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**ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE EASTBRIDGE
BUSINESS PARK (SITES 4, 5, AND 6)
ENVIRONMENTAL ASSESSMENT**

Knox County, Tennessee

EAXX-455-00-000-1756385581

**PREPARED BY:
TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE**

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FINDING OF NO SIGNIFICANT IMPACT

ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE EASTBRIDGE BUSINESS PARK (SITES 4, 5, 6) ENVIRONMENTAL ASSESSMENT

INTRODUCTION

An integral part of Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new or improved sites and facilities within the TVA service area and positions communities to compete successfully for new jobs and capital investment. TVA proposes to provide an economic development grant through InvestPrep funds to the Industrial Development Board of the County of Knox (IDB), to assist with the development of the Eastbridge Business Park (EBP), Sites 4, 5, and 6 in Knox County, Tennessee. TVA funds would be matched with non-TVA funds and used to assist with tree clearing, grading and rough grading, sinkhole remediation, and extension of Holston Bend Drive. Following the site improvements, the disturbed areas would be stabilized. The area of TVA's Proposed Action (herein referred to as the Project Area) encompasses 122.5 acres of mostly open grassy land with some small forested or brushy areas around the perimeter and central portions, in Mascot, Tennessee.

PURPOSE AND NEED FOR ACTION

The proposed grant to the IDB would assist with site improvements to allow prospects to better envision the development potential of the site. The proposed improvements would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. The purpose of the Project is to promote economic development within the TVA service area, more specifically in Knox County, Tennessee.

ALTERNATIVES

TVA evaluated potential impacts of the Proposed Action (i.e., the Action Alternative) as well as the alternative of not implementing the action (i.e., the No Action Alternative). Under the No Action Alternative, TVA would not provide InvestPrep funds to the IDB. TVA would not further its mission of promoting economic development by assisting the local community to compete successfully for new jobs and capital investment through the Proposed Action. The IDB may seek alternate funding (if available) to combine with their existing funds to develop the site. Success in obtaining alternate funding would result in similar impacts and benefits as the Action Alternative. In the event the Project was postponed, any effects would be delayed for the duration of the postponement. If the IDB were not able to secure the funding for the Proposed Action, the site would likely remain unchanged, no environmental impacts would be anticipated, and the economic benefits associated with the Action Alternative would not be accomplished.

Under the Action Alternative, TVA would provide InvestPrep funds to the IDB, to be matched with non-TVA funds to facilitate the development of the EBP (Sites 4, 5, and 6). TVA funds for the 122.5-acre Project Area would be used for clearing and stump removal of 1.5 acres of trees,

grading of a 500,000 square foot building pad on Site 6, and rough grading of 120,000 square foot pad on Site 4 and a 340,000 square foot pad on Site 5. Sinkhole remediation and extension of Holston Bend Drive is also proposed. Felled trees and stumps would be cut and burned on site. Following the site improvements, the disturbed areas would be stabilized with crushed stone or seed and mulch. Activities required for the Action Alternative would occur over approximately 14 months and would require a small workforce that would most likely be assigned through a local contractor.

TVA's preferred alternative is the Proposed Action Alternative. This alternative would meet the purpose of the Project and would further TVA's mission to promote economic development in the TVA service area.

SUMMARY OF ENVIRONMENTAL IMPACTS

The potential impacts of the Action Alternative are described in detail in the EA. Implementation of the Action Alternative would have no impact on solid and hazardous materials, land use, floodplains, managed or natural areas, recreation, surface water, wetlands, aquatic zoology, and prime farmland.

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, terrestrial zoology including threatened and endangered animal species, and botany including threatened and endangered plant species. Implementation of the Action Alternative could also create potential impacts to the human environment, including cultural resources, visual effects, noise, socioeconomics, and transportation.

Construction-related activities, including generation of dust and the burning of trees and stumps, would result in minor and short-term impacts on air quality and climate change. With the use of best management practices (BMPs), impacts would be minimal, temporary, and localized; and would not be anticipated to result in any violation of applicable ambient air quality standards, impact regional air quality, or affect nearby persons.

Proposed ground disturbance activities (tree clearing, site grading, compaction, and sinkhole remediation) would not intersect public groundwater supplies or result in significant impacts to groundwater resources.

Soils would be disturbed by the Proposed Action, including tree clearing, tree and stump burning, general site grading, additional grading for the construction of building pads, sinkhole remediation, and extension of Holston Bend Drive. Stabilization of disturbed soils following grading to sufficiently reduce sedimentation would occur by the implementation of erosion control measures in accordance with a project-specific construction general permit/stormwater pollution prevention plan. BMPs would be used during site development to avoid runoff of sediment downgradient of the Project Area. These factors would effectively avoid or minimize impacts on soils from soil erosion.

The Proposed Action would not be likely to significantly affect populations of wildlife species common to the area, as the amount of habitat to be removed is relatively small, of lower quality, and similar herbaceous or shrub habitats and forested fragments exist in the surrounding landscape. In accordance with Section 7 of the Endangered Species Act, the Proposed Action would not jeopardize the continued existence of eastern hellbender due to a lack of suitable habitat in the Project Area. Bald eagle breeding habitat is not present within the Project Area and no nests were observed during field surveys. With the implementation of BMPs to control erosion and sedimentation, the Proposed Action would not significantly impact foraging habitat for bald eagle. Significant breeding and foraging habitat for the monarch butterfly is not present within the Project Area. However, grading could impact monarch butterfly foraging habitat should it occur in the Project Area. However, any impacts are expected to be minor due to the small quantity of suitable habitat potentially present. Therefore, the Proposed Action would not jeopardize the continued existence of monarch butterfly. The U.S. Fish and Wildlife Service no longer considers Tennessee to be within the rusty-patched bumblebee's range, therefore, consultation is not required.

Knox County is no longer considered an area where northern long-eared bat is reasonably certain to occur. No caves or other hibernacula for gray bat or tricolored bat exist in the Project Area. Approximately 0.19 acre of suitable summer roosting habitat for tricolored bat is proposed for removal as part of the Proposed Action. TVA recommends avoidance of tree clearing during bat pup season (May 15 to July 31) to avoid potential adverse impacts on non-volant bats and their habitat. Conservation measures detailed in the TVA Bat Strategy Project Screening Form would be implemented as part of the Proposed Action. Given the implementation of these conservation measures, the Proposed Action would not significantly impact gray bats and would not jeopardize the continued existence of the tricolored bat.

Approximately 1.5 acres of trees would be cleared in the Project Area. No habitat for uncommon or rare plant communities is present within the Project Area or would be affected by the Proposed Action. No plants protected under the Endangered Species Act, habitat suitable for listed plant species, nor state-listed plants are present in the Project Area.

The desktop review of the Area of Potential Effect revealed that no known cultural resources are located within the Project Area or within direct line of sight of the Project Area. As such, TVA finds that the proposed undertaking, as currently planned, would have no effect on historic properties. On October 17, 2025, TVA consulted with the Tennessee Historical Commission (THC)/State Historic Preservation Office (SHPO) and all federally recognized Tribes with an interest in the Project Area regarding TVA's National Register of Historic Places (NRHP) eligibility determinations and findings of effect. The THC-SHPO concurred with TVA's finding of no effect to historic properties, also on October 17, 2025. TVA received no objections from the consulted Tribes on the proposed undertaking.

Construction vehicles and equipment visible during construction activities would have a minor visual impact over the temporary construction period, as well as a minor permanent impact due

to tree clearing, grading, rough grading, sinkhole remediation, and extension of Holston Bend Drive. Drivers along surrounding roads and some homeowners may be able to view construction activity in the Project Area, although the activity would not be inconsistent with an industrial park and its development or with existing industrial and commercial facilities in the vicinity. Homeowners would maintain at least some visual screening due to a narrow line of trees located outside the Project Area. While motorists may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. Implementation of the Action Alternative would result in a minor, insignificant decrease in visual quality for residents in the viewshed.

Construction noise would be localized, intermittent, and temporary, and no receptor would be exposed to significant noise levels for an extended period. Further, construction activities would be anticipated to be conducted during daylight hours, when ambient noise levels are often higher, and most individuals are less sensitive to noise. It is anticipated that sound levels would not exceed 85 decibels at the Project Area boundary per Occupational Safety and Health Administration standards. Thus, noise-related impacts resulting from the implementation of the Action Alternative are anticipated to be temporary and minor.

Minor beneficial socioeconomic impacts during the construction of the Proposed Action would occur. No long-term impacts on community services are anticipated and there would be no impacts on low-income communities in the area.

Additional traffic would be generated during construction activities. Because of the anticipated limited volume of workers on the site required for tree clearing activities, grading, and road improvements, as well as the relatively short 14-month timeframe of the proposed work, direct or indirect impacts to local traffic and roadways are anticipated to be temporary and minor.

MITIGATION MEASURES

As the grantee of funding for the proposed action, TVA would require adherence to the routine environmental protection measures listed in Section 2.3.1 of the EA. The measures include Best Management Practices (BMPs), permit conditions in the associated stormwater permit issued by the Tennessee Department of Environment and Conservation, and dust control measures pursuant to the Tennessee Air Pollution Control Rule 122 3-8.

CONCLUSION AND FINDINGS

Based on the findings listed above and the analyses in the EA, we conclude that the Proposed Action of TVA funding to assist with the development of the EBP (Sites 4, 5, and 6) would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



Dawn Booker, Senior Manager
NEPA Compliance
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April 6, 2026

Date Signed

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

An integral part of the TVA’s mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new or improved sites and facilities within the TVA service area, and position communities to compete successfully for new jobs and capital investment. TVA proposes to provide an economic development grant through InvestPrep funds to the Industrial Development Board of the County of Knox (IDB), to assist with the development of Sites 4, 5, and 6 of the Eastbridge Business Park (EBP) in Knox County, Tennessee (Figure 1) as described in more detail below.

The List of Preparers for this Environmental Assessment (EA) is presented in Appendix A, and the List of Symbols, Acronyms, and Abbreviations is located in Appendix B.

1.1 BACKGROUND

The IDB indicated that multiple opportunities for economic development within the Project Area had been lost in recent years due to challenging topography. The Proposed Action would improve Sites 4, 5, and 6 and put them into a more marketable position. The Eastbridge Business Park was established in 1990, and Sites 4, 5, and 6 (i.e., the Project Area) were obtained in 1992 after being used primarily as livestock pasture. Sites 4, 5, and 6 were subject to prior site development activities including tree clearing, grading, sinkhole remediation, construction of an access road, and completion of geotechnical borings.

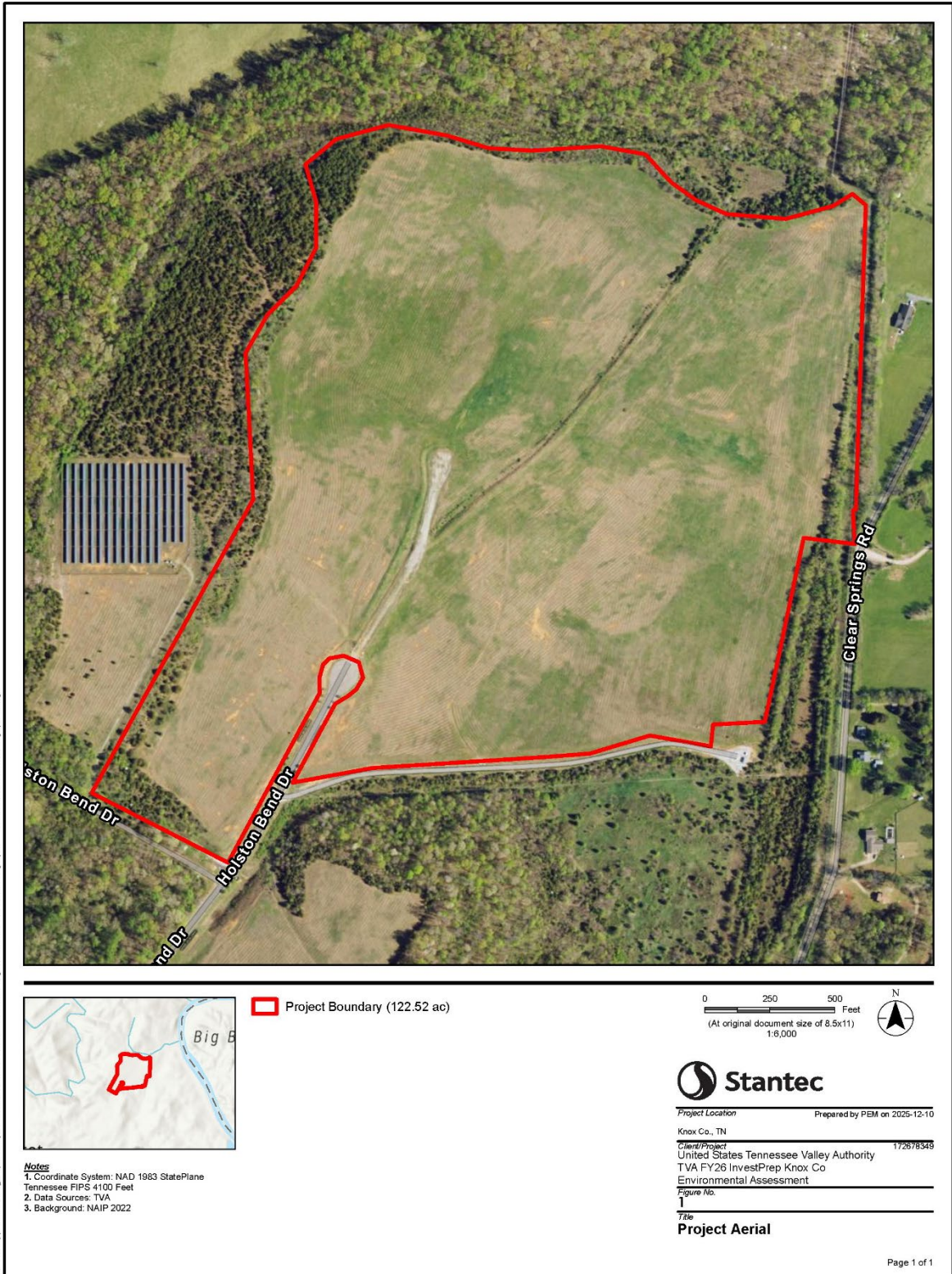


Figure 1. Map of Eastbridge Business Park (EBP), Sites 4, 5, and 6 in Knox County, Tennessee for the Proposed Action

1.2 PURPOSE AND NEED

The area of TVA’s Proposed Action (herein referred to as the Project Area) encompasses 122.5 acres of mostly open grassy land with some small forested or brushy areas around the perimeter and central portions, in Mascot, Tennessee. TVA funds would be matched with non-TVA funds and used to assist with tree clearing, grading and rough grading, sinkhole remediation, and extension of Holston Bend Drive. Following the site improvements, the disturbed areas would be stabilized. These activities, herein referred to as the Proposed Action and/or Action Alternative, are further detailed in Section 2.1.2 below.

The proposed grant to the IDB would assist with the above-mentioned site improvements to allow prospects to better envision the development potential of the site. The proposed improvements would lead to an increased probability of achieving TVA’s core mission of job creation and capital investment. Developed industrial or commercial sites currently in the immediate vicinity of the Project Area include Timken-RBS, Packaging Corporation of America, JP Lamborn, Lifetime Products, and E.W. Wylie. Target industries include plastics and rubber products, machinery manufacturing, computer and electronic product manufacturing, electrical equipment, appliance and component manufacturing, transportation equipment manufacturing, and other miscellaneous manufacturing. Pursuant to the National Environmental Policy Act (NEPA) and TVA’s implementing regulations 18 CFR 1318, this Environmental Assessment (EA) evaluates the environmental impacts that would potentially result from TVA’s Proposed Action.

1.3 DECISION TO BE MADE

TVA’s decision is whether to provide the requested funding to the IDB.

1.4 RELATED ENVIRONMENTAL REVIEWS

In preparation for site development, other studies have been performed by the IDB or others at the EBP including the 122.5-acre Project Area. The various studies were performed at different times and sometimes included areas beyond the Project Area.

- A Categorical Exclusion Checklist prepared by TVA (2015) in February 2015 for financial assistance to The Development Corporation of Knox County to support resurfacing of roadway, landscaping, and signage.
- A Report of Limited Geotechnical Exploration developed by S&ME (2015a) prepared in August 2015 for The Development Corporation of Knox County.
- A Geophysical Exploration Report prepared by Terracon (2025a) in February 2025 including 2D electrical resistivity studies of the Project Area.
- A Geotechnical Engineering Report – Eastbridge Industrial Park Buildings Karst Study developed by Terracon (2025b) in September 2025 for the Project Area.
- A Jurisdictional Waters Report prepared in July 2015 by S&ME (2015b) submitted to the Tennessee Department of Environment and Conservation (TDEC) on behalf of The Development Corporation of Knox County.

- A T&E Species Evaluation prepared by S&ME (2015d) in July 2015 and submitted to TDEC.
- Stantec performed a delineation of surface waters and wetlands of the Project Area in November 2025 with a report submitted to TVA in January 2026 (Stantec 2026).
- Stantec botanists completed field surveys for vegetation found in the Project Area in November 2025, including assessment for the presence of federally or state-listed plant species and their habitats, and prepared the associated report in December 2025 (Stantec 2025).

1.5 NECESSARY PERMITS, LICENSES, AND CONSULTATIONS

The following consultations, permits, or licenses would be required for completion of the Project:

- TVA contacted the Tennessee Historical Commission (THC)/State Historic Preservation Office (SHPO) regarding cultural resources in the Project Area in a letter dated October 17, 2025 (TVA 2025). Clearance for Section 106 of the National Historic Preservation Act (NHPA) was obtained from the THC-SHPO on October 17, 2025 (THC 2025).
- National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Associated with Construction Activities (TNR100000).
- Section 7 of the Endangered Species Act, addressed in TVA's programmatic consultation with the United States Fish and Wildlife Service (USFWS).

CHAPTER 2 ALTERNATIVES

This chapter describes and compares the alternatives to be considered.

2.1 DESCRIPTION OF ALTERNATIVES

Based on internal scoping, TVA has determined that there are two reasonable alternatives to assess under NEPA: the No Action Alternative and the Action Alternative.

2.1.1 Alternative A – The No Action Alternative

Under the No Action Alternative, TVA would not provide InvestPrep funds to the IDB. TVA would not further its mission of promoting economic development by assisting the local community to compete successfully for new jobs and capital investment through the Proposed Action. If the IDB secured alternate funding and proceeded with its current plans, the overall environmental consequences would be similar to those expected from implementing the Action Alternative. In the event the Project was postponed, any environmental effects would be delayed for the duration of the postponement. If the Project was cancelled, no direct environmental effects would be anticipated, as environmental conditions at the Project Area would remain essentially unchanged from the current conditions for the foreseeable future.

2.1.2 Alternative B – Proposed Action Alternative

Under the Action Alternative, TVA would provide InvestPrep funds to the IDB for site improvements to the Project Area. The Action Alternative would include tree clearing, grading, rough grading, sinkhole remediation, and extension of a road. Details of the Proposed Action include:

- Cutting of approximately 1.5 acres of trees, removal of stumps, and burning of the woody debris.
- Grading of a 500,000 square foot (SF) building pad on Site 6 to an elevation of 969.1 feet above mean sea level (msl) without the need for off-site borrow, then covered by four inches of compacted crushed stone. Existing topography of the Project Area is depicted in Appendix C, Figure 1-A.
- Rough grading of 120,000 SF at Site 4 with a finished elevation of 1,031.4 msl and 340,000 SF on Site 5 with a finished elevation of 1,017 msl; with neither site requiring off-site borrow. Following grading, both sites would be stabilized by seeding and mulch.
- Sinkhole remediation.
- Extension of Holston Bend Drive with the addition of 4 inches of compacted crushed stone.

These improvements with TVA funds would be matched with non-TVA funds. Activities required for the Action Alternative would occur over approximately 14 months and would require a small workforce that would most likely be assigned through a local contractor. Work activities

would not be anticipated at night, but work on weekends would be possible. For ease of discussion in this EA, the Proposed Action is collectively described as construction.

The IDB, or its contractors, would obtain all required permits and authorizations, and, in compliance with those permits, take appropriate feasible measures, such as implementing best management practices (BMPs) and best construction practices, to minimize or reduce the potential environmental effects of the Proposed Action to insignificant levels. These practices would include the installation of erosion prevention and sediment control measures (silt fences, sediment traps, etc.), management of fugitive dust, and daytime work hours.

2.1.3 Alternatives Considered but Eliminated From Further Discussion

No other alternatives were considered for the Project.

2.2 COMPARISON OF ALTERNATIVES

A summary of the environmental impacts associated with the two alternatives is provided in Table 2-1. The environmental impacts are discussed in more detail in Chapter 3.

Table 2-1. Summary and Comparison of Alternatives by Resource Area

Resource Area	Impacts From No Action Alternative	Impacts From Proposed Action Alternative
Solid and Hazardous Materials	No Impacts Identified	No Impacts Identified
Land Use	No Impacts Identified	No Impacts Identified
Floodplains	No Impacts Identified	No Impacts Identified
Managed and Natural Areas	No Impacts Identified	No Impacts Identified
Recreation	No Impacts Identified	No Impacts Identified
Surface Water	No Impacts Identified	No Impacts Identified
Wetlands	No Impacts Identified	No Impacts Identified
Aquatic Zoology	No Impacts Identified	No Impacts Identified
Prime Farmland	No Impacts Identified	No Impacts Identified
Air Quality	No Impacts Identified	Minor impacts
Groundwater	No Impacts Identified	Minor impacts
Soils	No Impacts Identified	Minor impacts
Terrestrial Zoology	No Impacts Identified	Minor impacts
Botany	No Impacts Identified	Minor impacts
Cultural Resources	No Impacts Identified	No Impacts Identified
Visual Resources	No Impacts Identified	Minor impacts
Noise	No Impacts Identified	Minor impacts
Socioeconomics	No Impacts Identified	Minor impacts
Transportation	No Impacts Identified	Minor impacts

2.3 IDENTIFICATION OF MITIGATION MEASURES

This section identifies routine and non-routine measures that the IDB or TVA propose to mitigate adverse effects.

2.3.1 Standard Practices and Routine Measures

To minimize or reduce the environmental effects of site activities associated with the Action Alternative, the IDB, or its contractors, would ensure all grading activities conducted would be in compliance with stormwater permitting requirements and use applicable BMPs to minimize and control erosion and fugitive dust during these actions.

Operations involving chemical or fuel storage or resupply and vehicle servicing would be handled outside of riparian areas and in such a manner as to prevent these items from reaching a watercourse. Servicing of equipment and vehicles is expected to be done with care to avoid leakage, spillage, and subsequent surface or groundwater contamination. Oil waste, filters, and other litter would be collected and disposed of properly.

The IDB, or its contractors, would be expected to comply with Tennessee Air Pollution Control Rule 1200-3-8, which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include grading of roads and the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles, as needed.

2.3.2 Non-routine Mitigation Measures

No non-routine mitigation measures have been identified.

2.4 THE PREFERRED ALTERNATIVE

TVA's preferred alternative is Alternative B, the proposed Action Alternative.

CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the baseline environmental conditions (affected environment) of environmental resources in the Project Area and the anticipated environmental consequences (or impacts) that would occur from implementation of the alternatives described in Chapter 2. Within this chapter, the environmental impacts analyzed may be beneficial or adverse. Impact severity is dependent upon the relative magnitude and intensity, and resource sensitivity. In this document, four descriptors are used to characterize the level of impacts as follows:

- No Impact—resource not present or affected by project alternatives under consideration.
- Minor (or Small)—environmental effects are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.
- Moderate—environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
- Large—environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

3.1 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

TVA prepared this EA to comply with NEPA and its implementing procedures at 18 CFR part 1318. TVA reviewed the Proposed Action and identified the following resource areas to be evaluated in detail:

- Air Quality and Climate Change
- Groundwater
- Soils
- Terrestrial Zoology
- Terrestrial Zoology – Threatened and Endangered Species
- Botany
- Botany – Threatened and Endangered Species
- Cultural Resources
- Visual Resources
- Noise
- Socioeconomics
- Transportation

The following resources were considered but ultimately dismissed from further analysis in the EA:

- **Hazardous Materials and Solid Waste:** The Proposed Action does not involve demolition or removal of aboveground structures. Since the Proposed Action does not involve demolition or removal of aboveground structures, there are no known areas of hazardous waste, and the Project Area was used as a livestock pasture prior to development as an industrial park, the topic of solid and hazardous materials was excluded from further evaluation.
- **Land Use:** The Proposed Action would change the Project Area from a mostly open grassy field with some trees to a developed lot designed to attract industrial development. The EBP is zoned as industrial land. Given the industrial zoning, the IDB’s planned development of the EBP as an industrial park, and existing industrial and commercial facilities located to the south and southwest of the Project Area, the Proposed Action would not cause a change in land use.
- **Floodplains:** Based on aerial photography of Knox County, Tennessee; the site-specific wetlands and aquatics final report dated January 26, 2026 (Stantec 2026); the FEMA National Flood Hazard Panels 47093C0178F and 47093C0180F, both effective 05/02/2007 (Appendix C, Figure 1-B); and the FEMA Map Service Center for Knox County, Tennessee for effective, pending, and preliminary products; the Project would not be located within either FEMA-identified or unmapped 1 percent annual chance (100-year) floodplains, which would be consistent with EO 11988. Therefore, there would be no direct or indirect impacts to floodplains and their natural and beneficial values.
- **Managed and Natural Areas:** A review of the TVA Regional Natural Heritage Database (NHD) identified six managed and natural areas within 3 miles of the Project Area (Table 3-1). None of these areas directly overlap with the Project Area, and given the scope of the Project and the distances of any natural areas relative to the Project Area (i.e., at least 0.4 mile away), no impacts to managed natural areas are anticipated.

Table 3-1. Managed/Natural Areas That Occur within, Adjacent to, or within 3 Miles of the Proposed Project Area

Natural Area	Acres	County (State)	Miles from Project Area
East Knox Park	41.5	Knox (TN)	1.9
Holston River	128.1	Multiple (TN)	0.5
House Mountain Designated State Natural Area	527.4	Knox (TN)	2.3
Lower French Broad and Lower Holston Nonessential Experimental Population Status	4,790.1	Multiple (TN)	0.4

Natural Area	Acres	County (State)	Miles from Project Area
Mascot Cedar Glade Potential National Natural Landmark/PPS	46.3	Knox (TN)	0.7
TVA Programmatic Agreement 2003 (Holston)	2,419.6	Multiple (TN)	0.4

- Recreation: TVA staff conducted a desktop-level review of all recreation areas within a 3-mile radius of the Project Area (Table 3-2). None of those areas were identified as being less than one mile away or overlapping with the Project Area. Some dispersed recreational activities, such as hunting, nature observation, hiking, and walking for pleasure, may occur on some of the lands near the Project Area and related access routes.

Table 3-2. Recreation Areas within 3 Miles of the Project Area in Knox County, Tennessee

Recreation Area	Distance (miles)/Direction from Project Area
Mascot Park	1.7 southwest
McBee Ferry Landing Park	2.2 southeast
Skaggston Community Park	2.3 northwest
Eastview Memorial Garden	2.4 southeast
East Knox Park Playground	2.4 west
Sanctuary and Arboretum Garden	2.7 north
Ruggles Ferry Golf Course	3.0 southwest

None of these areas directly overlap with the Project Area, and given the scope of the Project and the distances of any recreation areas relative to the Project Area, no impacts to localized recreation areas or activities are anticipated.

- Aquatic Resources (surface water, wetlands, and aquatic zoology): A preliminary map of waters and wetland features based on the United States Geological Survey (USGS) National Hydrography Dataset and USFWS National Wetland and Water Inventory (NWI) is provided in Appendix C, Figure 1-C. As noted above, S&ME performed a preliminary surface waters and wetlands delineation of the Project Area in July 2015 (S&ME 2015b). No streams or wetlands were identified by S&ME in the Project Area. Three wet weather conveyances were documented. TDEC (2015c) provided concurrence with S&ME's report in August 2015, concluding that there were no potentially jurisdictional waters of the State in the Project Area. The U.S. Army Corps of Engineers (USACE 2017) determined that the Project Area did not contain waters of the United States (US) subject to USACE jurisdiction. Given that the S&ME study is over 10 years old, Stantec performed a delineation for surface waters and wetlands in the Project Area in November 2025 (Stantec 2026). Stantec did not identify any perennial or intermittent

streams, ponds, or wetlands. Four wet-weather conveyances were observed in the Project Area.

Because the Proposed Action would not affect a perennial flowing surface waterbody or a pond, and no fish, crayfish, bivalves or mussels, or aquatic insects were observed (Stantec 2026), there would be no effects on aquatic zoology resources.

- Prime Farmland: Although the Project Area contains 9.7 acres of prime farmland (Appendix C, Figure 1-D), the Natural Resources Conservation Service (NRCS) indicated that given the Project Area’s zoning as industrial, the Project Area is exempt from the provisions of the Farmland Protection Policy Act (NRCS 2026, Appendix D).

TVA’s review of potential impacts resulted in the identification of multiple resources requiring a more detailed assessment. Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, terrestrial zoology including threatened and endangered animal species, and botany including threatened and endangered plant species. Implementation of the Action Alternative could create potential impacts to the human environment, including cultural resources, visual effects, noise, socioeconomics, and transportation. Potential impacts to resources and impacts to the human environment resulting from implementation of the Action Alternative are discussed in detail below.

3.2 REASONABLY FORESEEABLE FUTURE ACTIONS

There are no known reasonably foreseeable future actions expected to occur for the Project Area or its immediate vicinity. The Action Alternative does not include the assessment of activities that may be directly or indirectly associated with adjacent lots already developed or under construction, or the eventual build-out, occupation, and future use of the Project Area. The future use of the site has not been defined. Given this uncertainty, an analysis of the potential impacts for the development of the adjacent lots or the eventual build-out, occupation, and future use of the Project Area is beyond the scope of this EA.

3.3 AIR QUALITY AND CLIMATE CHANGE

This section describes air quality in the Project Area and compares the alternatives considered as they relate to air quality and climate change.

3.3.1 Affected Environment - Air Quality and Climate Change

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 US Code (USC) 7401 et seq., as amended in 1977 and 1990, the United States Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) to protect human health and public welfare. The USEPA codified NAAQS in 40 CFR 50 for the following “criteria pollutants:” nitrogen dioxide (NO₂), carbon monoxide (CO), ozone, sulfur dioxide (SO₂), lead, particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM₁₀), and PM with an aerodynamic diameter equal to or less than 2.5 microns (PM_{2.5}). The NAAQS reflect the relationship between pollutant concentrations and health and welfare effects. Primary standards protect human health, including the health of

sensitive populations such as asthmatics, children, and the elderly. Secondary standards are designed to protect public welfare, including visibility, animals, crops, vegetation, and buildings. These standards reflect the latest scientific knowledge and have an adequate margin of safety intended to address uncertainties and provide a reasonable degree of protection. The air quality in Knox County, Tennessee, is designated as being in attainment with respect to the criteria pollutants (USEPA 2026).

Other pollutants, such as hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are also a consideration in air quality impact analyses. Section 112(b) of the CAA lists HAPs, also known as toxic air pollutants or air toxins, because they present a threat of adverse human health effects or adverse environmental effects. Although there are no applicable ambient air quality standards for HAPs, their emissions are limited through permit thresholds and technology standards as required by the CAA. GHGs are gases that trap heat in the atmosphere, are non-toxic and non-hazardous at normal ambient concentrations. At this time, there are no applicable ambient air quality standards or emission limits for GHGs under the CAA. GHGs occur in the atmosphere both naturally and resulting from human activities, such as the burning of fossil fuels. GHG emissions due to human activity are the main cause of increased atmospheric concentration of GHGs since the industrial age and are the primary contributor to climate change. The principal GHGs are carbon dioxide (CO₂), methane, and nitrous oxide.

3.3.2 Environmental Consequences - Air Quality and Climate Change

This section assesses the environmental consequences and impacts on air quality and climate change resulting from the two alternatives considered.

3.3.2.1 Alternative A – The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on air quality and climate change.

3.3.2.2 Alternative B – Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment and fugitive dust from ground disturbances and grading. Fossil fuel-fired equipment is a source of combustion emissions, including nitrogen oxides (NO_x), CO, volatile organic compounds (VOCs), SO₂, PM₁₀, PM_{2.5}, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Action Alternative would be expected to be in compliance with the USEPA mobile source regulations in 40 CFR Part 85 for on-road engines and 40 CFR Part 89 for non-road engines. These regulations are designed to minimize emissions and require a maximum sulfur content in diesel fuel of 15 parts per million (ppm). Trees would also be cleared as part of the Proposed Action under the Action Alternative, and burning of trees and stumps is also anticipated on site. Burning of woody debris produces smoke containing CO, CO₂, PM, NO₂, and VOCs (ORCAA 2024). Smoke inhalation can cause irritation, breathing issues, and respiratory diseases.

Fugitive dust is a source of respirable airborne PM, including PM10 and PM2.5, which could result from ground disturbances such as land clearing, grading, excavation, and travel on unpaved roads. The amount of dust generated is a function of the activity, silt and moisture content of the soil, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics. The IDB, or its contractors, would be expected to comply with Tennessee Air Pollution Control Rule 1200-3-8, which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include grading of roads and the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles, as needed.

With the use of BMPs and other required measures described above to reduce emissions associated with the Action Alternative, air quality impacts would be minor, temporary, and localized; and would not be anticipated to result in any violation of applicable ambient air quality standards, impact regional air quality, or affect nearby persons.

Concerning climate change, trees, like other green plants, are carbon sinks that use photosynthesis to convert CO₂ into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. Carbon sequestration is the process by which carbon sinks remove CO₂ from the atmosphere. Although forests do release some CO₂ from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon. Trees would be cleared as part of the Proposed Action, and since the Project Area is mostly pastureland with some trees, it functions as a carbon sink. However, on a national or global scale, the Proposed Action that involves clearing 1.5 acres of trees and conversion of approximately 11.5 acres to a crushed aggregate building pad (Site 6) would have minor impacts on climate change.

3.4 GROUNDWATER

This section describes groundwater resources in the Project Area and compares the alternatives considered as they relate to groundwater.

3.4.1 Affected Environment - Groundwater

The Project Area is located within the Tennessee Section of the Valley and Ridge Province (USGS 2023). The Valley and Ridge Province extends southwest to northeast and is characterized by a sequence of folded and faulted, Paleozoic sedimentary rocks that form a series of alternating valleys and ridges that extend from Alabama and Georgia to New York (USGS 1995). In eastern Tennessee, the principal aquifers in the Valley and Ridge Province consist of carbonate rocks that are primarily Cambrian and Ordovician in age, with minor Silurian, Devonian, and Mississippian rocks also present (USGS 1995). Locally this system is referred to as the East Tennessee aquifer system and consists of soluble carbonate rocks and some easily eroded shales underlie the valleys while more erosion-resistant siltstone, sandstone, and some cherty dolomite underlie ridges (USGS 1986).

Water quality in the carbonate aquifers of the Valley and Ridge Province is characterized as hard, with dissolved solids concentrations of 170 milligrams per liter or less. Due to the complex

network of fractures, bedding planes, and solution openings in the carbonate rocks in areas with thin residuum overlying the substrate, water recharges rapidly and water quality in these aquifers is susceptible to contamination by human activities (USGS 1995). Recharge occurs primarily along the flanks of the ridges and groundwater flow is generally from the ridges (higher groundwater levels) toward major streams and center of the valleys where groundwater levels are lower (USGS 1995).

Preliminary geophysical investigations were conducted on site in the 2015 report “Report of Limited Geotechnical Exploration Eastbridge Business Park Sites 4, 5 and 6 Knox County Tennessee” prepared by S&ME, Inc. (SM&E 2015a), a 2025 report “Geophysical Exploration Report Eastbridge Industrial Park Buildings, Holston Bend Drive, Mascot, Tennessee” prepared by Terracon Consultants, Inc. (Terracon 2025a) and a 2025 report “Eastbridge Industrial Park Buildings Karst Study” also prepared by Terracon (Terracon 2025b).

The 2015 report completed by SM&E (SM&E 2015a) investigated subsurface conditions by summarizing the findings from 41 soil test borings conducted in 1999 and 2000, along with 2 additional soil test borings completed for the 2015 report. The borings performed within the Project Area were completed from depths ranging from 5 feet to 60 feet below land surface. The 2015 report stated subsurface conditions consisted of residuum or weathered rock components that included clays and silts, and dolomite was also encountered. The 2015 report also stated that a USGS topographic quadrangle for the Project Area was reviewed and several closed depressions were identified in the vicinity of the site. Additionally, S&ME noted that three sinkholes formed and were repaired in the same year.

The geophysical exploration (Terracon 2025a) consisted of 17 linear electrical resistivity surveys. The survey report indicated that bedrock is present from 5 feet to 30 feet below ground surface in the southeastern portion of the Project Area and that the depth to bedrock in the southwestern and northwestern sections of the Project Area was found at depths exceeding 50 feet below land surface. Additionally, the geophysical exploration report identified potential karst anomalies in five of the 17 linear electrical resistivity surveys, identifying two separate anomalies. The first potential karst anomaly is approximately 40 feet below land surface (bls) and extends approximately 200 feet long. The geophysical exploration report acknowledges a second area of concern that was previously identified within the Project Area, and was previously repaired with what appears to be inverted filters.

The karst study (Terracon 2025b) examined the Project Area and produced the following recommendations:

- Locate critical structures away from potential karst areas.
- Place fill in areas of potential karst.
- Reduce cut in areas of potential karst.
- Construct inverted filters in areas where karst impacts non-structural areas.
- Excavate and backfill with concrete or flowable fill in karst impacted areas.

- Cap and compact grout in areas impacted by karst.
- Support critical structures on deep foundations.

3.4.2 Environmental Consequences–Groundwater

This section assesses the environmental consequences and impacts upon groundwater resulting from the two alternatives considered.

3.4.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on groundwater resources.

3.4.2.2 Alternative B–Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Implementation of the Action Alternative would result in ground disturbance during construction activities. Tree clearing and subsequent tree and stump burning would result in minor ground disturbance at shallow depths. Site grading, compaction, and sinkhole remediation would result in greater ground disturbance at moderate depths. Ground disturbances are not anticipated to be at depths that would intersect public groundwater supplies (approximately 50 to 250 feet beneath the land surface) (USGS 2016) or result in significant impacts to groundwater resources.

Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by clearing, grading, and sinkhole remediation within the Project Area. Water infiltration, which is normally enhanced by vegetation, would be reduced until vegetation is re-established. In addition, near-surface soil compaction caused by heavy construction vehicles could reduce the ability of soil to absorb water. These minor impacts would be temporary and would not significantly affect groundwater resources.

It is not anticipated that construction activities affecting groundwater would encounter hazardous substances during the aforementioned site improvements.

3.5 SOILS

This section describes soils in the Project Area and compares the alternatives considered as they relate to soils.

3.5.1 Affected Environment–Soils

As noted above, the Project Area is located within the Tennessee Section of the Valley and Ridge Province (USGS 2023). Soil types and descriptions were obtained from the NRCS Web Soil Survey (NRCS 2026) (see Appendix C, Figure 1-D). Soil types found within the Project Area include: Collegedale-Talbott complex (12 to 25 percent slopes, rocky, Complex), Dewey loam (25 to 40 percent slopes, eroded, Consociation), Dewey silt loam (15 to 25 percent slopes, eroded, Consociation) Dewey silt loam (6 to 15 percent slopes, eroded, Consociation), Emory silt loam (2 to 5 percent slopes, Consociation), Etowah-Minvale complex (2 to 5 percent slopes,

Complex), Heiskell silt loam (0 to 2 percent slopes, occasionally flooded, Consociation), Loyston-Talbott-Rock outcrop complex (15 to 50 percent slopes, Complex) and Water (Consociation).

3.5.2 Environmental Consequences–Soils

This section assesses the environmental consequences and impacts upon soils resulting from the two alternatives considered.

3.5.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on soils.

3.5.2.2 Alternative B–Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2.

Two geotechnical evaluations and a geophysical investigation were conducted on the Project Area in 2015 (S&ME, Inc. 2015a) and 2025 (Terracon 2025a and 2025b) as described above in section 3.2. Regarding future development, the S&ME (2015a) report recommended additional geotechnical evaluations for foundation design and site preparation. The geophysical report prepared by Terracon (2025a) recommended that prior to adding any additional fill, the Project Area should be cleared of vegetation, organic soil, old fill, roots, and topsoil in any construction areas. Further, when adding fill in areas of existing slopes, benches should be cut into these slopes prior to fill placement, and once the area has been excavated or stripped of materials to the proposed subgrade levels, the report states that these exposed areas should be proof rolled. Terracon stated that during this process, any soils that are observed to deflect or rut more than one inch should be processed and re-compacted or undercut and replaced. These proof rolling and potential undercutting activities should be observed by the geotechnical engineer and performed during dry weather, according to the report (Terracon 2025a). The karst study (Terracon 2025b) recommended the actions listed in section 3.2 for construction within the Project Area due to the presence of potential karst anomalies (Terracon 2025b).

The Proposed Action includes the stabilization of disturbed soils following grading by seeding and mulch or use of compacted crushed stone. Further, BMPs would be required as part of the NPDES General Permit for Discharges Associated with Construction Activities (TNR100000). This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize erosion-related impacts. BMPs, as described in the Tennessee Erosion Prevention and Sediment Control Handbook (TDEC 2026), would be used during site development to avoid soil erosion and sedimentation into surface water in the Project Area. These factors would effectively avoid or minimize impacts on soils and from soil erosion. Given these measures, it is anticipated that construction activities would result in minor effects on soils during the aforementioned site improvements.

3.6 TERRESTRIAL ZOOLOGY

This section describes terrestrial zoology in the Project Area and compares the alternatives considered as they relate to terrestrial zoology.

3.6.1 Affected Environment–Terrestrial Zoology

The Project Area is almost entirely composed of overgrown agricultural fields. The landscape surrounding the industrial park is agricultural fields, industrial areas, and stands of forested ridgelines. Highway 11, multiple manufacturing facilities, and a mining operation also exist in the immediate vicinity of the Project Area. A field survey of the Project Area was conducted on October 7, 2025, by TVA terrestrial zoologists.

The majority of the Project Area consists of agricultural habitat. Common inhabitants of previously disturbed fields and early-successional habitats include brown-headed cowbird, brown thrasher, common grackle, dickcissel, eastern bluebird, eastern kingbird, eastern meadowlark, field sparrow, grasshopper sparrow, and red-tailed hawk (National Geographic 2002). Early-successional areas provide habitat for species such as eastern cotton tail, striped skunk, and white-tailed deer (Whitaker 1996). Amphibian and reptile species common to this habitat include Fowler’s toad, upland chorus frog, and North American racer, among others (Powell et al. 2016). Where this habitat is bordered by forested areas, a more diverse array of common wildlife species can be found using edge habitat.

A small (1.5 acre) forested area of mostly regenerative growth is also present within the Project Area. Amphibian and reptile species common to this habitat include corn snake, eastern copperhead, and Cope’s gray treefrog, among others (Powell et al. 2016). Common avian species that utilize this habitat include chipping sparrow, pine warbler, and summer tanager (National Geographic 2002). Mammalian species known to utilize this habitat type include coyote, eastern raccoon, and gray fox (Whitaker 1996).

Review of the TVA NHD on September 9, 2025, resulted in one cave record approximately 2.3 miles from the Project Area boundary. No caves or sinkholes were observed during the October 2025 field survey. No other unique or important terrestrial habitat exists in the Project Area. No heronries or other aggregations of migratory birds have been documented within 3 miles of the Project Area. Review of the USFWS Information for Planning and Consultation (IPaC) tool queried in September 2025 identified eleven migratory bird species of conservation concern with the potential to occur in the Project Area: bald eagle, cerulean warbler, chimney swift, chuck-will’s-widow, eastern whip-poor-will, Kentucky warbler, prairie warbler, prothonotary warbler, red-headed woodpecker, rusty blackbird, and wood thrush. See Section 3.7 for a full bald eagle impact analysis and effects determination. Cerulean warblers breed in the state of Tennessee. This species is most often found in tall deciduous trees in riparian bottomlands and on mountain ridges where they forage, primarily in the canopy, gleaning insects off leaf surfaces (Buehler et al. 2020). Neither breeding nor foraging habitat for this species is present within the Project Area.

Chimney swifts are summer residents in Tennessee and use chimneys in urban areas as nesting sites and communal roosts. When chimneys are unavailable, swifts may utilize tree cavities and other human-made structures, such as barns, silos, and vents made out of porous materials such as brick, stone, or mortar (Cornell 2025). Chimney swifts forage for insects in a variety of habitats including forests, open areas, waterways, and suburban and urban areas (Steeves et al. 2020). Suitable nesting habitat for chimney swift is not present, but foraging habitat is available in the Project Area.

Chuck-will's-widow breeds in the state of Tennessee in the summer. They occur in the subcanopy of deciduous or mixed forests, although they will use pastures and scrubland for foraging (Straight and Cooper 2020). Suitable foraging habitat is present within the Project Area; however, breeding habitat does not exist in the Project Area for this species.

Eastern whip-poor-wills are summer residents in Tennessee during the breeding season. This species utilizes dry forests without much understory growth and forages for insects amongst the foliage and sometimes within rotten logs and detritus on the ground (Cink et al. 2020). Breeding habitat is not present in the Project Area for this species but foraging habitat is likely available.

Kentucky warblers are summer breeding residents in Tennessee. This species breeds in bottomland hardwood forests with dense understories (McDonald 2020). This species forages alone on the ground, rummaging through leaf litter, shrubs, vines, and lower parts of trees. Suitable breeding habitat for this species is not present within the Project Area, but suitable foraging habitat is available.

Prairie warblers are summer residents in Tennessee. They are forage gleaners that typically breed in early-successional shrubby habitats (Nolan et al. 2020). Breeding and foraging habitat for prairie warbler exists within the Project Area.

Prothonotary warblers are present in Tennessee during summer breeding season. This species occupies tree cavities in wet bottomlands adjacent to water and feeds opportunistically on seeds, fruit, and even nectar in addition to insects and spiders throughout breeding and nonbreeding habitat (Petit 2020). Suitable breeding and foraging habitat for this species is not present within the Project Area.

Red-headed woodpeckers are summer residents in Tennessee. They utilize a variety of forested habitats, typically where snags and live trees with dead limbs are available to utilize for nesting (Frei et al. 2020). This species also occurs in more open areas than typical forest-dwelling woodpeckers and has evolved a more omnivorous diet and diverse foraging modes, foraging for insects most anywhere they are available (Jackson 1976). Breeding habitat for red-headed woodpecker does not exist in the Project Area, but foraging habitat is available.

Rusty blackbirds are winter residents in Tennessee. They utilize wet woods, pond edges, and other wet habitats during the winter, and feed opportunistically year-round on both plant and animal matter (Avery 2020). Winter foods include acorn mast, pine seeds, and fruit (Meanley

1995). Winter habitat for rusty blackbird was not identified within the Project Area but foraging habitat is available.

Wood thrush are summer residents in Tennessee associated with larger tracts of mature mixed-deciduous forests with open forest floors. They tend to nest in the lower forked branches of saplings or shrubs. This species forages in leaf litter or on semi bare ground where herbaceous cover is open; almost always under forest canopy (Evans et al. 2020). Breeding habitat for wood thrush does not exist in the Project Area, but foraging habitat is available.

3.6.2 Environmental Consequences—Terrestrial Zoology

This section assesses the environmental consequences and impacts upon terrestrial animals and their habitats resulting from the two alternatives considered.

3.6.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on terrestrial wildlife.

3.6.2.2 Alternative B—Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Direct effects to some individuals, primarily common species, may occur if those individuals are immobile during the time of habitat removal. This could be the case if activities take place during breeding/nesting/hibernation seasons. Habitat removal likely would disperse mobile wildlife into surrounding areas in an attempt to find new food sources, shelter, and to reestablish territories. However, the actions are not likely to affect populations of species common to the area, as the amount of habitat to be removed is relatively small, of lower quality, and similar herbaceous or shrub habitats and forested fragments are abundant throughout the surrounding landscape.

A review of the TVA NHD did not result in records of known wading bird colonies within 3 miles of the Project Area. One cave was identified within 3 miles of the Project Area, approximately 2.3 miles away. No caves or sinkholes were observed during field survey of the Project Area. Given the distance from known caves and the nature and small scope of the Project, the Proposed Action would not impact caves or other habitats unique or important to terrestrial animals.

Of the 11 migratory birds of conservation concern identified using IPaC, suitable breeding habitat is present only for prairie warbler within the Project Area. Suitable foraging habitat is also available for bald eagle, chimney swift, chuck-will's-widow, Kentucky warbler, prairie warbler, red-headed woodpecker, rusty blackbird, and wood thrush. Direct impacts by the Action Alternative due to proposed timing of tree removal and presence of suitable habitat are possible. A small strip of marginally suitable habitat is present within an area where tree clearing has been proposed, as well as around the edges of a field that could provide breeding and foraging habitat for the above mentioned species. If nesting is active at the time of

proposed tree removal, activities may destroy nests, eggs, or altricial juveniles. Non-nesting individuals present on the landscape at this time are expected to flush from the Project Area to nearby suitable habitat during disturbance events. Due to the relatively small amount of proposed tree removal and the availability of similarly suitable habitat in adjacent areas, proposed actions are not expected to impact populations of migratory birds. Therefore, no significant impacts on terrestrial zoology are anticipated.

3.7 TERRESTRIAL ZOOLOGY–THREATENED AND ENDANGERED SPECIES

This section describes threatened and endangered terrestrial animal species in the Project Area and compares the alternatives considered as they relate to terrestrial zoology - threatened and endangered species.

3.7.1 Affected Environment–Terrestrial Zoology: Threatened and Endangered Species

A review of terrestrial animal species in the TVA Regional NHD on September 9, 2025, did not result in any proposed listed, federally or state-listed species within 3 miles of the Project Area. One federally protected species (bald eagle), three federally listed species (gray bat, northern long-eared bat, and rusty-patched bumblebee), and two species proposed for federal listing (eastern hellbender and tricolored bat) have been recorded in Knox County, Tennessee. The USFWS' IPaC tool determined one additional species proposed for federal listing (monarch butterfly) as having the potential to occur in the Project Area. Habitat suitability and potential impacts to these species are addressed in this review (Table 3-3).

Table 3-3. Federally Listed Terrestrial Animal Species Reported from Knox County, Tennessee and Other Species of Conservation Concern Documented Within 3 Miles of the Project Area¹

Common Name	Scientific Name	Status ²	
		Federal State (Rank ³)	
Amphibians			
Eastern hellbender ⁴	<i>Cryptobranchus alleganiensis</i>	PE	E(S3)
Birds			
Bald eagle ⁴	<i>Haliaeetus leucocephalus</i>	DM	-
Invertebrates			
Monarch butterfly ⁵	<i>Danaus plexippus</i>	PT	-(S4)
Rusty-patched bumblebee ⁴	<i>Bombus affinis</i>	LE	-(S1)
Mammals			
Gray bat ⁴	<i>Myotis grisescens</i>	LE	E(S2)
Northern long-eared bat ⁴	<i>Myotis septentrionalis</i>	LE	E(S1S2)
Tricolored bat ⁴	<i>Perimyotis subflavus</i>	PE	T(S2S3)

¹ Source: TVA NHD and USFWS Ecological Conservation Online System (<https://ecos.fws.gov/ipac/>) extracted September 09, 2025 and February 20, 2026.

² Status Codes: DM = Delisted but Being Monitored; E or LE = Listed Endangered; PE = Proposed Endangered; PT = Proposed Threatened; T = Listed Threatened.

³ State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure.

⁴Species that have not been documented within three miles of the Project Area but have been documented within Knox County, Tennessee.

⁵Historically this species has not been tracked by state or federal heritage programs; USFWS has determined that this species may occur within the Project Area.

Bald eagles are year-round residents in Tennessee. Often nesting in large prominent trees capable of supporting their massive nests (Buehler 2022). This species is typically found near larger waterways where they forage. No nests were observed in the Project Area or within 1,000 feet of the Project Area during field surveys. Neither nesting nor foraging habitat are present within the Project Area. The nearest documented bald eagle record occurs approximately 3.2 miles from the Project Area.

Eastern hellbenders are large fully-aquatic salamanders that live in rivers and large streams (Parham 2025). This species favors clear, rocky creeks and rivers with water temperatures that are ideally less than or equal to 20° Celsius, where there are large shelter rocks. Eggs are laid in nests in late summer or fall beneath these large, flat shelter rocks or submerged logs. The closest known record occurs approximately 13.7 miles away. Suitable habitat for this species is not present within the Project Area.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (Brady et al. 1982, Tuttle 1976a, b). This species has also been documented roosting in abandoned buildings and bridges. Bats disperse over bodies of water at dusk where they forage for insects emerging from the surface of the water (Harvey 2011). Nine gray bat records have been documented from Knox County, Tennessee, the nearest of which occurs approximately 9.1 miles from the Project Area. The closest cave record occurs approximately 2.3 miles from the Project Area. No caves or cave-like habitat is known within the Project Area or was observed during field surveys in October 2025. Aquatic foraging habitat is not present within the Project Area.

Monarch butterfly is a highly migratory species, with eastern US populations overwintering in Mexico. Monarch populations typically return to the eastern US in April (Davis and Howard 2005). Summer breeding habitat requires milkweed species, on which adults exclusively lay eggs and where larvae develop and feed. Adults will drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2023). Though this species has not been historically tracked by state or federal heritage programs, the USFWS IPaC tool determined that this species could occur within the Project Area. Plants present within the agricultural field in the Project Area are not typically used for monarch foraging and no milkweeds were observed during field surveys. As such, significant breeding and foraging habitat is not present within the Project Area for this species. See Section 3.6 for a summary of the botanical species identified within the Project Area. Monarch butterflies were not observed during a field survey of the Project Area in October 2025.

Rusty-patched bumble bees inhabit grasslands, prairies, woodlands, marshes, agricultural landscapes, and residential parks and gardens. They require both diverse, abundant flowers from April to September and undisturbed nesting sites nearby in order have sufficient food and overwintering sites for queens. They often build nests in abandoned, underground rodent

cavities or large clumps of grass (USFWS 2017). One record of rusty-patched bumble bee is present in Knox County, approximately 12.1 miles from the Project Area. This record is listed as possibly historical due to the age of the record (1966), and this species has been potentially extirpated from the Project Area. According to the USFWS' IPaC, the Project Area is not included in the current range of this species. While the Project Area contains a large area of early-successional habitat, it is routinely disturbed by mowing and appears to have been used for agriculture, limiting the variety of flowering species present.

Northern long-eared bats roost in caves during the winter hibernation season. During fall and spring, they utilize entrances of caves and surrounding forested areas for swarming and staging. In summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. Northern long-eared bats are thought to be opportunistic with regard to roost site selection. In addition to tree roosts, this species also roosts in abandoned buildings and under bridges. Northern long-eared bats emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2024). Five records of northern long-eared bats have been documented from Knox County. The closest record was documented approximately 11.7 miles away. The closest cave record is approximately 2.3 miles from the Project Area. These records are all considered to be pre-white-nose syndrome in the State of Tennessee. Considering the nature of these records and given the species omission from the USFWS IPaC report, the continued presence of this species in Knox County is unlikely.

Tricolored bats have been proposed for federal listing and are generally solitary or found in small groups. They are associated with forested landscapes where they forage near trees and along waterways, especially riparian areas. Maternity and other summer roosts are typically in clumps of dead or live tree foliage or in tree cavities. Caves, mines, culverts, and rock crevices may be used as night roosts and winter hibernacula (McCoshum et al. 2023). The closest record is approximately 9.1 miles from the Project Area. The closest known cave record is approximately 2.3 miles from the Project Area. No additional winter roosting habitat was observed within or adjacent to the Project Area by TVA terrestrial zoologists during field surveys in October 2025. The wooded areas where tree removal is proposed were assessed for potential summer roosting and foraging habitat for tricolored bat following the 2024 Range Wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2024). Within the proposed Project Area, approximately 0.19 acre of suitable roosting trees would be removed.

3.7.2 Environmental Consequences—Terrestrial Zoology: Threatened and Endangered Species

This section assesses the environmental consequences and impacts upon threatened and endangered animal species and their habitats resulting from the two alternatives considered.

3.7.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on threatened and endangered terrestrial wildlife.

3.7.2.2 Alternative B—Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2.

Eastern hellbender habitat is not present within the Project Area. Bald eagle breeding habitat is not present within the Project Area, and no nests were observed during field surveys. The Holston River is approximately 0.4 miles from the Project Area and provides habitat and foraging resources for these species. With the implementation of BMPs to control erosion and sedimentation within the Project Area, impacts to this habitat would be negligible as a result of the Proposed Action. The Project would not jeopardize the continued existence of the eastern hellbender and would not significantly impact bald eagles. Proposed Project activities would be in compliance with Bald Eagle Management Guidelines (USFWS 2007).

As discussed above, while significant breeding and foraging habitat is not present within the Project Area for monarch butterfly, grading could impact the species' foraging habitat should it occur in the Project Area. However, these impacts are expected to be minor due to the small quantity of suitable habitat potentially present. The Proposed Action would not jeopardize the continued existence of monarch butterfly.

The USFWS no longer considers Tennessee to be within the rusty-patched bumble bee's range. Consultation under Section 7(a)(2) of the Endangered Species Act is not required, as the entirety of TVA's service area is within only the historic range of the rusty-patched bumble bee.

Knox County is no longer considered an area where northern long-eared bat is reasonably certain to occur, as is evidenced by the omission of this species from the IPaC Report. Additionally, none of the trees proposed for removal were determined to be suitable habitat for this species.

No caves or other hibernacula for gray bat or tricolored bat exist in the Project Area or would be impacted by the Action Alternative. Approximately 0.19 acre of suitable summer roosting habitat for tricolored bat is proposed for removal as part of the Proposed Action. Direct effects could occur to individuals if they are roosting in the trees within the Project Area during the non-winter season (April 1–May 14; August 1–September 30). However, individuals roosting during this time would be expected to be mobile and able to flush to nearby suitable habitat if disturbed. TVA recommends removal of suitable habitat during winter (October 1 – March 31) when these bat species are not present on the landscape, which would avoid direct adverse impacts to tricolored bat. TVA also recommends avoidance of tree clearing during bat pup season (May 15 to July 31) to avoid potential adverse impacts on non-volant bats and their habitat. Activities associated with this approval were addressed in TVA's programmatic consultation with the USFWS on routine actions and federally listed bats in accordance with Endangered Species Act Section 7(a)(2), originally completed April 2018 and updated in May 2023. TVA's programmatic consultation was updated again to include the tricolored bat. USFWS issued a Conference Opinion for this update in November 2024 as the tricolored bat had not yet been listed as endangered. For those activities with potential to affect bats, TVA committed to

implement specific conservation measures when impacts to federally listed bat species are expected. Relevant conservation measures to this Project are identified in the bat strategy form (Appendix E) and must be reviewed and implemented as part of the approved Project. The Action Alternative would result in only minor impacts to gray bats and would not jeopardize the continued existence of tricolored bats.

Therefore, no significant impacts on threatened and endangered species, or their habitat, are anticipated.

3.8 BOTANY

This section describes plant species in the Project Area and compares the alternatives considered as they relate to botany.

3.8.1 Affected Environment –Botany

The proposed Project would occur within the Ridge and Valley (67) USEPA Level III Ecoregion, a region characterized by linear ridges and valleys formed by folded and faulted Paleozoic sedimentary rock, which support a diverse mosaic of plant communities influenced by topographic position, soil depth, and karst expression (Griffith et al. 2001, USEPA 2013). Karst features, such as sinkholes, caves, springs, and shallow rocky soils, create localized floristic variation and support habitat for calcareous and mesic to xeric-adapted species (USGS 2022). The Project Area also occurs within the Southern Limestone/Dolomite Valleys and Low Rolling Hills (67f) USEPA Level IV Ecoregion. This ecoregion contains low rolling plains, irregular karst depressions, and spring-fed low-gradient streams that contribute to a mixture of mesic, dry-mesic, and xeric botanical habitats (Griffith et al. 2001; Woods et al. 2002). Dominant vegetative communities include upland oak–hickory forest, mixed mesophytic forest in sheltered coves, and eastern red cedar dominated calcareous glades and barrens occurring over shallow limestone-derived soils. Bottomland hardwood assemblages occur at lower elevations and along broad drainageways. Typical land use in the ecoregion is pasture and cropland, interspersed with secondary deciduous forest, eastern red cedar thickets, and small woodlots dominated by both deciduous and evergreen forest, which influence the overall floral composition and presence of ruderal and edge-adapted species.

Field surveys were conducted by Stantec on November 20, 2025, to document plant communities, presence of invasive plants, and to search for possible threatened and endangered plant species in areas where construction would occur (Stantec 2025). Using the National Vegetation Classification System (Grossman et al. 1998), vegetation types observed during field surveys can be classified into eight vegetative communities: Sparsely Vegetated and Recently Disturbed Community, Herbaceous Perennial Graminoid Vegetation (Mowed Field) Vegetative Community, Herbaceous Perennial Graminoid and Forb (Old Field) Vegetative Community, Herbaceous Perennial Graminoid and Forb (Powerline Corridor) Vegetative Community, Deciduous Shrubland Vegetative Community, Mixed Evergreen Forest (Early Successional) Vegetative Community, Deciduous Forest (Early Successional) Vegetative Community, and Evergreen Forest (Secondary Growth) Vegetative Community. The majority of

the Project (approximately 108.2 acres, or 88.3 percent) is composed of Herbaceous Perennial Graminoid and Forb (Old Field) Vegetative Community.

The Sparsely Vegetated and Recently Disturbed Community is affected by recent disturbance on the Project Area (i.e., tree clearing, addition of gravel, wood chips, or other materials) and is characterized by 20 percent or less vegetation. This area comprises approximately 0.9 acre (0.7 percent) of the Project Area. The herbaceous and graminoid plants in the community include broomsedge (*Andropogon virginicus*), Chinese lespedeza, Gray goldenrod (*Solidago nemoralis*), St. John's Wort (*Hypericum punctatum*), common ragweed (*Ambrosia artemisiifolia*), and Appalachian ragwort (*Packera anonyma*).

The Herbaceous Perennial Graminoid (Mowed Field) Vegetation Community is represented by frequently mowed fields. The Mowed Field vegetative community comprises approximately 0.9 acre (0.7 percent) of the Project Area, and is characterized by maintained, mowed areas. Due to the closely mowed grass, the herbaceous layer was unable to be identified to species; therefore, the species are assumed to be similar to the surrounding area. The species presence is being assumed as Chinese silver grass.

The Herbaceous Perennial Graminoid and Forb (Old Field) Vegetative Community is represented by old fields which are periodically mowed to maintain the community. This community is interspersed throughout the Project Area and makes up approximately 108.2 acres (88.3 percent). This community is characterized as an old field with signs of significant previous disturbances. The herbaceous layer across the vegetation points was dominated by Johnson grass, tall fescue (*Festuca arundinacea*), tall goldenrod (*Solidago altissima*), Canada goldenrod (*Solidago canadensis*), broomsedge, and green foxtail (*Setaria viridis*). Small amounts of woody vegetation were also present, including black locust (*Robinia pseudoacacia*), Bradford pear, blackberry (*Rubus sp.*), and eastern red cedar (*Juniperus virginiana*).

The Herbaceous Perennial Graminoid and Forb (Powerline Corridor) Vegetative Community was observed on the east side of the Project Area. This vegetative community makes up approximately 0.9 acre (0.7 percent). The herbaceous layer is dominated by tall goldenrod, Japanese honeysuckle, common elephant's foot (*Elephantopus tomentosus*), Johnson grass, wingstem (*Verbesina alternifolia*), crownvetch, black raspberry (*Rubus occidentalis*), saw greenbrier (*Smilax bona-nox*), Japanese stiltgrass, and bull thistle. Small amounts of woody vegetation were also present, including boxelder (*Acer negundo*), privet (*Ligustrum spp.*), and autumn olive.

The Deciduous Shrubland Vegetative Community encompasses approximately 3.5 acres (2.9 percent). The overstory of these vegetative communities is dominated by black locust, eastern red cedar, and Virginia pine (*Pinus virginiana*). The remaining dominant plants include winged sumac (*Rhus copallinum*), Japanese honeysuckle, multiflora rose, *Rubus spp.*, and Amur honeysuckle. Mixed Evergreen (Early-successional) Vegetative Community is composed of a mix of evergreen and deciduous trees ranging from 18–20 feet tall and 2–4 inches in diameter at breast height (DBH), allowing for a more established herbaceous community to exist. This vegetative community encompasses approximately 2.9 acres (2.4 percent). The overstory of

this community is dominated by black locust, eastern red cedar, and eastern redbud (*Cercis canadensis*). The understory was comprised of the above-mentioned species as well as privet, winged sumac, and multiflora rose. Mosses observed included spoon-leaved moss (*Bryoandersonia illecebra*), fern moss (*Thuidium delicatulum*), moss (*Fissidens cristatus*), and grimmia moss (*Grimmia spp.*), along with Christmas fern (*Polystichum acrostichoides*), and ebony spleenwort (*Asplenium platyneuron*).

The Deciduous Forest (Early-successional) Vegetative Community is comprised of smaller diameter woody overstory vegetation. It is characterized as early-successional deciduous forest and encompasses approximately 3.2 acres (2.6 percent). The overstory is comprised of 18–20 feet tall trees with an average DBH between 2–5 inches. The dominant species within the overstory were black locust, eastern redbud, tulip poplar (*Liriodendron tulipifera*), and mimosa. The shrub layer was dominated by eastern red cedar, Amur honeysuckle, and winged sumac.

The Evergreen Forest (Secondary Growth) Vegetative Community present in the northern portion of the Project Area and comprises approximately 2.0 acres (1.7 percent). It is characterized by 20–30 feet tall evergreen trees with the average DBH between 4 and 10 inches. The overstory was dominated by eastern red cedar, Virginia pine, and loblolly pine (*Pinus taeda*). The shrub layer was dominated by eastern red cedar and eastern redbud. Ground cover was dominated by spotted wintergreen (*Chimaphila maculata*), gray goldenrod (*Solidago nemoralis*), downy rattlesnake plantain (*Goodyera pubescens*), Bosc's panicgrass (*Panicum boscii*), ebony spleenwort, Christmas fern, broomsedge, and Appalachian ragwort.

EO 13112 directed TVA and other federal agencies to prevent the introduction of invasive species (both plants and animals), control their populations, restore invaded ecosystems and take other related actions. EO 13751 amends EO 13112 and directs actions by federal agencies to continue coordinated federal prevention and control efforts related to invasive species. This order incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into federal efforts to address invasive species; and strengthens coordinated, cost-efficient federal action.

Several invasive plant species were documented within the Project Area, including tree-of-heaven (*Ailanthus altissima*), mimosa (*Albizia julibrissin*), bull thistle (*Cirsium vulgare*), autumn olive (*Elaeagnus umbellata*), burning bush (*Euonymus alatus*), winter creeper (*Euonymus fortunei*), tall fescue (*Festuca arundinacea*), Chinese lespedeza (*Lespedeza cuneata*), Chinese privet (*Ligustrum sinense*), Japanese honeysuckle (*Lonicera japonica*), Amur honeysuckle (*Lonicera maackii*), Japanese stiltgrass (*Microstegium vimineum*), Chinese silver grass (*Miscanthus sinensis*), Bradford pear (*Pyrus calleryana*), multiflora rose (*Rosa multiflora*), crownvetch (*Securigera varia*), Johnsongrass (*Sorghum halepense*), and great mullein (*Verbascum thapsus*). These species are classified as “Established Threat” species in Tennessee, indicating they are widespread and pose significant ecological impacts to native plant communities. One species considered an emerging threat, nandina (*Nandina domestica*), was also identified within the Project Area (TN-IPC 2017). No federally listed noxious weeds were

observed within the Project Area at the time of the survey (USDA 2010). No unique habitats or rare plant communities were observed within the Project Area.

3.8.2 Environmental Consequences–Botany

This section assesses the environmental consequences and impacts upon plants resulting from the two alternatives considered.

3.8.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on plants.

3.8.2.2 Alternative B–Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Adoption of the Action Alternative would not significantly affect the botanical ecology of the region. Converting forest land via tree clearing would be long-term in duration, but minor. Adoption of this alternative would require clearing of approximately 1.5 acres of trees. Most (88.3 percent) of the Project Area is Herbaceous Perennial Graminoid and Forb (Old Field) Vegetative Community. The plant communities found in the Project Area are common and well represented throughout the region. The majority of the Project Area has historically been impacted by operations associated with the previous land usage (i.e., mowing, tree clearing, filling/grading). As such, significant human disturbance has occurred throughout the Project Area historically.

Several invasive plant species were documented within the Project Area, and adoption of the Action Alternative would not significantly affect the extent or abundance of these species at the county, regional, or state level.

3.9 BOTANY–THREATENED AND ENDANGERED SPECIES

This section describes threatened and endangered plant species in the Project Area and compares the alternatives considered as they relate to listed plant species.

3.9.1 Affected Environment–Botany: Threatened and Endangered Species

No federally listed plant species or critical habitat were identified within the Project Area based on the USFWS IPaC data accessed on December 18, 2025. In addition, no federally listed plants were identified within a 5-mile radius of the Project Area based on the TVA NHD. This database did contain a record for a single state-listed plant species within 5 miles of the Project Area, a moss (*Archidium alternifolium*), Global Status G4/G5, State Status S1 (critically imperiled), state-listed as threatened. Its preferred habitat is moist, sandy, or loamy acidic soils, often in bare spots among grasses; frequently found at margins of temporary pools, ditch banks, or old fields/pastures (S&ME 2015d). The majority of the Project Area has historically been impacted by operations associated with the previous land usage (i.e., mowing, tree clearing, filling/grading). As such, significant human disturbance has occurred throughout the Project Area. Due to the high amounts of disturbance and presence of invasive species, the suitability

of the Project Area for rare, threatened, and endangered plant species is low within these vegetative communities. No unique or rare habitats were observed, and no federal noxious weeds were observed. The state-listed moss, *Archidium alternifolium*, would not be expected to occur in these habitat types or conditions, and no populations of the moss were observed during field surveys of the Project Area (Stantec 2025).

3.9.2 Environmental Consequences–Botany: –Threatened and Endangered Species

This section assesses the environmental consequences and impacts upon threatened and endangered plants resulting from the two alternatives considered.

3.9.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on threatened and endangered plants.

3.9.2.2 Alternative B–Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Adoption of the Action Alternative would not impact federal or state-listed plant species. Adoption of the Action Alternative would have no effect on listed plant species because no federally listed plant species occur in the Project Area, and the state-listed moss found within 5 miles of the Project Area is not expected to occur in these habitats. No populations of the moss were observed during field surveys of the Project Area (Stantec 2025). Therefore, no direct, indirect, or reasonably foreseeable impacts on endangered and threatened botanical species and their critical habitats would be anticipated as a result of implementing the Action Alternative.

3.10 CULTURAL RESOURCES

This section describes cultural resources in the Project Area and compares the alternatives considered as they relate to cultural resources.

3.10.1 Affected Environment–Cultural Resources

Cultural resources include pre-contact and historic archaeological sites, districts, buildings, structures, and objects, as well as locations of important historic events that lack material evidence of those events. Historic architectural structures are also cultural resources and include standing structures (e.g., houses, barns, dams, power plants) that are usually at least 50 years of age and are considered eligible for listing on the National Register of Historic Places (NRHP). Cultural resources are considered historic properties if included in, or considered eligible for inclusion in, the NRHP maintained by the National Park Service. The eligibility of a resource for inclusion in the NRHP is based on the Secretary of the Interior’s criteria for evaluation (36 CFR § 60.4), which state that significant cultural resources possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- A. are associated with important historical events; or
- B. are associated with the lives of significant historic persons; or

- C. embody distinctive characteristics of a type, period, or method of construction or represent the work of a master, or have high artistic value; or
- D. have yielded or may yield information (data) important in history or prehistory

Because of their importance to the Nation's heritage, historic properties are protected by multiple laws. Federal agencies, including TVA, have a statutory obligation to facilitate the preservation of historic properties, stemming primarily from NHPA (16 U.S.C. §§ 470 et seq.). Other relevant laws include the Archaeological and Historic Preservation Act (16 U.S.C. §§ 469-469c), Archaeological Resources Protection Act (16 U.S.C. §§ 470aa-470mm), and the Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001- 3013).

Section 106 of the NHPA requires federal agencies to consider the potential effects of their actions on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the action. Section 106 involves four steps: 1) initiate the process; 2) identify historic properties; 3) assess adverse effects; and 4) resolve adverse effects. This process is conducted in consultation with the SHPO of the state in which the action would occur, all federally recognized Tribes with interest in the Project location, and with other interested consulting parties. Section 110 of the NHPA sets out the broad historic preservation responsibilities of federal agencies and is intended to ensure that historic preservation is fully integrated into their ongoing programs. Federal agencies are responsible for identifying and protecting historic properties and avoiding unnecessary damage to them. Section 110 also charges each federal agency with the affirmative responsibility for considering projects and programs that further the purposes of the NHPA, and it declares that the costs of preservation activities are eligible project costs in all undertakings conducted or assisted by a federal agency.

Given that the proposed Project does not involve the construction of permanent above-ground structures, the potential to impact historic architectural resources is low. Furthermore, background research indicates that there are no potential historic above-ground structures within the direct line of sight of the property, and that the property is surrounded by a dense vegetative buffer. As such, TVA has determined, through consultation with the Tennessee SHPO and all Federally Recognized Tribes with an interest in Knox County, Tennessee, that the cultural resources area of potential effects (APE) is to be considered the Project footprint (122.5 acres), where physical effects would occur.

Secretary of the Interior-Qualified cultural resource specialists from TVA conducted a desktop review of the proposed Project. The review indicated that there are no previous surveys or previously identified archaeological or historic above-ground structures present in the APE. There are also no known American Civil War sites or Native American Removal Routes in the APE or within a half-mile radius of the Project Area. According to the property owners, the APE was cleared of all trees and mass graded in the early 2000s. Prior to the mass grading, the Web Soil Survey indicates that the property was dominated by Dewey Silt Loam (6–40 percent slopes, eroded) soils, which possessed a thin A horizon over clay subsoils. Aerial imagery of the APE now shows orange clay subsoil visible across the entire surface of the property, indicating that the A horizon has been stripped away by the previous grading activities. Lastly, the

property has also been heavily disturbed by the construction of Holston Bend Drive and the installation of water, sewer, overhead electrical, and natural gas utility lines. Given the sloped topography, soil data, and the extensive disturbance caused by the previous tree clearing, grading, and development, the potential for intact cultural deposits in the APE is very low.

3.10.2 Environmental Consequences—Cultural Resources

This section assesses the environmental consequences and impacts upon cultural resources resulting from the two alternatives considered.

3.10.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on historic properties.

3.10.2.2 Alternative B—Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. The undertaking would involve ground-disturbing activities in the APE.

A desktop review of the APE revealed that no known cultural resources are located within the Project Area or within direct line of sight of the Project Area. Based on the topography, soils, and previous extensive disturbance in the APE, TVA determined that no cultural resources surveys were required due to the very low probability of there being intact cultural resources in the Project Area. As such, TVA finds that the proposed undertaking, as currently planned, would have no effect on historic properties.

On October 17, 2025, TVA consulted with the THC-SHPO and all Federally Recognized Tribes with an interest in the Project Area regarding TVA's NRHP eligibility determinations and findings of effect. The THC-SHPO concurred with TVA's finding of no effect to historic properties, also on October 17, 2025 (Appendix D). TVA received no objections from the consulted Tribes on the proposed undertaking.

3.11 VISUAL RESOURCES

This section describes visual resources in the Project Area and compares the alternatives considered as they relate to visual resources.

3.11.1 Affected Environment—Visual Resources

The Project Area consists of mostly open grassy land with some small forested or brushy areas around the perimeter and central portions. The Project Area is adjacent to Clear Springs Road to the east, Eastbridge Boulevard provides access from the south, and Highway 11W is located as close as 1.6 miles to the northwest. The visual landscape setting adjacent to the Project Area consists of agricultural land to northeast, residential homes to the east, forest and industrial businesses (Timken-RBS, Tennessee Steel Center, and JP Lamborn) to the south, forest and a small solar farm to the west, and forest to the north.

3.11.2 Environmental Consequences–Visual Resources

This section assesses the environmental consequences and impacts upon visual resources resulting from the two alternatives considered.

3.11.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on visual quality.

3.11.2.2 Alternative B–Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Construction vehicles and equipment visible during construction activities would have a minor visual impact over the temporary construction period, as well as a minor permanent impact due to tree clearing, grading, rough grading, sinkhole remediation, and extension of Holston Bend Drive. Drivers along Clear Springs Road and some homeowners may be able to view construction activity along the northeast portion of the Project Area, although the activity would not be inconsistent with an industrial park and its development or with existing industrial and commercial facilities in the vicinity. Homeowners would maintain at least some visual screening due to a narrow line of trees located outside the Project Area to the northeast. Other potential receptors would be screened by forested areas surrounding the other parts of the Project Area. While motorists may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. Implementation of the Action Alternative would result in a minor decrease in visual quality for residents in the viewshed.

3.12 NOISE

This section describes the noise environment in the Project Area and compares the alternatives considered as they relate to noise.

3.12.1 Affected Environment–Noise

Existing ambient noise levels, or background noise levels, are the current sounds from natural and artificial sources at receptors. The magnitude and frequency of background noise at any given location may vary considerably over the course of a day or night and throughout the year. The variations are caused in part by weather conditions, seasonal vegetative cover, and human activity. Existing sources of noise in the vicinity of the Project Area, and potential noise receptors such as homes, are primarily associated with traffic along the surrounding roads and the surrounding businesses and residences, particularly to the northeast as described above in section 3.11.

3.12.2 Environmental Consequences–Noise

This section assesses the environmental consequences and impacts upon the noise environment resulting from the two alternatives considered.

3.12.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on noise receptors.

3.12.2.2 Alternative B—Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Noise impacts associated with construction activities would be primarily from the use of heavy equipment. Construction activities would likely involve the operation of an excavator, bulldozer, dump truck, or similar vehicles, and heavy machinery over the temporary duration of construction. Heavy equipment noise levels would fluctuate depending on the number and type of vehicles and equipment in use at any given time. The Action Alternative would be implemented over 14 months, during which construction-related noise may be generated. In addition, construction-related sound levels experienced by a noise-sensitive receptor in the vicinity of construction activity would be a function of distance, other noise sources, and the presence and extent of vegetation, structures, and intervening topography between the noise source and receptor. It is anticipated that sound levels would not exceed 85 decibels at the Project Area boundary per Occupational Safety and Health Administration standards.

Primary sensitive noise receptors in the area include two residential homes located 130 and 975 feet to the northeast and multiple homes located at least 375 feet to the southeast. The construction noise would be localized, intermittent, and temporary, and no receptor would be exposed to significant noise levels for an extended period of time. Further, construction activities would be anticipated to be conducted during daylight hours, when ambient noise levels are often higher, and most individuals are less sensitive to noise. Each of the homes would have a forested buffer between the home and the Project Area, ranging from approximately 50 to 950 feet, which would at least partially minimize construction noise for receptors. The homes are also adjacent to Clear Springs Road and would already be subject to ambient noise from traffic. Construction noise is possible on weekends. Industrial and commercial facilities adjacent to busy roads and highways are accustomed to noise. Overall, noise-related impacts resulting from the implementation of the Action Alternative would be temporary and minor.

3.13 SOCIOECONOMICS

This section describes socioeconomics in the Project Area and compares the alternatives considered as they relate to socioeconomics.

3.13.1 Affected Environment—Socioeconomics

This section evaluates the potential impact of the Action Alternative on socioeconomic resources. It also considers the range of communities impacted to determine whether the Action Alternative is likely to have impacts on minority and low-income populations.

This analysis focuses on the state, county, and locality within which the Action Alternative would occur. Publicly available statistics generated by the United States Census Bureau and the

United States Bureau of Labor Statistics were used to characterize socioeconomic conditions in the host state (Tennessee), county (Knox), and locality (City of Knoxville) (Table 3-4). Knoxville (located approximately 10 miles south of Mascot) was used as the locality for data, as data for Mascot, Tennessee, was not available. Details of the Action Alternative were then used to evaluate likely effects on existing socioeconomic resources. The demographics and income of the host county and locality were considered, relative to the demographics and wealth levels at the state level, to identify the potential for impacts on minority and low-income populations.

Table 3-4. Population, Demographics, Income, and Employment in the Host State, County, and Locality

	Tennessee	Knox County	City of Knoxville, Tennessee
Population ¹			
July 2024 Population	7,227,750	506,748	198,722
April 2020 Population	6,912,347	478,959	190,674
Population, Percent Change	4.6%	5.8%	4.2%
Population per Square Mile ²	167.6	942.2	1,932.1
Demographics ¹			
White Alone, not Hispanic or Latino	78.2%	85.2%	72.2%
Black or African American Alone	16.4%	8.7%	15.7%
American Indian and Alaska Native Alone	0.6%	0.4%	0.2%
Asian Alone	2.3%	2.8%	1.6%
Native Hawaiian and Other Pacific Islander Alone	0.1%	0.2%	0.0%
Two or More Races	2.4%	2.6%	8.0%
Hispanic or Latino	8.0%	6.8%	7.5%
Income ¹			
Median Household Income	\$67,097	\$71,662	\$50,994
Per Capita Income	\$37,866	\$41,957	\$33,171
Percent with Income Below the Poverty Level	13.5%	13.8%	20.5%
Employment (Not Seasonally Adjusted): September 2025 ²			
Labor Force	3,523,808	263,395	468,286
Employed	3,398,743	255,233	453,205
Unemployed	125,065	8,162	15,081
Unemployment Rate (%)	3.5	3.1	3.2

¹ Source: United States Census Bureau (2026)

² Source: United States Bureau of Labor Statistics (2026)

The evaluation determined the following:

- Relative to the average Tennessee resident, the residents of Knox County live at a higher population density, and at a higher population growth. Relative to the average

Tennessee resident, the residents of the City of Knoxville, Tennessee, live at a higher population density, but at a lower population growth;

- Relative to the average Tennessee resident, the residents of Knox County are less likely to self-identify as a minority race or ethnicity. Relative to the average Tennessee resident, the residents of the City of Knoxville are more likely to self-identify as a minority race or ethnicity;
- Per capita income and median household income are both higher in Knox County than in Tennessee. Per capita income and median household income are both lower in the City of Knoxville than in Tennessee as a whole. Residents of Knox County are more likely to live below the poverty level than residents of Tennessee as a whole. Residents of the City of Knoxville are more likely to live below the poverty level than residents of Tennessee as a whole; and
- The unemployment rate in both Knox County and the City of Knoxville is lower than the unemployment rate in Tennessee.

There is one residential subdivision within 0.5 mile of the Project Area; however, there are approximately 33 residential homes within a 0.5-mile radius. The following demographic characteristics were identified for this area relative to the State of Tennessee: these neighborhoods in aggregate have 2 percent people of color, 14 percent of low-income population, 0 percent of linguistic isolation, and 7 percent of the population with less than a high school education (PEDP 2026).

As described in Section 2.1.2 above, the Action Alternative would include tree clearing, grading and rough grading, sinkhole remediation, and an extension of Holston Bend Drive. Erosion prevention, sediment control, and stabilization measures would be implemented after grading is complete.

This effort is expected to take place over a 14-month period and would require a small workforce, likely drawn from a local contractor.

3.13.2 Environmental Consequences–Socioeconomics

This section assesses the environmental consequences and impacts upon socioeconomics resulting from the two alternatives considered.

3.13.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on socioeconomics.

3.13.2.2 Alternative B– Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. Implementation of the Action Alternative is not anticipated to materially impact the local economy or the local workforce. In addition, no negative socioeconomic impacts would be anticipated from the

Proposed Action; therefore, no negative impacts would be anticipated to minority or low-income populations as a result of the Action Alternative. Minor positive indirect impacts may be noted through the increase in employment as a result of the Action Alternative.

There is minimal potential that the Action Alternative would result in negative impacts on minority and low-income populations. This conclusion is based on two observations. First, the Action Alternative would have a minor positive effect on the local economy. Second, as described throughout this document, environmental effects associated with the Action Alternative would be minor, temporary, and would generally be constrained to the 122.5-acre Project Area.

3.14 TRANSPORTATION

This section describes transportation resources in the Project Area and compares the alternatives considered as they relate to transportation.

3.14.1 Affected Environment-Transportation

The Project Area can be accessed during construction activities from the south via a paved entrance on Holston Bend Drive. Holston Bend Drive transitions into Eastbridge Boulevard to the south of the Project Area and terminates at Mascot Road. Mascot Road terminates at Highway 11E to the east and intersects Mine Road, which terminates at Highway 11W to the west.

Most of Holston Bend Drive/Eastbridge Boulevard is a local two-lane asphalt road that provides access to approximately eight commercial properties and rural property to the south of the Project Area that is sufficiently wide for a single lane of traffic in each direction. A portion of Eastbridge Boulevard is a divided, four-lane road prior to intersecting with Mascot Road. Based on preliminary review of Google Street View images (recorded January 2025) and incidental observations by Stantec field teams, the road is in good condition with narrow shoulders and grassy swales on each side of the road. Holston Bend Drive/Eastbridge Boulevard is not defined by the Functional Classification System for Knox County (Tennessee Department of Transportation [TDOT] 2018a). The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Holston Bend Drive/Eastbridge Boulevard from the Project Area. Necessary precautions would be taken during mobilization and demobilization, such as reduced speed in areas of poor visibility or poor road conditions, with other precautions, such as a flagman or traffic control to be considered if required.

Mascot Road is a local road that provides access to multiple commercial and residential properties to the southeast and southwest of the Project Area. Mascot Road is a paved, two-lane road that is sufficiently wide for a single lane of traffic in each direction. Based on preliminary review of Google Street View images (recorded January 2025) and incidental observations by Stantec field teams, the road is in good condition with narrow shoulders and grassy swales on each side of the road. Mascot Road is defined as a minor collector by the

Functional Classification System for Knox County (TDOT 2018a). Normal care would be taken by workers entering Highway 11E regarding traffic safety.

Mine Road is a local road that provides access to multiple rural and residential properties to the southwest of the Project Area. Mine Road is a paved, two-lane road that is sufficiently wide for a single lane of traffic in each direction. Based on a preliminary review of Google Street View images (recorded January 2025) and incidental observations by Stantec field teams, the road is in good condition with narrow shoulders and grassy swales on each side of the road. Mine Road is defined as a minor collector by the Functional Classification System for Knoxville (Farragut) County 47A (TDOT 2018b). Normal care would be taken by workers entering Highway 11W regarding traffic safety.

Highway 11E is a four-lane paved highway with electronic traffic signals at the intersection with Mascot Road. Based on preliminary review of Google Street View images (recorded January and February 2025) and incidental observations by Stantec field teams, the road is in good condition with curbed and paved shoulders. Highway 11E is listed as part of the National Highway System and a minor arterial on the Functional Classification System for Knox County (TDOT 2018a). Normal care would be taken by workers entering or crossing Highway 11E regarding traffic safety.

Highway 11W is a four-lane paved highway with a turning lane (no traffic signals) at the intersection with Mine Road (which has a stop sign). Based on preliminary review of Google Street View images (recorded January 2025) and incidental observations by Stantec field teams, the road is in good condition with curbed and paved shoulders. Highway 11W is listed as part of the National Highway System and a minor arterial on the Functional Classification System for Knox County (TDOT 2018a). Normal care would be taken by workers entering or crossing Highway 11W regarding traffic safety.

Based on a review of TDOT historical traffic data (TDOT 2026), there are no traffic count stations on Holston Bend Drive/Eastbridge Boulevard. The nearest traffic count stations are located on Mascot Road to the southeast and Mine Road to the southwest of the Project Area. The 2024 annual average daily traffic count (AADT) for the relevant station is presented in Table 3-5 below.

Table 3-5. Tennessee Department of Transportation Traffic Count Data for the Project Area

Route Description	Location ID	Distance from Project Area (Miles)	Year	AADT
Mascot Road	47000037	2.4	2024	7,457
Mine Road	47000423	2.4	2024	4,975

Source: Tennessee Department of Transportation 2026 ([Annual Average Daily Traffic \(AADT\) \(tn.gov\)](#)), extracted 01/20/2026.

3.14.2 Environmental Consequences - Transportation

This section assesses the environmental consequences and impacts upon transportation resources resulting from the two alternatives considered.

3.14.2.1 Alternative A – The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the IDB, and there would be no impact on overall traffic volumes and level of service.

3.14.2.2 Alternative B – Proposed Action

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with the Proposed Action as described in Section 2.1.2. In the context of the existing AADT road volumes, the anticipated traffic generated by the Proposed Action would be minor. As noted above, it is anticipated that existing traffic volumes for Holston Bend Drive/Eastbridge Boulevard and any increase in traffic volumes for Mascot Road, Mine Road, Highway 11E, and Highway 11W due to the Proposed Action would also be low. Because of the anticipated limited volume of workers on the site required for tree clearing activities, grading, and road improvements, as well as the relatively short timeframe of the proposed work, direct or indirect impacts to local traffic and roadways are anticipated to be temporary and minor.

3.15 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Unavoidable adverse impacts are the effects of the Proposed Action on natural and human resources that would remain after mitigation measures or BMPs have been applied. Mitigation measures and BMPs are typically implemented to minimize and avoid potential impacts associated with Proposed Actions, which may still have the potential to cause unavoidable adverse effects on several environmental resources. Activities associated with the use of construction equipment may result in varying amounts of dust, air emissions, and noise that may potentially impact both onsite workers and nearby offsite residences and parks. Emissions from onsite construction activities and equipment would be minimized through implementation of BMPs including proper maintenance of construction equipment and vehicles. During construction, BMPs to minimize runoff would be implemented, but there could still be some uncontrolled runoff that could affect nearby outfalls and water bodies. During construction, there would be an increase in traffic on public roads due to use by the construction workforce and construction-related equipment and materials being transported to the proposed site. This additional construction-related traffic would also increase noise and fugitive dust in areas proximate to these roads. Emissions from construction equipment are minimized through implementation of BMPs including proper maintenance of construction equipment and vehicles.

There would be no unavoidable adverse impacts associated with the Proposed Action.

3.16 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires a discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. This EA focuses on the analyses of environmental impacts associated with the Proposed Action. For the purposes of this section, activities associated with construction are considered short-term uses of the environment and the long-term impacts to site productivity are those from future development and activities beyond the life of the Project. Proposed Actions would have no effect (solid and

hazardous materials, land use, floodplains, managed or natural areas, recreation, surface water, wetlands, aquatic zoology, and prime farmland) or a minor negative effect on identified environmental resources (air quality and climate change, groundwater, soils, terrestrial zoology including threatened and endangered species, botany including threatened and endangered species, cultural resources, visual resources, noise, and transportation) based on short-term use as described above. Minor positive indirect impacts on socioeconomics may be noted through the increase in employment as a result of the Action Alternative. These impacts are anticipated to be temporary and/or minor.

Under the Proposed Action, TVA would provide InvestPrep funds to the IDB for site improvements to the Project Area. This short-term investment could lead to industrial development resulting in long-term gains in economic prosperity in Knox County, Tennessee. If this goal is realized, implementation of the Proposed Action would help to fulfill one of TVA's missions, which is to promote economic development within the TVA service area.

3.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

A resource commitment is considered irreversible when impacts from its use would limit future use options and the change cannot be reversed, reclaimed, or repaired. Irreversible commitments generally occur to nonrenewable resources such as minerals or cultural resources and to those resources that are renewable only over long timespans, such as soil productivity. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations until reclamation is successfully applied. Irretrievable commitments generally apply to the loss of production, harvest, or other natural resources and are not necessarily irreversible. Resources required for the Proposed Actions, including labor, materials, land, and fossil fuels would be irretrievably lost. Nonrenewable fossil fuels would be irretrievably lost by gasoline and diesel-powered equipment during construction. Although the Proposed Action would require irretrievable use of some resources, it is unlikely that their limited use would adversely affect the overall future availability of these resources.

3.18 NEPA COMPLIANCE CERTIFICATION

Consistent with 18 CFR 1318.106(e) and 1318.401(g), the Tennessee Valley Authority certifies that this document represents TVA's good-faith effort to fulfill the requirements of NEPA within the Congressional timeline established at NEPA Section 107(g) and according to page limits established at NEPA Section 107(e). In this document, TVA prioritizes documentation of the most important considerations based on its expert judgement. Any considerations addressed briefly or unaddressed are, in TVA's judgment, comparatively less substantive. In TVA's expert opinion, the factors mandated by NEPA have been thoroughly considered, and the analysis contained in this document is adequate to inform and reasonably explain TVA's final decision regarding the proposed federal action.



Dawn Booker, Senior Manager
NEPA Compliance
Tennessee Valley Authority

April 6, 2026

Date Signed

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NEPA PROJECT MANAGEMENT

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Project Role: Economic Development Grant Project NEPA Compliance Manager
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Project Role: Threatened and Endangered Plants, Plant Ecology, Invasive Plant Species
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Experience: 11 years in environmental consulting in the preparation and review of NEPA compliance reports, environmental assessments, and permitting for a variety of telecommunication, alternative energy, and FERC-regulated projects.

Duane Simpson (Stantec)

Education: M.A., Anthropology; B.A., Anthropology

Project Role: Archaeology

Experience: 29 years in archaeological consulting, including management of projects across the Southeast and Mid-Atlantic regions. Principal Investigator for over 16 years.

Josh Yates, P.G. (Stantec)

Education: M.S., Geology; B.S., Natural Resources Management and Engineering

Project Role: Groundwater

Experience: 18 years of hydrogeologic assessments and water resources permitting experience. This experience includes water supply planning, hydrogeologic investigations, groundwater modeling, water use permitting, well construction oversight, EIS and EA preparation, minimum flow and level (MFL) impact analysis, monitoring well network design, aquifer performance tests, and GIS analysis.

Lavinia DiSanto (Stantec)

Education: B.A., Biological Science

Project Role: QA/QC

Experience: 26 years in environmental consulting, specializing in NEPA assessments.

Shane Kelley, TN-QHP (Stantec)

Education: B.S., Natural Resources & Environmental Science

Project Role: Aquatics, Wetlands

Experience: Biologist with 12 years of experience in multiple areas of the environmental field with a particular focus on USACE Section 404 permitting, Section 7 protected species consultation, and various ecological and biological field surveys.

Brenton Jenkins, P.E. (Stantec)

Education: B.S., Environmental Engineering

Project Role: Transportation

Experience: 11 years in environmental consulting for various private and public sector clients, including engineering design, permitting, and assessments, primarily in the oil and gas sector.

Kathleen Pangan (Stantec)

Education: M.S., Biology; B.S., Biology: Ecology, Behavior and Evolution

Project Role: Surface Water, Aquatics, Wetlands

Experience: Biologist with more than 17 years of experience in ecology, technical analysis, and scientific fieldwork.

Afton Tankersley (Stantec)

Education: M.S., Environmental Science; B.S., Biology

Project Role: Air Quality and Climate Change, Noise, Visual Resources

Experience: Biologist with experience preparing multiple NEPA documents, including EISs for the FERC and the Nuclear Regulatory Commission.

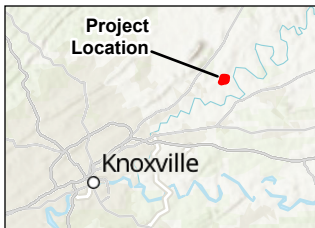
Appendix B – Symbols, Acronyms, and Abbreviations

Symbols, Acronyms, and Abbreviations

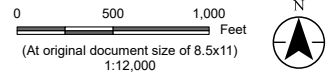
AADT	Annual Average Daily Traffic Count
APE	Area of Potential Effects
BMP	Best Management Practices
CAA	Clean Air Act
DBH	Diameter at Breast Height
EA	Environmental Assessment
EBP	Eastbridge Business Park
EO	Executive Order
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutants
IDB	Industrial Development Board
IPaC	Information for Planning and Consultation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant and Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland and Water Inventory
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TDEC	Tennessee Department of Environment and Conservation
THC	Tennessee Historical Commission
TVA	Tennessee Valley Authority
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
U.S.	United States
VOC	Volatile Organic Compound

Appendix C – Project Figures

\\us0706-ppl\ss01\workgroup\1726\promotion\TVA\172678349 - Knox County\172678349 - Knox County.aprx Revised: 2025-12-10 By: pmarsey



- Project Boundary (122.52 ac)
 - 0.2% Annual Chance Flood Hazard
 - 1% Annual Chance Flood Hazard
 - Regulatory Floodway
- FIRM Panels 47093C0178F & 47093C0180F, eff. 5/2/2007



Project Location Prepared by PEM on 2025-12-10

Knox Co., TN

Client/Project United States Tennessee Valley Authority 172678349
TVA FY26 InvestPrep Knox Co
Environmental Assessment

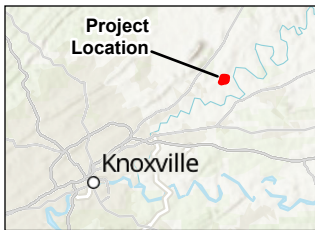
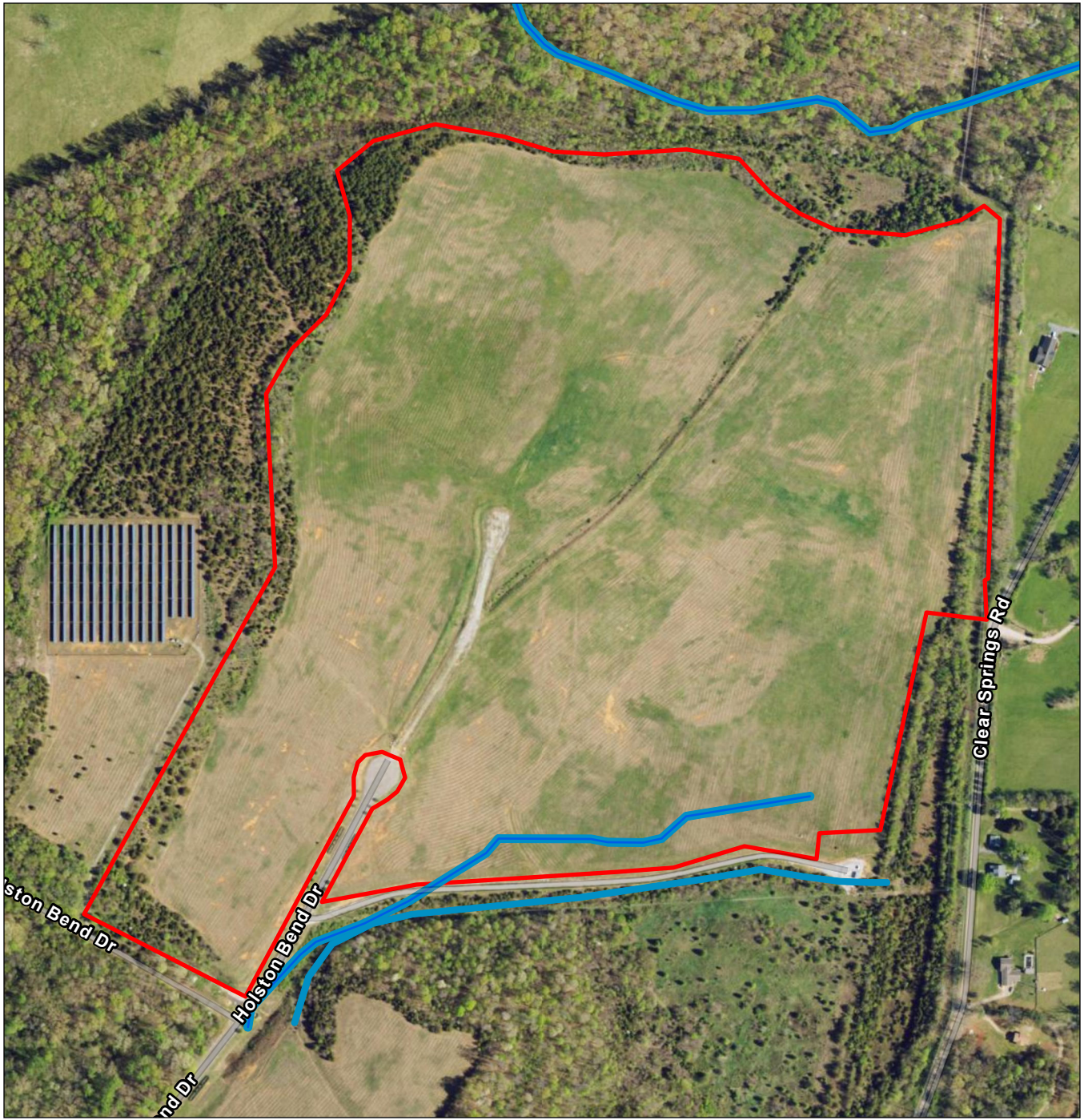
Figure No. 1B

Title FEMA Floodplains

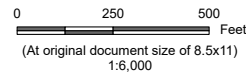
- Notes**
1. Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet
 2. Data Sources: TVA, FEMA
 3. Background: NAIP 2022

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

\\us0706-ppl\ss01\workgroup\1726\promotion\TVA\172678349 - Knox County\172678349 - Knox County.aprx Revised: 2025-12-10 By: pmarsey



- Project Boundary (122.52 ac)
- NHDFlowline
- NWI Wetlands**
- Riverine



Project Location Prepared by PEM on 2025-12-10

Knox Co., TN

Client/Project United States Tennessee Valley Authority 172678349

TVA FY26 InvestPrep Knox Co

Environmental Assessment

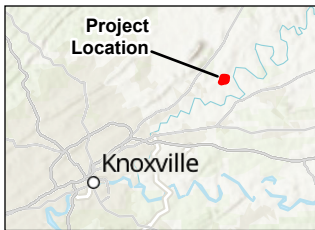
Figure No. 1C

Title

**National Wetlands Inventory/
National Hydrography Dataset**

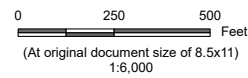
Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

\\us0706-ppl\ss01\workgroup\1726\promotion\TVA\172678349 - Knox County\172678349 - Knox County.aprx Revised: 2026-01-06 By: pmarsey



Notes
 1. Coordinate System: NAD 1983 StatePlane
 Tennessee FIPS 4100 Feet
 2. Data Sources: TVA, USDA
 3. Background: NAIP 2022

- Project Boundary (122.52 ac)
- CkD - Collegedale-Talbott complex, 12 to 25 percent slopes, rocky, Complex (10.08 ac)
- DeC2 - Dewey loam, 25 to 40 percent slopes, eroded, Consoaction (39.59 ac)
- DeD2 - Dewey silt loam, 15 to 25 percent slopes, eroded, Consoaction (34.33 ac)
- DeE2 - Dewey silt loam, 6 to 15 percent slopes, eroded, Consoaction (27.51 ac)
- EmB - Emory silt loam, 2 to 5 percent slopes, Consoaction (6.97 ac)
- EvB - Etowah-Minvale complex, 2 to 5 percent slopes, Complex (2.44 ac)
- He - Heiskell silt loam, 0 to 2 percent slopes, occasionally flooded, Consoaction (0.25 ac)
- LTD - Loyston-Talbott-Rock outcrop complex, 15 to 50 percent slopes, Complex (0.42 ac)
- W - Water, Consoaction (0.93 ac)
- All areas are prime farmland (9.66 ac)
- Farmland of local importance (39.59 ac)
- Not prime farmland (73.27 ac)



Project Location Prepared by PEM on 2025-12-10

Knox Co., TN

Client/Project 172678349

TVA FY26 InvestPrep Knox Co

Environmental Assessment

Figure No.

1D

Title

NRCS Soils

C:\Users\mangela\OneDrive\Tennessee Valley Authority - Documents\FY 26 Projects\Knox County, TN\Environmental Reports\Knox_TN_InvestPrep_FY26_Maps.aprx Revisect, 2026-02-02 By: mangela

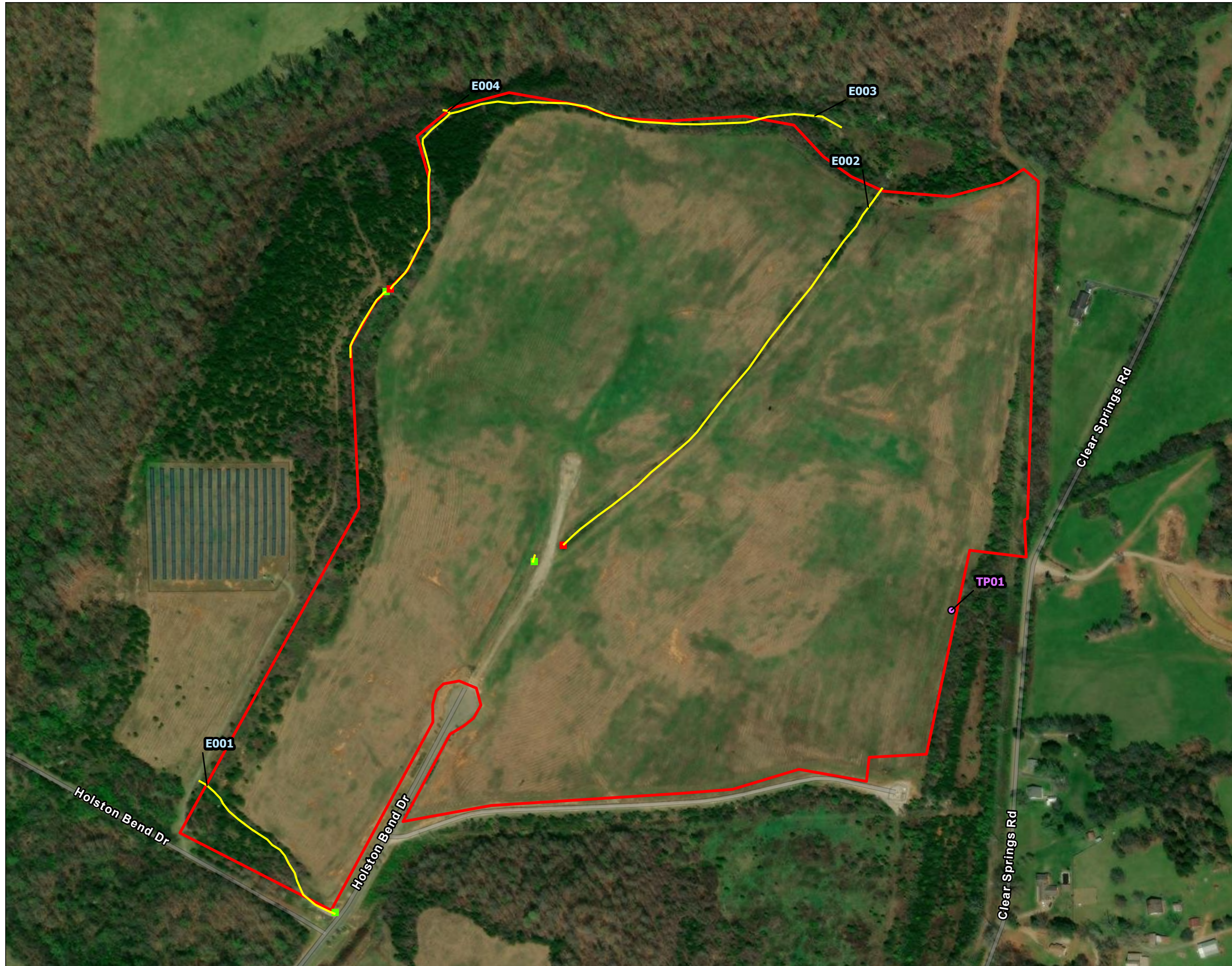


Figure No.

1E

Title

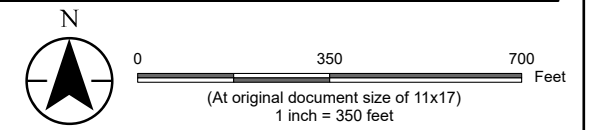
Wetland and Waterbody Delineation Map

Client/Project
 Tennessee Valley Authority
 TVA InvestPrep FY26
 Environmental Assessment Report

172678349

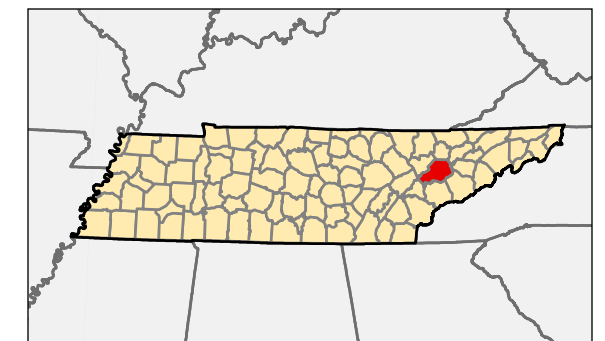
Project Location
 Knox County,
 Tennessee

Prepared by MNA on 2026-02-02
 TR by SPK on 2026-02-02
 IR by DM on 2026-02-03



Legend

- Project Boundary
 - Wet Weather Conveyance
 - Soil Test Pit
- Culverts
- Inlet
 - Outlet



- Notes
1. Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet
 2. Data Sources: TVA, Stantec
 3. Background: Esri Aerial Imagery Hybrid Basemap



Appendix D – Agency Correspondence



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

10-17-2025 11:10:16 CDT

Dr. Michaelyn Harle
Tennessee Valley Authority

RE: Tennessee Valley Authority (TVA), Economic Development, Eastbridge Business Park, CRMS 132152675891, Project#: SHPO0007898, Mascot, Knox County, TN

Dear Dr. Michaelyn Harle:

In response to your request, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

After considering the documentation submitted, we concur that there are no National Register of Historic Places listed or eligible properties affected by this undertaking. We have made this determination because either: no National Register listed or eligible Historic Properties exist within the undertaking's area of potential effects, the specific location, size, scope and/or nature of the undertaking and its area of potential effects precluded affects to Historic Properties, the undertaking will not alter any

characteristics of an identified eligible or listed Historic Property that qualify the property for listing in the National Register, or it will not alter an eligible Historic Property's location, setting or use. We have no objections to your proceeding with your undertaking.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Please provide your Project # when submitting any additional information regarding this undertaking. You may direct questions or comments to Jennifer Barnett, who drafted this response, at Jennifer.Barnett@tn.gov.

Sincerely,

A handwritten signature in cursive script that reads "Miranda Montgomery". The signature is written in black ink and is positioned above the typed name and title.

Miranda Montgomery
State Historic Preservation Officer

Ref:MSG18007269_f6N1vHhY21DxoKrgzZl

From: Fedenko, Jennifer - FPAC-NRCS, TN
To: Mooneyhan, Douglas
Cc: Kunkle, Brittany Renee
Subject: RE: [External Email] FY26 TVA InvestPrep project sites
Date: Wednesday, January 14, 2026 3:05:46 PM
Attachments: jf26001.pdf, jf26002.pdf, jf26003.pdf, jf26004.pdf, jf26005.pdf, jf26006.pdf, jf26007.pdf, jf26008.pdf

Hi Doug,

Thank you for the additional information regarding the zoning of the area. I think this is enough to indicate the project is located within the industrial zone and thus exempt from an FPPA review.

Best,

Jennifer Fedenko
State Resources Soil Scientist
Natural Resources Conservation Service | Soils Staff
Tennessee State Office

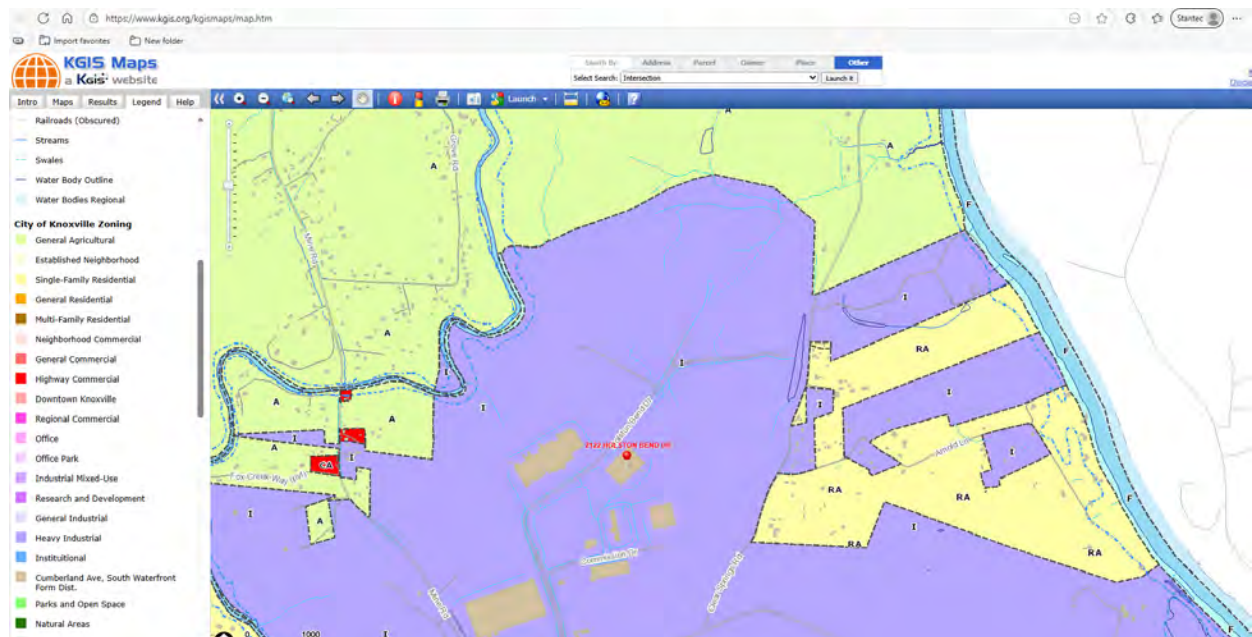


From: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Sent: Wednesday, January 14, 2026 8:42 AM
To: Fedenko, Jennifer - FPAC-NRCS, TN <jennifer.fedenko@usda.gov>
Cc: Kunkle, Brittany Renee <brkunkle@tva.gov>
Subject: RE: [External Email] FY26 TVA InvestPrep project sites

Hi Jennifer, I was able to locate the site within the Knox County zoning map database. Although the Project Area doesn't have a specific street address, it is located on Holston Bend Drive just north of the Timken facility (2122 Holston Bend Drive). Per the screenshot below of the Knox County zoning mapping, it looks like the site is zoned as industrial. I am also attaching a screenshot of the project area in Google Earth, also showing Timken, to assist with locating the Project Area in the zoning map.

Please let us know if this is sufficient to determine that the site is exempt from FPPA and if you need any additional information.

Thanks,



Doug Mooneyhan
Senior Associate, Scientist Management



From: Fedenko, Jennifer - FPAC-NRCS, TN <jennifer.fedenko@usda.gov>

Sent: Tuesday, January 13, 2026 3:58 PM
To: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Cc: Kunkle, Brittany Renee <rkunkle@tva.gov>
Subject: RE: [External Email]FY26 TVA InvestPrep project sites

Hi Doug,

As you mentioned, the Knox County project boundary is just outside of what the US Census Bureau designates as urban. I don't see any information in our database about that area being zoned as industrial. I think that project will have to go through the FPPA review process.

The Sullivan County project however is within urban boundaries and therefore is exempt from FPPA.

Let me know if you have any questions.

Jennifer Fedenko
State Resource Soil Scientist
Natural Resources Conservation Service | Soils Staff
Tennessee State Office



From: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Sent: Tuesday, January 13, 2026 9:26 AM
To: Fedenko, Jennifer - FPAC-NRCS, TN <jennifer.fedenko@usda.gov>
Cc: Kunkle, Brittany Renee <rkunkle@tva.gov>
Subject: RE: [External Email]FY26 TVA InvestPrep project sites

Hi Jennifer, thanks for checking. Here are the shapefiles (and KMZs if that helps) for both Knox County and Sullivan County. We appreciate the assistance, please let me know if you need anything else. thanks.

Doug Mooneyhan
Senior Associate, Scientist Management



From: Fedenko, Jennifer - FPAC-NRCS, TN <jennifer.fedenko@usda.gov>
Sent: Tuesday, January 13, 2026 10:15 AM
To: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Cc: Kunkle, Brittany Renee <rkunkle@tva.gov>
Subject: RE: [External Email]FY26 TVA InvestPrep project sites

Hi Doug,

Thank you for sending over this project information. I have a feeling that yes, this might be exempt due to zoning, but I'd like to double-check on my end.

Can you send over a shapefile of the project area?

Thank you,

Jennifer Fedenko
State Resource Soil Scientist
Natural Resources Conservation Service | Soils Staff
Tennessee State Office



From: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Sent: Monday, January 12, 2026 3:42 PM
To: Fedenko, Jennifer - FPAC-NRCS, TN <jennifer.fedenko@usda.gov>
Cc: Kunkle, Brittany Renee <rkunkle@tva.gov>
Subject: [External Email]FY26 TVA InvestPrep project sites

[External Email]
If this message comes from an unexpected sender or references a vague/unexpected topic:
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Sam.Aburn@usda.gov
Good afternoon Jennifer, I hope you are doing well.

We coordinated last year regarding some FY 25 TVA InvestPrep prospective projects, and Stantec is glad to be assisting TVA again this year in evaluation of some new FY26 TVA InvestPrep project sites. The InvestPrep projects involve use of federal funds and the purpose of the TVA InvestPrep Program is to promote economic development within the TVA Region.

One site in Knox County, Tennessee may warrant coordination with NRCS regarding applicability of the FPPA due to its rural designation. We are attaching a soils map showing the extent of prime farmland and a map showing urban / rural areas as defined by the U.S. Census Bureau. The site is zoned as industrial. Further, the site was mass graded in the past, prior to TVA's involvement in this project.

A few notes about the Knox County site:

- Name: Eastbridge Business Park (Sites 4, 5, and 6)
- Address: Holston Bend Drive, Mascot, TN
- Lat/Long: 36.079615° -83.724666°
- Total Site Acreage: 121 acres
- InvestPrep Project Area: 121 acres
- Tree Clearing Acreage: 1.5 acres
- Current Zoning: Industrial
- Ownership: Public (IDB of the County of Knox)

Project Scope: Utilize TVA InvestPrep funding matched with non-TVA funding to assist with the grading of a 500,000 SF building pad (with compacted crushed stone) on Site 6, rough grading for 120,000 SF on Site 4 and 340,000 SF on Site 5, sinkhole remediation, and the extension of Holston Bend Drive (with compacted crushed stone) in the Eastbridge Business Park.

We believe that the site in Sullivan County, Tennessee may be exempt from the FPPA due to its urban designation and we would greatly appreciate your review and program feedback. We are attaching a soils map showing the extent of prime farmland and a map showing urban / rural areas as defined by the U.S. Census Bureau. The site is zoned as general industrial (M-2).

A few notes about the Sullivan County site:

- Name: Bristol South
- Address: Highway 394, Bristol, TN
- Lat/Long: 36.524682° -82.200439°
- Total Site Acreage: 60 acres
- InvestPrep Project Area: 60 acres
- Tree Clearing Acreage: 0.55 acres
- Current Zoning: General Industrial (M-2)
- Ownership: Public (BTE)

Project Scope: Utilize TVA InvestPrep funding matched with non-TVA funding to assist with the grading of a compacted/seeded 400,000 SF building pad, including sinkhole remediation and berming/buffering on the Bristol South site.
Project Goal: Bristol South has significant topographic challenges that have limited its marketability to date. In order to put this site in a more marketable position, tree clearing, sinkhole remediation, a 400,000 SF building pad, and berming/buffering are needed. Upon completion, this project will allow prospects to better envision the development potential of the Bristol South site. Proposed improvements will lead to an increased probability of achieving our core mission of job creation and capital investment. Target markets for Bristol South include automotive suppliers, food and beverage production, plastic/metal extrusion, steel/alloy metals, and chemicals/special additives.

Please let us know your thoughts about potential applicability of the FPPA to these two sites. We appreciate your time and assistance in navigating the FPPA program.

Please let me know if you have any additional questions about these sites or activities.

thanks

Doug Mooneyhan
Senior Associate, Scientist Management

Direct: (678) 433-1192
Mobile: (678) 462-8775
douglas.mooneyhan@stantec.com



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Caution: This email originated from outside of Stantec. Please take extra precaution.

Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.

Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.

Caution: This email originated from outside of Stantec. Please take extra precaution.

Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.

Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.

Appendix E – Project Review Form: TVA Bat Strategy

Project Review Form - TVA Bat Strategy (06/2019)

This form should **only** be completed if project includes activities in Tables 2 or 3 (STEP 2 below). This form is not required if project activities are limited to Table 1 (STEP 2) or otherwise determined to have no effect on federally listed bats. If so, include the following statement in your environmental compliance document (e.g., add as a comment in the project CEC): "Project activities limited to Bat Strategy Table 1 or otherwise determined to have no effect on federally listed bats. Bat Strategy Project Review Form NOT required." This form is to assist in determining required conservation measures per TVA's ESA Section 7 programmatic consultation for routine actions and federally listed bats.¹

Project Name: Economic Development Grant Proposal for the Eastbridge Business Park **Date:** Aug 28, 2025
Contact(s): Brittany Kunkle and Bess Hubbard **CEC#:** **Project ID:** ESCS 4701
Project Location (City, County, State): Knox County, TN

Project Description:

Utilize TVA InvestPrep funding matched with non-TVA funding to assist with the grading of a 500,000 SF building pad (with compacted crushed stone) on Site 6, rough grading for 120,000 SF on Site 4 and 340,000 SF on Site 5, sinkhole remediation, and the extension of Holston Bend Drive (with compacted crushed stone) in the Eastbridge Business Park.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

STEP 1) Select TVA Action. If none are applicable, contact environmental support staff, Environmental Project Lead, or Terrestrial Zoologist to discuss whether form (i.e., application of Bat Programmatic Consultation) is appropriate for project:

- | | |
|---|--|
| <input type="checkbox"/> 1 Manage Biological Resources for Biodiversity and Public Use on TVA Reservoir Lands | <input type="checkbox"/> 6 Maintain Existing Electric Transmission Assets |
| <input type="checkbox"/> 2 Protect Cultural Resources on TVA-Retained Land | <input type="checkbox"/> 7 Convey Property associated with Electric Transmission |
| <input type="checkbox"/> 3 Manage Land Use and Disposal of TVA-Retained Land | <input type="checkbox"/> 8 Expand or Construct New Electric Transmission Assets |
| <input type="checkbox"/> 4 Manage Permitting under Section 26a of the TVA Act | <input checked="" type="checkbox"/> 9 Promote Economic Development |
| <input type="checkbox"/> 5 Operate, Maintain, Retire, Expand, Construct Power Plants | <input type="checkbox"/> 10 Promote Mid-Scale Solar Generation |

STEP 2) Select all activities from Tables 1, 2, and 3 below that are included in the proposed project.

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.		
<input checked="" type="checkbox"/> 1. Loans and/or grant awards	<input type="checkbox"/> 8. Sale of TVA property	<input type="checkbox"/> 19. Site-specific enhancements in streams and reservoirs for aquatic animals
<input type="checkbox"/> 2. Purchase of property	<input type="checkbox"/> 9. Lease of TVA property	<input type="checkbox"/> 20. Nesting platforms
<input type="checkbox"/> 3. Purchase of equipment for industrial facilities	<input type="checkbox"/> 10. Deed modification associated with TVA rights or TVA property	<input type="checkbox"/> 41. Minor water-based structures (this does not include boat docks, boat slips or piers)
<input type="checkbox"/> 4. Environmental education	<input type="checkbox"/> 11. Abandonment of TVA retained rights	<input type="checkbox"/> 42. Internal renovation or internal expansion of an existing facility
<input type="checkbox"/> 5. Transfer of ROW easement and/or ROW equipment	<input type="checkbox"/> 12. Sufferance agreement	<input type="checkbox"/> 43. Replacement or removal of TL poles
<input type="checkbox"/> 6. Property and/or equipment transfer	<input type="checkbox"/> 13. Engineering or environmental planning or studies	<input type="checkbox"/> 44. Conductor and overhead ground wire installation and replacement
<input type="checkbox"/> 7. Easement on TVA property	<input type="checkbox"/> 14. Harbor limits delineation	<input type="checkbox"/> 49. Non-navigable houseboats

TABLE 2. Activities not likely to adversely affect bats with implementation of conservation measures. Conservation measures and completion of bat strategy project review form REQUIRED; review of bat records in proximity to project NOT required.

<input checked="" type="checkbox"/> 18. Erosion control, minor	<input type="checkbox"/> 57. Water intake - non-industrial	<input type="checkbox"/> 79. Swimming pools/associated equipment
<input type="checkbox"/> 24. Tree planting	<input type="checkbox"/> 58. Wastewater outfalls	<input type="checkbox"/> 81. Water intakes – industrial
<input type="checkbox"/> 30. Dredging and excavation; recessed harbor areas	<input type="checkbox"/> 59. Marine fueling facilities	<input type="checkbox"/> 84. On-site/off-site public utility relocation or construction or extension
<input type="checkbox"/> 39. Berm development	<input type="checkbox"/> 60. Commercial water-use facilities (e.g., marinas)	<input type="checkbox"/> 85. Playground equipment - land-based
<input type="checkbox"/> 40. Closed loop heat exchangers (heat pumps)	<input type="checkbox"/> 61. Septic fields	<input type="checkbox"/> 87. Aboveground storage tanks
<input type="checkbox"/> 45. Stream monitoring equipment - placement and use	<input type="checkbox"/> 66. Private, residential docks, piers, boathouses	<input type="checkbox"/> 88. Underground storage tanks
<input type="checkbox"/> 46. Floating boat slips within approved harbor limits	<input type="checkbox"/> 67. Siting of temporary office trailers	<input type="checkbox"/> 90. Pond closure
<input checked="" type="checkbox"/> 48. Laydown areas	<input type="checkbox"/> 68. Financing for speculative building construction	<input type="checkbox"/> 93. Standard License
<input type="checkbox"/> 50. Minor land based structures	<input type="checkbox"/> 72. Ferry landings/service operations	<input type="checkbox"/> 94. Special Use License
<input type="checkbox"/> 51. Signage installation	<input type="checkbox"/> 74. Recreational vehicle campsites	<input type="checkbox"/> 95. Recreation License
<input type="checkbox"/> 53. Mooring buoys or posts	<input type="checkbox"/> 75. Utility lines/light poles	<input type="checkbox"/> 96. Land Use Permit
<input type="checkbox"/> 56. Culverts	<input type="checkbox"/> 76. Concrete sidewalks	

Table 3: Activities that may adversely affect federally listed bats. Conservation measures AND completion of bat strategy project review form REQUIRED; review of bat records in proximity of project REQUIRED by OSAR/Heritage eMap reviewer or Terrestrial Zoologist.

<input type="checkbox"/> 15. Windshield and ground surveys for archaeological resources	<input checked="" type="checkbox"/> 34. Mechanical vegetation removal, includes trees or tree branches > 3 inches in diameter	<input type="checkbox"/> 69. Renovation of existing structures
<input type="checkbox"/> 16. Drilling	<input type="checkbox"/> 35. Stabilization (major erosion control)	<input type="checkbox"/> 70. Lock maintenance/ construction
<input checked="" type="checkbox"/> 17. Mechanical vegetation removal, does not include trees or branches > 3" in diameter (in Table 3 due to potential for woody burn piles)	<input checked="" type="checkbox"/> 36. Grading	<input type="checkbox"/> 71. Concrete dam modification
<input type="checkbox"/> 21. Herbicide use	<input type="checkbox"/> 37. Installation of soil improvements	<input type="checkbox"/> 73. Boat launching ramps
<input type="checkbox"/> 22. Grubbing	<input type="checkbox"/> 38. Drain installations for ponds	<input type="checkbox"/> 77. Construction or expansion of land-based buildings
<input type="checkbox"/> 23. Prescribed burns	<input type="checkbox"/> 47. Conduit installation	<input type="checkbox"/> 78. Wastewater treatment plants
<input checked="" type="checkbox"/> 25. Maintenance, improvement or construction of pedestrian or vehicular access corridors	<input type="checkbox"/> 52. Floating buildings	<input type="checkbox"/> 80. Barge fleeting areas
<input type="checkbox"/> 26. Maintenance/construction of access control measures	<input type="checkbox"/> 54. Maintenance of water control structures (dewatering units, spillways, levees)	<input type="checkbox"/> 82. Construction of dam/weirs/ levees
<input type="checkbox"/> 27. Restoration of sites following human use and abuse	<input type="checkbox"/> 55. Solar panels	<input type="checkbox"/> 83. Submarine pipeline, directional boring operations
<input type="checkbox"/> 28. Removal of debris (e.g., dump sites, hazardous material, unauthorized structures)	<input type="checkbox"/> 62. Blasting	<input type="checkbox"/> 86. Landfill construction
<input checked="" type="checkbox"/> 29. Acquisition and use of fill/borrow material	<input type="checkbox"/> 63. Foundation installation for transmission support	<input type="checkbox"/> 89. Structure demolition
<input type="checkbox"/> 31. Stream/wetland crossings	<input type="checkbox"/> 64. Installation of steel structure, overhead bus, equipment, etc.	<input type="checkbox"/> 91. Bridge replacement
<input type="checkbox"/> 32. Clean-up following storm damage	<input type="checkbox"/> 65. Pole and/or tower installation and/or extension	<input type="checkbox"/> 92. Return of archaeological remains to former burial sites
<input type="checkbox"/> 33. Removal of hazardous trees/tree branches		

STEP 3) Project includes one or more activities in Table 3?

YES (Go to Step 4)

NO (Go to Step 13)

STEP 4) Answer questions a through e below (applies to projects with activities from Table 3 ONLY)

- a) Will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)? **NO** (NV2 does not apply) **YES** (NV2 applies, subject to records review)
- b) Will project involve entry into/survey of cave? **NO** (HP1/HP2 do not apply) **YES** (HP1/HP2 applies, subject to review of bat records)
- c) If conducting **prescribed burning (activity 23)**, estimated acreage: and timeframe(s) below; **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 31	<input type="checkbox"/> Apr 1 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
VA	<input type="checkbox"/> Sep 16 - Nov 15	<input type="checkbox"/> Nov 16 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 15	<input type="checkbox"/> Jun 1 - Jul 31
AL	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 15	<input type="checkbox"/> Mar 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
NC	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 15	<input type="checkbox"/> Apr 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
MS	<input type="checkbox"/> Oct 1 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 30	<input type="checkbox"/> Jun 1 - Jul 31

- d) Will the project involve vegetation piling/burning? **NO** (SSPC4/SHF7/SHF8 do not apply) **YES** (SSPC4/SHF7/SHF8 applies, subject to review of bat records)

- e) If **tree removal (activity 33 or 34)**, estimated amount: **ac** **trees** **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 31	<input checked="" type="checkbox"/> Apr 1 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
VA	<input type="checkbox"/> Sep 16 - Nov 15	<input type="checkbox"/> Nov 16 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 15	<input type="checkbox"/> Jun 1 - Jul 31
AL	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 15	<input type="checkbox"/> Mar 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
NC	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 15	<input type="checkbox"/> Apr 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
MS	<input type="checkbox"/> Oct 1 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 30	<input type="checkbox"/> Jun 1 - Jul 31

- If warranted, does project have flexibility for bat surveys (May 15-Aug 15): **MAYBE** **YES** **NO**

*** For **PROJECT LEADS** whose projects will be reviewed by a Heritage Reviewer (Natural Resources Organization only), **STOP HERE**. Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information. Otherwise continue to Step 5. ***

SECTION 2: REVIEW OF BAT RECORDS (applies to projects with activities from Table 3 ONLY)

STEP 5) Review of bat/cave records conducted by Heritage/OSAR reviewer?

- YES** **NO** (Go to Step 13)

Info below completed by: **Heritage Reviewer** (name) Date

OSAR Reviewer (name) Date

Terrestrial Zoologist (name) Date

- Gray bat records: None Within 3 miles* Within a cave* Within the County
- Indiana bat records: None Within 10 miles* Within a cave* Capture/roost tree* Within the County
- Northern long-eared bat records: None Within 5 miles* Within a cave* Capture/roost tree* Within the County
- Virginia big-eared bat records: None Within 6 miles* Within the County
- Caves: None within 3 mi Within 3 miles but > 0.5 mi Within 0.5 mi but > 0.25 mi* Within 0.25 mi but > 200 feet* Within 200 feet*

- Bat Habitat Inspection Sheet completed?** **NO** **YES**

Amount of SUITABLE habitat to be removed/burned (may differ from STEP 4e): (**ac** **trees**)* **N/A**

STEP 6) Provide any additional notes resulting from Heritage Reviewer records review in Notes box below then
 **Go to Step 13**

Notes from Bat Records Review (e.g., historic record; bats not on landscape during action; DOT bridge survey with negative results):

STEPS 7-12 To be Completed by Terrestrial Zoologist (if warranted):

STEP 7) Project will involve:

- Removal of suitable trees within 0.5 mile of P1-P2 Indiana bat hibernacula or 0.25 mile of P3-P4 Indiana bat hibernacula or any NLEB hibernacula.
- Removal of suitable trees within 10 miles of documented Indiana bat (or within 5 miles of NLEB) hibernacula.
- Removal of suitable trees > 10 miles from documented Indiana bat (> 5 miles from NLEB) hibernacula.
- Removal of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.
- Removal of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.
- Removal of suitable trees > 2.5 miles from Indiana bat roost trees or > 5 miles from Indiana bat capture sites.
- Removal of documented Indiana bat or NLEB roost tree, if still suitable.
- N/A

STEP 8) Presence/absence surveys were/will be conducted: YES NO TBD

STEP 9) Presence/absence survey results, on NEGATIVE POSITIVE N/A

STEP 10) Project WILL WILL NOT require use of Incidental Take in the amount of acres or trees proposed to be used during the WINTER VOLANT SEASON NON-VOLANT SEASON N/A

STEP 11) Available Incidental Take (prior to accounting for this project) as of

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
9 Promote Economic Development				

STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion: \$ OR N/A

TERRESTRIAL ZOOLOGISTS, after completing SECTION 2, review Table 4, modify as needed, and then complete section for Terrestrial Zoologists at end of form.

SECTION 3: REQUIRED CONSERVATION MEASURES

STEP 13) Review Conservation Measures in Table 4 and ensure those selected are relevant to the project. If not, manually override and uncheck irrelevant measures, and explain why in ADDITIONAL NOTES below Table 4.

Did review of Table 4 result in ANY remaining Conservation Measures in **RED**?

- NO** (Go to Step 14)
- YES** (STOP HERE; Submit for Terrestrial Zoology Review. Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information).

Table 4. TVA's ESA Section 7 Programmatic Bat Consultation Required Conservation Measures

The Conservation Measures in Table 4 are automatically selected based on your choices in Tables 2 and 3 but can be manually overridden, if necessary. To Manually override, press the button and enter your name.

Manual Override

Check if Applies to Project	Activities Subject To Conservation Measure	Conservation Measure Description
<input checked="" type="checkbox"/>	15, 16, 17, 18, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96	NV1 - Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
<input checked="" type="checkbox"/>	16, 25, 26, 37, 47, 52, 62, 63, 64, 65, 70, 71, 73, 78, 80, 82, 83, 86, 91	NV2 - Drilling, blasting, or any other activity that involves continuous noise (i.e., longer than 24 hours) disturbances greater than 75 decibels measured on the A scale (e.g., loud machinery) within a 0.5 mile radius of documented winter and/or summer roosts (caves, trees, unconventional roosts) will be conducted when bats are absent from roost sites.
<input type="checkbox"/>	16, 26, 62	NV3 - Drilling or blasting within a 0.5 mile radius of documented cave (or unconventional) roosts will be conducted in a manner that will not compromise the structural integrity or alter the karst hydrology of the roost site.
<input type="checkbox"/>	16, 26, 62	NV4 - Drilling or blasting within 0.5 miles of a documented roost site (cave, tree, unconventional roost) that needs to occur when bats are present will first involve development of project-specific avoidance or minimization measures in coordination with the USFWS.
<input type="checkbox"/>	15, 26, 92	HP1 - Site-specific cases in which potential impact of human presence is heightened (e.g., conducting environmental or cultural surveys within a roost) will be closely coordinated with staff bat biologists to avoid/minimize impacts below any potential adverse effect. Any take from these activities would be covered by TVA's Section 10 permit.
<input type="checkbox"/>	15, 26, 92	HP2 - Entry into roosts known to be occupied by federally listed bats will be communicated to the USFWS when impacts to bats may occur if not otherwise communicated (i.e., via annual monitoring reports per TVA's Section 10 permit). Any take from these activities would be covered by TVA's section 10 permit.
<input type="checkbox"/>	23	SHF1 - Fire breaks will be used to define and limit burn scope.
<input checked="" type="checkbox"/>	17, 23, 34	SHF2 - Site-specific conditions (e.g., acres burned, transport wind speed, mixing heights) will be considered to ensure smoke is limited and adequately dispersed away from caves so that smoke does not enter cave or cave-like structures.
<input type="checkbox"/>	23	SHF3 - Acreage will be divided into smaller units to keep amount of smoke at any one time or location to a minimum and reduce risk for smoke to enter caves.
<input checked="" type="checkbox"/>	17, 23, 34	SHF4 - If burns need to be conducted during April and May, when there is some potential for bats to present on the landscape and more likely to enter torpor due to colder temperatures, burns will only be conducted if the air temperature is 55° or greater, and preferably 60° or greater.
<input type="checkbox"/>	23	SHF5 - Fire breaks will be plowed immediately prior to burning, will be plowed as shallow as possible, and will be kept to minimum to minimize sediment.
<input type="checkbox"/>	23	SHF6 - Tractor-constructed fire lines will be established greater than 200 feet from cave entrances . Existing logging roads and skid trails will be used where feasible to minimize ground disturbance and generation of loose sediment.
<input checked="" type="checkbox"/>	17, 22, 23, 32, 33, 34, 35, 36	SHF7 - Burning will only occur if site specific conditions (e.g. acres burned, transport wind speed, mixing heights) can be modified to ensure that smoke is adequately dispersed away from caves or cave-like structures. This applies to prescribed burns and burn piles of woody vegetation.
<input checked="" type="checkbox"/>	17, 22, 23, 32, 33, 34, 35, 36	SHF8 - Brush piles will be burned a minimum of 0.25 mile from documented, known, or obvious caves or cave entrances and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.

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■	17, 23, 34	SHF9 - A 0.25 mile buffer of undisturbed forest will be maintained around documented or known gray bat maternity and hibernation colony sites, documented or known Virginia big-eared bat maternity, bachelor, or winter colony sites, Indiana bat hibernation sites, and northern long-eared bat hibernation sites. Prohibited activities within this buffer include cutting of overstory vegetation, construction of roads, trails or wildlife openings, and prescribed burning. Exceptions may be made for maintenance of existing roads and existing ROW, or where it is determined that the activity is compatible with species conservation and recovery (e.g., removal of invasive species).
■	33, 34	TR1* - Removal of potentially suitable summer roosting habitat during time of potential occupancy has been quantified and minimized programmatically. TVA will track and document alignment of activities that include tree removal (i.e., hazard trees, mechanical vegetation removal) with the programmatic quantitative cumulative estimate of seasonal removal of potential summer roost trees for Indiana bat and northern long-eared bat. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	TR2 - Removal of suitable summer roosting habitat within 0.5 mile of Priority 1/Priority 2 Indiana bat hibernacula, or 0.25 mile of Priority 3/Priority 4 Indiana bat hibernacula or any northern long-eared bat hibernacula will be prohibited, regardless of season, with very few exceptions (e.g., vegetation maintenance of TL ROW immediately adjacent to a known cave).
■	33, 34	TR3* - Removal of suitable summer roosting habitat within documented bat habitat (i.e., within 10 miles of documented Indiana bat hibernacula, within 5 miles of documented northern long-eared bat hibernacula, within 2.5 miles of documented Indiana bat summer roost trees, within 5 miles of Indiana bat capture sites, within 1 mile of documented northern long-eared bat summer roost trees, within 3 miles of northern long-eared bat capture sites) will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	TR4* - Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared bat will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	TR5 - Removal of any trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity summer roost tree during non-winter season, range-wide pup season or swarming season (if site is within known swarming habitat), will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts), TVA will coordinate with the USFWS to determine how to minimize impacts to pups to the extent possible. May include establishment of artificial roosts before removal of roost tree(s).
■	33, 34	TR6 - Removal of a documented Indiana bat or northern long-eared bat roost tree that is still suitable and that needs to occur during non-winter season, range-wide pup season, or swarming season (if site is within known swarming habitat) will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts), TVA will coordinate with USFWS to determine how to minimize impacts to pups to the extent possible. This may include establishment of artificial roosts before removal of roost tree(s).
■	33, 34	TR7 (Existing Transmission ROW only) - Tree removal within 100 feet of existing transmission ROWs will be limited to hazard trees. On or adjacent to TLs, a hazard tree is a tree that is tall enough to fall within an unsafe distance of TLs under maximum sag and blowout conditions and/or are also dead, diseased, dying, and/or leaning. Hazard tree removal includes removal of trees that 1) currently are tall enough to threaten the integrity of operation and maintenance of a TL or 2) have the ability in the future to threaten the integrity of operation and maintenance of a TL.
■	33, 34	TR8 (TVA Reservoir Land only) - Requests for removal of hazard trees on or adjacent to TVA reservoir land will be inspected by staff knowledgeable in identifying hazard trees per International Society of Arboriculture and TVA's checklist for hazard trees. Approval will be limited to trees with a defined target.
■	33, 34	TR9 - If removal of suitable summer roosting habitat occurs when bats are present on the landscape, a funding contribution (based on amount of habitat removed) towards future conservation and recovery efforts for federally listed bats would be carried out. Project can consider seasonal bat presence/absence surveys (mist netting or emergence counts) that allow for positive detections without resulting in increased constraints in cost and project schedule. This will enable TVA to contribute to increased knowledge of bat presence on the landscape while carrying out TVA's broad mission and responsibilities.

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<input type="checkbox"/>	<p>69, 77, 89, 91</p>	<p>AR1 - Projects that involve structural modification or demolition of buildings, bridges, and potentially suitable box culverts, will require assessment to determine if structure has characteristics that make it a potentially suitable unconventional bat roost. If so a survey to determine if bats may be present will be conducted. Structural assessment will include:</p> <ul style="list-style-type: none"> ○ Visual check that includes an exhaustive internal/external inspection of building to look for evidence of bats (e.g., bat droppings, roost entrance/exit holes); this can be done at any time of year, preferably when bats are active. ○ Where accessible and health and safety considerations allow, a survey of roof space for evidence of bats (e.g., droppings, scratch marks, staining, sightings), noting relevant characteristics of internal features that provide potential access points and roosting opportunities. Suitable characteristic may include: gaps between tiles and roof lining, access points via eaves, gaps between timbers or around mortise joints, gaps around top and gable end walls, gaps within roof walling or around tops of chimney breasts, and clean ridge beams. ○ Features with high-medium likelihood of harboring bats but cannot be checked visually include soffits, cavity walls, space between roof covering and roof lining. ○ Applies to box culverts that are at least 5 feet (1.5 meters) tall and with one or more of the following characteristics. Suitable culverts for bat day roosts have the following characteristics: <ul style="list-style-type: none"> ● Location in relatively warm areas ● Between 5-10 feet (1.5-3 meters) tall and 300 ft (100 m) or more long ● Openings protected from high winds ● Not susceptible to flooding ● Inner areas relatively dark with roughened walls or ceilings ● Crevices, imperfections, or swallow nests ○ Bridge survey protocols will be adapted from the Programmatic Biological Opinion for the Federal Highway Administration (Appendix D of USFWS 2016c, which includes a Bridge Structure Assessment Guidance and a Bridge Structure Assessment Form). ○ Bat surveys usually are NOT needed in the following circumstances: <ul style="list-style-type: none"> ● Domestic garages /sheds with no enclosed roof space (with no ceiling) ● Modern flat-roofed buildings ● Metal framed and roofed buildings ● Buildings where roof space is regularly used (e.g., attic space converted to living space, living space open to rafters) or where all roof space is lit from skylights or windows. Large/tall roof spaces may be dark enough at apex to provide roost space
<input type="checkbox"/>	<p>69, 77, 89, 91</p>	<p>AR2 - Additional bat P/A surveys (e.g., emergence counts) conducted if warranted (i.e., when AR1 indicates that bats may be present).</p>
<input type="checkbox"/>	<p>91</p>	<p>AR3 - Bridge survey protocols will be implemented, either by permittee (e.g., state DOT biologists) or qualified personnel. If a bridge is determined to be in use as an unconventional roost, subsequent protocols will be implemented.</p>
<input type="checkbox"/>	<p>69, 89</p>	<p>AR4 - Removal of buildings with suitable roost characteristics within six miles of known or presumed occupied roosts for Virginia big-eared bat would occur between Nov 16 and Mar 31. Buildings may be removed other times of the year once a bat biologist evaluates a buildings' potential to serve as roosting habitat and determines that this species is not present and/or is not using structure(s).</p>

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<p align="center">■</p>	<p>16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 56, 61, 62, 63, 64, 65, 67, 69, 84, 89</p>	<p>SSPC1 (Transmission only) - Transmission actions and activities will continue to Implement A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities. This focuses on control of sediment and pollutants, including herbicides. Following are key measures:</p> <ul style="list-style-type: none"> ○ BMPs minimize erosion and prevent/control water pollution in accordance with state-specific construction storm water permits. BMPs are designed to keep soil in place and aid in reducing risk of other pollutants reaching surface waters, wetlands and ground water. BMPs will undertake the following principles: <ul style="list-style-type: none"> ● Plan clearing, grading, and construction to minimize area and duration of soil exposure. ● Maintain existing vegetation wherever and whenever possible. ● Minimize disturbance of natural contours and drains. ● As much as practicable, operate on dry soils when they are least susceptible to structural damage and erosion. ● Limit vehicular and equipment traffic in disturbed areas. Keep equipment paths dispersed or designate single traffic flow paths with appropriate road BMPs to manage runoff. ● Divert runoff away from disturbed areas. ● Provide for dispersal of surface flow that carries sediment into undisturbed surface zones with high infiltration capacity and ground cover conditions. ● Prepare drainage ways and outlets to handle concentrated/increased runoff. ● Minimize length and steepness of slopes. Interrupt long slopes frequently. ● Keep runoff velocities low and/or check flows. ● Trap sediment on-site. ● Inspect/maintain control measures regularly & after significant rain. ● Re-vegetate and mulch disturbed areas as soon as practical. ○ Specific guidelines regarding sensitive resources and buffer zones: <ul style="list-style-type: none"> ● Extra precaution (wider buffers) within SMZs is taken to protect stream banks and water quality for streams, springs, sinkholes, and surrounding habitat. ● BMPs are implemented to protect and enhance wetlands. Select use of equipment and seasonal clearing is conducted when needed for rare plants; construction activities are restricted in areas with identified rare plants. ● Standard requirements exist to avoid adverse impacts to caves, protected animals, unique/ important habitat (e.g., cave buffers, restricted herbicide use, seasonal clearing of suitable habitat).
<p align="center">■</p>	<p>16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90</p>	<p>SSPC2 - Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.</p>

Project Review Form - TVA Bat Strategy (06/2019)

<p align="center">■</p>	<p>16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 76, 77, 80, 81, 82, 83, 84, 86, 87, 88, 89, 90, 91</p>	<p>SSPC3 (Power Plants only) - Power Plant actions and activities will continue to implement standard environmental practices. These include:</p> <ul style="list-style-type: none"> ○ Best Management Practices (BMPs) in accordance with regulations: <ul style="list-style-type: none"> ● Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy ● Maintain every site with well-equipped spill response kits, included in some heavy equipment ● Conduct Quarterly Internal Environmental Field Assessments at each sight ● Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant. ● When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage ○ Construction Site Protection Methods <ul style="list-style-type: none"> ● Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites ● Storm drain protection device ● Check dam to help slow down silt flow ● Silt fencing to reduce sediment movement ○ Storm Water Pollution Prevention (SWPP) Pollution Control Strategies <ul style="list-style-type: none"> ● Minimize storm water contact with disturbed soils at construction site ● Protect disturbed soil areas from erosion ● Minimize sediment in storm water before discharge ● Prevent storm water contact with other pollutants ● Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac) ○ Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to <ul style="list-style-type: none"> ● Minimize fuel and chemical use Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy ● Maintain every site with well-equipped spill response kits, included in some heavy equipment ● Conduct Quarterly Internal Environmental Field Assessments at each sight ● Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant. ● When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage ○ Construction Site Protection Methods <ul style="list-style-type: none"> ● Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites ● Storm drain protection device ● Check dam to help slow down silt flow ● Silt fencing to reduce sediment movement ○ Storm Water Pollution Prevention (SWPP) Pollution Control Strategies <ul style="list-style-type: none"> ● Minimize storm water contact with disturbed soils at construction site ● Protect disturbed soil areas from erosion ● Minimize sediment in storm water before discharge ● Prevent storm water contact with other pollutants ● Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac) ○ Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to minimize fuel and chemical use
<p align="center">■</p>	<p>17, 22, 32, 33, 34, 35, 36</p>	<p>SSPC4 (Transmission only) - Woody vegetation burn piles associated with transmission construction will be placed in the center of newly established ROWs to minimize wash into any nearby undocumented caves that might be on adjacent private property and thus outside the scope of field survey for confirmation. Brush piles will be burned a minimum of 0.25 miles from documented caves and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.</p>

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<input checked="" type="checkbox"/>	17, 18, 21, 22, 24, 25, 26, 30, 31, 33, 34, 35, 36, 40, 46, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 87, 88, 91, 93, 95, 96	SSPC5 (26a, Solar, Economic Development only) - Section 26a permits and contracts associated with solar projects, economic development projects or land use projects include standards and conditions that include standard BMPs for sediment and contaminants as well as measures to avoid or minimize impacts to sensitive species or other resources consistent with applicable laws and Executive Orders.
<input type="checkbox"/>	21, 54	SSPC6 - Herbicide use will be avoided within 200 ft of portals associated with caves, cave collapse areas, mines and sinkholes are capable of supporting cave-associated species. Herbicides are not applied to surface water or wetlands unless specifically labeled for aquatic use. Filter and buffer strips will conform at least to federal and state regulations and label requirements.
<input checked="" type="checkbox"/>	17, 21, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 54, 55	SSPC7 - Clearing of vegetation within a 200-ft radius of documented caves will be limited to hand or small machinery clearing only (e.g., chainsaws, bush-hog, mowers). This will protect potential recharge areas of cave streams and other karst features that are connected hydrologically to caves.
<input checked="" type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L1 - Direct temporary lighting away from suitable habitat during the active season.
<input checked="" type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L2 - Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

¹Bats addressed in consultation (02/2018), which includes gray bat (listed in 1976), Indiana bat (listed in 1967), northern long-eared bat (listed in 2015), and Virginia big-eared bat (listed in 1979).

Hide All Unchecked Conservation Measures

- HIDE
- UNHIDE

Hide Table 4 Columns 1 and 2 to Facilitate Clean Copy and Paste

- HIDE
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NOTES (additional info from field review, explanation of no impact or removal of conservation measures).

STEP 14) Save completed form (Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to batstrategy@tva.gov
Submission of this form indicates that Project Lead/Applicant:

(name) is (or will be made) aware of the requirements below.

- Implementation of conservation measures identified in Table 4 is required to comply with TVA's Endangered Species Act programmatic bat consultation.
- TVA may conduct post-project monitoring to determine if conservation measures were effective in minimizing or avoiding impacts to federally listed bats.

For Use by Terrestrial Zoologist Only

Terrestrial Zoologist acknowledges that Project Lead/Contact (name) has been informed of any relevant conservation measures and/or provided a copy of this form.

For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take ac trees and that use of Take will require \$ contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).