourth of an acre per 100 feet of barrier length; the maximum slope length behind the barrier should not exceed 100 feet; and the maximum slope gradient behind the barrier should be less than 50 percent (2:1).

Materials:

- The brush should consist of woody brush and branches, preferably less than 2 inches in diameter.
- The filter fabric should conform to the specifications for filter fence fabric.
- The rope should be 1/4-inch polypropylene or nylon rope.
- The anchors should be 3/8-inch diameter rebar stakes that are 18-inches long.

Installation:

- Lay out the brush berm following the contour as closely as possible.
- The juniper limbs should be cut and hand placed with the vegetated part of the limb in close contact with the ground. Each subsequent branch should overlap the previous branch providing a shingle effect.
- The brush berm should be constructed in lifts with each layer extending the entire length of the berm before the next layer is started.
- A trench should be excavated 6-inches wide and 4-inches deep along the length of the barrier and immediately uphill from the barrier.
- The filter fabric should be cut into lengths sufficient to lay across the barrier from its up-slope base to just beyond its peak. The lengths of filter fabric should be draped across the width of the barrier with the uphill edge placed in the trench and the edges of adjacent pieces overlapping each other. Where joints are necessary, the fabric should be spliced together with a minimum 6-inch overlap and securely sealed.
- The trench should be backfilled, and the soil compacted over the filter fabric.
- Set stakes into the ground along the downhill edge of the brush barrier and anchor the fabric by tying rope from the fabric to the stakes. Drive the rope anchors into the ground at approximately a 45-degree angle to the ground on 6-

foot centers.

- Fasten the rope to the anchors and tighten berm securely to the ground with a minimum tension of 50 pounds.

- The height of the brush berm should be a minimum of 24 inches after the securing ropes have been tightened.

Stone Outlet Sediment Traps

A stone outlet sediment trap is an impoundment created by the placement of an earthen and stone embankment to prevent soil and sediment loss from a site. The purpose of a sediment trap is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way below the sediment trap from sedimentation. A sediment trap is usually installed at points of discharge from disturbed areas. The drainage area for a sediment trap is recommended to be less than 5 acres.

Larger areas should be treated using a sediment basin. A sediment trap differs from a sediment basin mainly in the type of discharge structure. The trap should be located to obtain the maximum storage benefit from the terrain, for ease of clean out and disposal of the trapped sediment and to minimize interference with construction activities. The volume of the trap should be at least 3600 cubic feet per acre of drainage area.

Materials:

- All aggregate should be at least 3 inches in diameter and should not exceed a volume of 0.5 cubic foot.

- The geotextile fabric specification should be woven polypropylene, polyethylene or polyamide geotextile, minimum unit weight of 4.5 oz/yd 2, mullen burst strength at least 250 lb/in 2, ultraviolet stability exceeding 70%, and equivalent opening size exceeding 40.

Installation:

- Earth Embankment: Place fill material in layers not more than 8 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the material. Compact each layer to 95 percent standard proctor density. Do not place material on surfaces that are muddy or frozen. Side slopes for the embankment are to be 3:1. The minimum width of the embankment should be 3 feet.

- A gap is to be left in the embankment in the location where the natural confluence of runoff crosses the embankment line. The gap is to have a width in feet equal to 6 times the drainage area in acres.

- Geotextile Covered Rock Core: A core of filter stone having a minimum height of 1.5 feet and a minimum width at the base of 3 feet should be placed across the opening of the earth embankment and should be covered by geotextile fabric which should extend a minimum distance of 2 feet in either direction from the base of the filter stone core.

- Filter Stone Embankment: Filter stone should be placed over the geotextile and is to have a side slope which matches that of the earth embankment of 3:1 and should cover the geotextile/rock core a minimum of 6 inches when installation is complete. The crest of the outlet should be at least 1 foot below the top of the embankment.

Sediment Basins

The purpose of a sediment basin is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way below the sediment basin from sedimentation. A sediment basin is usually installed at points of discharge from disturbed areas. The drainage area for a sediment basin is recommended to be less than 100 acres.

Sediment basins are effective for capturing and slowly releasing the runoff from larger disturbed areas thereby allowing sedimentation to take place. A sediment basin can be created where a permanent pond BMP is being constructed. Guidelines for construction of the permanent BMP should be followed, but revegetation, placement of underdrain piping, and installation of sand or other filter media should not be carried out until the site construction phase is complete.

Materials:

- Riser should be corrugated metal or reinforced concrete pipe or box and should have watertight fittings or end to end connections of sections.

- An outlet pipe of corrugated metal or reinforced concrete should be attached to the riser and should have positive flow to a stabilized outlet on the downstream side of the embankment.

- An anti-vortex device and rubbish screen should be attached to the top of the riser and should be made of polyvinyl chloride or corrugated metal.

Attachment 4
Description of Best Management Practices (BMPs)

Basin Design and Construction:

- For common drainage locations that serve an area with ten or more acres disturbed at one time, a sediment basin should provide storage for a volume of runoff from a two-year, 24-hour storm from each disturbed acre drained.

- The basin length to width ratio should be at least 2:1 to improve trapping efficiency. The shape may be attained by excavation or the use of baffles. The lengths should be measured at the elevation of the riser de-watering hole.

- Place fill material in layers not more than 8 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the material. Compact each layer to 95 percent standard proctor density. Do not place material on surfaces that are muddy or frozen. Side slopes for the embankment should be 3:1 (H:V).

- An emergency spillway should be installed adjacent to the embankment on undisturbed soil and should be sized to carry the full amount of flow generated by a 10-year, 3-hour storm with 1 foot of freeboard less the amount which can be carried by the principal outlet control device.

- The emergency spillway should be lined with riprap as should the swale leading from the spillway to the normal watercourse at the base of the embankment.

- The principal outlet control device should consist of a rigid vertically oriented pipe or box of corrugated metal or reinforced concrete. Attached to this structure should be a horizontal pipe, which should extend through the embankment to the toe of fill to provide a de-watering outlet for the basin.

- An anti-vortex device should be attached to the inlet portion of the principal outlet control device to serve as a rubbish screen.

- A concrete base should be used to anchor the principal outlet control device and should be sized to provide a safety factor of 1.5 (downward forces = 1.5 buoyant forces).

- The basin should include a permanent stake to indicate the sediment level in the pool and marked to indicate when the sediment occupies 50% of the basin volume (not the top of the stake).

- The top of the riser pipe should remain open and be guarded with a trash rack and anti-vortex device. The top of the riser should be 12 inches below the elevation of the emergency spillway. The riser should be sized to convey the runoff from the 2-year, 3-hour storm when the water surface is at the emergency spillway elevation. For basins with no spillway the riser must be sized to convey the runoff from the 10-yr, 3-hour storm.

- Anti-seep collars should be included when soil conditions or length of service make piping through the backfill a possibility.
- The 48-hour drawdown time will be achieved by using a riser pipe perforated at the point measured from the bottom of the riser pipe equal to 1/2 the volume of the basin. This is the maximum sediment storage elevation. The size of the perforation may be calculated as follows:

$$Ao = \frac{As \times \sqrt{2h}}{Cd \times 980{,}000}$$

Where:
A_o = Area of the de-watering hole, ft 2
A_s = Surface area of the basin, ft 2
C_d = Coefficient of contraction, approximately 0.6
h = head of water above the hole, ft
Perforating the riser with multiple holes with a combined surface area equal to A_o is acceptable.

Erosion Control Compost

Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:

New types of erosion control compost are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Material used within any TxDOT construction or maintenance activities must meet material specifications in accordance with current TxDOT specifications. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

ECC used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection

Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission (now named TCEQ) Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections §332.71 Sampling and Analysis Requirements for Final Products and §332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for ECC to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC is a laboratory manual that provides protocols for the composting industry and test methods for compost analysis. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. Numerous parameters that might be of concern in compost can be tested by following protocols or test methods listed in TMECC. TMECC information can be found at https://www.compostingcouncil.org/page/tmecc. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at https://www.compostingcouncil.org/page/SealofTestingAssuranceSTA.

Installation:

- Install in accordance with current TxDOT specification.
- Use on slopes 3:1 or flatter.
- Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
- When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks

Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end of the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:

New types of mulch and compost filter socks are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Mulch and compost filter socks used within any TxDOT construction or maintenance activities must meet material specifications in accordance with TxDOT specification 5049. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

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Installation:

Install in accordance with TxDOT Special Specification 5049.

- Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
- Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.
- Inspect and maintain the socks in good condition (including staking, anchoring, etc.).
- Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

Attachment 4
Description of Best Management Practices (BMPs)

POST-CONSTRUCTION TSS CONTROLS

Retention/Irrigation Systems

Description: Retention/irrigation systems refer to the capture of runoff in a holding pond, then use of the captured water for irrigation of appropriate landscape areas. Retention/irrigation systems are characterized by the capture and disposal of runoff without direct release of captured flow to receiving streams. Retention systems exhibit excellent pollutant removal but can require regular, proper maintenance. Collection of roof runoff for subsequent use (rainwater harvesting) also qualifies as a retention/irrigation practice but should be operated and sized to provide adequate volume. This technology, which emphasizes beneficial use of stormwater runoff, is particularly appropriate for arid regions because of increasing demands on water supplies for agricultural irrigation and urban water supply.

Design Considerations: Retention/irrigation practices achieve 100% removal efficiency of total suspended solids contained within the volume of water captured. Design elements of retention/irrigation systems include runoff storage facility configuration and sizing, pump and wet well system components, basin lining, basin detention time, and physical and operational components of the irrigation system. Retention/irrigation systems are appropriate for large drainage areas with low to moderate slopes. The retention capacity should be sufficient considering the average rainfall event for the area.

Maintenance Requirements: Maintenance requirements for retention/irrigation systems include routine inspections, sediment removal, mowing, debris and litter removal, erosion control, and nuisance control.

Extended Detention Basin

Description: Extended detention facilities are basins that temporarily store a portion of stormwater runoff following a storm event. Extended detention basins are normally used to remove particulate pollutants and to reduce maximum runoff rates associated with development to their pre-development levels. The water quality benefits are the removal of sediment and buoyant materials. Furthermore, nutrients, heavy metals, toxic materials, and oxygen-demanding materials associated with the particles also are removed. The control of the maximum runoff rates serves to protect drainage channels below the device from erosion and to reduce downstream flooding. Although detention facilities designed for flood control have different design requirements than those used for water quality enhancement, it is possible to achieve these two objectives in a single facility.

Design Considerations: Extended detention basins can remove approximately 75% of the total suspended solids contained within the volume of runoff captured in the basin. Design elements of extended detention basins include basin sizing, basin configuration, basin side slopes, basin lining, inlet/outlet structures, and erosion controls. Extended detention basins are appropriate for large drainage areas with low to moderate slopes. The retention capacity should be sufficient considering the average rainfall event for the area.

Maintenance Requirements: Maintenance requirements for extended detention basins include routine inspections, mowing, debris and litter removal, erosion control, structural repairs, nuisance control, and sediment removal.

Vegetative Filter Strips

Description: Filter strips, also known as vegetated buffer strips, are vegetated sections of land similar to grassy swales except they are essentially flat with low slopes and are designed only to accept runoff as overland sheet flow. They may appear in any vegetated form from grassland to forest, and are designed to intercept upstream flow, lower flow velocity, and spread water out as sheet flow. The dense vegetative cover facilitates conventional pollutant removal through detention, filtration by vegetation, and infiltration.

Filter strips cannot treat high velocity flows, and do not provide enough storage or infiltration to effectively reduce peak discharges to predevelopment levels for design storms. This lack of quantity control favors use in rural or low-density development; however, they can provide water quality benefits even where the impervious cover is as high as 50%. The primary highway application for vegetative filter strips is along rural roadways where runoff that would otherwise discharge directly to a receiving water passes through the filter strip before entering a conveyance system. Properly designed roadway medians and shoulders make effective buffer strips. These devices also can be used on other types of development where land is available and hydraulic conditions are appropriate.

Flat slopes and low to fair permeability of natural subsoil are required for effective performance of filter strips. Although an inexpensive control measure, they are most useful in contributing watershed areas where peak runoff velocities are low as they are unable to treat the high flow velocities typically associated with high impervious cover.

Successful performance of filter strips relies heavily on maintaining shallow unconcentrated flow. To avoid flow channelization and maintain performance, a filter strip should:

- Be equipped with a level spreading device for even distribution of runoff
- Contain dense vegetation with a mix of erosion resistant, soil binding species
- Be graded to a uniform, even and relatively low slope

- Laterally traverse the contributing runoff area

Filter strips can be used upgradient from watercourses, wetlands, or other water bodies along toes and tops of slopes and at outlets of other stormwater management structures. They should be incorporated into street drainage and master drainage planning. The most important criteria for selection and use of this BMP are soils, space, and slope.

Design Considerations: Vegetative filter strips can remove approximately 85% of the total suspended solids contained within the volume of runoff captured. Design elements of vegetative filter strips include uniform, shallow overland flow across the entire filter strip area, hydraulic loading rate, inlet structures, slope, and vegetative cover. The area should be free of gullies or rills which can concentrate flow. Vegetative filter strips are appropriate for small drainage areas with moderate slopes. Other design elements include the following:

- Soils and moisture are adequate to grow relatively dense vegetative stands
- Sufficient space is available
- Slope is less than 12%
- Comparable performance to more expensive structural controls

Maintenance Requirements: Maintenance requirements for vegetative filter strips include pest management, seasonal mowing and lawn care, routine inspections, debris and litter removal, sediment removal, and grass reseeding and mulching.

Constructed Wetlands

Description: Constructed wetlands provide physical, chemical, and biological water quality treatment of stormwater runoff. Physical treatment occurs as a result of decreasing flow velocities in the wetland, and is present in the form of evaporation, sedimentation, adsorption, and/or filtration. Chemical processes include chelation, precipitation, and chemical adsorption. Biological processes include decomposition, plant uptake and removal of nutrients, plus biological transformation and degradation. Hydrology is one of the most influential factors in pollutant removal due to its effects on sedimentation, aeration, biological transformation, and adsorption onto bottom sediments.

The wetland should be designed such that a minimum amount of maintenance is required. The natural surroundings, including such things as the potential energy of a stream or flooding river, should be utilized as much as possible. The wetland should approximate a natural situation and unnatural attributes, such as rectangular shape or rigid channel, should be avoided.

Site considerations should include the water table depth, soil/substrate, and space requirements. Because the wetland must have a source of flow, it is desirable that the water table is at or near the surface. If runoff is the only source of inflow for the wetland, the water level often fluctuates, and establishment of vegetation may be difficult. The soil or substrate of an artificial wetland should be loose loam to clay. A perennial baseflow must be present to sustain the artificial wetland. The presence of organic material is often helpful in increasing pollutant removal and retention. A greater amount of space is required for a wetland system than is required for a detention facility treating the same amount of area.

Design Considerations: Constructed wetlands can remove over 90% of the total suspended solids contained within the volume of runoff captured in the wetland. Design elements of constructed wetlands include wetland sizing, wetland configuration, sediment forebay, vegetation, outflow structure, depth of inundation during storm events, depth of micro pools, and aeration. Constructed wetlands are appropriate for large drainage areas with low to moderate slopes.

Maintenance Requirements: Maintenance requirements for constructed wetlands include mowing, routine inspections, debris and litter removal, erosion control, nuisance control, structural repairs, sediment removal, harvesting, and maintenance of water levels.

Wet Basins

Description: Wet basins are runoff control facilities that maintain a permanent wet pool and a standing crop of emergent littoral vegetation. These facilities may vary in appearance from natural ponds to enlarged, bermed (manmade) sections of drainage systems and may function as online or offline facilities, although offline configuration is preferable. Offline designs can prevent scour and other damage to the wet pond and minimize costly outflow structure elements needed to accommodate extreme runoff events.

During storm events, runoff inflows displace part or all of the existing basin volume and are retained and treated in the facility until the next storm event. The pollutant removal mechanisms are settling of solids, wetland plant uptake, and microbial degradation. When the wet basin is adequately sized, pollutant removal performance can be excellent, especially for the dissolved fraction. Wet basins also help provide erosion protection for the receiving channel by limiting peak flows during larger storm events. Wet basins are often perceived as a positive aesthetic element in a community and offer significant opportunity for creative pond configuration and landscape design. Participation of an experienced wetland designer is suggested. A significant potential drawback for wet ponds in arid climates is that the contributing watershed for these facilities is often incapable of providing an adequate water supply to maintain the permanent pool, especially during the summer months. Makeup water (i.e., well water or municipal drinking water) is sometimes used to supplement the rainfall/runoff process, especially for wet basin facilities treating watersheds that generate insufficient runoff.

Design Considerations: Wet basins can remove over 90% of the total suspended solids contained within the volume of runoff captured in the basin. Design elements of wet basins include basin sizing, basin configuration, basin side slopes, sediment forebay, inflow and outflow structures, vegetation, depth of permanent pool, aeration, and erosion control. Wet basins are appropriate for large drainage areas with low to moderate slopes.

Maintenance Requirements: Maintenance requirements for wet basins include mowing, routine inspections, debris and litter removal, erosion control, nuisance control, structural repairs, sediment removal, and harvesting.

Grassy Swales

Descripton: Grassy swales are vegetated channels that convey stormwater and remove pollutants by filtration through grass and infiltration through soil. They require shallow slopes and soils that drain well. Pollutant removal capability is related to channel dimensions, longitudinal slope, and type of vegetation. Optimum design of these components will increase contact time of runoff through the swale and improve pollutant removal rates.

Grassy swales are primarily stormwater conveyance systems. They can provide sufficient control under light to moderate runoff conditions, but their ability to control large storms is limited. Therefore, they are most applicable in low to moderate sloped areas or along highway medians as an alternative to ditches and curb and gutter drainage. Their performance diminishes sharply in highly urbanized settings, and they are generally not effective enough to receive construction stage runoff where high sediment loads can overwhelm the system. Grassy swales can be used as a pretreatment measure for other downstream BMPs, such as extended detention basins. Enhanced grassy swales utilize check dams and wide depressions to increase runoff storage and promote greater settling of pollutants.

Grassy swales can be more aesthetically pleasing than concrete or rock-lined drainage systems and are generally less expensive to construct and maintain. Swales can slightly reduce impervious area and reduce the pollutant accumulation and delivery associated with curbs and gutters. The disadvantages of this technique include the possibility of erosion and channelization over time, and the need for more right-of-way as compared to a storm drain system. When properly constructed, inspected, and maintained, the life expectancy of a swale is estimated to be 20 years.

Attachment 4
Description of Best Management Practices (BMPs)

Design Considerations:

- Comparable performance to wet basins
- Limited to treating a few acres
- Availability of water during dry periods to maintain vegetation
- Sufficient available land area

The suitability of a swale at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the swale system. In general, swales can be used to serve areas of less than 10 acres, with slopes no greater than 5 %. The seasonal high water table should be at least 4 feet below the surface. Use of natural topographic lows is encouraged, and natural drainage courses should be regarded as significant local resources to be kept in use.

Maintenance Requirements:

Research in the Austin area indicates that vegetated controls are effective at removing pollutants even when dormant. Therefore, irrigation is not required to maintain growth during dry periods but may be necessary only to prevent the vegetation from dying.

Vegetation Lined Drainage Ditches

Description: Vegetation lined drainage ditches are similar to grassy swales. These drainage ditches are vegetated channels that convey storm water and remove pollutants by filtration through grass and infiltration through soil. They require soils that drain well. Pollutant removal capability is related to channel dimensions, longitudinal slope, and type of vegetation. Optimum design of these components will increase contact time of runoff through the ditch and improve pollutant removal rates. Vegetation lined drainage ditches are primarily storm water conveyance systems. They have vegetation lined in the low flow channel and may include vegetated shelves.

Vegetation in drainage ditches reduces erosion and removes pollutants by lowering water velocity over the soil surface, binding soil particles with roots, and by filtration through grass and infiltration through soil. Vegetation lined drainage ditches can be used where:

- A vegetative lining can provide sufficient stability for the channel grade by increasing maximum permissible velocity
- Slopes are generally less than 5%, with protection from sheer stress as needed through the use of BMPs, such as erosion control blankets

- Site conditions required to establish vegetation, i.e. climate, soils, topography, are present

Design Criteria: The suitability of a vegetation lined drainage ditch at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the ditch system. The hydraulic capacity of the drainage ditch and other elements such as erosion, siltation, and pollutant removal capability, must be taken into consideration. Use of natural topographic lows is encouraged, and natural drainage courses should be regarded as significant local resources to be kept in use. Other items to consider include the following:

- Capacity, cross-section shape, side slopes, and grade
- Select appropriate native vegetation
- Construct in stable, low areas to conform with the natural drainage system. To reduce erosion potential, design the channel to avoid sharp bends and steep grades.
- Design and build drainage ditches with appropriate scour and erosion protection. Surface water should be able to enter over the vegetated banks without erosion occurring.
- BMPs, such as erosion control blankets, may need to be installed at the time of seeding to provide stability until the vegetation is fully established. It may also be necessary to divert water from the channel until vegetation is established or to line the channel with sod.
- Vegetated ditches must not be subject to sedimentation from disturbed areas.
- Sediment traps may be needed at channel inlets to prevent entry of muddy runoff and channel sedimentation.
- Availability of water during dry periods to maintain vegetation
- Sufficient available land area

Maintenance:

During establishment, vegetation lined drainage ditches should be inspected, repaired, and vegetation reestablished if necessary. After the vegetation has become established, the ditch should be checked periodically to determine if the channel is withstanding flow velocities without damage. Check the ditch for debris, scour, or erosion and immediately make repairs if needed. Check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes and make repairs immediately. Remove all significant sediment accumulations to maintain the designed carrying capacity. Keep the vegetation in a healthy condition at all times, since it is the primary erosion protection for the channel. Vegetation lined drainage ditches should be seasonally maintained by mowing or irrigating, depending on the vegetation selected. The long-term management of ditches as stable, vegetated, "natural" drainage systems with native vegetation buffers is highly recommended due to the inherent stability offered by grasses, shrubs, trees, and other vegetation.

Research in the Austin area indicates that vegetated controls are effective at removing pollutants even when dormant. Therefore, irrigation is not required to maintain growth during dry periods but may be necessary only to prevent the vegetation from dying.

Sand Filter Systems

Description: The objective of sand filters is to remove sediment and the pollutants from the first flush of pavement and impervious area runoff. The filtration of nutrients, organics, and coliform bacteria is enhanced by a mat of bacterial slime that develops during normal operations. One of the main advantages of sand filters is their adaptability; they can be used on areas with thin soils, high evaporation rates, low-soil infiltration rates, in limited-space areas, and where groundwater is to be protected.

Since their original inception in Austin, Texas, hundreds of intermittent sand filters have been implemented to treat stormwater runoff. There have been numerous alterations or variations in the original design as engineers in other jurisdictions have improved and adapted the technology to meet their specific requirements. Major types include the Austin Sand Filter, the District of Columbia Underground Sand Filter, the Alexandria Dry Vault Sand Filter, the Delaware Sand Filter, and peat-sand filters which are adapted to provide a sorption layer and vegetative cover to various sand filter designs.

Design Considerations:

- Appropriate for space-limited areas
- Applicable in arid climates where wet basins and constructed wetlands are not appropriate
- High TSS removal efficiency

Attachment 4
Description of Best Management Practices (BMPs)

Cost Considerations:

Filtration Systems may require less land than some other BMPs, reducing the land acquisition cost; however the structure itself is one of the more expensive BMPs. In addition, maintenance cost can be substantial.

Erosion Control Compost

Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:

New types of erosion control compost are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT=s construction or maintenance activities. Material used within any TxDOT construction or maintenance activities must meet material specifications in accordance with current TxDOT specifications. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

ECC used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission (now named TCEQ) Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections '332.71 Sampling and Analysis Requirements for Final Products and '332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product=s specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for ECC to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC is a laboratory manual that provides protocols for the composting industry and test methods for compost analysis. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. Numerous parameters that might be of concern in compost can be tested by following protocols or test methods listed in TMECC. TMECC information can be found at https://www.compostingcouncil.org/page/tmecc. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at https://www.compostingcouncil.org/page/SealofTestingAssuranceSTA.

Installation:

Install in accordance with current TxDOT specification.

- Use on slopes 3:1 or flatter.
- Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
- When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks

Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end of the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:

New types of mulch and compost filter socks are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT=s construction or maintenance activities. Mulch and compost filter socks used within any TxDOT construction or maintenance activities must meet material specifications in accordance with TxDOT specification 5049. TxDOT maintains a website at https://www.txdot.gov/inside-txdot/division/support/recycling/speclist.html that provides information on compost specification data.

Mulch and compost filter socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used for mulch and compost filter socks, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections '332.71 Sampling and Analysis Requirements for Final Products and '332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product=s specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for mulch and compost filter socks to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC is a laboratory manual that provides protocols for the composting industry and test methods for compost analysis. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. Numerous parameters that might be of concern in compost can be tested by following protocols or test methods listed in TMECC. TMECC information can be found at https://www.compostingcouncil.org/page/tmecc. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at https://www.compostingcouncil.org/page/SealofTestingAssuranceSTA.

Installation:

- Install in accordance with TxDOT Special Specification 5049.
- Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
- Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.

- Inspect and maintain the socks in good condition (including staking, anchoring, etc.). Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

Sedimentation Chambers (only to be used when there is no space available for other approved BMP's)

Description: Sedimentation chambers are stormwater treatment structures that can be used when space is limited such as urban settings. These structures are often tied into stormwater drainage systems for treatment of stormwater prior to entering state waters. The water quality benefits are the removal of sediment and buoyant materials. These structures are not designed as a catch basin or detention basin and not typically used for floodwater attenuation.

Design Considerations: Average rainfall and surface area should be considered when following manufacturer's recommendations for chamber sizing and/or number of units needed to achieve effective TSS removal. If properly sized, 50-80% removal of TSS can be expected.

Maintenance Requirements: Maintenance requirements include routine inspections, sediment, debris and litter removal, erosion control and nuisance control.

CHRISTI CRADDICK, CHAIRMAN
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DANNY SORRELLS
ASSISTANT EXECUTIVE DIRECTOR
DIRECTOR, OIL AND GAS DIVISION
LESLIE SAVAGE, P.G.
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RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

December 18, 2020

Colonel Timothy R. Vail
Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Re: 2020 USACE Nationwide Permits Reissuance
NPWs 2, 3, 6, 7, 8, 12, 14, 16, 18, 19, 20, 25, 38, 43, 46, D and E

Dear Colonel Vail:

This letter is in response to your letter dated October 19, 2020, requesting Clean Water Act Section 401 certification of the United States Army Corps of Engineers (USACE) Nationwide Permits (NWPs), notification of which was published in the September 15, 2020, issue of the Federal Register (85 FR 57298). Regional conditions for NWPs in Texas were proposed in public notices on September 30, 2020 and October 1, 2020.

Texas Natural Resources Code, §91.101, and Texas Water Code, §26.131, grant the RRC jurisdiction for water quality certifications for federal permits covering activities associated with the exploration, development, and production, including pipeline transportation, of oil, gas or geothermal resources that may result in discharges to waters of the United States. No person may conduct any activity subject to RRC jurisdiction pursuant to a USACE permit if that activity may result in a discharge into to waters of the United States within the boundaries of the State of Texas, unless the RRC has first issued a certification or waiver of certification under 16 Texas Administrative Code §3.93 (Rule 93). Although the RRC is responsible for water quality certification of activities under the jurisdiction of the RRC, the Texas Commission on Environmental Quality (TCEQ) establishes the Texas Water Quality Standards. This certification is limited to those activities under the jurisdiction of the RRC. For all other activities, the TCEQ will issue the certification as provided in Texas Water Code §26.131.

This office has reviewed the following proposed NWPs: 2 (Structures in Artificial Canals), 3 (Maintenance), 6 (Survey Activities), 7 (Outfall Structures and Associated Intake Structures), 8 (Oil and Gas Structures on the Outer Continental Shelf), 12 (Utility Line Activities), 14 (Linear Transportation Projects), 16 (Return Water From Upland Contained Disposal Areas), 18 (Minor Discharges), 19 (Minor Dredging), 20 (Oil Spill Cleanup), 25 (Structural Discharges), 38 (Cleanup of Hazardous and Toxic Waste), 43 (Stormwater Management Facilities), 46

(Discharges in Ditches), D (Utility Line Activities for Water and Other Substances), and E (Water Reclamation and Reuse Facilities).

Based on our evaluation of the information contained in these documents, the RRC certifies that the activities authorized by NWPs 2, 8, 20, and E should not result in a violation of Texas Surface Water Quality Standards as required by Section 401 of the Federal Clean Water Act and pursuant to 16 Texas Administrative Code (TAC) §3.93.

The RRC conditionally certifies that the activities authorized by NWPs 3, 6, 7, 12, 14, 16, 18, 19, 25, 38, 43, 46, and D should not result in a violation of Texas Surface Water Quality Standards as required by Section 401 of the Federal Clean Water Act and pursuant to 16 TAC §3.93. Conditions for each NWP are defined in Attachment 1, in accordance with Texas Water Code, §26.003 and 30 TAC §307.5(a), which establish the antidegradation policy. The antidegradation policy and implementation procedures apply to actions regulated under state and federal authority that would increase pollution of the water in the state, including federal permits relating to the discharge of fill or dredged material under Federal Clean Water Act, §404.

Conditions for NWPs 6, 7, 12, 14, 16, 18, 19, 25, 38, 43, 46, and D: Certification of these NWPs is conditioned on inclusion of a prohibition on the use of these NWPs in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District. Impacts to rare and ecologically significant coastal dune swales, mangrove marshes, and Columbia bottomlands, would not be considered minimal. Wetland water quality functions as defined in the Texas Surface Water Quality Standards (30 TAC §307) are attributes of wetlands that protect and maintain the quality of water in the state, which include stormwater storage and retention and the moderation of extreme water level fluctuations; shoreline protection against erosion through the dissipation of wave energy and water velocity, and anchoring of sediments; habitat for aquatic life; and removal, transformation, and retention of nutrients and toxic substances. No discharge can be certified if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other more significant adverse environmental consequences.

Condition for NWP 12 and NWP D: Certification on NWP 12 and NWP D is conditioned on a prohibition on mechanized land clearing in forested wetlands. Wetland water quality functions as defined in the Texas Surface Water Quality Standards (30 TAC §307) are attributes of wetlands that protect and maintain the quality of water in the state, which include stormwater storage and retention and the moderation of extreme water level fluctuations; shoreline protection against erosion through the dissipation of wave energy and water velocity, and anchoring of sediments; habitat for aquatic life; and removal, transformation, and retention of nutrients and toxic substances. No discharge can be certified if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other more significant adverse environmental consequences.

Condition for NWP 16: Certification of NWP 16 is conditioned on inclusion of a limit of 300 mg/L total suspended solids (TSS) concentration on the return water from upland contained dredged material disposal areas. This limit is promulgated as an effluent limit under Title 40 of the Code of Federal Regulations. The requirement has also been included in individual 404 permits.

The RRC is conditionally certifying NWP General Condition #12 *Soil Erosion and Sediment Controls*, and General Condition #25 *Water Quality*. The conditions address three categories of water quality management with specific recommendations for Best Management Practices (BMPs) for each category intended to enhance the water quality protection. A list of recommended BMPs is included as Attachment 2. The BMPs identified in Attachment 2 are in accordance with the Texas Water Code, §26.003 and the antidegradation policy and implementation procedures in 30 TAC §307.5(a), which apply to actions regulated under state and federal authority that would increase pollution of the water in the state, including federal permits relating to the discharge of fill or dredged material under Federal Clean Water Act, §404.

Attachment 3 is provided as a reference for all NWPs. A detailed description of the BMPs is provided in Attachment 4. These BMPs should be included for the protection of waters in the state specific to each NWP as part of the regional conditions for Texas. The conditions identified in Attachment 3 and 4 are in accordance with the Texas Water Code, §26.003 and the antidegradation policy and implementation procedures in 30 TAC §307.5(a), which apply to actions regulated under state and federal authority that would increase pollution of the water in the state, including federal permits relating to the discharge of fill or dredged material under Federal Clean Water Act, §404.

USACE is proposing to remove the 300 linear foot limit for NWP 43 and quantify impacts to streams using a ½-acre limit. Removal of the 300 linear foot limit would also remove the waiver requirement for proposed impacts to streams greater than 300 linear feet. The RRC is concerned about the potential adverse impact to state aquatic resources of the proposed removal of the 300 linear foot limit on stream bed losses. Removing the stream loss limit would mean that stream losses associated with activities covered by this NWP would only be limited by the existing 1/2 -acre limit on overall impacts to waters of the U.S., which could significantly affect state stream resources by allowing upwards of several thousand linear feet of stream impacts under these permits, depending on the dimensions of the streams being impacted. The RRC conditionally certifies this NWP with a cap of 1,500 linear feet on the stream length impacted based on the amount of stream impacts considered minimal by the state. The greater than minimal loss of stream length would result in significant loss of aquatic habitat and degradation of water quality per the state's Antidegradation Policy (30 TAC §307.4(i)) for aquatic life uses and habitat, where vegetative and physical components of the aquatic environment must be maintained or mitigated to protect aquatic life uses.

Certification of General Condition 23 *Mitigation* is conditioned to require USACE to copy RRC on any written notification of a mitigation waiver so that RRC may fulfill its responsibility to ensure water of the state is appropriately protected by understanding the impact of waivers being granted in Texas.

By letter dated November 14, 2020, the Texas Parks and Wildlife Department (TPWC) provided substantive recommendations. TPWD commented that the proposal to replace the 300 linear foot limit with a half-acre limit would greatly increase the amount of stream subject to impact without PCN and the length of stream allowed to be impacted under a NWP. TPWD recommended that Regional Condition 10 be revised to include resource agency coordination for any proposed discharges into mangrove forests or coastal dune swales.

TPWD recommended new Regional Conditions for NWP 3, 6, and 12 include PCN for activities that include general conditions for aquatic life movement, shellfish beds, adverse effects from impoundments, endangered species, designated critical resource waters and notice of fish, shellfish, and other aquatic resource mortality events as it related to the general conditions. The General Conditions cover many of these concerns.

In addition, a new regional condition should prohibit use of NWP 12 for discharges into Critical Resource Water (CRW) (GEMS, State Coastal Preserves, Sanctuaries, state Scientific areas, and Ecologically Significant Stream Segments, and Texas protected Mussel Sanctuaries; as well as state designated areas for known mussel habitat and known occurrences of state-and/or federally-listed freshwater mussels species) and their adjacent wetlands. Discharges of dredged or fill material into waters of the U.S. are not authorized by NWP 12 for any activity within, or directly affecting, Designated Critical Resource Waters, including wetlands adjacent to such waters (General Condition 22). PCN is required for NWPs 3 for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal (General Condition 22). N addition, USACE advised by letter dated December 11, 2020, that USACE may designate, after notice and opportunity for public comment, additional waters having particular environmental or ecological significance. Although the process for designating the requested areas as CRWs was initiated, it has not been completed.

The RRC reserves the right to modify this certification should it be determined that significant cumulative or secondary impacts are occurring as a result of the activities authorized by the USACE under these NPWs.

The RRC has reviewed this proposed action for consistency with the Texas Coastal Management Plan (TCMP) goals and policies, in accordance with the regulations of the TCMP, and has found that the proposed action will have direct and significant adverse effect on any coastal natural resource area identified in the applicable policies, but has determined that the proposed action is consistent with the applicable goals and policies of the TCMP. This consistency determination is conditioned on inclusion in the NWPs of the conditions discussed above, as well as the following conditions:

Under General Condition 18 (Endangered Species), no activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. However, the General Condition does not include such a prohibition on activity that could jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified by the State of Texas. USACE should coordinated with Texas Parks and Wildlife for all discharges, work, dredging activities, or dewatering activities proposed in non-tidal waters in which state and/or federal listed freshwater mussel species are known to occur and/or are within one of the 18 listed Texas protected mussel sanctuaries.

If you require further assistance, please contact me at 512-463-7308 or by email at Leslie.savage@rrc.texas.gov.

Regards,

Leslie Savage

Leslie Savage, Chief Geologist
Oil and Gas Division
Railroad Commission of Texas

Ccs: (Via Electronic mail)
Mr. Stephen Brooks, Branch Chief, U.S. Army Corp of Engineers, Regulatory Branch, Fort Worth
Branch Chief, U.S. Army Corps of Engineers, Albuquerque District
Regulatory Branch Chief, U.S. Army Corps of Engineers, Regulatory Branch, Tulsa
Regulatory Branch Chief, U.S. Army Corps of Engineers, El Paso Regulatory Office
Ms. Leslie Koza, Texas Parks and Wildlife
Ms. Allison Buchtien, Texas General Land Office via e-mail

Attachment 1

Conditions of Section 401 Certification for Nationwide Permits and General Conditions

General Condition 12 (Soil Erosion and Sediment Controls)
Erosion control and sediment control BMPs described in Attachment 2 are required with the use of this general condition. If the applicant does not choose one of the BMPs listed in Attachment 2, an individual 401 certification is required.

General Condition 25 (Water Quality)
Post-construction total suspended solids (TSS) BMPs described in Attachment 2 are required with the use of this general condition. If the applicant does not choose one of the BMP's listed in Attachment 2, an individual 401 certification is required.

General Condition 23 (Mitigation)
The USACE will copy the RRC on all mitigation waivers sent to applicants.

NWP 43
The USACE will copy the RRC on all written approvals of waivers for impacts to ephemeral, intermittent or perennial streams.

NWPs 2, 3, 6, 7, 8, 12, 14, 16, 18, 19, 20, 25, 38, 43, and 46
These *NWPs* are not authorized for use in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District, Texas.

NWP 3 (Maintenance)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 6 (Survey Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 7 (Outfall Structures and Associated Intake Structures)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 12 (Utility Line Activities)
Soil Erosion and Sediment Controls under General Condition 12 are required. Postconstruction TSS controls under General Condition 25 are required.

NWP 14 (Linear Transportation Projects)
Soil Erosion and Sediment Controls under General Condition 12 are required. Postconstruction TSS controls under General Condition 2 5 are required.

NWP 16 (Return Water From Upland Contained Disposal Areas)
Effluent from an upland contained disposal area shall not exceed a TSS concentration of 300 mg/L unless a site-specific TSS limit, or a site specific correlation curve for turbidity (nephelometric turbidity units (NTU)) versus TSS has been approved by TCEQ.

NWP 18 (Minor Discharges)
Soil Erosion and Sediment Controls under General Condition 12 are required. Postconstruction TSS controls under General Condition 2 5 are required.

NWP 19 (Minor Dredging)
Soil Erosion: and Sediment Controls under General Condition 12 are required.

NWP 25 (Structural Discharges)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 38 (Cleanup of Hazardous and Toxic Waste)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 43 (Stormwater Management Facilities)
Soil Erosion and Sediment Controls under General Condition 12 are required.

NWP 46 (Discharges in Ditches)
Soil Erosion and Sediment Controls under General Condition 12 are required.

Attachment 2

401 Water Quality Certification Best Management Practices (BMPs) for Nationwide Permits

I. **Erosion Control**

Disturbed areas must be stabilized to prevent the introduction of sediment to adjacent wetlands or water bodies during wet weather conditions (erosion). *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 14, 18, 19, 25, 38, 43, and 46. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required.
o Temporary Vegetation
o Mulch
o Interceptor Swale
o Erosion Control Compost
o Compost Filter Socks

II. **Sedimentation Control**

o Blankets/Matting
o Sod
o Diversion Dike
o Mulch Filter Socks

Prior to project initiation, the project area must be isolated from adjacent wetlands and water bodies by the use of BMPs to confine sediment. Dredged material shall be placed in such a manner that prevents sediment runoff into water in the state, including wetlands. Water bodies can be isolated by the use of one or more of the required BMPs identified for sedimentation control. These BMP's must be maintained and remain in place until the dredged material is stabilized. *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 14, 18, 19, 25, 38, 43, and 46. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required.
o Sand Bag Berm
o Rock Berm
o Silt Fence
o Triangular Filter Dike
o Stone Outlet Sediment Traps
o Erosion Control Compost
o Compost Filter Socks

III. **Post-Construction TSS Control**

o Hay Bale Dike
o Brush Berms
o Sediment Basins
o Mulch Filter Socks

After construction has been completed and the site is stabilized, total suspended solids (TSS) loadings shall be controlled by *at least one* of the following BMPs for NWPs 12, 14, and 18. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required.

o Retention/Irrigation Systems
o Constructed Wetlands
o Extended Detention Basin
o Wet Basins
o Vegetative Filter Strips
o Vegetation lined drainage ditches
o Grassy Swales
o Sand Filter Systems
o Erosion Control Compost
o Mulch Filter Socks
o Compost Filter Socks
o Sedimentation Chambers*
* Only to be used when there is no space available for other approved BMPs.

IV. NWP 16: Return Water from Upland Contained Disposal Areas
Effluent from an upland contained disposal area shall not exceed a TSS concentration of 300 mg/L unless a site-specific TSS limit, or a site specific correlation curve for turbidity (nephelometric turbidity units (NTU)) versus TSS has been approved by TCEQ.

V. All NWPs except NWP 3
These NWPs are not authorized for use in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District, Texas.

Attachment 3
Reference to Nationwide Permits Best Management Practices Requirements

NWP	Permit Description	Erosion Control	Sediment Control	Post Construction TSS
2	Structures in Artificial Canals			
3	Maintenance	X	X	
6	Survey Activities Trenching	X	X	
7	Outfall Structures and Associated Intake Structures	X	X	
8	Oil and Gas Structures on the Outer Continental Shelf	X	X	
12	Utility Line Activities	X	X	X
14	Liner Transportation Projects	X	X	X
16	Return Water From Upland Contained Disposal Areas			
18	Minor Discharges	X	X	X
19	Minor Dredging	X	X	
20	Response Operations for Oil and Hazardous Substances			
25	Structural Discharges	X	X	
38	Cleanup o Hazardous and Toxic Waste	X	X	
43	Stormwater Management Facilities	X	X	
46	Discharges in Ditches	X	X	

Attachment 4
EROSION CONTROL BMPs

Temporary Vegetation

Description: Vegetation can be used as a temporary or permanent stabilization technique for areas disturbed by construction. Vegetation effectively reduces erosion in swales, stockpiles, berms, mild to medium slopes, and along roadways. Other techniques such as matting, mulches, and grading may be required to assist in the establishment of vegetation.

Materials:

• The type of temporary vegetation used on a site is a function of the season and the availability of water for irrigation.
• Temporary vegetation should be selected appropriately for the area.
• County agricultural extension agents are a good source for suggestions for temporary vegetation.
• All seed should be high quality, U.S. Dept. of Agriculture certified seed.

Installation:

• Grading must be completed prior to seeding.
• Slopes should be minimized.
• Erosion control structures should be installed.
• Seedbeds should be well pulverized, loose, and uniform.
• Fertilizers should be applied at appropriate rates.
• Seeding rates should be applied as recommended by the county agricultural extension agent.
• The seed should be applied uniformly.
• Steep slopes should be covered with appropriate soil stabilization matting.

Blankets and Matting

Description: Blankets and matting material can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are in channels, interceptor swales, diversion dikes, short, steep slopes, and on tidal or stream banks.

Materials:

The Texas Department of Transportation (TxDOT) has defined the critical performance factors for these types of products and has established minimum performance standards which must be met for any product seeking to be approved for use within any of TxDOT's construction or maintenance activities. The products that have been approved by TxDOT are also appropriate for general construction site stabilization. TxDOT maintains a web site at http://www.txdot.gov/business/doing_business/product_evaluation/erosion_control.htm, which is updated as new products are evaluated.

Installation:

• Install in accordance with the manufacturer's recommendations.
• Proper anchoring of the material.
• Prepare a friable seed bed relatively free from clods, rocks and any foreign material.
• Fertilize and seed in accordance with seeding or other type of planting plan.

• Erosion stops should extend beyond the channel liner to full design cross-section of the channel.
• A uniform trench perpendicular to line of flow may be dug with a spade or a mechanical trencher.
• Erosion stops should be deep enough to penetrate solid material or below level of ruling in sandy soils.
• Erosion stop mats should be wide enough to allow turnover at bottom of trench for stapling, while maintaining the top edge flush with channel surface.

Mulch

Description: Mulching is the process of applying a material to the exposed soil surface to protect it from erosive forces and to conserve soil moisture until plants can become established. When seeding critical sites, sites with adverse soil conditions or seeding on other than optimum seeding dates, mulch material should be applied immediately after seeding. Seeding during optimum seeding dates and with favorable soils and site conditions will not need to be mulched.

Materials:
• Mulch may be small grain straw which should be applied uniformly.
• On slopes 15 percent or greater, a binding chemical must be applied to the surface.
• Wood-fiber or paper-fiber mulch may be applied by hydroseeding.
• Mulch nettings may be used.
• Wood chips may be used where appropriate.

Installation:
Mulch anchoring should be accomplished immediately after mulch placement. This may be done by one of the following methods: peg and twine, mulch netting, mulch anchoring tool, or liquid mulch binders.

Description: Sod is appropriate for disturbed areas which require immediate vegetative covers, or where sodding is preferred to other means of grass establishment. Locations particularly suited to stabilization with sod are waterways carrying intermittent flow, areas around drop inlets or in grassed swales, and residential or commercial lawns where quick use or aesthetics are factors. Sod is composed of living plants and those plants must receive adequate care to provide vegetative stabilization on a disturbed area.

Materials:
• Sod should be machine cut at a uniform soil thickness.
• Pieces of sod should be cut to the supplier's standard width and length.
• Torn or uneven pads are not acceptable.
• Sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp.
• Sod should be harvested, delivered, and installed within a period of 36 hours.

Installation:
• Areas to be sodded should be brought to final grade.
• The surface should be cleared of all trash and debris.

• Fertilize according to soil tests.
• Fertilizer should be worked into the soil.
• Sod should not be cut or laid in excessively wet or dry weather.
• Sod should not be laid on soil surfaces that are frozen.
• During periods of high temperature, the soil should be lightly irrigated.
• The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other.
• Lateral joints should be staggered to promote more uniform growth and strength.
• Wherever erosion may be a problem, sod should be laid with staggered joints and secured.
• Sod should be installed with the length perpendicular to the slope (on the contour).
• Sod should be rolled or tamped.
• Sod should be irrigated to a sufficient depth.
• Watering should be performed as often as necessary to maintain soil moisture.
• The first mowing should not be attempted until the sod is firmly rooted.
• Not more than one third of the grass leaf should be removed at any one cutting.

Interceptor Swale

Interceptor swales are used to shorten the length of exposed slope by intercepting runoff, prevent off-site runoff from entering the disturbed area, and prevent sediment-laden runoff from leaving a disturbed site. They may have a v-shape or be trapezoidal with a flat bottom and side slopes of 3:1 or flatter. The outflow from a swale should be directed to a stabilized outlet or sediment trapping device. The swales should remain in place until the disturbed area is permanently stabilized.

Materials:

• Stabilization should consist of a layer of crushed stone three inches thick, riprap or high velocity erosion control mats.
• Stone stabilization should be used when grades exceed 2% or velocities exceed 6 feet per second.
• Stabilization should extend across the bottom of the swale and up both sides of the channel to a minimum height of three inches above the design water surface elevation based on a 2-year, 24-hour storm.

Installation:

• An interceptor swale should be installed across exposed slopes during construction and should intercept no more than 5 acres of runoff.
• All earth removed and not needed in construction should be disposed of in an approved spoils site so that it will not interfere with the functioning of the swale or contribute to siltation in other areas of the site.
• All trees, brush, stumps, obstructions and other material should be removed and disposed of so as not to interfere with the proper functioning of the swale.
• Swales should have a maximum depth of 1.5 feet with side slopes of 3:1 or flatter. Swales should have positive drainage for the entire length to an outlet.
• When the slope exceeds 2 percent, or velocities exceed 6 feet per second (regardless of slope), stabilization is required. Stabilization should be crushed stone placed in a layer of at least 3 inches thick or may be high velocity erosion control matting. Check dams are also

recommended to reduce velocities in the swales possibly reducing the amount of stabilization necessary.
• Minimum compaction for the swale should be 90% standard proctor density.

Diversion Dikes
A temporary diversion dike is a barrier created by the placement of an earthen embankment to reroute the flow of runoff to an erosion control device or away from an open, easily erodible area. A diversion dike intercepts runoff from small upland areas and diverts it away from exposed slopes to a stabilized outlet, such as a rock berm, sandbag berm, or stone outlet structure. These controls can be used on the perimeter of the site to prevent runoff from entering the construction area. Dikes are generally used for the duration of construction to intercept and reroute runoff from disturbed areas to prevent excessive erosion until permanent drainage features are installed and/or slopes are stabilized.

Materials:
• Stone stabilization (required for velocities in excess of 6 fps) should consist of riprap placed in a layer at least 3 inches thick and should extend a minimum height of 3 inches above the design water surface up the existing slope and the upstream face of the dike.
• Geotextile fabric should be a non-woven polypropylene fabric designed specifically for use as a soil filtration media with an approximate weight of 6 oz./yd2, a Mullen burst rating of 140 psi, and having an equivalent opening size (EOS) greater than a #50 sieve.

Installation:
• Diversion dikes should be installed prior to, and maintained for the duration of, construction and should intercept no more than 10 acres of runoff.
• Dikes should have a minimum top width of 2 feet and a minimum height of compacted fill of 18 inches measured form the top of the existing ground at the upslope toe to top of the dike and have side slopes of 3:1 or flatter.
• The soil for the dike should be placed in lifts of 8 inches or less and be compacted to 95 % standard proctor density .
• The channel, which is formed by the dike, must have positive drainage for its entire length to an outlet.
• When the slope exceeds 2 percent, or velocities exceed 6 feet per second (regardless of slope), stabilization is required. In situations where velocities do not exceed 6 feet per second, vegetation may be used to control erosion.

Erosion Control Compost
Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:
ECC used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal

Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter 332, including Sections §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for ECC to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC information can be found at http://www.tmecc.org/tmecc/index.html. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at http://tmecc.org/sta/STA_program_description.html.

Installation:
- Install in accordance with current TxDOT specification.
- Use on slopes 3:1 or flatter.
- Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
- When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks

Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end of the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:
Mulch and compost filter socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used for mulch and compost filter socks, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter

332, including Sections §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for mulch and compost filter socks to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC information can be found at http://www.tmecc.org/tmecc/index.html. The USCC Seal of Testing Assurance (ST A) program contains information regarding compost ST A certification. STA program information can be found at http://tmecc.org/sta/STA_program_description.html.

Installation:
• Install in accordance with TxDOT Special Specification 5049.
• Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
• Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.
• Inspect and maintain the socks in good condition (including staking, anchoring, etc.). Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

SEDIMENT CONTROL BMPS

Sand Bag Berm

Description: The purpose of a sandbag berm is to detain sediment carried in runoff from disturbed areas by intercepting runoff and causing it to pool behind the sand bag berm. Sediment carried in the runoff is deposited on the upstream side of the sand bag berm due to the reduced flow velocity. Excess runoff volumes are allowed to flow over the top of the sand bag berm. Sand bag berms are used only during construction activities in streambeds when the contributing drainage area is between 5 and 10 acres and the slope is less than 15%, i.e., pipeline construction in channels, temporary channel crossing for construction equipment, etc. Plastic facing should be installed on the upstream side and the berm should be anchored to the streambed by drilling into the rock and driving in T-posts or rebar (#5 or #6) spaced appropriately.

Materials:
• The sand bag material should be polypropylene, polyethylene, polyamide or cotton burlap woven fabric, minimum unit weight 4 oz/yd 2, mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
• The bag length should be 24 to 30 inches, width should be 16 to 18 inches and thickness should be 6 to 8 inches.

• Sandbags should be filled with coarse grade sand and free from deleterious material. All sand should pass through a No. 10 sieve. The filled bag should have an approximate weight of 40 pounds.
• Outlet pipe should be schedule 40 or stronger polyvinyl chloride (PVC) having a nominal internal diameter of 4 inches.

Installation:
• The berm should be a minimum height of 18 inches, measured from the top of the existing ground at the upslope toe to the top of the berm.
• The berm should be sized as shown in the plans but should have a minimum width of 48 inches measured at the bottom of the berm and 16 inches measured at the top of the berm.
• Runoff water should flow over the tops of the sandbags or through 4-inch diameter PVC pipes embedded below the top layer of bags.
• When a sandbag is filled with material, the open end of the sandbag should be stapled or tied with nylon or poly cord.
• Sandbags should be stacked in at least three rows abutting each other, and in staggered arrangement.
• The base of the berm should have at least 3 sandbags. These can be reduced to 2 and 1 bag in the second and third_ rows respectively.
• For each additional 6 inches of height, an additional sandbag must be added to each row width.
• A bypass pump-around system, or similar alternative, should be used on conjunction with the berm for effective dewatering of the work area.

Silt Fence

Description: A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. Silt fences can be highly effective at controlling sediment from disturbed areas by causing runoff to pond, allowing heavier solids to settle. The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow. Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Materials:
• Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in 2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
• Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft 2, and Brindell hardness exceeding 140.

• Woven wire backing to support the fabric should be galvanized 2-inch x 4-inch welded wire, 12 gauge minimum.

Installation:

• Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1 foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
• Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is * acre/100 feet of fence.
• The toe of the silt fence should be trenched in with a spade or mechanical trencher so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in, weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
• The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
• Silt fence should be securely fastened to each steel support post or to woven wire attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

Triangular Sediment Filter Dike

Description: The purpose of a triangular sediment filter dike is to intercept and detain water-borne sediment from unprotected areas of limited extent. The triangular sediment filter dike is used where there is no concentration of water in a channel or other drainage way above the barrier and the contributing drainage area is less than one acre. If the uphill slope above the dike exceeds 10%, the length of the slope above the dike should be less than 50 feet. If concentrated flow occurs after installation, corrective action should be taken such as placing rock berm in the areas of concentrated flow. This measure is effective on paved areas where installation of silt fence is not possible or where vehicle access must be maintained. The advantage of these controls is the ease with which they can be moved to allow vehicle traffic and then reinstalled to maintain sediment.

Materials:

• Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in 2 , ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
• The dike structure should be 6 gauge 6-ing x 6-inch wire mesh folded into triangular form being eighteen (18) inches on each side.

Installation:

• The frame of the triangular sediment filter dike should be constructed of 6-inch x 6-inch, 6 gauge welded wire mesh, 18 inches per side, and wrapped with geotextile fabric the same composition as that used for silt fences.
• Filter material should lap over ends 6 inches to cover dike to dike junction; each junction should be secured by shoat rings.

• Position dike parallel to the contours, with the end of each section closely abutting the adjacent sections.
• There are several options for fastening the filter dike to the ground. The fabric skirt may be toed-in with 6 inches of compacted material, or 12 inches of the fabric skirt should extend uphill and be secured with a minimum of 3 inches of open graded rock, or with staples or nails. If these two options are not feasible the dike structure may be trenched in 4 inches.
• Triangular sediment filter dikes should be installed across exposed slopes during construction with ends of the dike tied into existing grades to prevent failure and should intercept no more than one acre of runoff.
• When moved to allow vehicular access, the dikes should be reinstalled as soon as possible, but always at the end of the workday.

Rock Berm

Description: The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but can withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows. Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures further up the watershed.

Materials:
• The berm structure should be secured with a woven wire sheathing having maximum opening of one inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
• Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:
• Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
• Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
• Place the rock along the sheathing to a height not less than 18 inches.
• Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
• Berm should be built along the contour at zero percent grade or as near as possible.
• The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

Hay Bale Dike

Description: The purpose of a hay or straw bale dike is to intercept and detain small amounts of sediment-laden runoff from relatively small unprotected areas. Straw bales are to be used when it is not feasible to install other, more effective measures or when the construction phase is expected to last less than 3 months. Straw bales should not be used on areas where rock or other hard surfaces prevent the full and uniform anchoring of the barrier.

Materials:
Straw: The best quality straw mulch comes from wheat, oats or barley and should be free of weed and grass seed which may not be desired vegetation for the area to be protected. Straw mulch is light and therefore must be properly anchored to the ground.
Hay: This is very similar to straw with the exception that it is made of grasses and weeds and not grain stems. This form of mulch is very inexpensive and is widely available but does introduce weed and grass seed to the area. Like straw, hay is light and must be anchored.
• Straw bales should weigh a minimum of 50 pounds and should be at least 30 inches long.
• Bales should be composed entirely of vegetable matter and be free of seeds.
• Binding should be either wire or nylon string, jute or cotton binding is unacceptable.
Bales should be used for not more than two months before being replaced.

Installation:
• Bales should be embedded a minimum of 4 inches and securely anchored using 2-inch x 2-inch wood stakes or 3/8-inch diameter rebar driven through the bales into the ground a minimum of 6 inches.
• Bales are to be placed directly adjacent to one another leaving no gap between them.
• All bales should be placed on the contour.
• The first stake in each bale should be angled toward the previously laid bale to force the bales together.

Brush Berms

Organic litter and spoil material from site clearing operations is usually burned or hauled away to be dumped elsewhere. Much of this material can be used effectively on the construction site. The key to constructing an efficient brush berm is in the method used to obtain and place the brush. It will not be acceptable to simply take a bulldozer and push whole trees into a pile as this does not assure continuous ground contact with the berm and will allow uncontrolled flows under the berm. Brush berms may be used where there is little or no concentration of water in a channel or other drainage way above the berm. The size of the drainage area should be no greater than one-fourth of an acre per 100 feet of barrier length; the maximum slope length behind the barrier should not exceed 100 feet; and the maximum slope gradient behind the barrier should be less than 50% (2:1).

Materials:
• The brush should consist of woody brush and branches, preferably less than 2 inches in diameter.
• The filter fabric should conform to the specifications for filter fence fabric.
• The rope should be 1/4 - inch polypropylene or nylon rope.
• The anchors should be 3/8-inch diameter rebar stakes that are 18-inches long.

Installation:
• Lay out the brush berm following the contour as closely as possible.

• The juniper limbs should be cut and hand placed with the vegetated part of the limb in close contact with the ground. Each subsequent branch should overlap the previous branch providing a shingle effect.
• The brush berm should be constructed in lifts with each layer extending the entire length of the berm before the next layer is started.
• A trench should be excavated 6-inches wide and 4-inches deep along the length of the barrier and immediately uphill from the barrier.
• The filter fabric should be cut into lengths sufficient to lay across the barrier from its up-slope base to just beyond its peak. The lengths of filter fabric should be draped across the width of the barrier with the uphill edge placed in the trench and the edges of adjacent pieces overlapping each other. Where joints are necessary, the fabric should be spliced together with a minimum 6-inch overlap and securely sealed.
• The trench should be backfilled and the soil compacted over the filter fabric.
• Set stakes into the ground along the downhill edge of the brush barrier, and anchor the fabric by tying rope from the fabric to the stakes. Drive the rope anchors into the ground at approximately a 45-degree angle to the ground on 6-foot centers.
• Fasten the rope to the anchors and tighten berm securely to the ground with a minimum tension of 50 pounds.
• The height of the brush berm should be a minimum of 24 inches after the securing ropes have been tightened.

Stone Outlet Sediment Traps

A stone outlet sediment trap is an impoundment created by the placement of an earthen and stone embankment to prevent soil and sediment loss from a site. The purpose of a sediment trap is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way below the sediment trap from sedimentation. A sediment trap is usually installed at points of discharge from disturbed areas. The drainage area for a sediment trap is recommended to be less than 5 acres.

Larger areas should be treated using a sediment basin. A sediment trap differs from a sediment basin mainly in the type of discharge structure. The trap should be located to obtain the maximum storage benefit from the terrain, for ease of clean out and disposal of the trapped sediment and to minimize interference with construction activities. The volume of the trap should be at least 3600 cubic feet per acre of drainage area.

Materials:
• All aggregate should be at least 3 inches in diameter and should not exceed a volume of 0. 5 cubic foot.
• The geotextile fabric specification should be woven polypropylene, polyethylene or polyamide geotextile, minimum unit weight of 4.5 oz/yd 2, mullen burst strength at least 2 50 lb/in 2, ultraviolet stability exceeding 70%, and equivalent opening size exceeding 40.

Installation:
• Earth Embankment: Place fill material in layers not more than 8 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the material. Compact each layer to 95% standard proctor density. Do not place material on

surfaces that are muddy or frozen. Side slopes for the embankment are to be 3: 1. The minimum width of the embankment should be 3 feet.
• A gap is to be left in the embankment in the location where the natural confluence of runoff crosses the embankment line. The gap is to have a width in feet equal to 6 times the drainage area in acres.
• Geotextile Covered Rock Core: A core of filter stone having a minimum height of 1.5 feet and a minimum width at the base of 3 feet should be placed across the opening of the earth embankment and should be covered by geotextile fabric which should extend a minimum distance of 2 feet in either direction from the base of the filter stone core.
• Filter Stone Embankment: Filter stone should be placed over the geotextile and is to have a side slope which matches that of the earth embankment of 3:1 and should cover the geotextile/rock core a minimum of 6 inches when installation is complete. The crest of the outlet should be at least 1 foot below the top of the embankment.

Sediment Basins:
The purpose of a sediment basin is to intercept sediment-laden runoff and trap the sediment to protect drainage ways, properties and rights of way below the sediment basin from sedimentation. A sediment basin is usually installed at points of discharge from disturbed areas. The drainage area for a sediment basin is recommended to be less than 100 acres.

Sediment basins are effective for capturing and slowly releasing the runoff from larger disturbed areas thereby allowing sedimentation to take place. A sediment basin can be created where a permanent pond BMP is being constructed. Guidelines for construction of the permanent BMP should be followed, but revegetation, placement of underdrain piping, and installation of sand or other filter media should not be carried out until the site construction phase is complete.
Materials:
• Riser should be corrugated metal or reinforced concrete pipe or box and should have watertight fittings or end to end connections of sections.
• An outlet pipe of corrugated metal or reinforced concrete should be attached to the riser and should have positive flow to a stabilized outlet on the downstream side of the embankment.
• An anti-vortex device and rubbish screen should be attached to the top of the riser and should be made of polyvinyl chloride or corrugated metal.

Basin Design and Construction:
• For common drainage locations that serve an area with ten or more acres disturbed at one time, a sediment basin should provide storage for a volume of runoff from a two-year, 24-hour storm from each disturbed acre drained.
• The basin length to width ratio should be at least 2:1 to improve trapping efficiency. The shape may be attained by excavation or the use of baffles. The lengths should be measured at the elevation of the riser de-watering hole.
• Place fill material in layers not more than 8 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the material. Compact each layer to 95% standard proctor density. Do not place material on surfaces that are muddy or frozen. Side slopes for the embankment should be 3:1 (H:V).

• An emergency spillway should be installed adjacent to the embankment on undisturbed soil and should be sized to carry the full amount of flow generated by a 10-year, 3-hour storm with 1 foot of freeboard less the amount which can be carried by the principal outlet control device.
• The emergency spillway should be lined with riprap as should the swale leading from the spillway to the normal watercourse at the base of the embankment.
• The principal outlet control device should consist of a rigid vertically oriented pipe or box of corrugated metal or reinforced concrete. Attached to this structure should be a horizontal pipe, which should extend through the embankment to the toe of fill to provide a de-watering outlet for the basin.
• An anti-vortex device should be attached to the inlet portion of the principal outlet control device to serve as a rubbish screen.
• A concrete base should be used to anchor the principal outlet control device and should be sized to provide a safety factor of 1.5 (downward forces= 1.5 buoyant forces).
• The basin should include a permanent stake to indicate the sediment level in the pool and marked to indicate when the sediment occupies 50% of the basin volume (not the top of the stake).
• The top of the riser pipe should remain open and be guarded with a trash rack and anti-vortex device. The top of the riser should be 12 inches below the elevation of the emergency spillway. The riser should be sized to convey the runoff from the 2-year, 3-hour storm when the water surface is at the emergency spillway elevation. For basins with no spillway the riser must be sized to convey the runoff from the 10-yr, 3-hour storm.
• Anti-seep collars should be included when soil conditions or length of service make piping through the backfill a possibility.
• The 48-hour drawdown time will be achieved by using a riser pipe perforated at the point measured from the bottom of the riser pipe equal to 1/2 the volume of the basin. This is the maximum sediment storage elevation. The size of the perforation may be calculated as follows:

$$Ao = \frac{As \times \sqrt{2h}}{Cd \times 980{,}000}$$

Where:
A_s = Area of the de-watering hole, ft 2
A_o = Surface area of the basin, ft 2
Cd = Coefficient of contraction, approximately 0.6
h = head of water above the hole, ft
Perforating the riser with nultiple holes in a combined surface area equal to A_o is acceptable.

Erosion Control Compost

Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:

ECC used for projects not related to TxDOT should be of quality materials by meeting performance standards and compost specification data. Products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter 332, including Sections §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for ECC to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC provides protocols to sample, monitor, and analyze materials during all stages of the composting process. TMECC information can be found at http://www.tmecc.org/tmecc/index.html. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at http://tmecc.org/sta/STA_program_description.html.

Installation:

- Install in accordance with current TxDOT specification.
- Use on slopes 3:1 or flatter.
- Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
- When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks

Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end nf the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:
Mulch and compost filter socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used for mulch and compost filter socks, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter 332, including Sections §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

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Installation:
• Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
• Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.
• Inspect and maintain the socks in good condition (including staking, anchoring, etc.). Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

POST-CONSTRUCTION TSS CONTROLS

Retention/Irrigation Systems

Description: Retention/irrigation systems refer to the capture of runoff in a holding pond, then use of the captured water for irrigation of appropriate landscape areas. Retention/irrigation systems are characterized by the capture and disposal of runoff without direct release of captured flow to receiving streams. Retention systems exhibit excellent pollutant removal but require regular, proper maintenance.

Design Considerations: Retention/irrigation practices achieve 100% removal efficiency of total suspended solids contained within the volume of water captured. Design elements of retention/irrigation systems include runoff storage facility configuration and sizing, pump and wet well system components, basin lining, basin detention time, and physical and operational components of the irrigation system. Retention/irrigation systems are appropriate for large drainage areas with low to moderate slopes. The retention capacity should be sufficient considering the average rainfall event for the area.

Maintenance Requirements: Maintenance requirements for retention/irrigation systems include routine inspections, sediment removal, mowing, debris and litter removal, erosion control, and nuisance control.

Extended Detention Basin

Description: Extended detention facilities are basins that temporarily store a portion of stormwater runoff following a storm event. Extended detention basins are normally used to remove particulate pollutants and to reduce maximum runoff rates associated with development to their pre-development levels. The water quality benefits are the removal of sediment and buoyant materials. Furthermore, nutrients, heavy metals, toxic materials, and oxygen-demanding materials associated with the particles also are removed. The control of the maximum runoff rates serves to protect drainage channels below the device from erosion and to reduce downstream flooding.

Design Considerations: Extended detention basins can remove approximately 75% of the total suspended solids contained within the volume of runoff captured in the basin. Design elements of extended detention basins include basin sizing, basin configuration, basin side slopes, basin lining, inlet/outlet structures, and erosion controls. Extended detention basins are appropriate for large drainage areas with low to moderate slopes. The retention capacity should be sufficient considering the average rainfall event for the area.

Maintenance Requirements: Maintenance requirements for extended detention basins include routine inspections, mowing, debris and litter removal, erosion control, structural repairs, nuisance control, and sediment removal.

Vegetative Filter Strips

Description: Filter strips, also known as vegetated buffer strips, are vegetated sections of land similar to grassy swales except they are essentially flat with low slopes, and are designed only to accept runoff as overland sheet flow. They may appear in any vegetated form from grassland to forest, and are designed to intercept upstream flow, lower flow velocity, and spread water out as sheet flow. The dense vegetative cover facilitates conventional pollutant removal through detention, filtration by vegetation, and infiltration. Filter strips cannot treat high velocity flows, and do not provide enough storage or infiltration to effectively reduce peak discharges to predevelopment levels for design storms. This lack of quantity control favors use in rural or low-density development; however, they can provide water quality benefits even where the impervious cover is as high as 50%.

Flat slopes and low to fair permeability of natural subsoil are required for effective performance of filter strips. Although an inexpensive control measure, they are most useful in contributing watershed areas where peak runoff velocities are low as they are unable to treat the high flow

velocities typically associated with high impervious cover. Successful performance of filter strips relies heavily on maintaining shallow unconcentrated flow. To avoid flow channelization and maintain performance, a filter strip should:
• Be equipped with a level spreading device for even distribution of runoff
• Contain dense vegetation with a mix of erosion resistant, soil binding species
• Be graded to a uniform, even and relatively low slope
• Laterally traverse the contributing runoff area

Filter strips can be used upgradient from watercourses, wetlands, or other water bodies along toes and tops of slopes and at outlets of other stormwater management structures. They should be incorporated into street drainage and master drainage planning. The most important criteria for selection and use of this BMP are soils, space, and slope.

Design Considerations: Vegetative filter strips can remove approximately 85% of the total suspended solids contained within the volume of runoff captured. Design elements of vegetative filter strips include uniform, shallow overland flow across the entire filter strip area, hydraulic loading rate, inlet structures, slope, and vegetative cover. The area should be free of gullies or rills which can concentrate flow. Vegetative filter strips are appropriate for small drainage areas with moderate slopes. Other design elements include the following:
• Soils and moisture are adequate to grow relatively dense vegetative stands
• Sufficient space is available
• Slope is less than 12%
• Comparable performance to more expensive structural controls

Maintenance Requirements: Maintenance requirements for vegetative filter strips include pest management, seasonal mowing and lawn care, routine inspections, debris and litter removal, sediment removal, and grass reseeding and mulching.

Constructed Wetlands
Description: Constructed wetlands provide physical, chemical, and biological water quality treatment of stormwater runoff. Physical treatment occurs as a result of decreasing flow velocities in the wetland, and is present in the form of evaporation, sedimentation, adsorption, and/or filtration. Chemical processes include chelation, precipitation, and chemical adsorption. Biological processes include decomposition, plant uptake and removal of nutrients, plus biological transformation and degradation. Hydrology is one of the most influential factors in pollutant removal due to its effects on sedimentation, aeration, biological transformation, and adsorption onto bottom sediments. The wetland should be designed such that a minimum amount of maintenance is required. The natural surroundings, including such things as the potential energy of a stream or flooding river, should be utilized as much as possible. The wetland should approximate a natural situation and unnatural attributes, such as rectangular shape or rigid channel, should be avoided.

Site considerations should include the water table depth, soil/substrate, and space requirements. Because the wetland must have a source of flow, it is desirable that the water table is at or near the surface. If runoff is the only source of inflow for the wetland, the water level often fluctuates and establishment of vegetation may be difficult. The soil or substrate of an artificial wetland should be loose loam to clay. A perennial baseflow must be present to sustain the artificial wetland. The presence of organic material is often helpful in increasing pollutant removal and retention. A greater amount of space is required for a wetland system than is required for a detention facility treating the same amount of area.

Design Considerations: Constructed wetlands can remove over 90% of the total suspended solids contained within the volume of runoff captured in the wetland. Design elements of constructed wetlands include wetland sizing, wetland configuration, sediment forebay, vegetation, outflow structure, depth of inundation during storm events, depth of micropools, and aeration. Constructed wetlands are appropriate for large drainage areas with low to moderate slopes.

Maintenance Requirements: Maintenance requirements for constructed wetlands include mowing, routine inspections, debris and litter removal, erosion control, nuisance control, structural repairs, sediment removal, harvesting, and maintenance of water levels.

Wet Basins

Description: Wet basins are runoff control facilities that maintain a permanent wet pool and a standing crop of emergent littoral vegetation. These facilities may vary in appearance from natural ponds to enlarged, bermed (manmade) sections of drainage systems and may function as online or offline facilities, although offline configuration is preferable. Offline designs can prevent scour and other damage to the wet pond and minimize costly outflow structure elements needed to accommodate extreme runoff events. During storm events, runoff inflows displace part or all of the existing basin volume and are retained and treated in the facility until the next storm event. The pollutant removal mechanisms are settling of solids, wetland plant uptake, and microbial degradation. When the wet basin is adequately sized, pollutant removal performance can be excellent, especially for the dissolved fraction. Wet basins also help provide erosion protection for the receiving channel by limiting peak flows during larger storm events. Wet basins are often perceived as a positive aesthetic element in a community and off er significant opportunity for creative pond configuration and landscape design. Participation of an experienced wetland designer is suggested. A significant potential drawback for wet ponds in arid climates is that the contributing watershed for these facilities is often incapable of providing an adequate water supply to maintain the permanent pool, especially during the summer months. Makeup water (i.e., well water or municipal drinking water) is sometimes used to supplement the rainfall/runoff process, especially for wet basin facilities treating watersheds that generate insufficient runoff.

Design Considerations: Wet basins can remove over 90% of the total suspended solids contained within the volume of runoff captured in the basin. Design elements of wet basins include basin sizing, basin configuration, basin side slopes, sediment forebay, inflow and outflow structures, vegetation, depth of permanent pool, aeration, and erosion control. Wet basins are appropriate for large drainage areas with low to moderate slopes.

Maintenance Requirements: Maintenance requirements for wet basins include mowing, routine inspections, debris and litter removal, erosion control, nuisance control, structural repairs, sediment removal, and harvesting.

Grassy Swales

Grassy swales are vegetated channels that convey stormwater and remove pollutants by filtration through grass and infiltration through soil. They require shallow slopes and soils that drain well. Pollutant removal capability is related to channel dimensions, longitudinal slope, and type of vegetation. Optimum design of these components will increase contact time of runoff through the swale and improve pollutant removal rates. Grassy swales are primarily stormwater conveyance systems. They can provide sufficient control under light to moderate runoff conditions, but their ability to control large storms is limited. Therefore, they are most applicable in low to moderate sloped areas or along highway medians as an alternative to ditches and curb and gutter drainage. Their performance diminishes sharply in highly urbanized settings, and they are generally not effective enough to receive construction stage runoff where high sediment loads can overwhelm the system. Grassy swales can be used as a pretreatment measure for other downstream BMPs, such as extended detention basins. Enhanced grassy swales use check dams and wide depressions to increase runoff storage and promote greater settling of pollutants. Grassy swales can be more aesthetically pleasing than concrete or rock-lined drainage systems and are generally less expensive to construct and maintain. Swales can slightly reduce impervious area and reduce the pollutant accumulation and delivery associated with curbs and gutters. The disadvantages of this technique include the possibility of erosion and channelization over time, and the need for more right-of-way as compared to a storm drain system. When properly constructed, inspected, and maintained, the life expectancy of a swale is estimated to be 20 years.

Design Considerations:

- Comparable performance to wet basins
- Limited to treating a few acres
- Availability of water during dry periods to maintain vegetation
- Sufficient available land area

The suitability of a swale at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the swale system. In general, swales can be used to serve areas of less than 10 acres, with slopes no greater than 5 %. The seasonal high water table should be at least 4 feet below the surface. Use of natural topographic lows is encouraged, and natural drainage courses should be regarded as significant local resources to be kept in use.

Maintenance Requirements:

Research in the Austin area indicates that vegetated controls are effective at removing pollutants even when dormant. Therefore, irrigation is not required to maintain growth during dry periods, but may be necessary only to prevent the vegetation from dying.

Vegetation Lined Drainage Ditches

Vegetation lined drainage ditches are similar to grassy swales. These drainage ditches are vegetated channels that convey storm water and remove pollutants by filtration through grass and infiltration through soil. They require soils that drain well. Pollutant removal capability is related to channel dimensions, longitudinal slope, and type of vegetation. Optimum design of these components will increase contact time of runoff through the ditch and improve pollutant removal rates. Vegetation lined drainage ditches are primarily storm water conveyance systems. They have vegetation lined in the low flow channel and may include vegetated shelves. Vegetation in drainage ditches reduces erosion and removes pollutants by lowering water velocity over the soil surface, binding soil particles with roots, and by filtration through grass and infiltration through soil. Vegetation lined drainage ditches can be used where:

• A vegetative lining can provide sufficient stability for the channel grade by increasing maximum permissible velocity
• Slopes are generally less than 5%, with protection from sheer stress as needed through the use of BMPs, such as erosion control blankets
• Site conditions required to establish vegetation, i.e. climate, soils, topography, are present

Design Criteria: The suitability of a vegetation lined drainage ditch at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the ditch system. The hydraulic capacity of the drainage ditch and other elements such as erosion, siltation, and pollutant removal capability, must be taken into consideration. Use of natural topographic lows is encouraged, and natural drainage courses should be regarded as significant local resources to be kept in use. Other items to consider include the following:

• Capacity, cross-section shape, side slopes, and grade
• Select appropriate native vegetation
• Construct in stable, low areas to conform with the natural drainage system. To reduce erosion potential, design the channel to avoid sharp bends and steep grades.
• Design and build drainage ditches with appropriate scour and erosion protection. Surface water should be able to enter over the vegetated banks without erosion occurring.
• BMPs, such as erosion control blankets, may need to be installed at the time of seeding to provide stability until the vegetation is fully established. It may also be necessary to divert water from the channel until vegetation is established or to line the channel with sod.
• Vegetated ditches must not be subject to sedimentation from disturbed areas.
• Sediment traps may be needed at channel inlets to prevent entry of muddy runoff and channel sedimentation.
• Availability of water during dry periods to maintain vegetation
• Sufficient available land area

Maintenance:

During establishment, vegetation lined drainage ditches should be inspected, repaired, and vegetation reestablished if necessary. After the vegetation has become established, the ditch should be checked periodically to determine if the channel is withstanding flow velocities without damage. Check the ditch for debris, scour, or erosion and immediately make repairs if needed. Check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes and make repairs immediately. Remove all significant sediment accumulations to maintain the designed carrying capacity. Keep the vegetation in a healthy condition at all times, since it is the primary erosion protection for the channel. Vegetation lined drainage ditches should be seasonally maintained by mowing or irrigating, depending on the vegetation selected. The long-term management of ditches as stable, vegetated, "natural" drainage systems with native vegetation buffers is highly recommended due to the inherent stability offered by grasses, shrubs, trees, and other vegetation.

Sand Filter Systems

The objective of sand filters is to remove sediment and the pollutants from the first flush of pavement and impervious area runoff. The filtration of nutrients, organics, and coliform bacteria is enhanced by a mat of bacterial slime that develops during normal operations. One of the main advantages of sand filters is their adaptability; they can be used on areas with thin soils, high evaporation rates, low-soil infiltration rates, in limited-space areas, and where groundwater is to be protected. There have been numerous alterations or variations in the original design as engineers in other jurisdictions have improved and adapted the technology to meet their specific requirements. Major types include the Austin Sand Filter, the District of Columbia Underground Sand Filter, the Alexandria Dry Vault Sand Filter, the Delaware Sand Filter, and peat-sand filters which are adapted to provide a sorption layer and vegetative cover to various sand filter designs.

Design Considerations:

- Appropriate for space-limited areas
- Applicable in arid climates where wet basins and constructed wetlands are not appropriate
- High TSS removal efficiency

Cost Considerations:

Filtration Systems may require less land than some other BMPs, reducing the land acquisition cost; however the structure itself is one of the more expensive BMPs. In addition, maintenance cost can be substantial.

Erosion Control Compost

Description: Erosion control compost (ECC) can be used as an aid to control erosion on critical sites during the establishment period of protective vegetation. The most common uses are on steep slopes, swales, diversion dikes, and on tidal or stream banks.

Materials:

ECC used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter 332, including Sections §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

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Installation:
• Install in accordance with current TxDOT specification.
• Use on slopes 3:1 or flatter.
• Apply a 2-inch uniform layer unless otherwise shown on the plans or as directed.
• When rolling is specified, use a light corrugated drum roller.

Mulch and Compost Filter Socks
Description: Mulch and compost filter socks (erosion control logs) are used to intercept and detain sediment laden run-off from unprotected areas. When properly used, mulch and compost filter socks can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond which allows heavier solids to settle. Mulch and compost filter socks are used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. The sock should remain in place until the area is permanently stabilized. Mulch and compost filter socks may be installed in construction areas and temporarily moved during the day to allow construction activity provided it is replaced and properly anchored at the end of the day. Mulch and compost filter socks may be seeded to allow for quick vegetative growth and reduction in run-off velocity.

Materials:
Mulch and compost filter socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used for mulch and compost filter socks, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and TCEQ Health and Safety Regulations as defined in the Texas Administration Code (TAC), Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. TCEQ testing requirements are defined in TAC Chapter 332, including §332.71 (Sampling and Analysis Requirements for Final Products) and §332.72 (Final Product Grades). Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product.es specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products used for mulch and compost filter socks to ensure that the products used will not impact public health, safety, and the environment and to promote production and marketing of quality composts that meet analytical standards. TMECC information can be found at http://www.tmecc.org/tmecc/index.html. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at http://tmecc.org/sta/STA_program_description.html.

Installation:
• Install in accordance with TxDOT Special Specification 5049.
• Install socks (erosion control logs) near the downstream perimeter of a disturbed area to intercept sediment from sheet flow.
• Secure socks in a method adequate to prevent displacement as a result of normal rain events such that flow is not allowed under the socks.
• Inspect and maintain the socks in good condition (including staking, anchoring, etc.). Maintain the integrity of the control, including keeping the socks free of accumulated silt, debris, etc., until the disturbed area has been adequately stabilized.

Sedimentation Chambers (only to be used when there is no space available for other approved BMP's)
Description: Sedimentation chambers are stormwater treatment structures that can be used when space is limited such as urban settings. These structures are often tied into stormwater drainage systems for treatment of stormwater prior to entering state waters. The water quality benefits are the removal of sediment and buoyant materials. These structures are not designed as a catch basin or detention basin and not typically used for floodwater attenuation.

Design Considerations: Average rainfall and surface area should be considered when following manufacturer's recommendations for chamber sizing and/or number of units needed to achieve effective TSS removal. If properly sized, 50-80% removal of TSS can be expected.

Maintenance Requirements: Maintenance requirements include routine inspections, sediment, debris and litter removal, erosion control and nuisance control.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

December 14, 2020

Joe McMahan
Chief, Regulatory Division
Galveston District, U.S. Army Corps of Engineers
2000 Fort Point Road
Galveston, TX 77550

RE: Clean Water Act Section 401 Water Quality Certification for the 2020 U.S. Army Corps of Engineers Section 404 Nationwide Permits Reissuance, on behalf of Indian tribes that have not received Treatment in a Similar Manner as a State for Section 401 in EPA Region 6.

Dear Mr. McMahan:

This water quality certification (WQC) applies to any potential point source discharges from potential projects authorized under the proposed reissuance of the following U.S. Corps of Engineers (Corps) Nationwide Permits (NWPs) into waters of the United States that occur within tribal boundaries within the State of Texas: NWP 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 54, C, D and E. The Corps is not requesting certification for 11 NWPs: 1, 2, 8, 9, 10, 11, 24, 28, 35, A, and B.

Section 401(a)(1) of the Clean Water Act (CWA) requires applicants for Federal permits and licenses that may result in discharges into waters of the United States to obtain certification that potential discharges will comply with applicable provisions of the CWA, including Sections 301, 302, 303, 306 and 307. Where no state agency or tribe has authority to give such certification, the U.S. Environmental Protection Agency (EPA) is the certifying authority. In this case, Ysleta del Sur Pueblo, Alabama-Coushatta Tribe of Texas, and Kickapoo Traditional Tribe of Texas do not have the authority to provide CWA Section 401 certification for discharges occurring within the boundaries of the aforementioned tribal lands, therefore, EPA Region 6 is making the certification decisions for discharges that may result from the potential projects authorized under the proposed Corps CWA 404 NWPs. This letter is being directed to Galveston District, which is the lead regulatory program for NWP reissuance in Texas; the Albuquerque, Fort Worth, Galveston, and Tulsa Districts are also represented. Consistent with the *EPA Policy on Consultation and Coordination with Indian Tribes*, EPA Region 6 circulated a letter dated September 18, 2020 offering to consult with tribes on the certification process and invite their participation.

Reissuance of NWPs Description

The Corps is proposing to re-issue its existing NWPs and associated general conditions and definitions, with some modifications. The Corps states that it is "proposing these modifications to simplify and clarify the NWPs, reduce burdens on the regulated public, and continue to comply with the statutory requirement that these NWPs authorize only activities with no more than minimal individual and cumulative adverse environmental effects." 85 FR 57298. For more details:

https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/.

General Information

The general information provided in this section does not constitute a certification condition(s).

Project proponents for potential projects authorized under the NWPs are responsible for obtaining all other permits, licenses, and certifications that may be required by federal, state, or tribal authorities.

Project proponents for potential projects authorized under the NWPs should conduct all work in such a manner as to comply with all Corps Section 404 permit conditions.

Copies of the Corps permit including this certification should be kept on the job site and readily available to the public for reference.

Project proponents for potential projects authorized under the NWPs should retain this certification in their files with the applicable NWPs as documentation of EPA's certification decisions for the above-referenced proposed NWPs. This certification is specifically associated with the proposed NWPs described above and expires when those NWPs expire, five years from Corps issuance date.

During project planning, EPA highly recommends the project proponent notify the appropriate tribal environmental office of the project details and location.

Certification Determination

Grant (121.7(c)):

On behalf of Ysleta del Sur Pueblo, Alabama-Coushatta Tribe of Texas, and Kickapoo Traditional Tribe of Texas, CWA Section 401 certification, for the following proposed NWPs, is granted with no conditions. EPA Region 6 has determined that any discharge that could be authorized under the following proposed NWPs will comply with water quality requirements, as defined at 40 CFR 121.1(n).

> **NWP 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 54, C, D, and E**

Thank you for your ongoing partnership in implementing the regulatory programs of the CWA. Should your office have any questions, please feel free to contact our staff: 1) Paul Kaspar at 214-665-7459, Kaspar.Paul@epa.gov; 2) Daniel Landeros at 214-665-8077, Landeros.Daniel@epa.gov.

Sincerely,

Charles Maguire

Charles W. Maguire
Director
Water Division

U.S. Army Corps of Engineers (USACE)
Fort Worth District

Nationwide Permit (NWP) Pre-Construction Notification (PCN) Template

This template integrates requirements of the Nationwide Permit Program within the Fort Worth District, including General and Regional Conditions. Please consult instructions included at the end prior to completing this template.

Contents

DESCRIPTION OF NWP 57 – ELECTRIC UTILITY LINE AND TELECOMMUNICATIONS ACTIVITIES

Activities required for the construction, maintenance, repair, and removal of electric utility lines, telecommunication lines, and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Electric utility lines and telecommunication lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of electric utility lines and telecommunication lines. There must be no change in pre-construction contours of waters of the United States. An “electric utility line and telecommunication line” is defined as any cable, line, fiber optic line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the electric utility line or telecommunication line crossing of each waterbody.

Electric utility line and telecommunications substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with an electric utility line or telecommunication line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead electric utility line or telecommunication line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead electric utility line or telecommunication line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of electric utility lines or telecommunication lines, including overhead lines and substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize electric utility lines or telecommunication lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (see 33 CFR part 322). Electric utility lines or telecommunication lines constructed over section 10 waters and electric utility lines or telecommunication lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing electric utility lines or telecommunication lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing electric utility lines or telecommunication lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the electric utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) a section 10 permit is required; or (2) the discharge will result in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Where the electric utility line is constructed, installed, or maintained in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the electric utility line to protect navigation.

Note 2: For electric utility line or telecommunications activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Electric utility line and telecommunications activities must comply with 33 CFR 330.6(d).

Note 3: Electric utility lines or telecommunication lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

Note 4: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the electric utility line or telecommunication line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 5: This NWP authorizes electric utility line and telecommunication line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 6: For overhead electric utility lines and telecommunication lines authorized by this NWP, a copy of the PCN and NWP verification will be provided by the Corps to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Note 7: For activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Part I: NWP Conditions and Requirements Checklist

To ensure compliance with the General Conditions (GC), in order for an authorization by a NWP to be valid, please answer the following questions:

1. Navigation (Applies to Section 10 waters [i.e. navigable waters of the U.S.], see instruction 4 for link to list):
   a. Does the project cause more than a minimal adverse effect on navigation?
      ☐ Yes ☐ No ☐ N/A
   b. Does the project require the installation and maintenance of any safety lights and signals prescribed by the U.S. Coast Guard on authorized facilities in navigable waters of the U.S.? ☐ Yes ☐ No ☐ N/A
   c. Does the Applicant understand and agree that if future operations by the U.S. require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Applicant will be required, upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S.; and no claim shall be made against the U.S. on account of any such removal or alteration?
      ☐ Yes ☐ No ☐ N/A

   If you answered yes to question a. or b. above, or if you answered no to question c. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

2. Aquatic Life Movements:
   a. Does the project substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area? ☐ Yes ☐ No
   b. Is the project's primary purpose to impound water? ☐ Yes ☐ No
   c. Will culverts placed in streams be installed to maintain low flow conditions to sustain the movement of those aquatic species? ☐ Yes ☐ No ☐ N/A

   If you answered yes to question a. or b. above, or if you answered no to question c. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

3. Spawning Areas:
   a. Does the project avoid spawning areas during the spawning season to the maximum extent practicable? ☐ Yes ☐ No ☐ N/A
   b. Does the project result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area?
      ☐ Yes ☐ No ☐ N/A

   If you answered no to question a. above, or if you answered yes to question b. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

4. Migratory Bird Breeding Areas:
   a. Does the project avoid waters of the U.S. that serve as breeding areas for migratory birds to the maximum extent practicable? ☐ Yes ☐ No ☐ N/A

   If you answered no to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

5. Shellfish Beds:

a. Does the project occur in areas of concentrated shellfish populations? ☐ Yes ☐ No

If you answered yes to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

6. Suitable Material:

a. Does the project use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.)? ☐ Yes ☐ No

b. Is the material used for construction or discharged in a water of the U.S. free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act)? ☐ Yes ☐ No

If you answered yes to question a. above, or if you answered no to question b. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

7. Water Supply Intakes:

a. Does the project occur in the proximity of a public water supply intake? ☐ Yes ☐ No

If you answered yes to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

8. Adverse Effects From Impoundments:

a. Does the project create an impoundment of water? ☐ Yes ☐ No

b. If you answered yes to question a. above, are the adverse effects (to the aquatic system due to accelerating the passage of water, and/or restricting its flow) minimized to the maximum extent practicable? ☐ Yes ☐ No ☐ N/A

If you answered no to question b. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

9. Management of Water Flows:

a. Does the project maintain the pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, for each activity, including stream channelization and storm water management activities? ☐ Yes ☐ No

b. Will the project be constructed to withstand expected high flows? ☐ Yes ☐ No

c. Will the project restrict or impede the passage of normal or high flows? ☐ Yes ☐ No

If you answered no to question a. or b. above, or if you answered yes to question c. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

10. Fills Within 100-Year Floodplains:

a. Does the project comply with applicable FEMA-approved state or local floodplain management requirements? ☐ Yes ☐ No ☐ N/A

If you answered no to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

11. Equipment:

a. Will heavy equipment working in wetlands or mudflats be placed on mats, or other measures be taken to minimize soil disturbance? ☐ Yes ☐ No ☐ N/A

If you answered no to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

12. Soil Erosion and Sediment Controls:
    a. Will the project use appropriate soil erosion and sediment controls and maintain them in effective operating condition throughout construction? ☐ Yes ☐ No
    b. Will all exposed soil and other fills, as well as any work below the ordinary high water mark, be permanently stabilized at the earliest practicable date? ☐ Yes ☐ No
    c. Be aware that if work will be conducted within waters of the U.S., Applicants are encouraged to perform that work during periods of low-flow or no-flow.

If you answered no to question a. or b. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

13. Removal of Temporary Fills:
    a. Will temporary fills be removed in their entirety and the affected areas returned to pre-construction elevations? ☐ Yes ☐ No ☐ N/A
    b. Will the affected areas be revegetated, as appropriate? ☐ Yes ☐ No ☐ N/A

If you answered no to question a. or b. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

14. Proper Maintenance:
    a. Will any authorized structure or fill be properly maintained, including maintenance to ensure public safety? ☐ Yes ☐ No

If you answered no to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

15. Single and Complete Project:
    a. Does the Applicant certify that the project is a “single and complete project” as defined below? ☐ Yes ☐ No

Single and complete project:
<u>Single and complete linear project</u>: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

<u>Single and complete non-linear project</u>: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”).

Single and complete non-linear projects may not be "piecemealed" to avoid the limits in a NWP authorization.

Independent utility: Defined as a test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

16. Wild and Scenic River:
There are no Wild and Scenic Rivers within the geographic boundaries of the Fort Worth District. Therefore, this GC does not apply.

17. Tribal Rights:
   a. Will the project or its operation impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights? ☐ Yes ☐ No ☐ N/A

If you answered yes to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

18. Endangered Species (see also Box 8 in Part III):
   a. Is the project likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or will the project directly or indirectly destroy or adversely modify the critical habitat of such species? ☐ Yes ☐ No
   b. Might the project affect any listed species or designated critical habitat? ☐ Yes ☐ No
   c. Is any listed species or designated critical habitat in the vicinity of the project? ☐ Yes ☐ No
   d. If the project "may affect" a listed species or critical habitat, has Section 7 or Section 10(a) ESA consultation addressing the effects of the proposed activity been completed? ☐ Yes ☐ No ☐ N/A

If you answered yes to question a. or b. or c. above, or if you answered no to question d. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

19. Migratory Birds and Bald and Golden Eagles:
   a. Does the project have the potential to impact nests, nesting sites, or rookeries of migratory birds, bald or golden eagles? ☐ Yes ☐ No ☐ N/A

If you answered yes to question a. above, you are responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to obtain any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act.

20. Historic Properties (see also Box 9 in Part III):
   a. Does the project have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties? ☐ Yes ☐ No ☐ N/A

If you answered yes to question a. above, please explain how the project would be in compliance with this GC or be aware that the project would require an individual permit application:

21. Discovery of Previously Unknown Remains and Artifacts:

If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, *you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed*. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters:

a. Will the project impact critical resource waters, which include NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment? ☐Yes ☐ No

If you answered yes to question a. above, be aware that discharges of dredged or fill material into waters of the U.S. are not authorized by NWP 57 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

23. Mitigation (see also Box 10 in Part III):

a. Will the project include appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal? ☐ Yes ☐ No

If you answered no to question a. above, please include an explanation in Box 10 of why no mitigation would be necessary in order to be in compliance with this GC or be aware that the project would require an individual permit application.

24. Safety of Impoundment Structures:

a. Has the impoundment structure been safely designed to comply with established state dam safety criteria or has it been designed by qualified persons? ☐ Yes ☐ No ☐ N/A

If you answered yes to question a. above, non-federal applicants may be required to provide documentation that the design has been independently reviewed by similarly qualified persons with appropriate modifications to ensure safety. If you answered no, please include an explanation in Box 10 of why the structure is exempt from state dam safety criteria or be aware that the project may require an individual permit application.

25. Water Quality (see also Box 11 in Part III):

a. If in Texas, does the project comply with the conditions of the TCEQ water quality certification for NWP 57? ☐ Yes ☐ No ☐N/A

b. If in “Indian Country,” does the project comply with the conditions of the EPA water quality certification for NWPs? ☐ Yes ☐ No ☐ N/A

c. If in Louisiana, does the project comply with the conditions of the LDEQ water quality certification for NWP 57? ☐ Yes ☐ No ☐N/A

If you answered no to question a., b., or c. above, please be aware that the project would require an individual permit application.

26. Coastal Zone Management:

The Fort Worth District does not cover any Coastal Zone; therefore, this GC does not apply.

27. Regional and Case-By-Case Conditions:
See the Regional Conditions checklist to ensure compliance with this GC.

28. Use of Multiple Nationwide Permits:
a. Does the project use more than one NWP for a single and complete project? ☐ Yes ☐ No
b. If you answered yes to question a. above, be aware that unless the project's acreage loss of waters of the U.S. authorized by the NWPs is below the acreage limit of the NWP with the highest specified acreage limit, no NWP can be issued and the project would require an individual permit application.

If you answered yes to question a. above, please explain how the project would be in compliance with this GC and what additional NWP number you intend to use:

29. Transfer of Nationwide Permit Verifications:
a. Does the Applicant agree that if he or she sells the property associated with the nationwide permit verification, the Applicant may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate USACE district office to validate the transfer?
☐ Yes ☐ No

30. Compliance Certification:
a. Does the Applicant agree that if he or she receives the NWP verification from the USACE, they must submit a signed certification regarding the completed work and any required mitigation (the certification form will be sent by the USACE with the NWP verification letter)?
☐ Yes ☐ No

31. Activities Affecting Structure or Works Built by the United States
a. Does the project temporarily or permanently alter and/or occupy a USACE federally authorized Civil Works project? ☐ Yes ☐ No

If you answered yes to question a. above, notification is required in accordance with general condition 32, for any activity that requires permission from the Corps. The district engineer may authorize activities under these NWPs only after a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

32. Pre-Construction Notification:
a. Reason for notification:
☐ Require a Section 10 permit.
☐ The loss of waters of the U.S. exceeds 1/10 acre.
☐ Potential endangered species.
☐ Potential historic properties.
☐ Required by Texas or Louisiana Regional Conditions.
☐ Other:
b. Does the Applicant agree that he or she will not begin the project until either:
1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to

cause effects” on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. ☐ Yes ☐ No

c. Does the Applicant agree that if the district or division engineer notifies the Applicant in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the Applicant cannot begin the activity until an individual permit has been obtained?
☐ Yes ☐ No

To ensure compliance with the NWP 57-specific requirements please answer the first question regarding all electric utility line and telecommunications activities and then answer the other questions as they apply to your project.

All electric utility line and telecommunications activities:

1. Does the project cause the loss of greater than 1/2-acre non-tidal waters of the U.S. at any crossing considered a single and complete project? ☐ Yes ☐ No

   If you answered yes to question 1. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

2. Does the project involve a change in pre-construction contours? ☐ Yes ☐ No

   If you answered yes to question 2. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

3. Is each activity/crossing considered a single and complete project and have independent utility?
   ☐ Yes ☐ No ☐ N/A

   If you answered no to question 3. above, be aware that the project may require an individual permit application.

4. a. Will any temporary structures, fills, and work necessary to construct the project meet the criteria for maintaining flows, minimizing flooding, and withstanding high flows?
   ☐ Yes ☐ No ☐ N/A
   b. Will temporary structures and fills be removed in their entirety and the affected areas be returned to pre-construction elevations and revegetated, as appropriate?
   ☐ Yes ☐ No ☐ N/A

   If you answered no to question a. or b. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

5. a. Does the project involve leaving sidecasts from trench excavation in waters of the U.S. for more than three months? ☐ Yes ☐ No
   b. Does the project involve placing sidecasts from trench excavation in waters of the U.S. in such a manner that the sidecasts are dispersed by current or other forces? ☐ Yes ☐ No

   If you answered yes to question a. above, be aware that the district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate, and otherwise an individual permit application may be required. If you answered yes to question b. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

6. In wetlands, does the project involve backfilling the top 6 to 12 inches of the trench with topsoil from the trench? ☐ Yes ☐ No ☐ N/A

If you answered no to question 6. above, please explain how the project would be in compliance with this requirement and be aware that the project may not be authorized by a NWP 57 and may require an individual permit application:

7. Does the project include activities that drain a water of the U.S., such as drainage tile or french drains? ☐ Yes ☐ No

If you answered yes to question 7. above, be aware that the project is not considered a “utility line” and would not be authorized by a NWP 57 and may require an individual permit application.

8. Does the project involve constructing or backfilling a trench in such a manner as to drain waters of the U.S. (e.g., backfilling with extensive gravel layers, creating a french drain effect?
☐ Yes ☐ No

If you answered yes to question 8. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

9. Will the project, upon completion of the utility line crossing of each waterbody, immediately stabilize exposed slopes and stream banks? ☐ Yes ☐ No ☐ N/A

If you answered no to question 9. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

Foundations for overhead electric utility line or telecommunication line towers, poles, and anchors:

10. If the project includes construction or maintenance of foundations for overhead utility line towers, poles, and/or anchors in waters of the U.S., are these the minimum size necessary and are separate footings for each tower leg (rather than a larger single pad) used where feasible?
☐ Yes ☐ No ☐ N/A

If you answered no to question 10. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

Access Road(s):

11. Will the access road(s) be used for the construction and maintenance of utility lines, including overhead power lines and utility line substations, and, for a single and complete project, cause the loss of no greater than 1/2-acre of non-tidal waters of the U.S.? ☐ Yes ☐ No ☐ N/A

If you answered no to question 11. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

12. a. Will the access road(s) in waters of the U.S. be the minimum width necessary? ☐ Yes ☐ No
b. Will the access road be constructed so that the length of the road minimizes any adverse effects on waters of the U.S.? ☐ Yes ☐ No

If you answered no to question a. or b. above, be aware that the project would not be authorized by a NWP 57 and may require an individual permit application.

13. a. Will the access road(s) be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy road or geotextile/gravel road) so as to minimize any adverse effects on waters of the U.S.? ☐ Yes ☐ No
b. Will access roads constructed above pre-construction contours and elevations in waters of the U.S. be properly bridged or culverted to maintain surface flows? ☐ Yes ☐ No

If you answered no to question a. or b. above, be aware that the project may not be authorized by a NWP 57 and may require an individual permit application.

14. Will access roads used solely for construction of the utility line be removed upon completion of the work, in accordance with the requirement for temporary fills? ☐ Yes ☐ No

If you answered no to question 14. above, be aware that the project may not be authorized by a NWP 57 and may require an individual permit application.

REGIONAL CONDITIONS CHECKLIST

To ensure compliance with the Regional Conditions within the Fort Worth District, in the State of Texas, in order for an authorization by a NWP to be valid, please answer the following questions (for projects in Texas only):

1. Does the project involve a discharge into any of the following habitat types?:

☐ Pitcher plant bogs ((*Sarracenia* spp.) and/or sundews (*Drosera* spp.) and/or Bald Cypress/Tupelo swamps ((*Taxodium distichum*) and/or water tupelo (*Nyssa aquatica*))?

☐ Karst Zones 1 and 2 located in Bexar, Travis and Williamson Counties (see https://www.fws.gov/southwest/es/AustinTexas/Maps_Data.html).

☐ Caddo Lake and associated areas that are designated as “Wetland of International Importance” under the Ramsar Convention (see http://caddolakedata.us/media/145/1996caddolakeramsar.pdf or http://caddolakedata.us/media/144/1996caddolakeramsar.jpg).

☐ Reaches of rivers (and their adjacent wetlands) that are included in the Nationwide Rivers Inventory (see https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm)/

If you answered yes to any of the above choices, notification of the District Engineer is required in accordance with NWP GC 32, and the USACE will coordinate with other resource agencies as specified in NWP GC 32(d).

2. Is the activity located at a site approved as a compensatory mitigation site (either permittee-responsible, mitigation bank and/or in lieu fee) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899?
☐ Yes ☐ No

If you answered yes to question 2. above, notification of the District Engineer is required in accordance with NWP GC 32.

To ensure compliance with the Regional Conditions within the Fort Worth District, in the State of Louisiana, in order for an authorization by a NWP to be valid, please answer the following questions (for projects in Louisiana only):

1. Does the activity cause the permanent loss of greater than 1/2 acre of seasonally inundated cypress swamp and/or cypress-tupelo swamp? ☐ Yes ☐ No

If you answered yes to question 1. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

2. Does the activity cause the permanent loss of greater than 1/2 acre of pine savanna and/or pitcher plant bogs? ☐ Yes ☐ No

If you answered yes to question 2. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

3. Has the activity been determined to have an adverse impact upon a federal or state designated rookery and/or bird sanctuary? ☐ Yes ☐ No

If you answered yes to question 3. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

4. To the best of the applicant's knowledge, is any excavated and/or fill material to be placed within wetlands free of contaminants? ☐ Yes ☐ No ☐ N/A

   If you answered no to question 4. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

5. Regional Condition 5 applies to work within the Louisiana Coastal Zone and/or the Outer Continental Shelf off Louisiana, and therefore does not apply in the USACE Fort Worth District. Work in these areas may require coordination with the USACE Galveston or New Orleans districts.

6. Does the activity adversely impact a designated Natural and Scenic River, a state or federal wildlife management area, and/or refuge? ☐ Yes ☐ No

   If you answered yes to question 6. above, notification of the District Engineer is required in accordance with NWP GC 32.

7. For activities involving the installation of a culvert, will the culvert be sufficiently sized to maintain expected high water flows, and installed at a sufficient depth to maintain low flows to sustain the movement of aquatic species? ☐ Yes ☐ No

   If you answered no to question 7. above, be aware that the project would not be authorized by a NWP 57 and would require an individual permit application.

8. NWP GC 18(g) provides links to information about threatened and endangered species and their critical habitat from FWS and NMFS. Within the State of Louisiana, additional information regarding the state protection status of rare, threatened and endangered species and compliance with state threatened and endangered species laws and regulations can be obtained from LDWF at their world wide web pages at https://www.wlf.louisiana.gov/page/request-wildlife-diversity-project-review-or-digital-data. Proponents of regulated activities are reminded that NWPs only authorize activities from the perspective of the U.S. Army Corps of Engineers and state permits, approvals and authorizations may also be required.

Additional Discussion:

Part II: Project Information (*Project No. SWF-*)

Box 1. Project Name:	Applicant Name/Person of Contact	
Applicant Title	Applicant Company, Agency, etc.	
Mailing Address	Applicant's internal tracking number (if any)	
Work Phone with area code	Cell Phone with area code	E-mail Address
Relationship of applicant to property: ☐ Owner ☐ Purchaser ☐ Lessee ☐ Other:		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a USACE nationwide permit or permits as described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress, or completed work. I agree to start work only after all necessary permits have been received.		
Signature of applicant	Date (mm/dd/yyyy)	

Box 2. Authorized Agent/Operator Name and Signature: (If an agent is acting for the applicant during the permit process)	
Agent/Operator Title	Agent/Operator Company, Agency, etc.
Mailing Address	Agent's internal tracking number (if any)
E-mail Address	
Work Phone(s) with area code	Cell Phone with area code
I hereby authorize the above-named agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent, and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.	
Signature of applicant	Date (mm/dd/yyyy)
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.	
Signature of authorized agent	Date (mm/dd/yyyy)

Box 3. Name of property owner, if other than applicant: ☐ Multiple Current Owners (If multiple current property owners, check here and include a list as an attachment)	
Owner Title	Owner Company, Agency, etc.
Mailing Address	
Work Phone with area code	Home Phone with area code

Box 4. Project location, including street address, city, county, state, and zip code where proposed activity will occur:
Nature of Activity (Description of project; include all features; see instructions):
Project Purpose (Description of the reason or purpose of the project; see instructions):
Has a delineation of waters of the U.S., including wetlands, been completed? (see instructions) ☐ Yes, Attached ☐ No If a delineation has been completed, has it been verified in writing by the USACE? ☐ Yes, Date of approved or preliminary jurisdictional determination (mm/dd/yyyy): USACE project: ☐ No
Are color photographs of the existing conditions available? ☐ Yes, Attached ☐ No Are aerial photographs available? ☐ Yes, Attached ☐ No
☐ Multiple Single and Complete Crossings (If multiple single and complete crossings, check here and complete the table in Attachment D)
Waterbody(ies) (if known; otherwise enter “an unnamed tributary to”): Tributary(ies) to what known, downstream waterbody(ies):
Latitude & longitude (Decimal Degrees):
USGS Quad map name(s):
Watershed(s) and other location descriptions, if known:
Directions to the project location:

Part III: Project Impacts and Mitigation

Box 5. Reason(s) for Discharge into waters of the U.S.:
Type(s) of material being discharged and the amount of each type in cubic yards:
Total surface area (in acres) of wetlands or other waters of the U.S. to be filled:

Indicate the proposed impacts to waters of the U.S. in ACRES (for all aquatic resources) and LINEAR FEET (for rivers and streams) and identify the impact(s) as permanent and/or temporary for each waterbody type listed below. For projects with multiple single and complete crossings, the table below should indicate the *cumulative totals* of those single and complete crossings that require notification as outlined in Part I, GC question 32, and would not determine the threshold for whether a project qualifies for a NWP. The table below is intended as a tool to summarize impacts by resource type for planning compensatory mitigation and does not replace the summary table of single and complete crossings in Attachment D for those projects with multiple single and complete crossings.

	Permanent			Temporary		
Waterbody Type	Acres	Linear feet in length	Linear feet in width	Acres	Linear feet in length	Linear feet in width
Emergent wetlands						
Scrub-shrub wetlands						
Forested wetlands						
Perennial streams						
Intermittent streams						
Ephemeral streams						
Impoundments						
Other:						
Total:						

Potential indirect and/or cumulative impacts of proposed discharge (if any):

Required drawings (see instructions):
Vicinity map: ☐ Attached
To-scale plan view drawing(s): ☐ Attached
To-scale elevation and/or cross section drawing(s): ☐ Attached

Is any portion of the work already complete? ☐ Yes ☐ No
If yes, describe the work:

Box 6. Authority: (see instructions)
Is Section 10 of the Rivers and Harbors Act for projects affecting navigable waters applicable? (see Fort Worth District Navigable Waters list) ☐ Yes ☐ No

Is Section 404 of the Clean Water Act applicable? ☐ Yes ☐ No

Box 7. Larger Plan of Development:
This information is not applicable for Nationwide Permit 57.

Box 8. Federally Threatened or Endangered Species (see instructions)

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat potentially affected by the project (use scientific names (i.e., genus species), if known):

Have surveys, using U.S. Fish and Wildlife Service (USFWS) protocols, been conducted?
☐ Yes, Report attached ☐ No (explain):

If a federally-listed species would potentially be affected, please provide a description and a biological evaluation.
☐ Yes, Report attached ☐ Not attached

Has Section 7 consultation been initiated by another federal agency?
☐ Yes, Initiation letter attached ☐ No

Has Section 10 consultation been initiated for the proposed project?
☐ Yes, Initiation letter attached ☐ No

Has the USFWS issued a Biological Opinion?
☐ Yes, Report attached ☐ No
If yes, list date Opinion was issued (mm/dd/yyyy):

Box 9. Historic properties and cultural resources

Please list any historic properties listed (or eligible to be listed) on the National Register of Historic Places which the project has the potential to affect:

Has an archaeological records search been conducted?
☐ Yes, Report attached ☐ No (explain):

Are any cultural resources of any type known to exist on-site?
☐ Yes ☐ No

Has an archaeological pedestrian survey been conducted for the site?
☐ Yes, Report attached ☐ No (explain):

Has Section 106 or SHPO consultation been initiated by another federal or state agency?
☐ Yes, Initiation letter attached ☐ No

Has a Section 106 MOA been signed by another federal agency and the SHPO?
☐ Yes, Attached ☐ No
If yes, list date MOA was signed (mm/dd/yyyy):

Box 10. Proposed Conceptual Mitigation Plan Summary (see instructions)

Measures taken to avoid and minimize impacts to waters of the U.S. (if any):

Applicant proposes combination of one or more of the following mitigation types:
☐ Mitigation Bank ☐ On-site ☐ Off-site (Number of sites:) ☐ None

Applicant proposes to purchase mitigation bank credits: ☐ Yes ☐ No
Mitigation Bank Name:
Number of Credits:

Indicate in ACRES (for all aquatic resources) and LINEAR FEET (for rivers and streams) the total quantity of waters of the U.S. proposed to be created, restored, enhanced, and/or preserved for purposes of providing compensatory mitigation. Indicate mitigation site type (on- or off-site) and number. Indicate waterbody type (non-forested wetland, forested wetland, perennial stream, intermittent stream, ephemeral stream, impoundment, other) or non-jurisdictional (uplands[1]).

Mitigation Site Type and Number	Waterbody Type	Created	Restored	Enhanced	Preserved
e.g., On-site 1	*Forested wetland*	*0.5 acre*			
e.g., Off-site 1	*Intermittent stream*		*500 LF*	*1000 LF*	
	Totals:				

[1] For uplands, please indicate if designed as an upland buffer.

Summary of Mitigation Work Plan (Describe the mitigation activities listed in the table above):

If no mitigation is proposed, provide a detailed explanation of why no mitigation would be necessary to ensure that adverse effects on the aquatic environment are minimal:

Has a conceptual mitigation plan been prepared in accordance with the USACE regulations and guidelines?
☐ Yes, Attached ☐ No (explain):

Mitigation site(s) latitude & longitude (Decimal Degrees):	USGS Quad map name(s):

Other location descriptions, if known:

Directions to the mitigation location(s):

Box 11. Water Quality Certification (see instructions):
For Texas:
Does the project meet the conditions of the Texas Commission on Environmental Quality (TCEQ) Clean Water Act Section 401 certification for NWP 57? ☐ Yes ☐ No

Does the project include soil erosion control and sediment control Best Management Practices (BMPs)? ☐ Yes ☐ No
List the BMPs for soil erosion control and sediment control to be used, or explain why they aren't necessary for the project:

Does the project include controls for post-construction total suspended solids control?
☐ Yes ☐ No
List the controls for post-construction total suspended solids control, or explain why it isn't necessary for the project:

For Louisiana:
Does the project meet the conditions of the Louisiana Department of Environmental Quality (LDEQ) Clean Water Act Section 401 certification for NWP 57? ☐ Yes ☐ No

Is fill placed in a manner which would avoid impeding natural watercourses?
☐ Yes ☐ No ☐ N/A

For Tribal Lands ("Indian Country"):
Does the project meet the conditions of the EPA water quality certification for NWPs?
☐ Yes ☐ No

Box 12. List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Approval Type[2]	Identification No.	Date Applied	Date Approved	Date Denied

[2] Would include but is not restricted to zoning, building, and floodplain permits.

Part IV: Attachments

	Included
A. Delineation of Waters of the U.S., Including Wetlands	☐
B. Color Photographs	☐
C. Summary Table of Single and Complete Crossings	☐
D. Required Drawings/Figures	☐
E. Threatened or Endangered Species Reports and/or Letters	☐
F. Historic Properties and Cultural Resources Reports and/or Letters	☐
G. Conceptual Mitigation Plan	☐
H. Other:	☐

End of Template

Attachment D: Summary Table of Single and Complete Crossings

Waterbody ID[1]	Latitude and Longitude (Decimal Degrees)	Resource Type[2]	Acres in Project Area	Impact Type[3]	Average Length of Impact	Average Width of Impact	Acres of Impact	Cubic Yards of Material to be Discharged	Reasons for PCN[4]

[1] Waterbody ID may be the name of a feature or an assigned label such as "W-1" for a wetland.

[2] Resource Types: EW – Emergent Wetland, SW – Scrub/Shrub Wetland, FW – Forested wetland, PS – Perennial Stream, IS – Intermittent Stream, I – Impoundment

[3] Impact Types: D/P – Direct* and Permanent, D/T – Direct and Temporary, I/P – Indirect** and Permanent, I/T – Indirect and Temporary

* Direct impacts are here defined as those adverse effects caused by the proposed activity, such as discharge or excavation.

** Indirect impacts are here defined as those adverse effects caused subsequent to the proposed activity, such as flooding or effects of drainage on adjacent waters of the U.S.

[4] Reasons for PCN requirement:

A – Requires a Section 10 permit.
B – The loss of waters of the U.S. exceeds 1/10 acre.
C – Potential endangered species.
D – Potential historic properties.
E – Required by Texas or Louisiana Regional Conditions.
F – Other

Instructions: [please do not include these pages when submitting template]

1) The Fort Worth District accepts paperless/electronic submittals as the primary means of accepting applications. All initial application materials should be sent to CESWF-Permits@usace.army.mil.

2) Complete Part I of the template first to determine if the project meets the conditions and requirements of NWP 57, including the General and Regional Conditions as well as the notification requirements. Additional information on the general conditions is available at the following website:

   http://www.swf.usace.army.mil/Missions/Regulatory/Permitting/GeneralPermits.aspx

3) Boxes 1 to 3: Provide contact information for the Applicant, Agent, Owner, etc.

4) Box 4:

   a. Nature of Activity: Describe the overall activity or project. Give appropriate dimensions of structures such as wingwalls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms. The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach a separate sheet marked “Box 4 Nature of Activity.”

   b. Proposed Project Purpose: Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project.

   c. Delineation of waters of the U.S.:

   Waters of the U.S. are defined under 33 CFR part 328.3 (a) as:
   (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
   (2) All interstate waters including interstate wetlands;
   (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
      (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
      (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
      (iii) Which are used or could be used for industrial purposes by industries in interstate commerce;
   (4) All impoundments of waters otherwise defined as waters of the U.S. under the definition;
   (5) Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;
   (6) The territorial seas;
   (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.

   In addition, 33 CFR part 328.3 (b) states: The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, the ordinary high water mark, as well as any adjacent wetlands, demarcate the limits of non-tidal waters of the U.S. Wetlands are identified and delineated using the methods and criteria established in the USACE *Wetlands Delineation Manual* (1987 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils, and wetland hydrology) as well as any applicable interim regional supplements.

Applicants should follow the USACE Fort Worth District procedures for jurisdictional determinations found at the following website:

https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/juris_info/

d. Multiple Waters of the U.S.: If the project impacts multiple waters of the U.S., include information for each water in the table in Attachment D.

5) Box 5:

Required drawings (see examples in separate file): Submit one legible copy of all drawings (8 1/2 x 11-inch or 11 x 17-inch) with a 1-inch margin around the entire sheet. The title box shall contain the title of the proposed project, date, and sheet number.

i. Vicinity map: Cover an area large enough so the project can be easily located; include arrow marking the project area, identifiable landmarks (e.g., named waterbody, county, city), name or number of roads, north arrow, and scale.
ii. Plan view: Include features such as existing bank lines, ordinary high water mark line(s), average water depth around the activity, dimensions of the proposed project, dimensions of any structures immediately adjacent to the proposed activity, north arrow, and scale.
iii. Elevation and/or cross-section views: Include features such as water elevation as shown on plan view drawing, existing and proposed ground level, dimensions of the proposed project, dimensions of any structures immediately adjacent to the proposed activity, and scale.

6) Box 6: A list of navigable waters in the Fort Worth District can be found at the following website:

https://swf-apps.usace.army.mil/pubdata/environ/regulatory/introduction/navlist.pdf

Under Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the U.S. More information on regulated activities can be found at the following website:

http://www.swf.usace.army.mil/Missions/Regulatory/RegulatedActivities.aspx

7) Box 8: Information on federally threatened or endangered species may be found on the U.S. Fish and Wildlife Service website and the Texas Parks and Wildlife Department website. Include an attachment if additional space is required for listing species or critical habitat potentially affected by the project.

https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=TX&stateName=Texas&statusCategory=Listed

https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=LA&stateName=Louisiana&statusCategory=Listed

http://www.tpwd.state.tx.us/huntwild/wild/species/endang/index.phtml

http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/index.phtml

8) Box 10: When completing this box, be aware that the USACE will consider if the project has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the U.S. to the maximum extent practicable at the project site when determining appropriate and practicable mitigation necessary to ensure that adverse effects to the aquatic environment are minimal. The USACE may also require compensatory mitigation at a minimum one-for-one ratio for

losses of wetlands, streams, and open waters to ensure that the project results in minimal adverse effects on the aquatic environment. See the USACE Fort Worth District Regulatory Branch website for a mitigation plan template and requirements.

http://www.swf.usace.army.mil/Missions/Regulatory/Permitting/Mitigation.aspx

9) Box 11: Projects in Texas should meet the conditions of the Texas Commission on Environmental Quality (TCEQ) Clean Water Act Section 401 certification for NWP 57. The TCEQ conditions of Section 401 certification for NWP 57 as well as a description of Best Management Practices can be found at the following website:

http://www.swf.usace.army.mil/Portals/47/Users/053/21/821/NWP%202017%20Texas%20401cert.pdf

Projects in Louisiana require water quality certification from the Louisiana Department of Environmental Quality (LDEQ). LDEQ has issued water quality certification for NWP 57 without conditions. Information about water quality certification from LDEQ can be found at the following website:

http://www.swf.usace.army.mil/Portals/47/Users/053/21/821/NWP2017Louisiana401cert.pdf?ver=2017-03-24-115120-290

10) Attachments: Check the boxes in Part IV for those attachments that are included and place a cover sheet or tab with each attachment behind the last page of the template. If Attachment D is not needed, discard this page, but if more room is necessary, include an additional table.

June 25, 2024
AVO 55396.001

Mr. Jacob Bailey, District Conservationist
San Antonio Service Center
USDA - Natural Resources Conservation Services
727 E. Cesar E Chavez Boulevard, Room A507
San Antonio, Texas 78206

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Bailey:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Transmitted via U.S. Certified Mail: 7021 1970 0001 0920 8061 &
email: osd.dod-siting-clearinghouse@mail.mil

U.S. Department of Defense
Military Aviation and Installation Assurance Siting Clearinghouse
3400 Defense Pentagon, Room 5C646
Washington, DC 20301

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear To Whom It May Concern:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From:	OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC <osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil>
Sent:	Wednesday, June 26, 2024 6:44 AM
To:	Russell Marusak
Cc:	Jody Urbanovsky; OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC
Subject:	RE: Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Good morning Mr. Marusak,

Your Informal Review request for the Howard Road -- Leon Creek 138kV Phase 2 Transmission Line Rebuild Project has been received. We will begin processing the request shortly.

Thank you for the opportunity to review the project.

Very Respectfully,

The Clearinghouse
Military Aviation and Installation Assurance Siting Clearinghouse
Office of the Assistant Secretary of Defense (Energy, Installations and Environment)
Email: osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil

From: Russell Marusak <rmarusak@halff.com>
Sent: Tuesday, June 25, 2024 3:18 PM
To: OSD Pentagon OUSD A-S Mailbox ASD EIE-RP-SC <osd.pentagon.ousd-a-s.mbx.asd-eie-rp-sc@mail.mil>
Cc: Jody Urbanovsky <jurbanovsky@halff.com>
Subject: Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Good afternoon,

Please see attached coordination documents for your office. Halff has attached our standard letter form to document effort for purposes of our Environmental Assessment. Per recent instruction received from your office on other projects, we have also attached the DOD request form and a KMZ of the study area.

I am submitting this on behalf of our project manager who is out of the office. Please "reply all" to any comments or requests for additional information regarding the project. Thanks in advance.

Russell Marusak
Senior Project Manager

Halff
O: 214.346.6367 | **C:** 469.569.6982
E: rmarusak@halff.com

We improve lives and communities
by turning ideas into reality.

From: Townes, Daniel W CTR OSD OUSD A-S (USA) <daniel.w.townes.ctr@mail.mil>
Sent: Monday, September 9, 2024 11:59 AM
To: Russell Marusak
Cc: Beard, Robbin E CIV OSD OUSD A-S (USA); Jody Urbanovsky
Subject: Response Letter for the Howard Road -- Leon Creek 138kV Phase 2 Transmission Line Rebuild Project
Attachments: IR - Howard Road -- Leon Creek 138kV Phase 2 TL Rebuild Project - Response Letter.pdf

Good afternoon Mr. Marusak,

Attached is the Informal Review Response Letter for the Howard Road -- Leon Creek 138kV Phase 2 Transmission Line Rebuild Project.

Thank you for the opportunity to review your project.

Respectfully,

Dan Townes
Military Aviation and Installation Assurance Siting Clearinghouse
Office of the Assistant Secretary of Defense (Energy Resilience and Optimization)
Desk: 571-372-8414 (*temporarily unavailable*)
NIPR: daniel.w.townes.ctr@mail.mil

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS
AND ENVIRONMENT

September 6, 2024

Russell Marusak
Halff
1201 N. Bowser Road
Richardson, TX 75081

Dear Mr. Marusak,

As requested, the Military Aviation and Installation Assurance Siting Clearinghouse coordinated within the Department of Defense (DoD) an informal review of the Howard Road -- Leon Creek 138kV Phase 2 Transmission Line Rebuild Project. The results of our review indicated that the transmission line project, located in Bexar County, Texas, as proposed, will have minimal impact on military operations conducted in the area.

Please note that this informal review by the DoD Military Aviation and Installation Assurance Siting Clearinghouse does not constitute an action under 49 United States Code Section 44718 and that the DoD is not bound by the conclusion arrived at under this informal review. To expedite our review in the Obstruction Evaluation Airport Airspace Analysis (OE/AAA) process, please add the project number 2024-06-T-DEV-26 in the comments section of the filing. If you have any questions, please contact me at robbin.e.beard.civ@mail.mil.

Sincerely,

Robbin E Beard

Robbin Beard
Deputy Director
Military Aviation and Installation
Assurance Siting Clearinghouse

June 25, 2024
AVO 55396.001

Ms. Earthea Nance
Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Nance:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

U.S. Fish and Wildlife Service
Austin Ecological Services Field Office
1505 Ferguson Lane
Austin, Texas 78754

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

To Whom It May Concern:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

The Honorable Joaquin Castro
U.S. Representative, District 20
U.S. House of Representatives
727 East Cesar E. Chavez Blvd Suite B-128
San Antonio, Texas 78206

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Congressman Castro:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

halff

June 25, 2024
AVO 55396.001

Ms. Karen Sanchez
Legal Assistant
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Sanchez:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

CHRISTI CRADDICK, *CHAIRMAN*
WAYNE CHRISTIAN, *COMMISSIONER*
JIM WRIGHT, *COMMISSIONER*

ALEXANDER C. SCHOCH, *GENERAL COUNSEL*
GENERAL LAW SECTION

RAILROAD COMMISSION OF TEXAS
OFFICE OF GENERAL COUNSEL

July 8, 2024

Jody Urbanovsky
Halff
1201 N. Bowser Road
Richardson, Texas 75081

Re: Open Records Request filed on June 28, 2024. Copy of letter enclosed

Dear Ms. Urbanovsky,

We do not file our information by address or map descriptions. All of our information is filed by lease number, API number, T-4 pipeline permit number or other RRC identifying numbers.

You can use our online GIS mapping system to determine if there are any RRC regulated facilities on or near the property you are interested in. Once you have any RRC identifying numbers for those facilities, we will be happy to search for any available responsive information.

The mapping system can be found on our website at rrc.texas.gov.

Sincerely,

Karen Sanchez
Legal Assistant

RECEIVED
JUL 1 2 2024
By HALFF

halff

June 25, 2024
AVO 55396.001

Ms. Karen Sanchez
Legal Assistant
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Sanchez:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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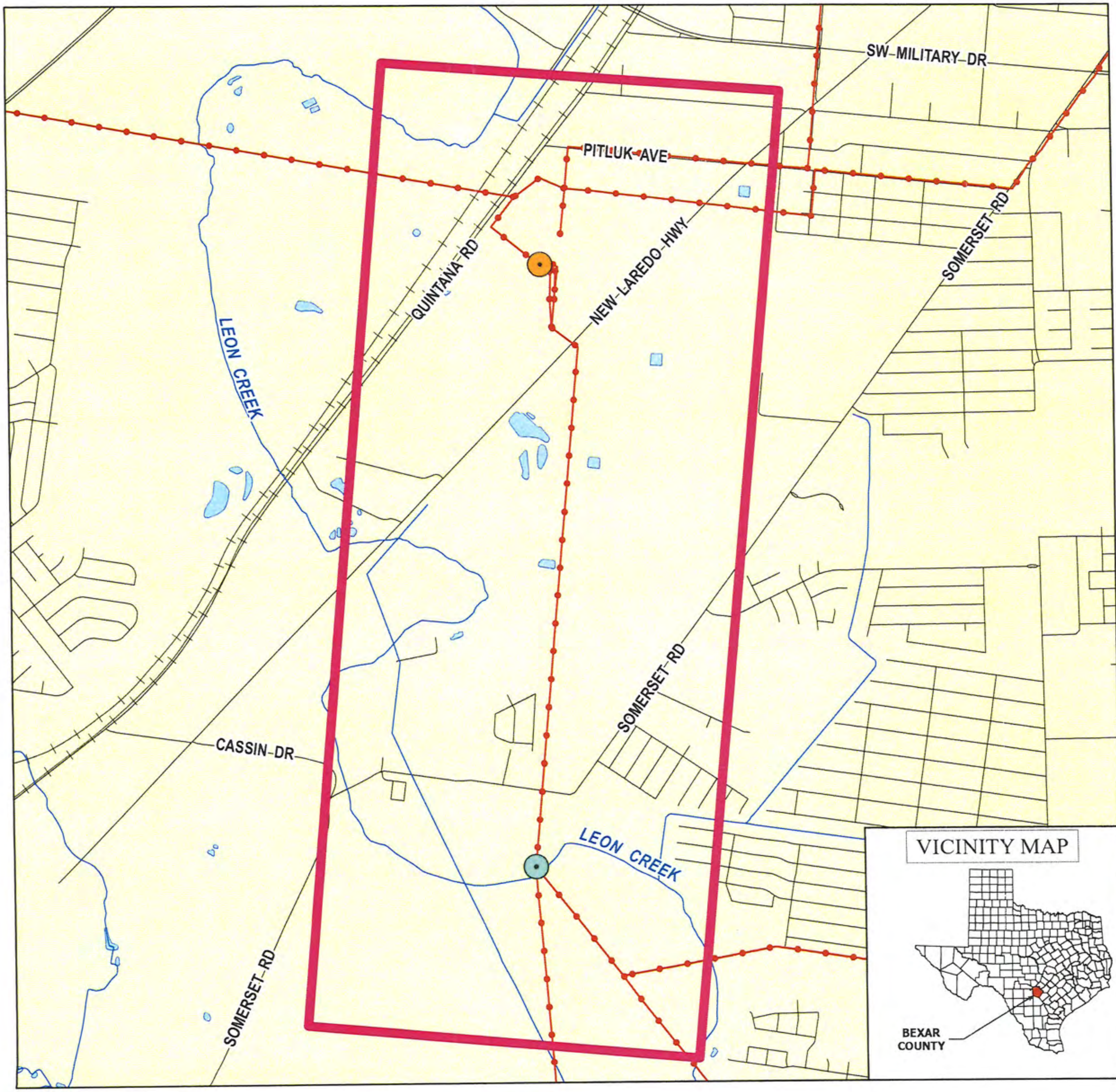
Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map



HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT

LEGEND

- STUDY AREA
- LEON CREEK SUBSTATION
- STRUCTURE #17
- EXISTING TRANSMISSION LINE
- SAN ANTONIO CITY LIMITS
- WATERBODY
- STREAM
- ROADWAY
- RAILROAD

Notes:

1. Some legend symbols are enlarged for easier identification.

2. Data is for display purposes only. All features and boundaries have been approximated based on information gathered from review of public resources and from field reconnaissance.

Date Plotted: 06/17/2024

Date Revised: 06/17/2024

LOCATION MAP

0 2,000 4,000

FEET

halff

June 25, 2024
AVO 55396.001

Ms. Kelly Keel
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087 (MC 109)
Austin, Texas 78711

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Keel:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

halff

June 25, 2024
AVO 55396.001

Mr. Charles Benavidez, P.E.
San Antonio District Engineer
Texas Department of Transportation
4615 NW Loop 410
San Antonio, Texas 78229

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Benavidez:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Dan Harmon
Aviation Division Director
Texas Department of Transportation
6230 East Stassney Lane
Austin, Texas 78744

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Harmon:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Dr. Dawn Buckingham
Commissioner
Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Commissioner Buckingham:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

TEXAS GENERAL LAND OFFICE
COMMISSIONER DAWN BUCKINGHAM, M.D.

July 8, 2024

Jody Urbanovsky
Halff Associate, Inc.
1201 North Bowser Road
Richardson, TX 75081-2275

Re: CPS Energy's proposed Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project in Bexar County, Texas

Dear Mr. Urbanovsky:

On behalf of Commissioner Buckingham, I would like to thank you for your letter concerning the above- referenced project.

Using your map depicting the project's study area, it does not appear that the General Land Office will have any environmental issues or land use constraints at this time.

When a final route for this proposed project has been determined, please contact me and we can assess the route to determine if the project will cross any streambeds or Permanent School Fund (PSF) land that would require an easement from our agency.

In the interim, if you would like to speak to me further about this project, I can be reached by email at jeff.burroughs@glo.texas.gov or by phone at (512) 463-7845.

Again, thank you for your inquiry.

Sincerely,

Jeff Burroughs
Manager, Right-of-Way Department
Leasing Operations

RECEIVED
JUL 1 2 2024
By HALFF

June 25, 2024
AVO 55396.001

Mr. Edward Lengel
Executive Director
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Lengel:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

The Honorable Philip Cortez, Ph.D.
Texas State Representative, House District 117
Texas House of Representatives
2600 SW Military Drive, Suite 211
San Antonio, Texas 78224

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Dr. Cortez:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024 Transmitted via U.S. mail and email: whab@tpwd.texas.gov
AVO 55396.001

Ms. Laura Zebehazy, Program Leader
Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Zebehazy:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From:	WHAB <WHAB@tpwd.texas.gov>
Sent:	Tuesday, June 25, 2024 2:52 PM
To:	Russell Marusak
Cc:	WHAB
Subject:	TPWD has received your project review request

This is an automated message to inform you that the Wildlife Habitat Assessment (WHAB) program has received your email. Please note that responses to requests for project review generally take approximately 45 days to complete, and project schedules should accommodate the review timeline. Responses may be delayed due to workload and lack of staff. If you wish to speak to the biologist who will review your project, please visit https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/media/whab-map-2020.jpg for a staff directory by area of responsibility. Thank you.

From: Russell Hooten <Russell.Hooten@tpwd.texas.gov>
Sent: Tuesday, August 6, 2024 8:27 AM
To: Jody Urbanovsky
Cc: Russell Hooten
Subject: TPWD Review (#52548) Howard Rd to Leon Cr. 138-kV transmission line rebuild, Bexar
Attachments: WL52548 Howard Rd_Leon Creek 138-kV rebuild_Bexar C 08-06-2024.pdf

Good morning Jody,

TPWD's comments regarding the proposed project referenced in the Subject line above are attached. Please contact me with any questions.

Sincerely,
Russell

Russell Hooten
Environmental Review Biologist
Ecological and Environmental Planning Program
TPWD-Wildlife Division
1409 Waldron Road
Corpus Christi, TX 78418
russell.hooten@tpwd.texas.gov
361-431-6003 Office
361-414-3643 Cell

August 6, 2024

Jody Urbanovsky
Halff
1201 N. Bowser Road
Richardson, TX 75081

RE: Proposed CPS Energy Howard Road to Leon Creek 138-kV Phase 2 transmission line rebuild, Bexar County, Texas

Dear Mr. Urbanovsky:

Texas Parks and Wildlife Department (TPWD) has received the review request for the proposed project referenced above. On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process.

Under Texas Parks and Wildlife Code (PWC) section 12.001 l(b)(2) and (b)(3), TPWD has authority to provide recommendations and informational comments that will protect fish and wildlife resources to local, state, and federal agencies that approve, license, or construct developmental projects or make decisions affecting those resources. TPWD is providing input on this proposed project to facilitate the incorporation of beneficial management practices (BMP) during construction, operation, and maintenance that may assist the project proponent in minimizing impacts to the state's natural resources. Pursuant to PWC section 12.0011(b)(2) and (b)(3), TPWD offers the following comments and recommendations concerning this project.

Project Description

The proposed project would rebuild approximately 1.8 miles of an existing 138-kilovolt (kV) transmission line between the existing Leon Creek Substation, located southeast of the intersection of Quintan Road and Pitluk Avenue in San Antonio, Bexar County, Texas, and an existing CPS energy transmission line structure, Structure #17. The project would also replace a triple circuit lattice tower configuration (Structure #17) with two monopole structures. One monopole would accommodate two of the existing 138-kV circuits; the other would accommodate one of the existing 138-kV circuits and include a vacant position for a future 138-kV circuit. The rebuild would use the existing right-of-way (ROW) and require additional easements along its length.

Federal Regulations

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling, purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts, or nests, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Review of aerial photography and the Ecological Mapping Systems of Texas (EMST), indicate that the study area consists primarily of row crops, grasslands (disturbance and tamed), and a variety of shrubland and woodland habitat. Structure #17 occurs within 100 feet of Leon Creek and it associated riparian corridor, identified in EMST as Edwards Plateau: Floodplain Hardwood forests and Floodplain Live Oak forests. The grasslands, woodlands, and riparian forests in the project area potentially provide suitable nesting, feeding, and loafing habitat for birds. Additionally, the project area is in the middle of the Central Migratory Flyway through which millions of birds pass during spring and fall migration.

> **Recommendation:** TPWD appreciates that the proposed project would occur within existing utility corridors or other previously disturbed areas. If vegetation clearing is necessary to establish access roads to the existing ROW, widen the ROW, develop additional easements, or complete the rebuild, TPWD recommends scheduling vegetation clearing or trampling to occur outside of the March 15 - September 15 migratory bird nesting season in order to comply with the MBTA.
>
> If vegetation clearing must be scheduled to occur during the nesting season, TPWD recommends the vegetation to be impacted should be surveyed for active nests by a qualified biologist. Nest surveys should be conducted no more than five days prior to the scheduled clearing to ensure recently constructed nests are identified. If active nests are observed during surveys, TPWD recommends a 100-foot radius buffer of vegetation remain around nests until eggs have hatched and the young have fledged; however, the size of the buffer zone is dependent on various factors and can be coordinated with the local or regional USFWS office.

The potential exists for birds to collide with transmission lines and associated guy wires and static lines. Bird fatalities can also occur due to electrocution if perching birds simultaneously make contact with energized and grounded structures. Birds most susceptible of colliding with electrical transmission lines (e.g., egrets, waterfowl, and doves) occur on eBird hotspot species list from within the project's general study area.

> **Recommendation:** TPWD recommends that transmission lines be marked with line markers or bird flight diverters to reduce the potential of birds flying into the lines. Line alterations to prevent bird electrocutions should not necessarily be implemented after such events occur as all electrocutions may not be known or documented. Incorporation of preventative measures along portions of the routes that are most attractive to birds (as indicated by frequent sightings) prior to any electrocutions is a preferred alternative.
>
> TPWD recommends the transmission line design should utilize avian safety features described in the publication:

> Avian Power Line Interaction Committee (APLIC). 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. Edison Electric Institute and APLIC. Washington, D.C.
>
> In particular, the overhead ground wire should be marked with line markers to increase its visibility. Additional recommendations are available in the document entitled, "*TPWD Recommendations for Electrical Transmission/Distribution Line Design and Construction*" available on TPWD's website.

<u>State Regulations</u>

Parks and Wildlife Code, Chapter 64-Birds

State law prohibits any take or possession of nongame birds, including their eggs and nests. Laws and regulations pertaining to state-protection of nongame birds are contained in chapter 64 of the PWC; specifically, section 64.002 provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. PWC section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl. PWC chapter 64 does not allow for incidental take.

Although not documented in the Texas Natural Diversity Database (TXNDD), many bird species which are not listed as *threatened* or *endangered* are protected by chapter 64 of the PWC and are known to be year-round or seasonal residents or seasonal migrants through the proposed project area.

> **Recommendation:** Please review the *Federal Regulations: Migratory Bird Treaty Act* section above for recommendations as they are applicable for complying with chapter 64 of the PWC.

Parks and Wildlife Code, Section 68.015

PWC regulates state listed threatened and endangered animal species. The capture, trap, take, or killing of state listed threatened and endangered animal species is unlawful unless expressly authorized under a permit issued by the USFWS or TPWD. A copy of *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found on the TPWD Wildlife Habitat Assessment Program website. State listed species may only be handled by persons with appropriate authorization from the TPWD Wildlife Permits Office. For more information regarding Wildlife Permits, please contact the Wildlife Permits Office at (512) 389-4647.

The potential occurrence of state listed species in the project area is primarily dependent upon the availability of suitable habitat. Direct impacts to high quality or suitable habitat therefore are directly proportional to the magnitude and potential to directly impact state listed species. State listed reptiles that are typically slow moving or unable to move due to cool temperatures are especially susceptible to being directly impacted during additional ROW clearing and construction of the transmission lines.

> **Recommendation:** TPWD recommends reviewing the most current TPWD annotated county lists of rare species for Bexar County, as state listed species could be present depending upon habitat availability. These lists are available online at the TPWD Wildlife Diversity website. Environmental documents prepared for the project should include an inventory of existing natural resources within the alternative transmission line routes. Specific evaluations should be designed to predict project impacts upon these natural resources including potential impacts to state listed species.

Species of Greatest Conservation Need

In addition to state and federally protected species, TPWD tracks species considered to be Species of Greatest Conservation need (SGCN) that, due to limited distributions and/or declining populations, face threat of extirpation or extinction but currently lack the legal protection given to threatened or endangered species. Special landscape features, natural communities, and SGCN are rare resources for which TPWD actively promotes conservation, and TPWD considers it important to evaluate and, if necessary, minimize impacts to such resources to reduce the likelihood of endangerment and preclude the need to list SGCN as threatened or endangered in the future. These species and communities are tracked in the TXNDD. The most current and accurate TXNDD data can be requested from the TXNDD website.

Please note that the absence of TXNDD information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. This information cannot be substituted for on-the-ground surveys.

> **Recommendation:** Please review the TPWD county list for Bexar, as rare and protected species could be present, depending on habitat availability. If during construction the project area is found to contain rare or protected species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them.
>
> Determining the actual presence of a species in an area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can only be determined with repeated negative observations and consideration of all the variable factors contributing to the lack of detectable presence.

Beneficial Management Practices

TPWD recommends implementing the following BMP to avoid or minimize impacts to wildlife and SGCN, including state listed SGCN, potentially occurring within the construction area for this project:

1. In general, TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from discrete areas to be disturbed. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only be removed after the project activities are completed and the disturbed sites have been revegetated or otherwise stabilized. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.

2. For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats would be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting and hydromulch containing microplastics should be avoided.

3. TPWD recommends designing the project to minimize removal of vegetation and retain native habitats, to the maximum extent possible. TPWD recommends that precautions be taken to avoid impact to SGCN flora and fauna, natural plant communities, and priority habitat types of the ecoregion while working in Bexar County, or if encountered during project construction, operation, and maintenance activities. Areas exhibiting a native grass and forbs component should be protected from disturbance and from introduction of non-native vegetation. TPWD encourages clearly marking areas found to contain rare plants as work zone avoidance areas prior to construction, maintenance, and operation activities.

4. TPWD recommends informing employees and contractors of the potential for state listed species and other SGCN to occur in the project area and to avoid impacts to all wildlife that are encountered. Wildlife observed during construction should be allowed to safely leave the site or be translocated to a nearby area with similar habitat that would not be disturbed during construction. TPWD recommends that any translocations of reptiles be the minimum distance possible, no greater than one mile, and preferably with 100-200 yards from the initial encounter location.

For purposes of relocation, surveys, monitoring, and research, state listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, please contact the Wildlife Permits Office at (512) 389-4647.

5. Waterways, floodplains, riparian corridors, lakes, and wetlands provide valuable wildlife habitat, and TPWD recommends protecting them to the maximum extent possible. TPWD recommends establishing disturbance-free buffers contiguous to wetlands or aquatic systems to preserve wildlife cover, food sources, and travel corridors and constructing the transmission line to span all creeks. During construction, trucks and equipment should use existing bridges to cross creeks. Erosion control measures should be installed prior to construction and maintained until disturbed areas are permanently revegetated using site-specific native vegetation.

6. Where trenching or other excavation is involved in construction, TPWD recommends contractors keep trenching, excavation, and backfilling crews close together to minimize the number of trenches or excavation areas left open at any given time during construction. Any holes left open for more than two daylight hours should be inspected for the presence of trapped wildlife prior to backfilling. TPWD recommends any open trenches or excavation areas be covered overnight and inspected every morning to ensure no wildlife species have been trapped. If trenches and excavation areas cannot be backfilled the day of initial excavation or covered overnight, then escape ramps should be installed, if feasible, at least every 300 feet. Escape ramps consist of short lateral trenches or wooden planks sloping to the surface at an angle less than 45 degrees (1:1).

7. Because all snakes are generally perceived as a threat and killed when encountered during vegetation clearing, TPWD recommends project plans include comments to inform contractors of the potential for the snakes to occur in the project area. Although most SGCN and state listed snakes that may occur in the project area are non-venomous, contractors should be advised to avoid impacts to all snakes as long as the safety of the workers is not compromised. For the safety of workers and preservation of a natural resource, attempting to catch, relocate and/or kill non-venomous or venomous snakes is discouraged by TPWD. If encountered, snakes should be permitted to safely leave project areas on their own. TPWD encourages construction sites to have a “no kill” policy in regard to wildlife encounters.

8. Significant declines in the population of migrating monarch butterflies (*Danaus plexippus*), a federal candidate species, have led to widespread concern about this species and other native insect pollinator species due to reduction in native floral resources. To support pollinators and migrating monarchs, TPWD encourages the establishment of native wildflower habitats on private and public lands. Infrastructure ROW can provide habit for a diverse community of pollinators, providing food, breeding, or nesting opportunities. Infrastructure ROW extend across a variety of landscapes and can aid dispersal of pollinators by linking fragmented habitats. By acting as refugia for pollinators in otherwise inhospitable

landscapes, this habitat can contribute to the maintenance of healthy ecosystems and provide ecological services such as crop pollination. The publication, Monarch Habitat Development on Utility Rights of Way, can be found at the TPWD Wildlife Habitat Assessment Program webpage. TPWD encourages the project proponent to restore or revegetate impacted areas with vegetation that provides habitat for monarch butterflies and other pollinator species. Species appropriate for establishment within the project area can be found by accessing the Lady Bird Johnson Wildflower Center, working with TPWD biologist to develop an appropriate list of species, or utilizing resources found at the Monarch Watch website or the Xerces Society's Guidelines webpage. For areas of the site that already exhibit floral resources and for areas that are planted with floral resources, TPWD recommends incorporating pollinator conservation into maintenance plans for the site to promote and sustain the availability of flowering species throughout the growing season. TPWD recommends scheduling vegetation maintenance to occur after seeds from pollinator plants have been released and avoiding herbicide that affect floral resources.

9. To aid in the scientific knowledge of a species' status and current range, TPWD encourages reporting encounters of SGCN to the TXNDD following the data submittal instructions found at the *TPWD Texas Natural Diversity Database: Submit Data* webpage. An additional method for reporting observations of species is through the iNaturalist community app where plant and animal observations are uploaded from a smartphone. The observer then selects to add the observation to specific TPWD Texas Nature Tracker Projects appropriate for the taxa observed, including Herps of Texas, Birds of Texas, Texas Eagle Nests, Texas Whooper Watch, Mammals of Texas, Rare Plants of Texas, Bees & Wasps of Texas, Terrestrial Mollusks of Texas, Texas Freshwater Mussels, Fishes of Texas, and All Texas Nature.

TPWD advises review and implementation of these recommendations in the preparation of the environmental document for the project. Please contact me at (361) 431-6003 or **russell.hooten@tpwd.texas.gov** if you have any questions or we may be of further assistance.

Sincerely,

Russell Hooten

Russell Hooten
Ecological and Environmental Planning Program
Wildlife Division

/rh 52548

June 25, 2024
AVO 55396.001

The Honorable Roland Gutierrez
State Senator, Senate District 19
Texas Senate
13131 SE Military Drive, Suite 207
San Antonio, Texas 78214

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Senator Gutierrez:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Tony Franklin, Field Representative
Area 3 Alamo SWCD
Texas State Soil and Water Conservation Board
1497 Country View Lane
Temple, Texas 76504

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Franklin:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From: Anderson, Ashley - FPAC-NRCS, TX <ashley.anderson@usda.gov>
Sent: Tuesday, July 2, 2024 3:48 PM
To: Jody Urbanovsky
Cc: Stahnke, Alan - FPAC-NRCS, TX
Subject: Environmental Assessment Request, Bexar County
Attachments: CPS_Energy_HowardLeon_Phase2_Response_Letter.pdf; CPS_Energy_HowardLeon_Phase2_Soil_Report.pdf

Hi Jody,

Please see attached letter and soil report for the environmental assessment that was requested for the CPS Energy Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project located in Bexar County, Texas. If you need anything else or have any questions, let me know.

Thanks,

Ashley Anderson
Soil Scientist
Temple, Texas
USDA-NRCS
Cell: 254-721-6485
Office: 254-742-9836

United States Department of Agriculture

Natural Resources
Conservation Service

State Office

101 S. Main Street
Temple, TX 76501
Voice 254.742.9800
Fax 254.742.9819

July 2, 2024

Halff Associates, Inc.
1201 N. Bowser Road
Richardson, Texas 75081

Attention: Jody Urbanovsky, Project Manager

Subject: CPS Energy Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project, Bexar County, TX

Thank you for the opportunity to provide input on the potential environmental effects of the CPS Energy Howard Road – Leon Creek 138 kV Phase 2 Transmission Line Project, Bexar County, TX. The proposed site has been evaluated and does not involve a USDA-NRCS easement.

The soils in the proposed project area have been reviewed. There are a few soil limitations in the project area that should be taken into consideration while planning for the project. As with any project, soil erosion is a main concern and erosion prevention practices are recommended. There is a moderate to high potential for steel corrosion and low potential for concrete corrosion for most of the area. There are no areas with hydric soils, which can be indicators of wetlands. There are different areas of rare to frequent flooding.

Enclosed is a Web Soil Survey map and reports illustrating the location of the soils as well as the ratings for related interpretations that are described above. We encourage you to consider this information during the construction of the proposed transmission line and substation and take measures to protect the soils and water quality.

If you have any questions, please contact me at by email at
ashley.anderson@usda.gov

Sincerely,
Ashley Anderson

Attachments: CPS_Energy_HowardLeon_Phase2_Soil_Report.pdf

United States Department of Agriculture

NRCS

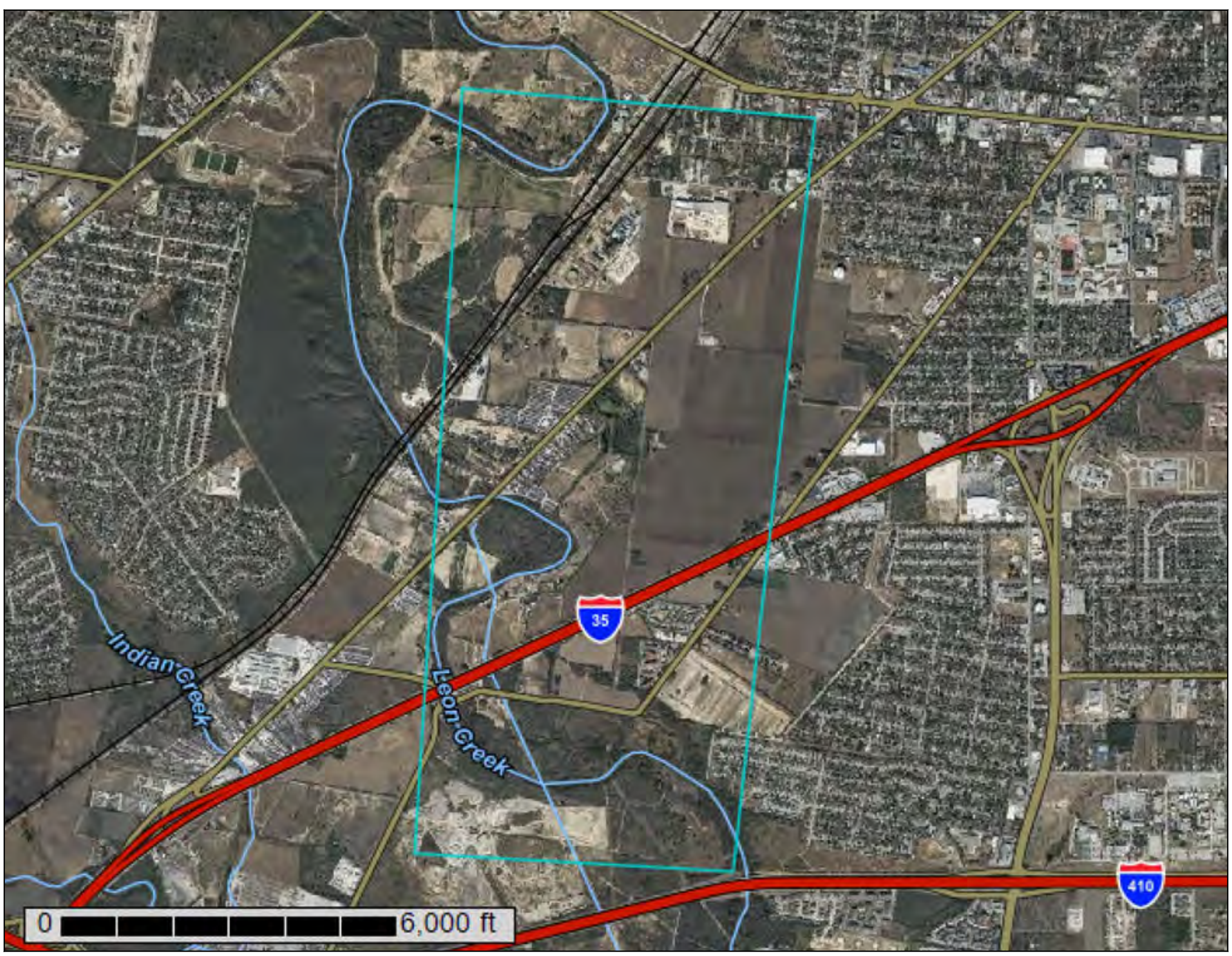
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Bexar County, Texas

CPS Energy Howard Road - Leon Creek 138 kV Phase 2 Transmission Line Project



July 2, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

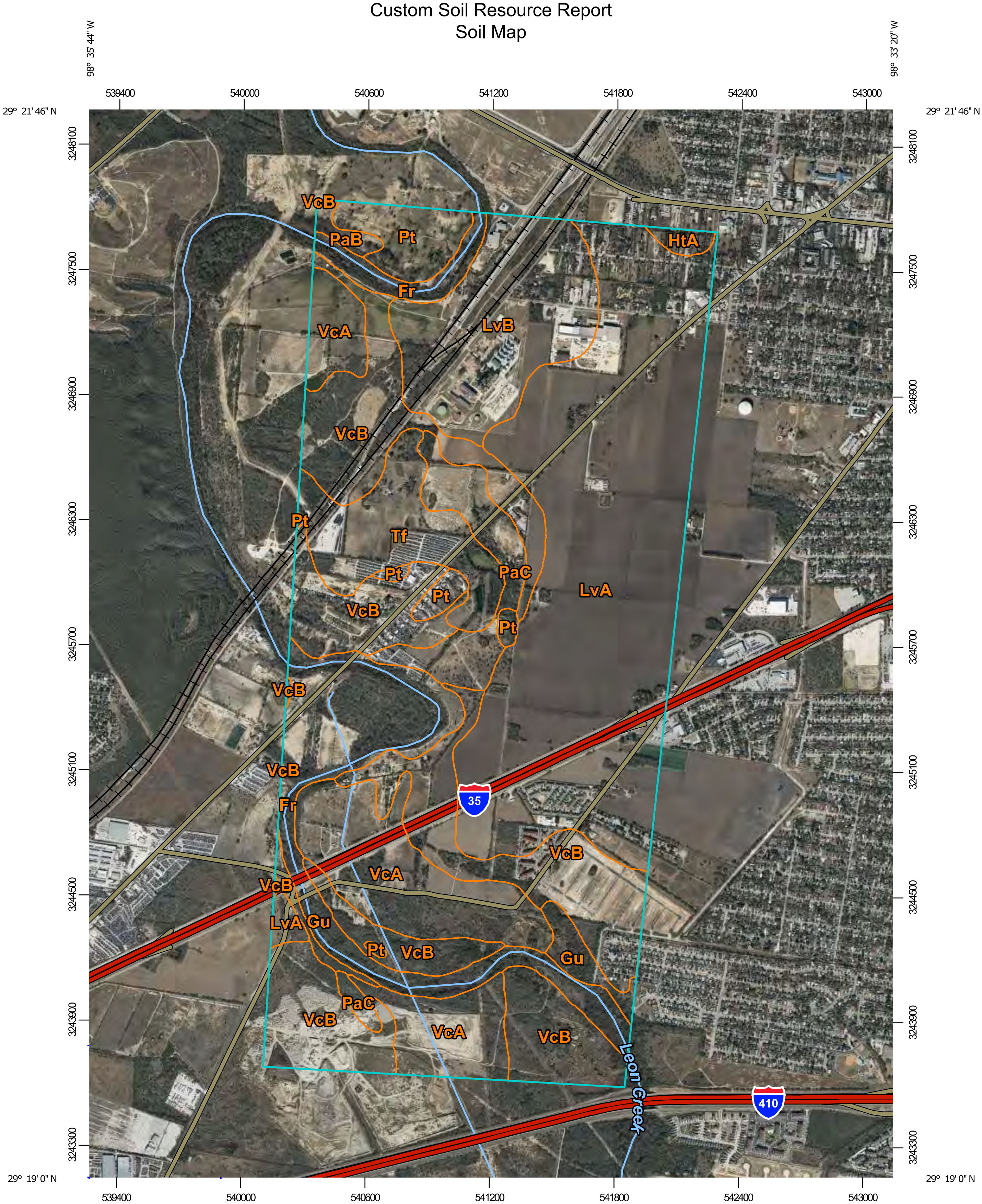
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map



Map Scale: 1:25,000 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 350, 700, 1400, 2100

Feet: 0, 1000, 2000, 4000, 6000

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 27, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	190.4	10.1%
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes	26.9	1.4%
HtA	Branyon clay, 0 to 1 percent slopes	7.5	0.4%
LvA	Lewisville silty clay, 0 to 1 percent slopes	585.4	30.9%
LvB	Lewisville silty clay, 1 to 3 percent slopes	171.9	9.1%
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	8.8	0.5%
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	72.6	3.8%
Pt	Pits and Quarries, 1 to 90 percent slopes	57.1	3.0%
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	101.8	5.4%
VcA	Sunev clay loam, 0 to 1 percent slopes	213.4	11.3%
VcB	Sunev clay loam, 1 to 3 percent slopes	456.0	24.1%
Totals for Area of Interest		**1,891.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Bexar County, Texas

Fr—Loire clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: f39m
Elevation: 200 to 700 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 260 to 310 days
Farmland classification: Not prime farmland

Map Unit Composition

Loire and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loire

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium

Typical profile

H1 - 0 to 25 inches: clay loam
H2 - 25 to 35 inches: clay loam
H3 - 35 to 56 inches: loam
H4 - 56 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: B
Ecological site: R083AY013TX - Loamy Bottomland
Hydric soil rating: No

Minor Components

Unnamed, hydric

Percent of map unit: 1 percent

Landform: Sloughs
Hydric soil rating: Yes

Gu—Gullied land-Sunev complex, 3 to 20 percent slopes

Map Unit Setting

National map unit symbol: f39p
Elevation: 10 to 6,000 feet
Mean annual precipitation: 10 to 46 inches
Mean annual air temperature: 57 to 73 degrees F
Frost-free period: 220 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Gullied land: 75 percent
Sunev and similar soils: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Microfeatures of landform position: Gullies
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 80 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R083AY027TX - Western Clay Loam
Hydric soil rating: No

Description of Sunev

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 14 inches: clay loam

H2 - 14 to 30 inches: clay loam
H3 - 30 to 62 inches: clay loam

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 70 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R083AY027TX - Western Clay Loam
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent
Hydric soil rating: No

HtA—Branyon clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2shgv
Elevation: 290 to 1,050 feet
Mean annual precipitation: 31 to 38 inches
Mean annual air temperature: 65 to 70 degrees F
Frost-free period: 238 to 288 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Branyon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Branyon

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai

Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone of pleistocene age

Typical profile

Ap - 0 to 12 inches: clay
Bkss - 12 to 72 inches: clay
BCkss - 72 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 7.0
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Minor Components

Lewisville

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Houston black

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Burleson

Percent of map unit: 5 percent

Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

LvA—Lewisville silty clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2vtgz
Elevation: 330 to 1,360 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 66 to 69 degrees F
Frost-free period: 258 to 274 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lewisville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lewisville

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone

Typical profile

Ap - 0 to 17 inches: silty clay
Bk1 - 17 to 44 inches: silty clay
Bk2 - 44 to 61 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.7 to 1.1 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Minor Components

Branyon

Percent of map unit: 10 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

LvB—Lewisville silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2vtgn
Elevation: 240 to 1,470 feet
Mean annual precipitation: 32 to 44 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 240 to 270 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lewisville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lewisville

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous clayey alluvium derived from mudstone

Typical profile

Ap - 0 to 15 inches: silty clay
Bk1 - 15 to 38 inches: silty clay
Bk2 - 38 to 69 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.7 to 1.1 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Minor Components

Altoga

Percent of map unit: 10 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Branyon

Percent of map unit: 5 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai, circular gilgai
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

PaB—Patrick soils, 1 to 3 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: f3bl
Elevation: 800 to 1,900 feet
Mean annual precipitation: 28 to 34 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 258 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Patrick and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Patrick

Setting

Landform: Paleoterraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey alluvium of quaternary age derived from mixed sources and/or sandy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 17 inches: clay loam
H2 - 17 to 60 inches: very gravelly sand

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R086AY002TX - Southern Chalky Ridge
Hydric soil rating: No

PaC—Patrick soils, 3 to 5 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: f3bm
Elevation: 800 to 1,900 feet
Mean annual precipitation: 28 to 34 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 258 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Patrick and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Patrick

Setting

Landform: Paleoterraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey alluvium of quaternary age derived from mixed sources and/or sandy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 17 inches: gravelly clay loam
H2 - 17 to 60 inches: very gravelly sand

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 55 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R086AY002TX - Southern Chalky Ridge
Hydric soil rating: No

Pt—Pits and Quarries, 1 to 90 percent slopes

Map Unit Setting

National map unit symbol: f3bn
Elevation: 20 to 8,750 feet
Mean annual precipitation: 9 to 56 inches
Mean annual air temperature: 54 to 73 degrees F
Frost-free period: 180 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Pits: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits

Typical profile

H1 - 0 to 80 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Tf—Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2y0v4
Elevation: 410 to 1,470 feet
Mean annual precipitation: 28 to 34 inches
Mean annual air temperature: 65 to 70 degrees F
Frost-free period: 232 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Tinn and similar soils: 70 percent
Frio and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tinn

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous clayey alluvium

Typical profile

A - 0 to 18 inches: clay
Bss - 18 to 72 inches: clay
Bkssy - 72 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent

Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: R086AY013TX - Clayey Bottomland
Hydric soil rating: No

Description of Frio

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy and/or clayey alluvium

Typical profile

A1 - 0 to 22 inches: clay loam
A2 - 22 to 40 inches: silty clay loam
Bk - 40 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C
Ecological site: R086AY012TX - Loamy Bottomland
Hydric soil rating: No

VcA—Sunev clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: f3c3
Elevation: 430 to 1,500 feet
Mean annual precipitation: 28 to 34 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 245 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Sunev and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sunev

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 16 inches: clay loam
H2 - 16 to 36 inches: clay loam
H3 - 36 to 62 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 70 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

VcB—Sunev clay loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: f3c4
Elevation: 430 to 1,500 feet
Mean annual precipitation: 28 to 34 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 245 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Sunev and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sunev

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 14 inches: clay loam
H2 - 14 to 34 inches: clay loam
H3 - 34 to 62 inches: loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 70 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Corrosion of Concrete (Howard Road - Leon Creek Transmission Line)

ENG

Engineering

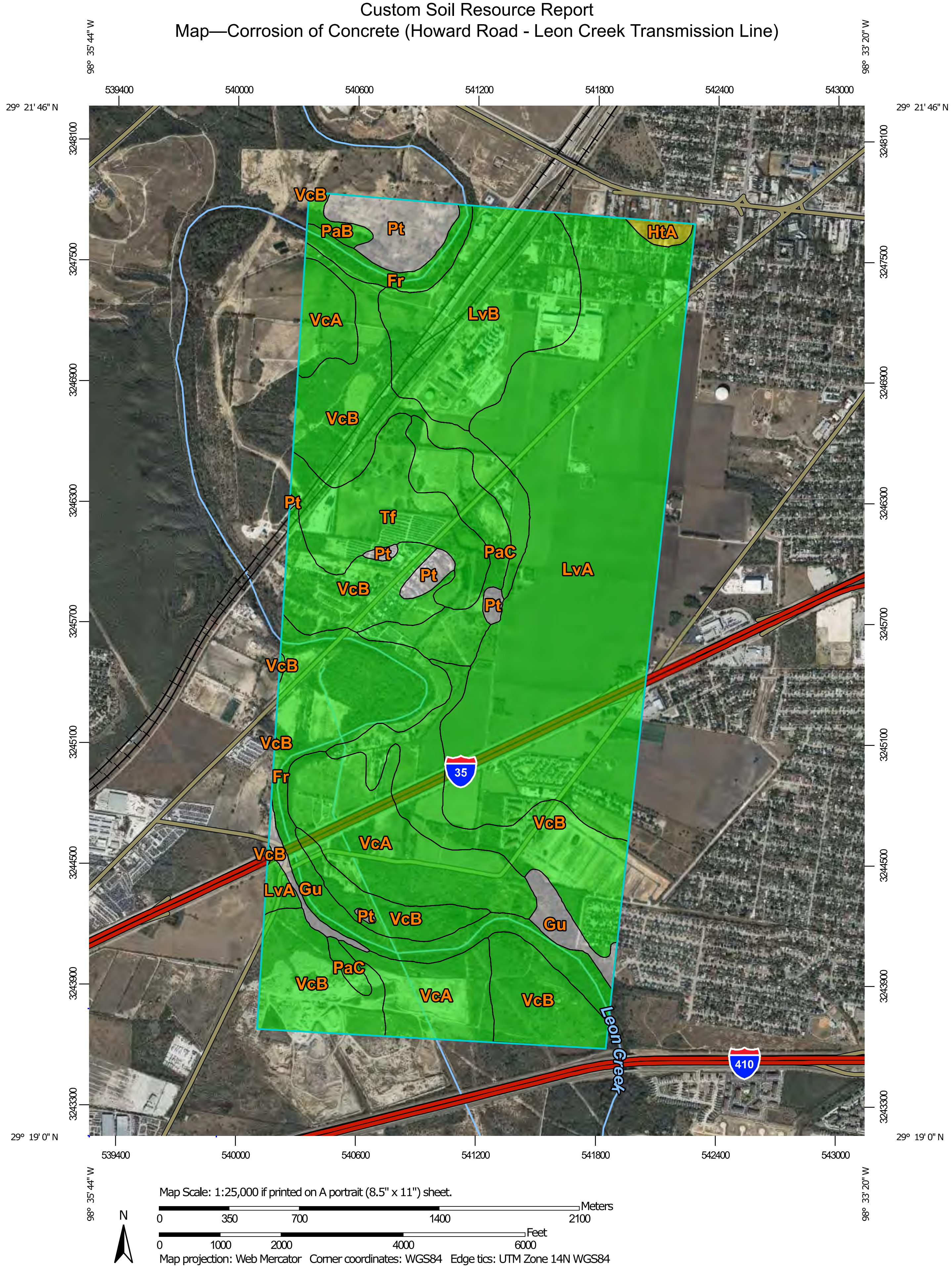
AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the concrete in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

Custom Soil Resource Report
Map—Corrosion of Concrete (Howard Road - Leon Creek Transmission Line)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- High
- Moderate
- Low
- Not rated or not available

Soil Rating Lines
- High
- Moderate
- Low
- Not rated or not available

Soil Rating Points
- High
- Moderate
- Low
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 27, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Corrosion of Concrete (Howard Road - Leon Creek Transmission Line)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	Low	190.4	10.1%
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes		26.9	1.4%
HtA	Branyon clay, 0 to 1 percent slopes	Moderate	7.5	0.4%
LvA	Lewisville silty clay, 0 to 1 percent slopes	Low	585.4	30.9%
LvB	Lewisville silty clay, 1 to 3 percent slopes	Low	171.9	9.1%
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	Low	8.8	0.5%
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	Low	72.6	3.8%
Pt	Pits and Quarries, 1 to 90 percent slopes		57.1	3.0%
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	Low	101.8	5.4%
VcA	Sunev clay loam, 0 to 1 percent slopes	Low	213.4	11.3%
VcB	Sunev clay loam, 1 to 3 percent slopes	Low	456.0	24.1%
Totals for Area of Interest			**1,891.9**	**100.0%**

Rating Options—Corrosion of Concrete (Howard Road - Leon Creek Transmission Line)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Corrosion of Steel (Howard Road - Leon Creek Transmission Line)

ENG

Engineering

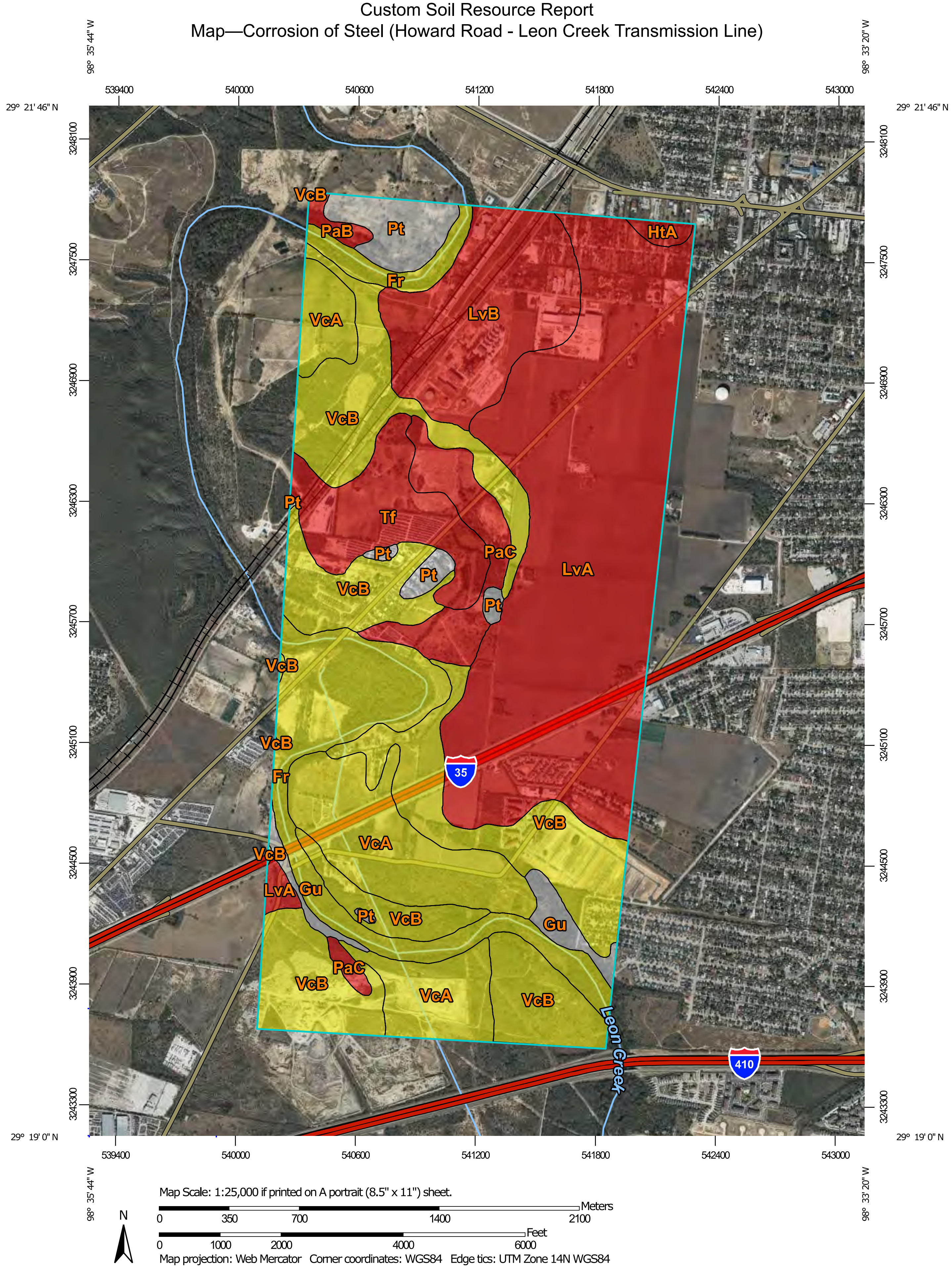
AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

Map—Corrosion of Steel (Howard Road - Leon Creek Transmission Line)



Map Scale: 1:25,000 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 350, 700, 1400, 2100

Feet: 0, 1000, 2000, 4000, 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- High
- Moderate
- Low
- Not rated or not available

Soil Rating Lines
- High
- Moderate
- Low
- Not rated or not available

Soil Rating Points
- High
- Moderate
- Low
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Corrosion of Steel (Howard Road - Leon Creek Transmission Line)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	Moderate	190.4	10.1%
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes		26.9	1.4%
HtA	Branyon clay, 0 to 1 percent slopes	High	7.5	0.4%
LvA	Lewisville silty clay, 0 to 1 percent slopes	High	585.4	30.9%
LvB	Lewisville silty clay, 1 to 3 percent slopes	High	171.9	9.1%
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	High	8.8	0.5%
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	High	72.6	3.8%
Pt	Pits and Quarries, 1 to 90 percent slopes		57.1	3.0%
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	High	101.8	5.4%
VcA	Sunev clay loam, 0 to 1 percent slopes	Moderate	213.4	11.3%
VcB	Sunev clay loam, 1 to 3 percent slopes	Moderate	456.0	24.1%
Totals for Area of Interest			**1,891.9**	**100.0%**

Rating Options—Corrosion of Steel (Howard Road - Leon Creek Transmission Line)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit (Howard Road - Leon Creek Transmission Line)

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

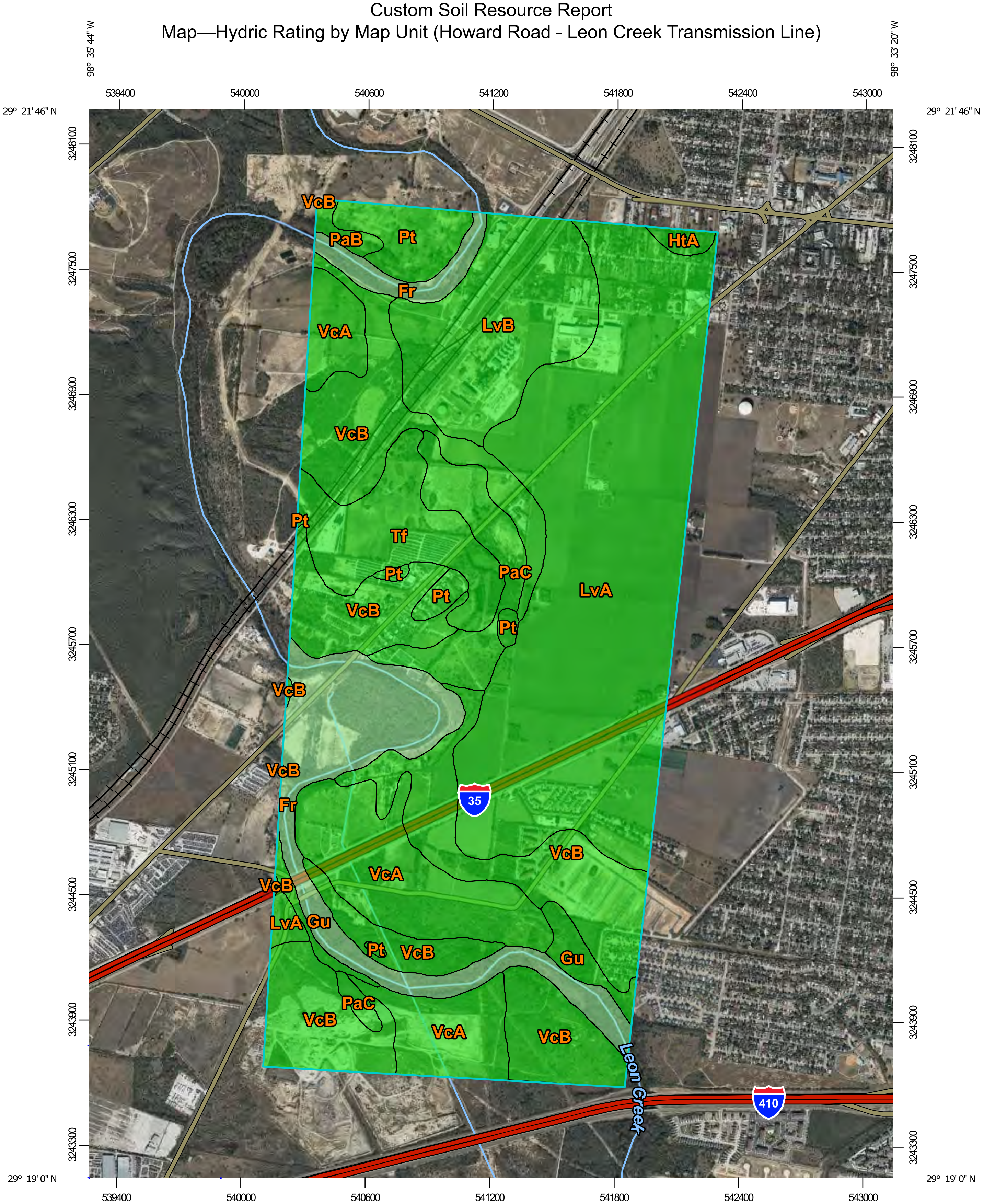
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Custom Soil Resource Report
Map—Hydric Rating by Map Unit (Howard Road - Leon Creek Transmission Line)



Map Scale: 1:25,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 350, 700, 1400, 2100

Feet: 0, 1000, 2000, 4000, 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Lines

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Points

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 27, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit (Howard Road - Leon Creek Transmission Line)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	1	190.4	10.1%
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes	0	26.9	1.4%
HtA	Branyon clay, 0 to 1 percent slopes	0	7.5	0.4%
LvA	Lewisville silty clay, 0 to 1 percent slopes	0	585.4	30.9%
LvB	Lewisville silty clay, 1 to 3 percent slopes	0	171.9	9.1%
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	0	8.8	0.5%
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	0	72.6	3.8%
Pt	Pits and Quarries, 1 to 90 percent slopes	0	57.1	3.0%
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	0	101.8	5.4%
VcA	Sunev clay loam, 0 to 1 percent slopes	0	213.4	11.3%
VcB	Sunev clay loam, 1 to 3 percent slopes	0	456.0	24.1%
Totals for Area of Interest			**1,891.9**	**100.0%**

Rating Options—Hydric Rating by Map Unit (Howard Road - Leon Creek Transmission Line)

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Water Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

"Water Erosion Potential (TX)" is a qualitative interpretation that evaluates a soil's potential to erode through the action of water. The potential assumes that the area being affected is bare, smooth, and exposed to the water erosion processes. The interpretation provides the user with a qualitative rating of the vulnerability of the soil to the action of water; it is not a measure of actual soil loss from erosion.

The water erosion potential of the soil is based on those soil properties or a combination of soil properties and landscape characteristics that contribute to runoff and have low resistance to water erosion processes. Soil features that contribute to water erosivity are surface-layer particle size, saturated hydraulic conductivity, and high runoff landscapes. Conversely, soil features that resist the erosive effect of water are high organic matter content in the surface layer and low runoff landscapes. The water erosion potential is a function of the interaction between those soil features that make the soil susceptible to water erosion and those that resist the water erosion process.

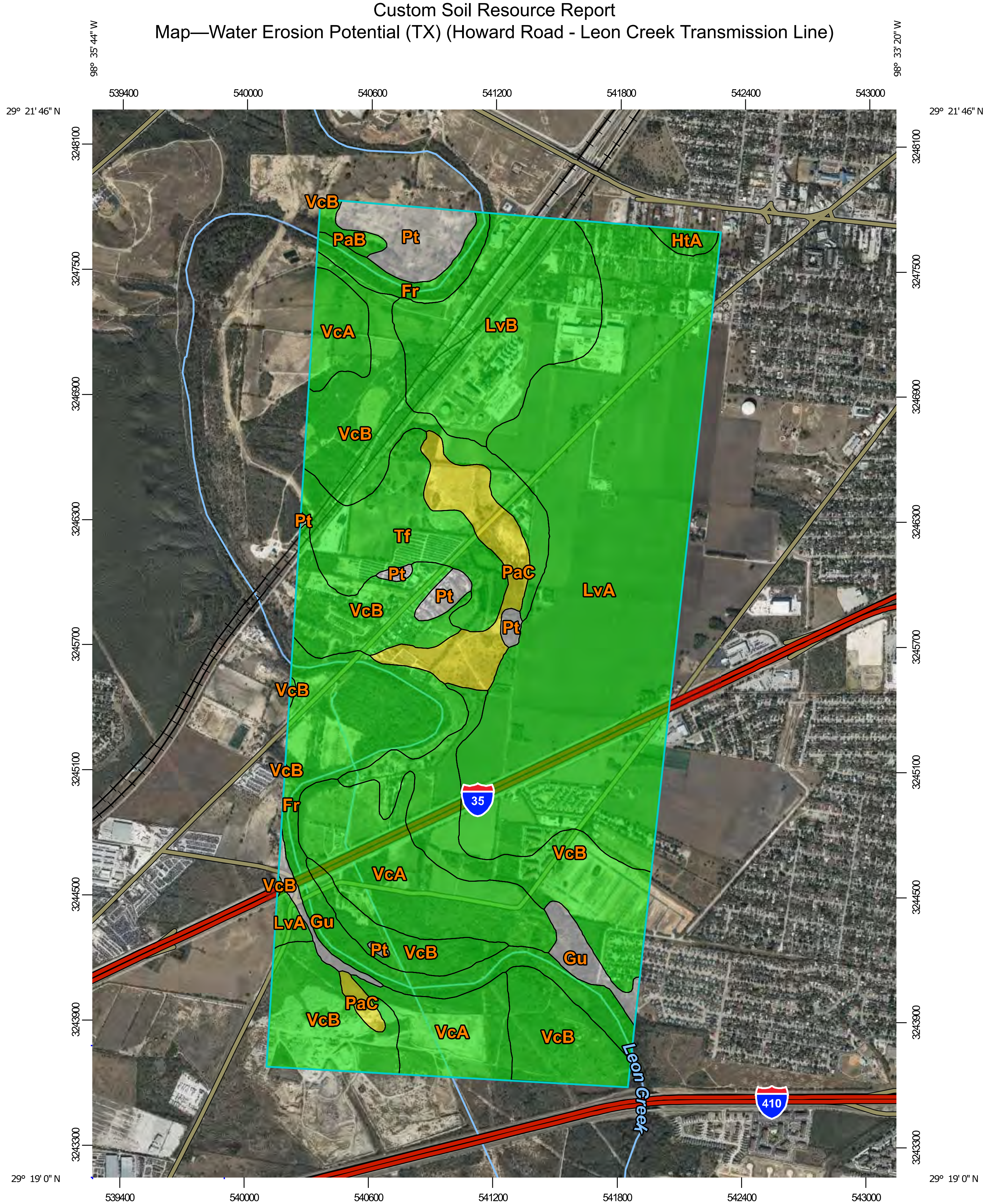
The ratings are both verbal and numerical. Numerical ratings indicate the soil's relative water erosion potential. They are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest water erosion potential (1.00) and the point at which a soil has very low water erosion potential (0.00).

Verbal soil rating classes are based on the highest numerical rating for the most limiting soil feature(s) considered in the rating process. "Very high" (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative water erosion vulnerability. "High" (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative water erosion vulnerability. "Moderate" (numerical value less than or equal to 0.65 to greater than 0.35) indicates that the soil has medium relative water erosion vulnerability. "Low" (numerical value less than or equal to 0.35 to greater than 0.1) indicates that the soil has small relative water erosion vulnerability. "Very low" (numerical value less than or equal to 0.10) indicates that the soil has little or no relative water erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Water Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)



Map Scale: 1:25,000 if printed on A portrait (8.5" x 11") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very high water erosion potential

High water erosion potential

Moderate water erosion potential

Low water erosion potential

Very low water erosion potential

Not rated or not available

Soil Rating Lines

Very high water erosion potential

High water erosion potential

Moderate water erosion potential

Low water erosion potential

Very low water erosion potential

Not rated or not available

Soil Rating Points

Very high water erosion potential

High water erosion potential

Moderate water erosion potential

Low water erosion potential

Very low water erosion potential

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 27, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Water Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	Very low water erosion potential	Loire (99%)	Organic matter (0.93) Percs slowly (0.92) Silt content (0.73)	190.4	10.1%
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes	Not rated	Gullied land (75%) Unnamed (10%)		26.9	1.4%
HtA	Branyon clay, 0 to 1 percent slopes	Very low water erosion potential	Branyon (85%)	Percs slowly (1.00) Organic matter (0.97) Silt content (0.58)	7.5	0.4%
LvA	Lewisville silty clay, 0 to 1 percent slopes	Very low water erosion potential	Lewisville (90%)	Percs slowly (1.00) Organic matter (0.97) Silt content (0.77)	585.4	30.9%
LvB	Lewisville silty clay, 1 to 3 percent slopes	Very low water erosion potential	Lewisville (85%)	Percs slowly (1.00) Organic matter (0.97) Silt content (0.77) LS factor (0.10)	171.9	9.1%
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	Very low water erosion potential	Patrick (100%)	Organic matter (0.97) Percs slowly (0.92) Silt content (0.49) LS factor (0.10)	8.8	0.5%
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	Moderate water erosion potential	Patrick (100%)	Organic matter (0.97) Percs slowly (0.92) LS factor (0.70) Silt content (0.49)	72.6	3.8%
Pt	Pits and Quarries, 1 to 90 percent slopes	Not rated	Pits (100%)		57.1	3.0%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	Very low water erosion potential	Tinn (70%)	Percs slowly (1.00)	101.8	5.4%
				Organic matter (0.98)		
				Silt content (0.30)		
			Frio (30%)	Percs slowly (0.99)		
				Organic matter (0.98)		
				Silt content (0.91)		
VcA	Sunev clay loam, 0 to 1 percent slopes	Very low water erosion potential	Sunev (100%)	Organic matter (0.97)	213.4	11.3%
				Percs slowly (0.92)		
				Silt content (0.69)		
VcB	Sunev clay loam, 1 to 3 percent slopes	Very low water erosion potential	Sunev (100%)	Organic matter (0.97)	456.0	24.1%
				Percs slowly (0.92)		
				Silt content (0.69)		
				LS factor (0.10)		
Totals for Area of Interest					**1,891.9**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very low water erosion potential	1,735.2	91.7%
Moderate water erosion potential	72.6	3.8%
Null or Not Rated	84.0	4.4%
Totals for Area of Interest	**1,891.9**	**100.0%**

Rating Options—Water Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Wind Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "very low" class (numerical value less than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site. The Wind Erosion Potential (TX) is a qualitative interpretation which evaluates a soil's potential to erode through the action of wind. The potential assumes that the area being affected is bare, smooth, and has a long distance exposed to the wind. The soil wind erosion potential provides the user with a qualitative rating of the vulnerability of the soil to the action of the wind and is not a measure of actual soil loss from erosion.

The wind erosion potential of the soil is based on those surface soil properties that by themselves or in combination with others contribute to the soil's potential wind erosivity. Those surface soil features that contribute to wind erosivity are particle size and carbonate content. Conversely, surface features that resist the erosive effect of wind are organic matter content and coarse fragments. The soil wind erosion potential is a function of the interaction between surface soil features that make the soil susceptible to wind erosion and those that resist the wind erosion process.

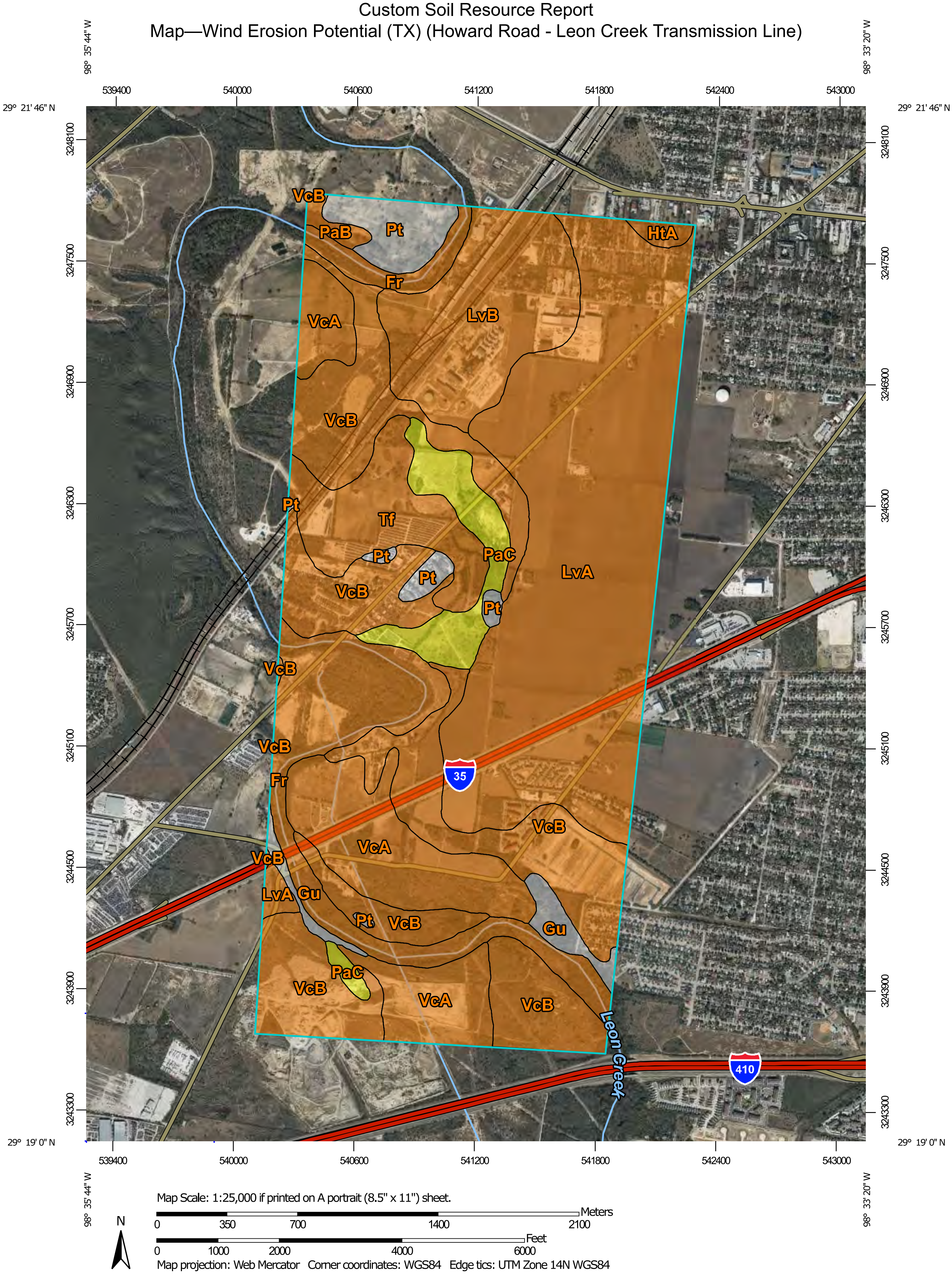
Numerical ratings or values indicate the soil's relative wind erosion potential. Ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest wind erosion potential (1.00), and the point at which a soil has very low wind erosion potential (0.00).

The ratings are both verbal and numerical. The potential degree to which a soil is susceptible to wind erosion will range from "very high" to "very low" (from 1.0 to 0.0). Soils that have favorable surface particle size, high organic matter content, or protective coarse fragments will have "very low" wind erosion potential. Soils that have "very high" wind erosion potential are those with a surface layer that has a sandy particle size, high carbonate content, low organic matter content, or no coarse fragment protection.

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "very low" class (numerical value less than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation

Custom Soil Resource Report
Map—Wind Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very high

High

Moderate

Low

Very low

Not rated or not available

Soil Rating Lines

Very high

High

Moderate

Low

Very low

Not rated or not available

Soil Rating Points

Very high

High

Moderate

Low

Very low

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 27, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 3, 2020—Dec 9, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Wind Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Fr	Loire clay loam, 0 to 2 percent slopes, occasionally flooded	High wind erosion potential	Loire (99%)	Carbonate content of surface (0.79)	190.4	10.1%
				Clay content of surface (0.54)		
				Sand content of surface (0.24)		
				Silt content of surface (0.09)		
				Rock fragment content of surface (0.00)		
Gu	Gullied land-Sunev complex, 3 to 20 percent slopes	Not rated	Gullied land (75%)		26.9	1.4%
			Unnamed (10%)			
HtA	Branyon clay, 0 to 1 percent slopes	High wind erosion potential	Branyon (85%)	Clay content of surface (0.85)	7.5	0.4%
				Silt content of surface (0.06)		
				Rock fragment content of surface (0.02)		
LvA	Lewisville silty clay, 0 to 1 percent slopes	High wind erosion potential	Lewisville (90%)	Carbonate content of surface (0.86)	585.4	30.9%
				Clay content of surface (0.85)		
				Silt content of surface (0.19)		
				Rock fragment content of surface (0.01)		
LvB	Lewisville silty clay, 1 to 3 percent slopes	High wind erosion potential	Lewisville (85%)	Carbonate content of surface (0.86)	171.9	9.1%
				Clay content of surface (0.85)		
				Silt content of surface (0.19)		
				Rock fragment content of surface (0.01)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	High wind erosion potential	Patrick (100%)	Clay content of surface (0.85)	8.8	0.5%
				Sand content of surface (0.12)		
				Silt content of surface (0.04)		
				Rock fragment content of surface (0.02)		
PaC	Patrick soils, 3 to 5 percent slopes, rarely flooded	Moderate wind erosion potential	Patrick (100%)	Clay content of surface (0.85)	72.6	3.8%
				Rock fragment content of surface (0.25)		
				Sand content of surface (0.12)		
				Silt content of surface (0.04)		
Pt	Pits and Quarries, 1 to 90 percent slopes	Not rated	Pits (100%)		57.1	3.0%
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	High wind erosion potential	Tinn (70%)	Clay content of surface (0.85)	101.8	5.4%
				Silt content of surface (0.02)		
				Carbonate content of surface (0.02)		
				Organic matter content of surface (0.01)		
				Rock fragment content of surface (0.00)		
			Frio (30%)	Carbonate content of surface (0.86)		
				Clay content of surface (0.83)		
				Silt content of surface (0.13)		
				Organic matter content of surface (0.02)		
				Rock fragment content of surface (0.02)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
VcA	Sunev clay loam, 0 to 1 percent slopes	High wind erosion potential	Sunev (100%)	Carbonate content of surface (0.86)	213.4	11.3%
				Clay content of surface (0.63)		
				Sand content of surface (0.22)		
				Silt content of surface (0.08)		
				Rock fragment content of surface (0.03)		
VcB	Sunev clay loam, 1 to 3 percent slopes	High wind erosion potential	Sunev (100%)	Carbonate content of surface (0.86)	456.0	24.1%
				Clay content of surface (0.63)		
				Sand content of surface (0.22)		
				Silt content of surface (0.08)		
				Rock fragment content of surface (0.03)		
Totals for Area of Interest					**1,891.9**	**100.0%**

Rating	Acres in AOI	Percent of AOI
High wind erosion potential	1,735.2	91.7%
Moderate wind erosion potential	72.6	3.8%
Null or Not Rated	84.0	4.4%
Totals for Area of Interest	**1,891.9**	**100.0%**

Rating Options—Wind Erosion Potential (TX) (Howard Road - Leon Creek Transmission Line)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features (Howard Road - Leon Creek Transmission Line)

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features–Bexar County, Texas									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
Fr—Loire clay loam, 0 to 2 percent slopes, occasionally flooded									
Loire		—	—		0	—	None	Moderate	Low
Gu—Gullied land-Sunev complex, 3 to 20 percent slopes									
Gullied land		—	—		0	—			
Sunev		—	—		0	—	None	Moderate	Low
HtA—Branyon clay, 0 to 1 percent slopes									
Branyon		—	—		0	0	None	High	Moderate
LvA—Lewisville silty clay, 0 to 1 percent slopes									
Lewisville		—	—		0	0	None	High	Low
LvB—Lewisville silty clay, 1 to 3 percent slopes									
Lewisville		—	—		0	0	None	High	Low

Soil Features–Bexar County, Texas									
Map symbol and soil name	**Restrictive Layer**				**Subsidence**		**Potential for frost action**	**Risk of corrosion**	
	Kind	**Depth to top**	**Thickness**	**Hardness**	**Initial**	**Total**		**Uncoated steel**	**Concrete**
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
PaB—Patrick soils, 1 to 3 percent slopes, rarely flooded									
Patrick		—	—		0	—	None	High	Low
PaC—Patrick soils, 3 to 5 percent slopes, rarely flooded									
Patrick		—	—		0	—	None	High	Low
Pt—Pits and Quarries, 1 to 90 percent slopes									
Pits		—	—		0	—			
Tf—Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded									
Tinn		—	—		0	0	None	High	Low
Frio		—	—		0	0	None	High	Low
VcA—Sunev clay loam, 0 to 1 percent slopes									
Sunev		—	—		0	—	None	Moderate	Low
VcB—Sunev clay loam, 1 to 3 percent slopes									
Sunev		—	—		0	—	None	Moderate	Low

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Water Features (Howard Road - Leon Creek Transmission Line)

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. The kind of water table, apparent or perched, is given if a seasonal high water table exists in the soil. A water table is perched if free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hardpan; there is a dry layer of soil underneath a wet layer. A water table is apparent if free water is present in all horizons from its upper boundary to below 2 meters or to the depth of observation. The water table kind listed is for the first major component in the map unit.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
Fr—Loire clay loam, 0 to 2 percent slopes, occasionally flooded											
Loire	B	Negligible	Jan-Feb	—	—	—	—	—	None	—	
			Mar-Jun	—	—	—	—	—	None	Brief (2 to 7 days)	Occasional
			Jul-Dec	—	—	—	—	—	None	—	
Gu—Gullied land-Sunev complex, 3 to 20 percent slopes											
Gullied land	C	Very low	Jan-Dec	—	—	—	—	—	None	—	None
Sunev	B	Medium	Jan-Dec	—	—	—	—	—	None	—	None
HtA—Branyon clay, 0 to 1 percent slopes											
Branyon	D	High	Jan-Dec	—	—	—	—	—	None	—	None
LvA—Lewisville silty clay, 0 to 1 percent slopes											
Lewisville	C	Medium	Jan-Dec	—	—	—	—	—	None	—	None
LvB—Lewisville silty clay, 1 to 3 percent slopes											
Lewisville	C	High	Jan-Dec	—	—	—	—	—	None	—	None
PaB—Patrick soils, 1 to 3 percent slopes, rarely flooded											
Patrick	B	Low	Jan-May	—	—	—	—	—	None	—	Rare
			Jun-Sep	—	—	—	—	—	None	—	
			Oct-Dec	—	—	—	—	—	None	—	Rare
PaC—Patrick soils, 3 to 5 percent slopes, rarely flooded											
Patrick	B	Low	Jan-May	—	—	—	—	—	None	—	Rare
			Jun-Sep	—	—	—	—	—	None	—	
			Oct-Dec	—	—	—	—	—	None	—	Rare
Pt—Pits and Quarries, 1 to 90 percent slopes											
Pits	D	Low	Jan-Dec	—	—	—	—	—	None	—	None

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
Tf—Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded											
Tinn	D	High	Jan	—	—	—	—	—	None	—	
			Feb-May	—	—	—	—	—	None	Brief (2 to 7 days)	Frequent
			Jun-Dec	—	—	—	—	—	None	—	
Frio	C	Low	Jan	—	—	—	—	—	None	—	
			Feb-May	—	—	—	—	—	None	Brief (2 to 7 days)	Frequent
			Jun-Dec	—	—	—	—	—	None	—	
VcA—Sunev clay loam, 0 to 1 percent slopes											
Sunev	B	Negligible	Jan-Dec	—	—	—	—	—	None	—	None
VcB—Sunev clay loam, 1 to 3 percent slopes											
Sunev	B	Low	Jan-Dec	—	—	—	—	—	None	—	None

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June 25, 2024
AVO 55396.001

Mr. David Firgens
Manager, Team 5 - Central
Texas Water Development Board
1700 North Congress Avenue
Austin, Texas 78701

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Firgens:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Ms. Suzanne Scott
State Director, Texas Chapter
The Nature Conservancy
200 East Grayson, Suite 202
San Antonio, Texas 78215

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Scott:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

The Honorable Rob Kelly
Chairman
Alamo Area Council of Governments
2700 NE Loop 410, Suite 101
San Antonio, Texas 78217

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Judge Kelly:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Gary Schott, Chairman
Alamo Soil and Water Conservation District
727 East Cesar E. Chavez Boulevard, Room A507
San Antonio, Texas 78206

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Schott:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

The Honorable Ron Nirenberg
Mayor of San Antonio
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mayor Nirenberg:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

The Honorable Adriana Rocha Garcia
City Council, District 4
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Councilwoman Rocha Garcia:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

halff

June 25, 2024
AVO 55396.001

Ms. Shannon Shea Miller, Director
Office of Historic Preservation Development and Business Services Center
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Shea Miller:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From: Edward Hall (OHP) <Edward.Hall@sanantonio.gov>
Sent: Tuesday, July 9, 2024 11:34 AM
To: Jody Urbanovsky
Cc: Office Of Historic Preservation; OHP Permits; Matthew Elverson (OHP)
Subject: CPS Energy's Proposed Howard Road - Leon Creek 138 kV Phase 2 Transmission Line Rebuild

Good morning, Jody.

Thank you for sending the Office of Historic Preservation a notification regarding the proposed Howard Road - Leon Creek 138 kV Phase 2 Transmission Line Rebuild. There is no required approval or coordination from the Office of Historic Preservation. CPS' archaeology team will handle the archaeology review.

A Certificate of Appropriateness from the Office of Historic Preservation is not required for this scope of work.

In the future, emailing an electronic notice may be better for receiving a timely response. You can email that directly to ohp@sanantonio.gov and ohppermits@sanantonio.gov.

Please let me know if you have any questions.

Thank you,
Edward Hall
Design Review Manager
Design Review, HDRC & Enforcement

City of San Antonio · Office of Historic Preservation
100 W Houston · San Antonio, TX 78205
Direct: 210.207.4680 · Office: 210.207.0035
www.sanantonio.gov/historic

CITY OF SAN ANTONIO TEXAS HISTORIC PRESERVATION

June 25, 2024
AVO 55396.001

Ms. Veronica Barefield
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Barefield:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Ms. Victoria Escobedo
Interim Storm Water Capital Programs Manager
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Escobedo:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Al Siam Ferdous
Engineering Programs Manager
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Ferdous:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Richard Grochowski
Engineering Programs Manager
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Grochowski:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From:	Richard Grochowski (PWD) <Richard.Grochowski@sanantonio.gov>
Sent:	Monday, July 8, 2024 11:40 AM
To:	Jody Urbanovsky
Cc:	David McBeth (PWD); John Cantu (PWD); Logan Sparrow (DSD)
Subject:	CPS Energy - Proposed Howard Road - Leon Creek 138 kV Phase 2 Transmission Line Rebuild
Attachments:	HowardRd-LeonCeek138kVPhase2TransmissionLine_COSA-PWD-PD.pdf

Jody – we have received the letter dated June 25, 2024 regarding the subject project. The City of San Antonio's Public Works Department Project Delivery Division does not have any active or planned projects along the route of your proposed transmission line rebuild project. With regard to your research on environmental and land use constraints, I'm including John Cantu, our manager with Public Works Environmental Management, and Logan Sparrow with Development Services (in case you don't have a contact at DSD) who may have information along those lines.

Thanks,

Richard Grochowski, P.E.

Engineering Programs Manager

City of San Antonio, Public Works Department

210-207-7640 (office)

halff

June 25, 2024
AVO 55396.001

Mr. Razi Hosseini, P.E. R.P.L.S, Director
City Engineer
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Hosseini:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Marc Jacobson
Programs Manager
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Jacobson:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

On behalf of CPS Energy, Halff is preparing an Environmental Assessment (EA) to support CPS Energy's internal review process. Halff is currently gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental and land use constraints map.

Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Karlo Jajliardo
Interim Capital Programs Manager
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Jajliardo:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. David McBeth, P.E.
Assistant City Engineer
Public Works Department
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. McBeth:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Ms. Colleen Swain, Director
World Heritage Office
City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Ms. Swain:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Randall Perkins
Board Member
Edwards Aquifer Authority - District 5
900 East Quincy
San Antonio, Texas 78215

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Perkins:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your comments will be an important consideration in the assessment of potential impacts. Upon review of the proposed project, CPS Energy will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, CPS Energy will contact your office following completion of this study.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Enrique Valdivia
Chairman
Edwards Aquifer Authority - District 7
900 East Quincy
San Antonio, Texas 78215

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Valdivia:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Derek Boese
General Manager
San Antonio River Authority
100 East Guenther Street
San Antonio, Texas 78204

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Boese:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

From: Shaun Donovan <sdonovan@sariverauthority.org>
Sent: Friday, July 26, 2024 10:19 AM
To: Jody Urbanovsky
Subject: Environmental and Land Use Constraints Requests

Good Afternoon Jody,

This email is in response to the two requests you recently sent to the attention of our GM, Derek Boese. Moving forward, please direct these inquires to me via email, or make the letters to my attention if you prefer to send them through the mail.

As you know, both alignments cross the 100-year floodplain, with the bulk of the proposed routes near Leon Creek in the floodplain. The River Authority does not have bed and bank ownership near either of the proposed alignments, most notably San Geronimo Creek west of Helotes where the Ranchtown-Talley Road alignment crosses. The River Authority is not aware of any environmental or land use constraints in these areas. However, it should not be assumed that environmental or land use constraints do not exist in the areas, and thorough due diligence should be conducted with other entities and relevant environmental databases.

Thank you for reaching out and let us know if you have any questions on this response.

Thanks,
Shaun

Shaun Donovan (he/him/his) FP-C, PMP **| Manager, Environmental Sciences**
100 E. Guenther St., San Antonio, TX 78204 | W (210) 302-3258 C (210)639-8437 | sdonovan@sariverauthority.org

SAN ANTONIO RIVER AUTHORITY

June 25, 2024
AVO 55396.001

Mr. Robert Puente
President, Chief Executive Officer
San Antonio Water System
P.O. Box 2449
San Antonio, Texas 78298

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Puente:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

halff

June 25, 2024 Transmitted via U.S. mail and email: Andrew.Wiatrek@saws.org
AVO 55396.001

Mr. Andrew Wiatrek, Manager
Resource Compliance Division
San Antonio Water System
P.O. Box 2449
San Antonio, Texas 78298

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Wiatrek:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

June 25, 2024
AVO 55396.001

Mr. Henry Yzaguirre
Superintendent
South San Antonio Independent School District
1450 Gillette Boulevard
San Antonio, Texas 78224

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Mr. Yzaguirre:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

halff

June 25, 2024
AVO 55396.001

Dr. Jeanette Ball
Superintendent
Southwest Independent School District
11914 Dragon Lane
San Antonio, Texas 78252

Re: CPS Energy's proposed Howard Road—Leon Creek 138 kV Phase 2 transmission line rebuild project in Bexar County, Texas

Dear Dr. Ball:

CPS Energy proposes to rebuild an existing 138 kilovolt (kV) transmission line beginning at the existing Leon Creek Substation which is located near the southeast of intersection Quintana Road and Pitluk Avenue in San Antonio, Texas, and continuing approximately 1.8 miles to an existing CPS Energy transmission line structure (Structure #17) located north of Leon Creek, as indicated on the provided map. The entire project will be within the City of San Antonio city limits. The rebuild will replace the existing triple-circuit lattice tower configuration with two monopole structures. One monopole structure will accommodate two of the existing 138 kV circuits. The other monopole structure will accommodate one of the existing 138 kV circuits and include a vacant position for a future 138 kV circuit. The rebuild will utilize the existing easement and require additional easements along its length. Please refer to the attached map depicting the study area.

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Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357 or jurbanovsky@halff.com. Your earliest reply will be appreciated.

Sincerely,

Jody Urbanovsky

Jody Urbanovsky, Project Manager
Attachment – Project Study Area Map

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Appendix B

Public Involvement Information

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August 14, 2024

Dear CPS Energy Customer:

Thank you for being our customer. We invite you to attend an open house to learn about a proposed project in your area. The Howard Road to Leon Creek Phase 2 Transmission Line Project involves the rebuild of the transmission line in the Southwest area of Bexar County.

The proposed rebuild will span approximately 1.8 miles from the Leon Creek Substation to the Howard Road Substation.

At the Open House, you may learn more about the project need and the transmission line routing options. We welcome your questions, comments, and input regarding this project. CPS Energy team members directly involved with the project will be present to answer your questions and receive feedback you provide. The Open House will have an informal “come and go” format with information stations addressing specific areas of the proposed project.

CPS Energy Open House
Howard Road to Leon Creek Phase 2 Transmission Line Project
August 29, 2024
6:00 P.M. – 8:00 P.M.
St. Clare Catholic Church
7701 Somerset Road
San Antonio, TX 78211

A brochure describing the proposed project and a map of the study area is included in this packet. Additional information will also be available at www.cpsenergy.com/infrastructure.

We look forward to meeting you, receiving feedback you provide, and answering your questions. Thank you in advance for taking the time to join us.

Sincerely,
Andres Salgado Alamo
Project Manager
S&T Regulatory Support

14 de agosto de 2024

Estimado cliente de CPS Energy:

Gracias por ser nuestro cliente. Le invitamos a asistir a una Feria en la Sede de CPS Energy para informarse sobre un proyecto propuesto en su área. El Proyecto de Línea de Transmisión de Howard Road a Leon Creek Fase 2 involucra la reconstrucción de la línea de transmisión en el área suroeste del Condado de Bexar.

La reconstrucción propuesta abarcará aproximadamente 1.8 millas desde la subestación de Leon Creek hasta la subestación de Howard Road.

En la Feria en la Sede de CPS Energy podrá obtener más información sobre las necesidades del proyecto y las opciones de trazado de la línea de transmisión. Agradeceremos sus preguntas, comentarios y aportaciones sobre este proyecto. Los miembros del equipo de CPS Energy directamente involucrados en el proyecto estarán presentes para responder sus preguntas y recibir sus comentarios. La Feria en la Sede de CPS Energy tendrá un formato informal de "entrada y salida" con puestos de información que abordarán áreas específicas del proyecto propuesto.

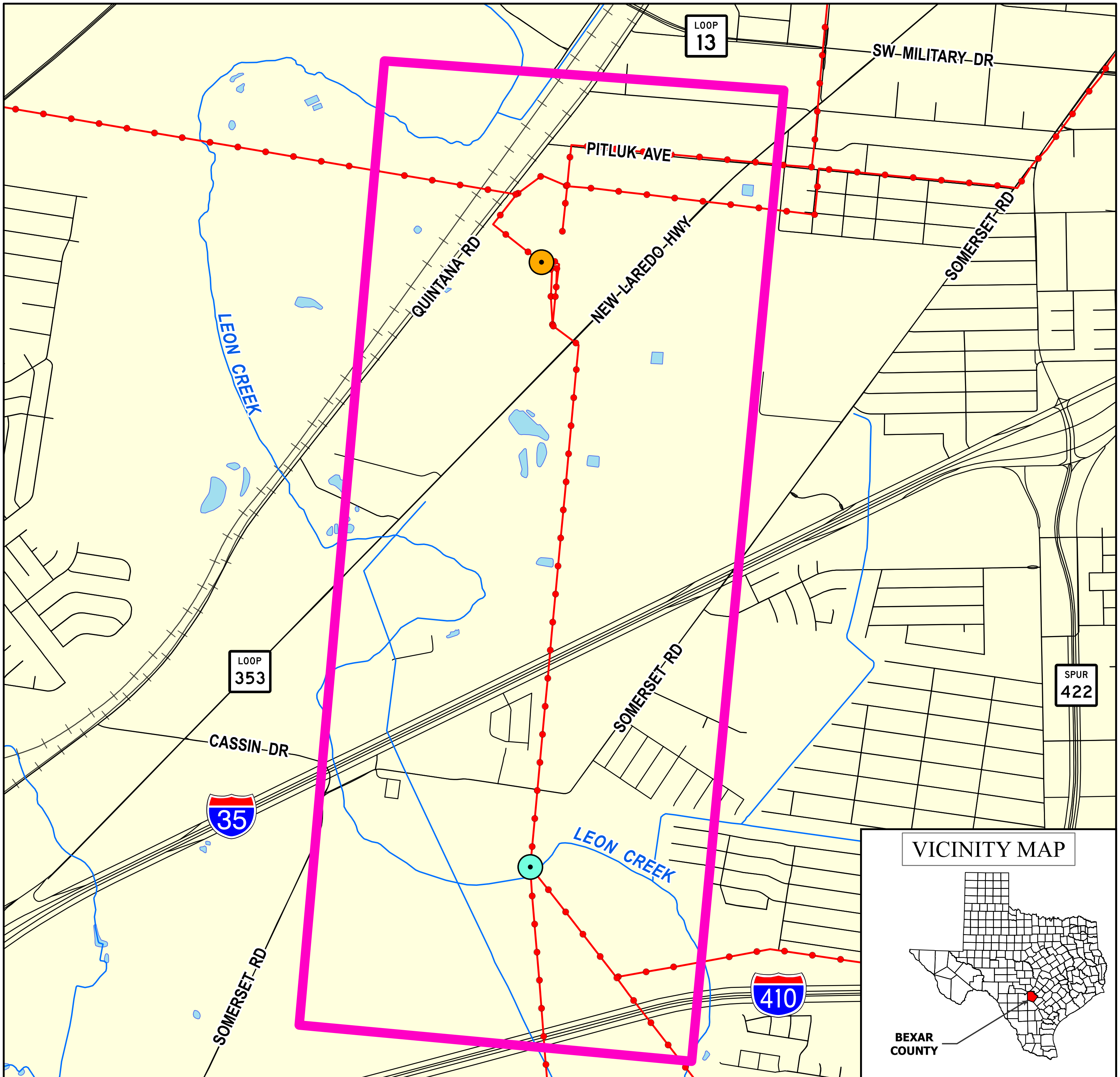
Feria en la Sede de CPS Energy
Proyecto de Línea de Transmisión de Howard Road a Leon Creek Fase 2
29 de agosto de 2024
6:00 P.M. - 8:00 P.M.
St. Clare Catholic Church
7701 Somerset Road
San Antonio, TX 78211

En este paquete se incluye un folleto que describe el proyecto propuesto y un mapa del área de estudio. También habrá información adicional disponible en www.cpsenergy.com/infrastructure.

Esperamos conocerlo, recibir sus comentarios y responder a sus preguntas. Gracias de antemano por dedicarnos su tiempo.

Atentamente,
Andrés Salgado Álamo
Director de Proyectos
S&T Regulatory Support

HOWARD ROAD — LEON CREEK
138 kV PHASE 2 TRANSMISSION LINE PROJECT



LEGEND

- STUDY AREA
- LEON CREEK SUBSTATION
- STRUCTURE #17
- EXISTING TRANSMISSION LINE
- SAN ANTONIO CITY LIMITS
- WATERBODY
- STREAM
- ROADWAY
- RAILROAD

Notes:

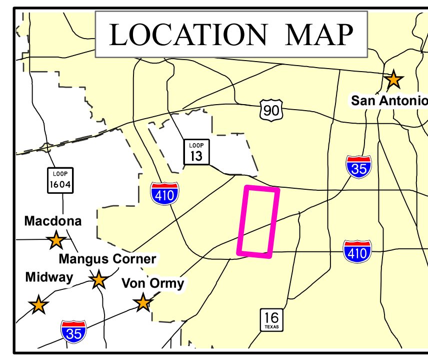
1. Some legend symbols are enlarged for easier identification.

2. Data is for display purposes only. All features and boundaries have been approximated based on information gathered from review of public resources and from field reconnaissance.

Date Plotted: 07/18/2024

Date Revised: 07/18/2024

LOCATION MAP



VICINITY MAP

BEXAR COUNTY

0 2,000 4,000

FEET

N W E S

halff


HOME OPENER
AUGUST 31
BUY NOW
GOUTSA.COM/TICKETS

Propuesta de Construcción de una Nueva Línea de Transmisión

CPS Energy organizará una feria sobre la construcción de una nueva línea de transmisión en la zona suroeste del condado de Bexar.

Jueves 29 de agosto del 2024

6:00pm – 8:00pm

St. Clare Church
7701 Somerset Rd.
San Antonio, TX 78211

Los representantes de CPS Energy estarán disponibles para recibir comentarios y responder a las preguntas de los residentes del área. Este evento tendrá un formato informal tipo "entrada y salida" y consistirá en estaciones de información que abordarán áreas específicas del proyecto. Se alienta a los participantes visitar cada estación y hacer preguntas.

Este evento es gratuito y está abierto al público.

Para más información, póngase en contacto con
Andres Salgado Alamo, **Director de Proyectos de CPS Energy,**
por teléfono 210-353-6674

CPS ENERGY

Ad Number:	34346204-01	Advertiser:	CPS Energy
Insertion Number:	N/A	Agency:	KGB Texas
Size:	6 Col x 9.75 In	Section-Page-Zone(s):	CX-6-All
Color Type:	P	Description:	HOWARD-CONEXION

San Antonio Express-News

Wednesday, August 21, 2024

Crecemos JUNTOS

¡WIC ESTÁ AQUÍ PARA AYUDARTE A TI Y A TU BEBÉ EN CADA PASO DEL CAMINO!

WIC te apoya a ti y a tu hijo desde el embarazo hasta el parto, a criar un niño pequeño y hasta que cumpla 5 años. Estamos aquí para ofrecerte alimentos nutritivos, promover y apoyar la lactancia materna, y darte referencias para servicios de salud y sociales.

Para más información, visita SA.gov/Health o llama al 210-207-4650.

TEXAS WIC

SAN ANTONIO METROPOLITAN HEALTH DISTRICT

Propuesta de Construcción de una Nueva Línea de Transmisión

CPS Energy organizará una feria sobre la construcción de una nueva línea de transmisión en la zona suroeste del condado de Bexar.

Jueves 29 de agosto del 2024
6:00pm – 8:00pm

St. Clare Church
7701 Somerset Rd.
San Antonio, TX 78211

Los representantes de CPS Energy estarán disponibles para recibir comentarios y responder a las preguntas de los residentes del área. Este evento tendrá un formato informal tipo "entrada y salida" y consistirá en estaciones de información que abordarán áreas específicas del proyecto. Se alienta a los participantes visitar cada estación y hacer preguntas.

Este evento es gratuito y está abierto al público.

Para más información, póngase en contacto con
Andres Salgado Alamo, Director de Proyectos de CPS Energy,
por teléfono 210-353-6674

CPS ENERGY

INTRODUCTION
CPS ENERGY

CPS ENERGY

Established in 1860, CPS Energy is the nation's largest community-owned, natural gas and electric company, providing safe, reliable, and competitively priced service to 907,520 electric and 373,990 natural gas customers in San Antonio and portions of seven adjoining counties. We are among the top public power wind energy buyers in the nation and number one in Texas for solar generation.

For more information, visit cpsenergy.com.

PURPOSE, NEED & SCOPE

The Electric Reliability Council of Texas (ERCOT) Board of Directors endorsed the project as critical to the reliability of the ERCOT System on August 31, 2023.

PURPOSE & NEED:

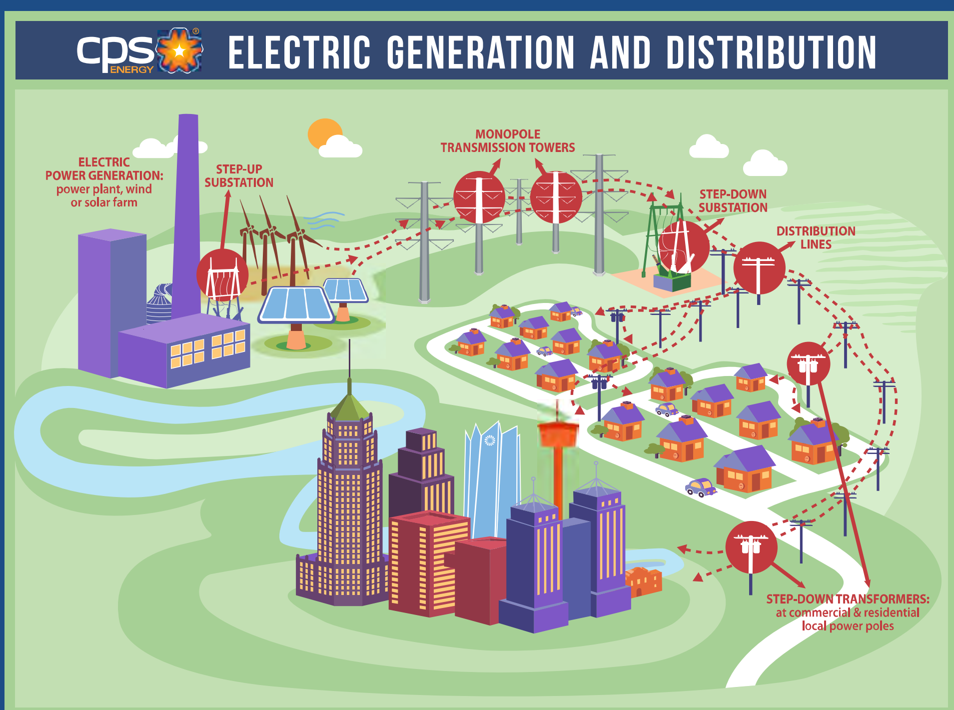
The project purpose and need is based on the following factors:

- Increasing customer load growth
- Increasing renewable generation in South Texas to serve customer growth

SCOPE:

CPS Energy is proposing to construct approximately 1.8 miles of new 138kV transmission infrastructure connecting the existing Howard Road and Leon Creek substations. Right-of-way is needed for the 1.8 miles of the project to be safely constructed and operated within the existing transmission corridor.

GENERATION TO CUSTOMER DIAGRAM



ROUTING AND SITING PROCESS HIGHLIGHTS

DETERMINE A NEED FOR THE PROJECT

- By utility planners and engineers

DEFINE THE STUDY AREA

GATHER DATA, DEVELOP LAND USE AND CONSTRAINTS MAP

- Obtain aerial photos of the study area
- Gather property boundary information
- Identify environmental/land-use constraints and opportunities
- Send letters to federal, state and local agencies requesting information about the study area
- Gather information regarding natural, cultural and human resources
- Assess easement/right-of-way features/ concerns

INVITE PUBLIC INVOLVEMENT

- Notify landowners and interested parties
- Advertise open house
- Hold open house to explain the project and solicit input
- Respond to inquiries
- Evaluate public and agency input

Develop environmental assessment report

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ANTICIPATED TIMELINE

Gather information and land use data
In progress

Send open house notice of the project to landowners
August 2024

Hold Open House
August 2024

Complete Environmental Analysis
Estimated October 2024

Receive CPS Energy Board of Trustees approval
Estimated December 2024

Obtain City Ordinance
Estimated April 2025

Start construction
Estimated October 2025

Complete construction
Estimated May 2026

TRANSMISSION FACTS

- Typical 138kV Monopole Heights are 85'-120' depending on terrain and span length
- Typical 138kV span lengths are 450'-750' depending on route variables
- Typical 138kV Pole Foundation Diameter is 6'-10'

TYPICAL 138kV TRANSMISSION POLES

STAGES OF CONSTRUCTION

Easement is cleared enough to access pole locations

Foundation-reinforcing cage is assembled

Foundation is drilled and poured

Transmission structure is installed

Conductors are pulled into place

Right-of-way is cleaned up

TYPICAL TRANSMISSION EASEMENTS

Clearing around transmission poles

Clearing along route

ACQUISITION ELEMENTS

- Mail “Bill of Rights” letter to affected landowners
- Contact property owner
- Obtain permission to conduct survey(s)
- Survey establishes boundaries of easement (Simultaneously perform environmental/cultural surveys)
- Easement area is defined/described by a Registered Professional Land Surveyor
- Value of Easement established by an independent appraiser
- Negotiate with property owner for Easement or right-of-way for utility use

RIGHT-OF-WAY TERMS TO KNOW

EASEMENT:
A right created by grant, reservation, agreement, or implication, which one party has in another party's land.

SURVEY:
The measurement of the boundaries of a parcel of land, its area, and sometimes its topography.

APPRAISAL:
The act or process of developing an opinion of value; an opinion of value.

NEGOTIATION:
The process by which two or more parties resolve differences to reach a mutually acceptable agreement.

EMINENT DOMAIN:
A governmental right to acquire private property for public use by condemnation, and the payment of just compensation.

FAIR MARKET VALUE:
The price that would be negotiated between a willing seller and a willing buyer in a reasonable time, usually arrived at by comparable sales in the same area.

STATE OF TEXAS LANDOWNER BILL OF RIGHTS:
Property owner rights that apply to any attempt by the government or a private entity to take your property, as prescribed in Texas Government Code Sec. 402.031 and Chapter 21 of the Texas Property Code.

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LAND USE & ENVIRONMENTAL EVALUATION CRITERIA

LAND USE AND ENVIRONMENTAL EVALUATION CRITERIA

EVALUATION CRITERIA

Land Use

1 Length of alternative route (miles)
2 Number of habitable structures[1] within 300 feet of the route centerline
3 Length of ROW using existing transmission line ROW
4 Length of ROW parallel and adjacent to existing transmission line ROW
5 Length of ROW parallel and adjacent to other existing ROW (roadways)
6 Length of ROW parallel and adjacent to apparent property lines[2] (or other natural or cultural features, etc.)
7 Sum of evaluation criteria 4, 5, and 6
8 Percent of evaluation criteria 4, 5, and 6
9 Length of ROW across parks/recreational areas[3]
10 Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline
11 Length of ROW across cropland
12 Length of ROW across pasture/rangeland
13 Length of ROW across land irrigated by traveling systems (rolling or pivot type)
14 Length of route across conservation easements and/or mitigation banks (Special Management Area)
15 Length of route across gravel pits, mines, or quarries
16 Length of ROW parallel and adjacent to pipelines[4]
17 Number of pipeline crossings[4]
18 Number of transmission line crossings
19 Number of IH, US and state highway crossings
20 Number of FM or RM road crossings
21 Number of FAA registered public/military airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline
22 Number of FAA registered public/military airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline
23 Number of private airstrips within 10,000 feet of the ROW centerline
24 Number of heliports within 5,000 feet of the ROW centerline
25 Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline
26 Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline
27 Number of identifiable existing water wells within 200 feet of the ROW centerline
28 Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells)

Aesthetics

29 Estimated length of ROW within foreground visual zone[6] of IH, US and state highways
30 Estimated length of ROW within foreground visual zone[6] of FM/RM roads
31 Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]

Ecology

32 Length of ROW through upland woodlands/brushlands
33 Length of ROW through bottomland/riparian woodlands
34 Length of ROW across National Wetlands Institute (NWI) mapped wetlands
35 Length of ROW across critical habitat of federally listed endangered or threatened species
36 Length of ROW across open water (lakes, ponds)
37 Number of stream and river crossings
38 Length of ROW parallel (within 100 feet) to streams or rivers
39 Length of ROW across Edwards Aquifer Contributing Zone
40 Length of ROW across FEMA mapped 100-year floodplain

Cultural Resources

41 Number of cemeteries within 1,000 feet of the ROW centerline
42 Number of recorded cultural resource sites crossed by ROW
43 Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline
44 Number of National Register of Historic Properties (NRHP) listed properties crossed by ROW
45 Number of additional NRHP listed properties within 1,000 feet of ROW centerline
46 Length of ROW across areas of high archaeological site potential

Notes: All length measurements are shown in miles unless noted otherwise.

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230 kV or more.
[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.
[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.
[4] Only steel pipelines six inches and greater in diameter carrying petrochemicals were quantified in the pipeline crossing and paralleling calculations.
[5] As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.
[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.
[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

LOCAL, STATE & FEDERAL AGENCIES CONTACTED/NOTIFIED

FEDERAL

U.S. Congressman
Federal Aviation Administration
Federal Emergency Management Agency
National Parks Service
U.S. Department of Agriculture - National Resources Conservation Services
U.S. Army Corps of Engineers
U. S. Department of Defense Military Aviation and Installation Assurance Siting Clearinghouse
U.S. Environmental Protection Agency
U.S. Fish Wildlife Service

STATE

Texas State Senators
Texas House Representatives
Railroad Commission of Texas
Texas Commission on Environmental Quality
Texas Department of Transportation
Texas General Land Office
Texas Historical Commission
Texas Parks and Wildlife Department
Texas Water Development Board
Texas State Soil and Water Conservation Board

LOCAL

City of San Antonio - Office of Historic Preservation Development and Business Services Center
City of San Antonio - Mayor
City of San Antonio - Council
City of San Antonio - Public Works Department
Alamo Area Council of Governments
Alamo Soil and Water Conservation District
San Antonio World Heritage Office
San Antonio Water System
Edwards Aquifer Authority
San Antonio River Authority
Southwest ISD
South San Antonio ISD

NON-GOVERNMENTAL ORGANIZATION

The Nature Conservancy

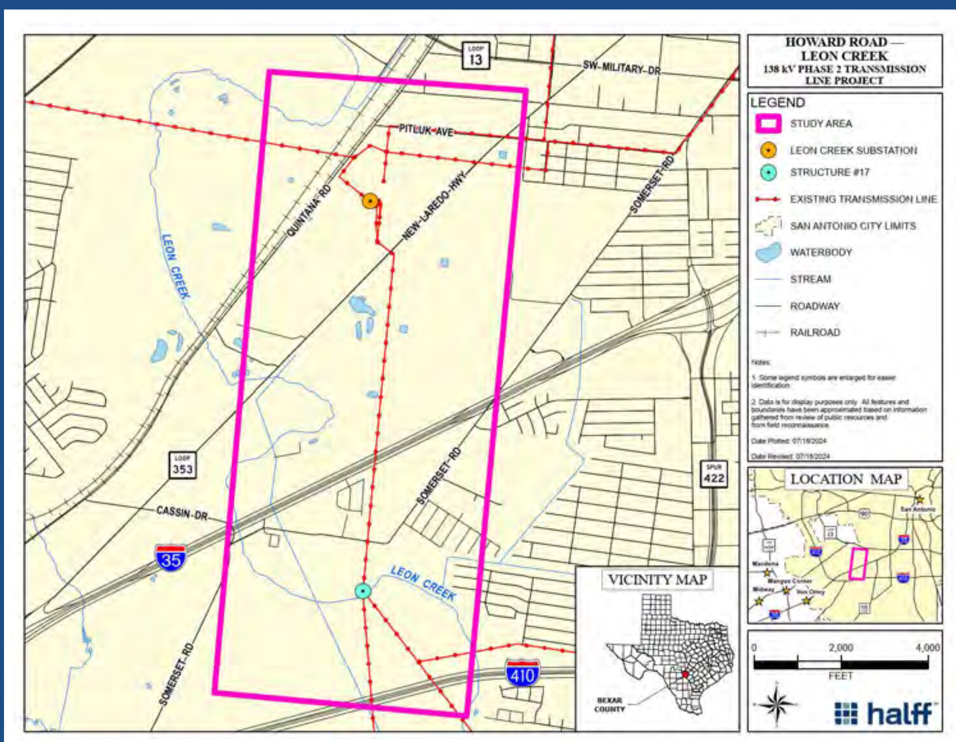
CPS ENERGY®

ENVIRONMENTAL ASSESSMENT

- An Environmental Assessment is prepared to address land use, visual resources, socioeconomic elements, biological/ ecological resources, geology and soils, hydrology, and cultural resources within the regional study area and along the route

- Halff professionals with expertise in different environmental disciplines (wildlife biology, plant ecology, land use/planning, and archaeology) evaluate the route based upon environmental and land use conditions present along the route, augmented by aerial photograph interpretation and field surveys from public rights-of-way, where possible, and the general routing methodology used by Halff and other environmental criteria

STUDY AREA MAP



Who is CPS Energy?

Established in 1860, CPS Energy is the nation's largest community-owned provider of electric and natural gas services. We provide safe, reliable, and competitively priced services to **930,114** electric and **381,379** natural gas customers in San Antonio and portions of seven adjoining counties. Our customers' combined energy bills rank among the lowest of the nation's 20 largest cities while generating $9 billion in revenue for the City of San Antonio over the last 80 years.

Our Vision 2027 strategic plan is designed to guide CPS Energy through rapid transformational change in our city. As a trusted and reliable community partner, we continuously focus on job creation, economic development, and educational investment. We are powered by our skilled workforce, whose commitment to the community is demonstrated through our employees' volunteerism, our community engagement efforts and programs aimed at bringing value and assistance to our customers.

For more information, visit **cpsenergy.com**.

How can you follow the progress of this project?

The CPS Energy project team will post project information on the CPS Energy website at cpsenergy.com/infrastructure.

Who can answer your questions?

The website will include regular updates on the project as steps are completed.

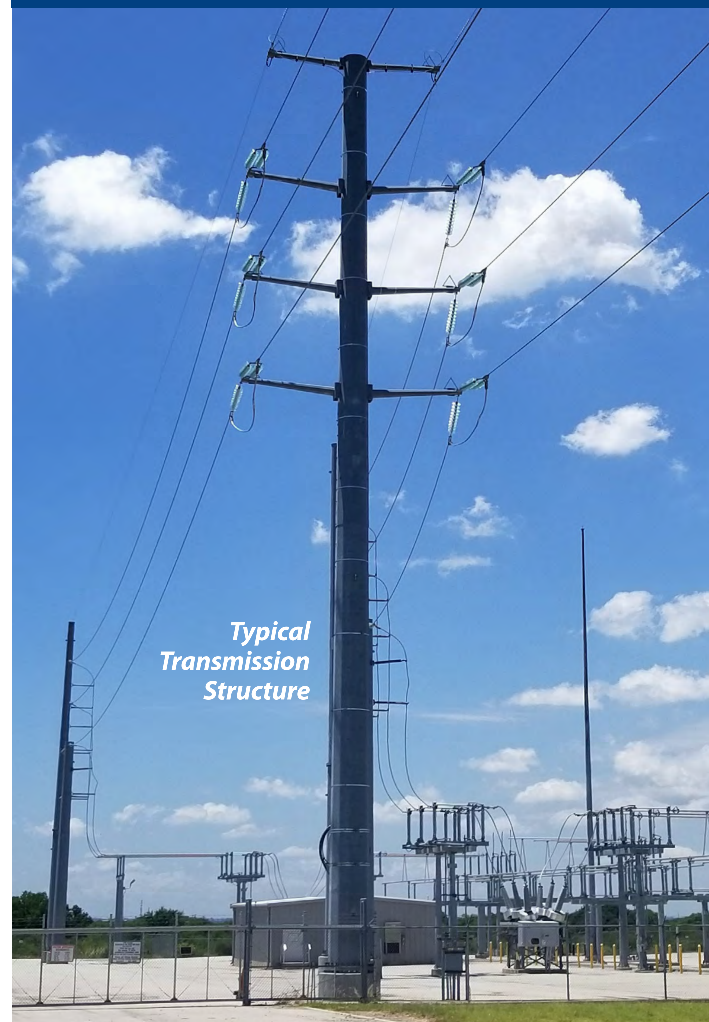
Also, you may write, call or email to:

CPS Energy

Andres Salgado Alamo, Project Manager
Howard Rd. to Leon Creek
Transmission Line Project
Mail Code RT0801
500 McCullough Ave.
San Antonio, Texas 78215
(210) 353-6674
Howard-LeonProject@cpsenergy.com

HOWARD ROAD TO LEON CREEK

TRANSMISSION LINE PROJECT



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INFORMATION ABOUT THE HOWARD ROAD TO LEON CREEK TRANSMISSION PROJECT

What is the Howard Road to Leon Creek Transmission Project?

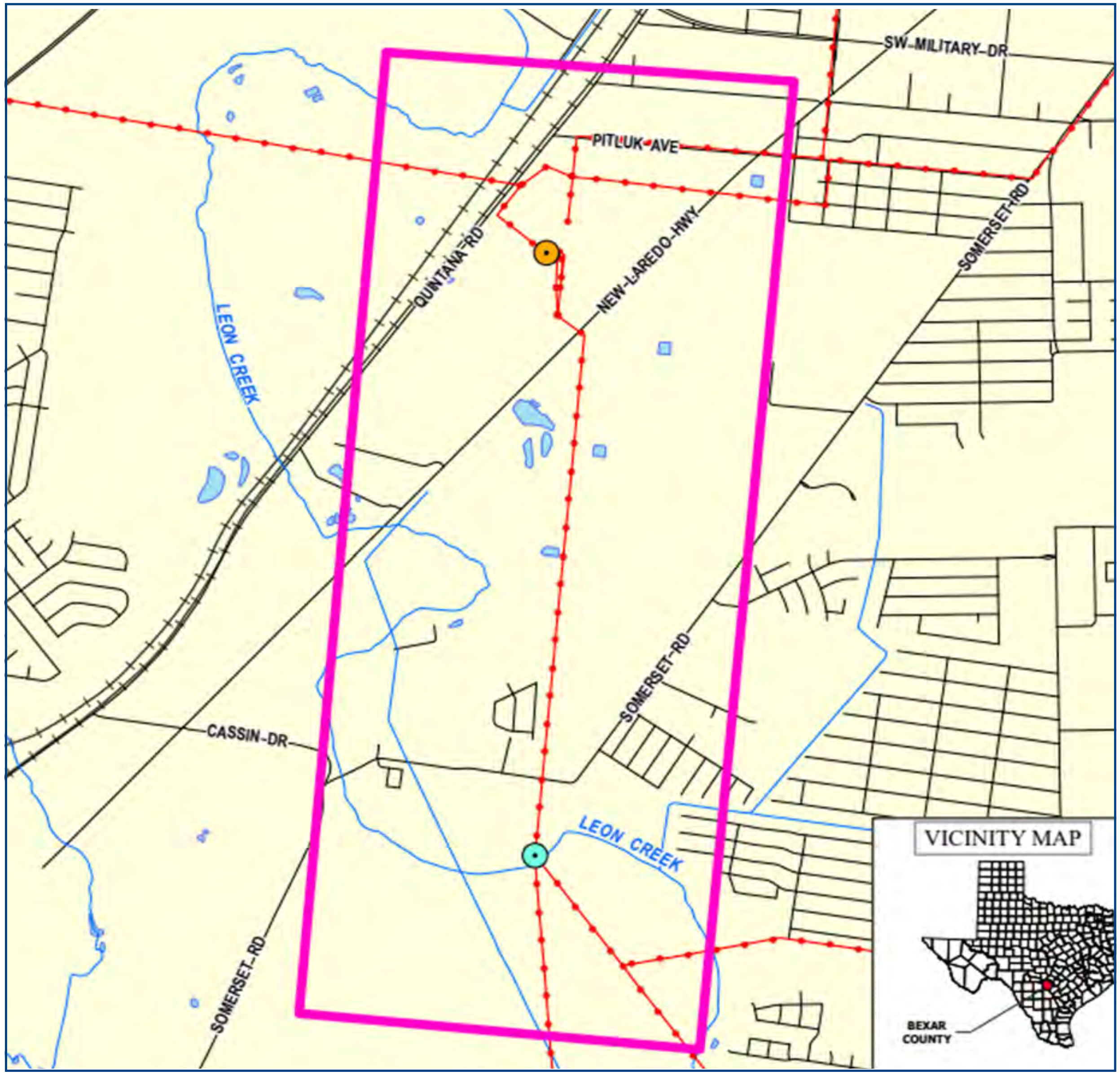
CPS Energy is proposing to rebuild approximately 1.8 miles of 138kV transmission from the Leon Creek Substation to the Howard Road Substation. Transmission lines consist of specially designed structures composed of various material (wood, concrete, steel, etc.) and wires that move electricity long distances at high voltages from station to station.

How might this project affect you?

CPS Energy is evaluating multiple geographically diverse transmission line options for the project. Your input and feedback are important to our evaluation of alternatives.

Why is this project needed?

The new transmission line is needed to increase the resiliency and reliability of Texas' electric grid by adding another transmission pathway to increase support of the accelerating load growth south of San Antonio.



Study Area Map

¿Quién es CPS Energy?

Fundada en 1860, CPS Energy es el proveedor comunitario de servicios de electricidad y gas natural más grande del país. Brindamos servicios seguros, fiables y a precios competitivos a **930,114** clientes de electricidad y **381,379** de gas natural en San Antonio y partes de siete condados adyacentes. Las facturas de energía combinadas de nuestros clientes se encuentran entre las más bajas de las 20 ciudades más grandes del país y generaron $9 mil millones en ingresos para la Ciudad de San Antonio durante los últimos 80 años.

Nuestro plan estratégico Visión 2027 está diseñado para guiar a CPS Energy a través de un rápido cambio transformacional en nuestra ciudad. Como socio comunitario fiable y de confianza nos centramos continuamente en la creación de empleo, el desarrollo económico y la inversión en educación. Somos impulsados por nuestra fuerza laboral calificada, cuyo compromiso con la comunidad se demuestra a través del voluntariado de nuestros empleados, nuestros esfuerzos y programas de participación comunitaria destinados a aportar valor y asistencia a nuestros clientes.

Para más información, visite **cpsenergy.com**.

¿Cómo puede seguir el progreso de este proyecto?

El equipo del proyecto de CPS Energy publicará información sobre el proyecto en el sitio web de CPS Energy cpsenergy.com/infrastructure.

¿Quién puede responder sus preguntas?

El sitio web incluirá actualizaciones periódicas del proyecto a medida que se vayan completando los pasos.

También puede escribir, llamar o enviar un correo electrónico a:

CPS Energy

Andres Salgado Alamo, Director de Proyectos

De Howard Rd. a Leon Creek

Proyecto de Línea de Transmisión

Código postal RT0801

500 McCullough Ave.

San Antonio, Texas 78215

(210) 353-6674

Howard-LeonProject@cpsenergy.com

HOWARD ROAD A LEON CREEK

PROYECTO DE LÍNEA DE TRANSMISIÓN

Estructura de Transmisión Típica

7 19 24

INFORMACIÓN SOBRE EL PROYECTO DE TRANSMISIÓN DE HOWARD ROAD A LEON CREEK

¿Qué es el Proyecto de Howard Road a Leon Creek?

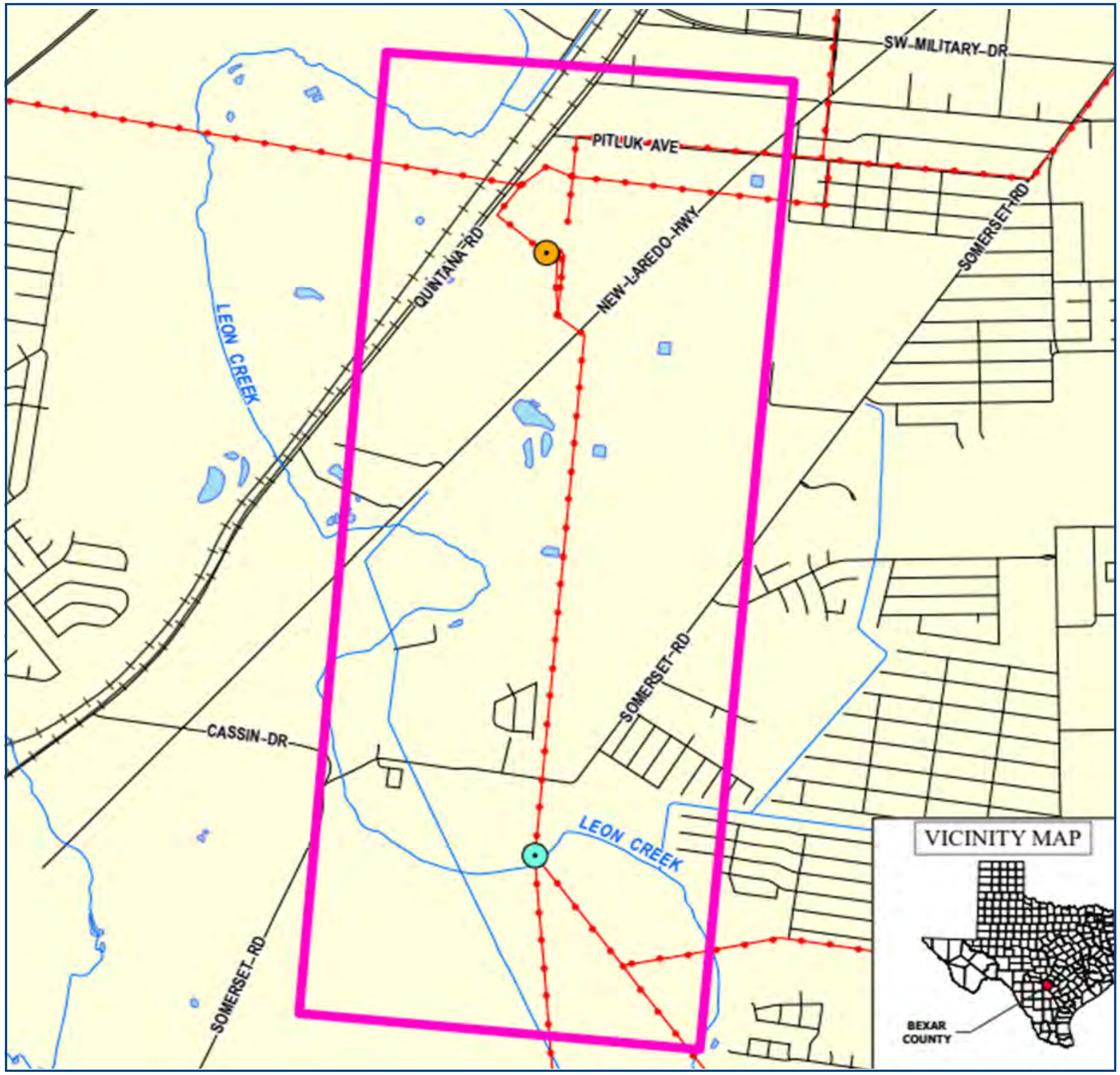
CPS Energy propone reconstruir aproximadamente 1.8 millas de transmisión de 138kV desde la subestación de Leon Creek hasta la subestación de Howard Road. Las líneas de transmisión consisten de estructuras especialmente diseñadas compuestas de varios materiales (madera, concreto, acero, etc.) y cables que transportan electricidad largas distancias de alta tensión de una estación a otra.

¿Cómo puede afectarle este proyecto?

CPS Energy está evaluando múltiples opciones de líneas de transmisión geográficamente para el proyecto. Su opinión y comentarios son importantes para nuestra evaluación de alternativas.

¿Por qué es necesario este proyecto?

La nueva línea de transmisión es necesaria para aumentar la resiliencia y fiabilidad de la red eléctrica de Texas añadiendo otra vía de transmisión para aumentar el apoyo a la aceleración de la carga al sur de San Antonio.



Mapa del Área de Estudio

Howard Road to Leon Creek Phase 2 Transmission Line Project

Questionnaire

Your feedback is important to us.

Please take a moment to respond to the following questions so we may evaluate public comments.

1. Did you attend the Howard Road to Leon Creek Phase 2 Open House on August 29th, 2024?
   Yes No

2. Do you understand the need for the Howard Road to Leon Creek Phase 2 Transmission Line Project?
   Strongly Agree Agree Neutral Disagree Strongly Disagree

3. If you attended the Open House, or have reviewed the project information from the website, have your questions about the Howard Road to Leon Creek Phase 2 Transmission Line Project been answered?
   Strongly Agree Agree Neutral Disagree Strongly Disagree

4. If you answered "Disagree" or "Strongly Disagree" to Question 3, and you still have questions about the project that have not been answered to your satisfaction, would you like for someone from the project team to contact you to discuss the project with you further?
   Yes No

5. Were the exhibits at the Open House helpful to you? If not, do you have suggestions for improvements?
   Strongly Agree Agree Neutral Disagree Strongly Disagree

Suggestions for Improvement:

____

____

6. Below is a list of factors that CPS Energy and its consultants consider when identifying and evaluating alternative transmission line route segments. Please rank your top five factors below from most important (1) to least important (5).

_____ Impact to residences

_____ Proximity to schools, churches, cemeteries

_____ Proximity to parks/recreational areas

_____ Proximity to archaeological/historical site

_____ Impact to woodlands/grasslands/wetland

_____Parallel existing roadways/highways

_____ Parallel existing transmission lines

_____ Impact to businesses

_____ Impact to streams/floodplains

_____ Impact to trees and other vegetation

_____ Visibility of structures

_____ Parallel property lines

_____ Total project cost

Continued →

7. Are there any other factors that you feel should be considered when identifying and evaluating alternative transmission line segments? ____

____

8. Following your review of the Land Use and Environmental Constraints map at the Open House or from the project website, please indicate any features that should be added which were not identified in the appropriate location or that were not included on the map.

____

____

9. Please identify any alternative transmission line segments that are the most preferable to you. Please describe why.

____

____

10. Please identify any alternative transmission line segments that are the least preferable to you. Please describe why.

____

____

11. Please check all that apply:

☐ A potential transmission segment or segments are near my home/business.

List segment(s): ______________________________

☐ A potential transmission segment or segments cross my property.

List segment(s): ______________________________

☐ Other. Please specify ______________________________

12. Is there any other information you would like the Project Team to know, or take into consideration, when evaluating the project?

____

____

You may submit this form to the welcome table at the Open House, via mail or email to the following:

CPS Energy
Andres Salgado Alamo
Mail Drop RT0801
500 McCullough
San Antonio, TX 78215

Email:
Howard-LeonProject@cpsenergy.com

Please provide your name and contact information below. (Optional)

Name: ______________________________

Address: ______________________________

City______________ State__________ Zip_________

Telephone: ______________________________

Email: ______________________________

Cuestionario

Sus comentarios son importantes para nosotros.

Por favor, tome un momento para responder las siguientes preguntas para que podamos evaluar los comentarios del público.

1. ¿Asistió a la Feria en la Sede de CPS Energy de Howard Road a Leon Creek Fase 2 el 29 de agosto de 2024?
   Sí No

2. ¿Comprende la necesidad del Proyecto de Línea de Transmisión de Howard Road a Leon Creek Fase 2?
   Totalmente de Acuerdo De Acuerdo Neutral En Desacuerdo Totalmente en Desacuerdo

3. Si asistió a la Feria en la Sede de CPS Energy o ha consultado la información sobre el proyecto en la página web, ¿han sido respondidas sus preguntas sobre el proyecto de línea de transmisión de Howard Road a Leon Creek Fase 2?
   Totalmente de Acuerdo De Acuerdo Neutral En Desacuerdo Totalmente en Desacuerdo

4. Si ha respondido "en desacuerdo" o " totalmente en desacuerdo" a la pregunta 3, y aún tiene preguntas sobre el proyecto que no han sido respondidas a su satisfacción, ¿le gustaría que alguien del equipo del proyecto se pusiera en contacto con usted para discutir el proyecto con usted?
   Sí No

5. ¿Le resultaron útiles las exposiciones de la Feria en la Sede de CPS Energy? Si no, ¿tiene alguna sugerencia de mejora?
   Totalmente de Acuerdo De Acuerdo Neutral En Desacuerdo Totalmente en Desacuerdo

Sugerencias de Mejora:

___

___

6. Abajo hay una lista de factores que CPS Energy y sus consultores consideran cuando identifican y evalúan segmentos alternativos de rutas de líneas de transmisión. Por favor, clasifique sus cinco factores principales desde el más importante (1) al menos importante (5).

______ Impacto sobre las residencias

______ Proximidad a escuelas, iglesias y cementerios

______ Proximidad a parques/áreas recreativas

______ Proximidad al sitio arqueológico/histórico

______ Impacto en los bosques/pastizales/humedales

______Carreteras/autopistas paralelas existentes

______ Líneas de transmisión paralelas existentes

______Impacto a los negocios

______ Impacto en los ríos/llanuras inundables

______ Impacto a los árboles y otra vegetación

______ Visibilidad de las estructuras

______ Líneas de propiedad paralelas

______ Costo total del proyecto

Continuación →

7. ¿Existen otros factores que, en su opinión, deban tenerse en cuenta a la hora de identificar y evaluar segmentos alternativos de líneas de transmisión? ____

____

8. Una vez revisado el Mapa de Uso del Terreno y Limitaciones Medioambientales en la Feria en la Sede de CPS Energy o en el sitio web del proyecto, indique cualquier característica que deba añadirse que no se haya identificado en el lugar adecuado o que no se haya incluido en el mapa. ____

____

____

9. Por favor, Identifique los segmentos de línea de transmisión alternativos que considere más preferibles. Por favor, describa por qué.

____

____

10. Por favor, identifique los segmentos de línea de transmisión alternativos que sean menos preferibles para usted.

Por favor, describa por qué. ____

____

11. Hay un segmento o segmentos de transmisión potenciales cerca de mi casa/negocio.

Enumere el segmento(s): ____

☐ Un segmento o segmentos potenciales de transmisión atraviesan mi propiedad.

☐ Enumere el segmento(s): ____

☐ Otro. Por favor, especifique: ____

12. ¿Hay alguna otra información que le gustaría que el Equipo del Proyecto conociera o tuviera en cuenta a la hora de evaluar el proyecto?

____

____

Puede presentar este formulario en la mesa de bienvenida en la Feria en la Sede de CPS Energy, por correo postal o electrónico a la siguiente dirección:

CPS Energy
Andres Salgado Alamo
Buzón de Correo RT0801
500 McCullough
San Antonio, TX 78215

Correo Electrónico:
Howard-LeonProject@cpsenergy.com

Indique a continuación su nombre e información de contacto. (Opcional)

Nombre:____

Dirección:____

Ciudad___________________Estado________Código Postal_________

Teléfono:____

Correo Electrónico____

Frequently Asked Questions

Project Overview

What is the Howard Road to Leon Creek Phase 2 Transmission Line Project?
CPS Energy is planning to rebuild approximately 1.8 miles of 138kV transmission from the Leon Creek Substation to Howard Road Substation.

Why is this new transmission line needed in this area?
The new transmission line is necessary to support the accelerating growth south of San Antonio. It will also increase the reliability of Texas' electric grid by adding another path for electric transmission.

What is a transmission line?
A transmission line consists of specially designed steel structures and wires that move electricity long distances at high voltages.

How does electricity get delivered to homes and businesses?
Typically, electricity is generated from remotely located electric power plants (including wind and solar farms) and then travels from those remote generating sources to substations closer to population centers through a system of high-voltage transmission lines. Once at a substation, the electricity is reduced to a voltage level that is appropriate for distribution to customers. Electricity then travels from the substation through the network of distribution lines, supplying electricity to homes and businesses.

When does construction begin?
Construction of the Howard Road to Leon Creek Line Project Phase 2 is anticipated to begin October 2025

When will crews be working on this transmission project?
Under normal circumstances, work will be performed Monday through Friday, 7 A.M.-5 P.M. Weekend work will be performed as needed. Please note that the work will be done within transmission easements.

Transmission Line Routes

Who selects the final transmission line route?
The CPS Energy team evaluates all the information that has been gathered and compiled regarding the transmission line route options and presents that data to the CPS Board of Trustees for their review and approval.

Environmental

Will it be necessary to remove trees and other vegetation to construct the project?
Yes, some removal of trees and other vegetation is often required to safely and reliably construct and operate transmission lines. CPS Energy will work with landowners and communities to responsibly comply with tree preservation requirements and minimize the impact to trees and other vegetation, clearing trees and other vegetation only where necessary to operate the transmission line infrastructure safely and reliably.

Will the project impact endangered species in the area?
CPS Energy will conduct studies to identify endangered wildlife and plant species in the vicinity of the project and is committed to making the required efforts to ensure endangered wildlife and plant species are not adversely affected as a result of the construction and operation of the project facilities.

Continued →

Infrastructure

What will the transmission line pole look like?
CPS Energy generally uses galvanized steel tubular structures, such as monopoles.
Will the transmission lines create electric and magnetic fields (EMF) for people living nearby?
Substations and transmission lines are designed to operate safely for people living, working, and recreating nearby and are not anticipated to result in any adverse EMF effects for people near them. For more information on EMF, please visit: https://www.niehs.nih.gov/health/topics/agents/emf/index.com

Real Property

Will this new transmission line affect my property value?
Appraisal studies tend to show that the presence of electric infrastructure does not substantially affect property values in an adverse way.

What rights do landowners have when a utility acquires the necessary transmission line right of way?
Landowners whose property will be crossed by the approved transmission line route have very specific rights which are generally set out in The Texas Landowner Bill of Rights, published by the Attorney General of Texas. A copy may be found at https://texasattorneygeneral.gov/sites/default/files/files/divisions/general-oag/landowners-bill-of-rights-2024.pdf
Interested landowners are encouraged to review that document to become more familiar with their rights under the law. Affected landowners will receive a copy of The Texas Landowner Bill of Rights from CPS Energy by US Mail before an easement is negotiated.

What is "eminent domain?"
It is the right of a government, or its agent, to acquire private property for public use, with payment of compensation for property acquired.

How will landowners along the chosen transmission route be affected?
CPS Energy will purchase a property right known as an easement for the length of the transmission line from existing property owners. In accordance with the terms of the easement, vegetation growing under the transmission line will be trimmed, and in some cases cleared to allow for the line construction. The easement document will also address issues such as roadways, fencing, access and notice rights, and other matters regarding CPS Energy's construction, operation, and maintenance of the transmission line facilities.

How much does CPS Energy pay for acquiring property rights from landowners?
CPS Energy will evaluate property value using industry standard practices and offers landowner fair market value for property rights to be acquired.

Next Steps

What happens after the Open House?
CPS Energy's project team will evaluate all project information, including public input received. The project team will then meet to identify an adequate number of alternative transmission line routes, including identification of which route best meets all applicable regulatory criteria. The project team will identify potential transmission line routes based on consideration of community values, recreational and park areas, historical and aesthetic values, and environmental integrity.

Preguntas Más Frecuentes

Resumen del Proyecto

¿Qué es el Proyecto de Línea de Transmisión de Howard Road a Leon Creek Fase 2?
CPS Energy tiene previsto reconstruir aproximadamente 1.8 millas de transmisión de 138 kV desde la subestación de Leon Creek hasta la subestación de Howard Road.

¿Por qué es necesaria esta nueva línea de transmisión en esta área?
La nueva línea de transmisión es necesaria para apoyar el crecimiento acelerado al sur de San Antonio. También aumentará la fiabilidad de la red eléctrica de Texas al añadir otra vía de transmisión eléctrica.

¿Qué es una línea de transmisión?
Una línea de transmisión consiste de estructuras de acero especialmente diseñadas y cables que mueven la electricidad largas distancias a altos voltajes.

¿Cómo llega la electricidad a los hogares y los negocios?
Normalmente, la electricidad se genera en plantas eléctricas situadas en lugares remotos (incluyendo parques eólicos y solares) y luego viaja desde esas fuentes de generación remotas hasta las subestaciones situadas más cerca de los centros de población a través de un sistema de alta tensión. Una vez en la subestación, la electricidad se reduce a un nivel de tensión adecuado para su distribución a los clientes. Luego, la electricidad viaja desde la subestación a través de la red de líneas de distribución, suministrando electricidad a hogares y negocios.

¿Cuándo comienza la construcción?
Se prevé que la Fase 2 del proyecto de construcción de la línea de Howard Road a Leon Creek comience en octubre de 2025.

¿Cuándo trabajarán los equipos en este proyecto de transmisión?
En circunstancias normales, el trabajo se realizará de lunes a viernes, de 7 a.m. a 5 p.m. El trabajo de fin de semana se realizará según sea necesario. Tenga en cuenta que el trabajo se realizará dentro de las servidumbres de transmisión.

Rutas de Líneas de Transmisión

¿Quién selecciona la ruta definitiva de la línea de transmisión?
El equipo de CPS Energy evalúa toda la información que se ha recopilado y compilado en relación con las opciones de trazado de la línea de transmisión y presenta esos datos a la Junta Directiva de CPS para su revisión y aprobación.

Medio Ambiente

¿Será necesario eliminar árboles y otra vegetación para construir el proyecto?
Sí, a menudo es necesario eliminar algunos árboles y otra vegetación para construir y operar las líneas de transmisión de forma segura y fiable. CPS Energy trabajará con los propietarios de tierras y las comunidades para cumplir de forma responsable con los requisitos de preservación de árboles y minimizar el impacto en los árboles y otra vegetación, retirando árboles y otra vegetación solo cuando sea necesario para operar la infraestructura de la línea de transmisión de forma segura y fiable.

¿Impactará el proyecto a las especies en peligro de extinción en el área?
CPS Energy realizará estudios para identificar las especies de plantas y vida silvestre en peligro de extinción en las proximidades del proyecto y se compromete a realizar los esfuerzos necesarios para garantizar que las especies de plantas y vida silvestre en peligro de extinción no se vean afectadas negativamente como resultado de la construcción y operación de las instalaciones del proyecto.

Continued →

Infraestructura

¿Qué aspecto tendrá el poste de la línea de transmisión?
CPS Energy suele utilizar estructuras tubulares de acero galvanizado, como los monopolos.
¿Las líneas de transmisión crearán campos eléctricos y magnéticos (EMF) para las personas que viven cerca?
Las subestaciones y líneas de transmisión están diseñadas para funcionar de manera segura para las personas que viven, trabajan y se recrean en las cercanías y no se prevé que provoquen ningún efecto EMF adverso para las personas que viven cerca de ellas. Para más información sobre los EMF, visite **https://www.niehs.nih.gov/health/topics/agents/emf/index.com**

Bienes Inmuebles

¿Afectará esta nueva línea de transmisión al valor de mi propiedad?
Los estudios de tasación tienden a demostrar que la presencia de infraestructuras eléctricas no afecta sustancialmente al valor de la propiedad de forma adversa.

¿Qué derechos tienen los propietarios cuando una compañía de servicios públicos adquiere el derecho de paso necesario para una línea de transmisión?
Los propietarios cuyas propiedades vayan a ser atravesadas por la línea de transmisión aprobada, o a quienes se vaya a adquirir el terreno para el emplazamiento de la subestación, tienen los derechos establecidos en la Declaración de Derechos de los Propietarios de Texas (The Texas Landowner Bill of Rights), publicada por el Fiscal General de Texas. Se puede encontrar una copia en **https://texasattorneygeneral.gov/sites/default/files/files/divisions/general-oag/landowners-bill-of-rights-2024.pdf**
Se recomienda a los propietarios interesados que consulten este documento para conocer mejor los derechos que les otorga la ley. Los propietarios afectados recibirán de los solicitantes un ejemplar de la Declaración de Derechos del Propietario de Texas por correo postal antes de que se negocie una servidumbre.

¿Qué es el "dominio eminente"?
Es el derecho de un gobierno, o de su agente, a adquirir propiedad privada para uso público, mediante el pago de una compensación por la propiedad adquirida.

¿Cómo se verán afectados los propietarios de tierras a lo largo de la ruta de transmisión elegida?
CPS Energy comprará un derecho de propiedad conocido como servidumbre para la longitud de la línea de transmisión a los propietarios existentes. De acuerdo con los términos de la servidumbre, la vegetación que crezca bajo la línea de transmisión se podará y, en algunos casos,se despejará para permitir la construcción de la línea. El documento de servidumbre también abordará cuestiones como carreteras, cercas, derechos de acceso y notificación, y otros asuntos relacionados con la construcción, operación y mantenimiento de CPS Energy instalaciones de líneas de transmisión.

¿Cuánto paga CPS Energy por adquirir los derechos de propiedad de los propietarios?
CPS Energy evaluará el valor de la propiedad utilizando las prácticas estándar del sector y ofrecerá al propietario el valor justo de mercado por los derechos de propiedad que se adquieran.

Siguientes Pasos

¿Qué sucede después de la Feria en la Sede de CPS Energy?
El equipo del proyecto de CPS Energy evaluará toda la información del proyecto, incluyendo las aportaciones públicas recibidas. El equipo del proyecto despues se reunirá para identificar un número adecuado de rutas alternativas de líneas de transmisión, incluyendo la identificación de qué ruta se adapta mejor a todos los criterios regulatorios aplicables. El equipo del proyecto determinará las posibles rutas de la línea de transmisión teniendo en cuenta valores comunitarios, áreas recreativas y parques, valores históricos y estéticos e integridad medioambiental.