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ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE RIALTO INDUSTRIAL PARK

ENVIRONMENTAL ASSESSMENT

Tipton County, Tennessee (Covington)

Prepared by:

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1.0 PROPOSED ACTION AND NEED

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/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 Covington Industrial Development Board (CIDB) to assist with the development of the 165-acre Rialto Industrial Park in Tipton County, Tennessee. The area of TVA's Proposed Action (herein referred to as the Project Area) encompasses approximately 165 acres of land located on agricultural upland flats south of the Hatchie River just north of Covington, Tennessee east of United States Highway 51 (Highway 51) (see **Figure 1** below and Attachment 1, Figure 1-A). TVA funds would be used for rough grading of the Project Area to improve stormwater drainage and for stabilization after grading is complete (Attachment 1, Figure 1-B). These activities, herein referred to as the Proposed Action, are further detailed in Section 3.2 below.

The proposed grant to the CIDB would assist with grading to improve the stormwater management of the Project Area. The proposed improvements would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. A variety of industrial sites exist adjacent to the Project Area. Target industries include distribution, logistics, and food/beverage companies. Pursuant to the National Environmental Policy Act (NEPA) and its implementing regulations 40CFR 1500 – 1508 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. TVA's decision is whether to provide the requested funding to the CIDB.

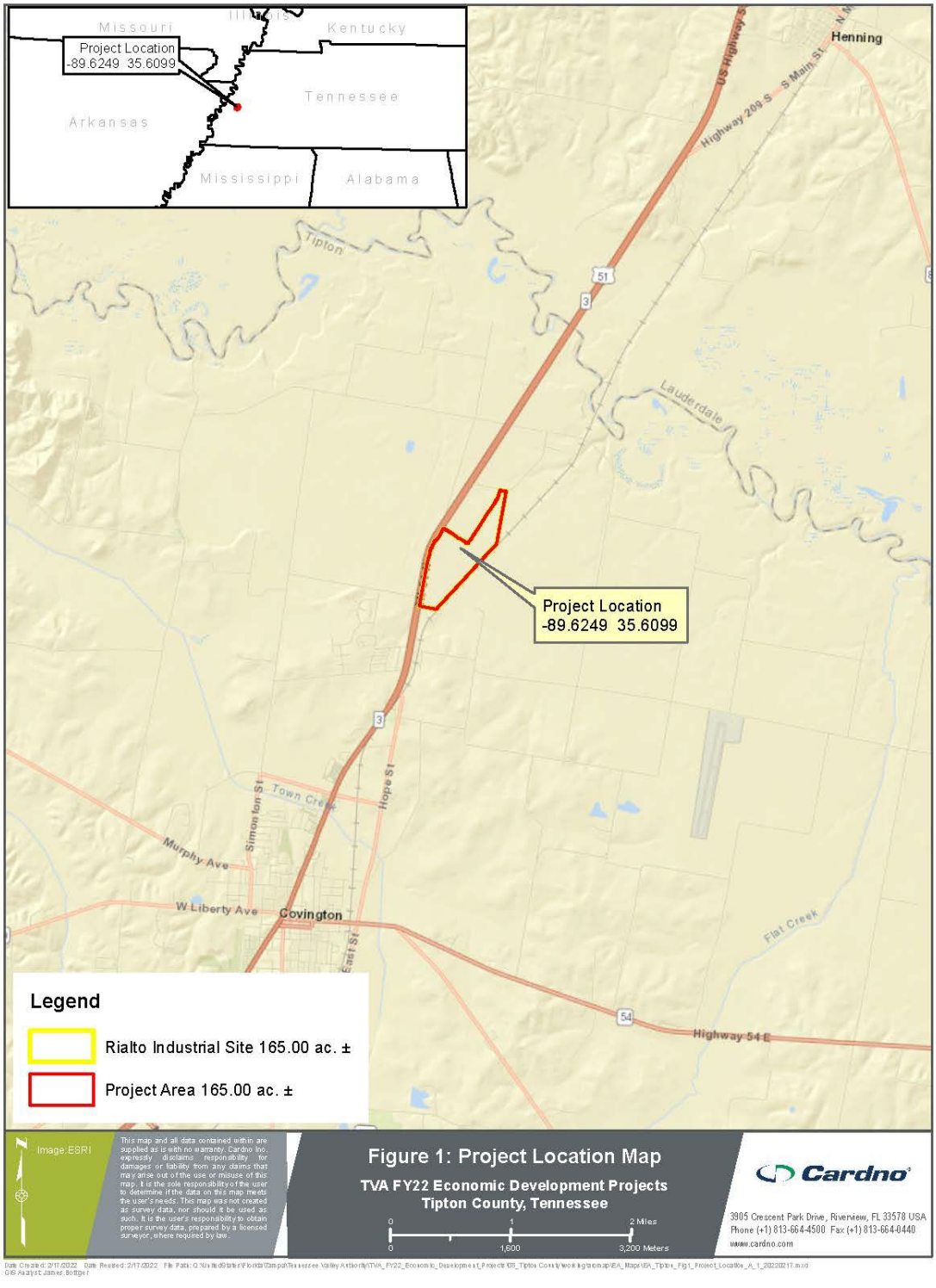

Figure 1. Project Location Map

2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

In preparation for site development, other studies have been performed by the CIDB at the 165-acre Project Area. The various studies were performed at different times and as two separate parcels: a 100-acre “northern portion” and a 65-acre “southern portion”.

Two Phase I Environmental Site Assessments (Phase I ESA) of the Project Area were performed consistent with the procedures included in ASTM E 1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). The first Phase I ESA was conducted by ACI Environmental Associates, Inc. in June 2018 (ACI 2018) on ±100 acres of the Project Area, while Tioga Environmental Consultants conducted an additional investigation of 65 acres of the Project Area in December 2019 (Tioga 2019). The purpose of the Phase I ESAs was to identify the presence of recognized environmental conditions (REC) or other environmental liabilities within the Project Area.

Similarly, an initial geotechnical investigation of the 100-acre portion of the Project Area was performed by S&ME, Inc. in April 2013 (S&ME 2013) and an additional geotechnical investigation of the remaining 65-acres was conducted by Geotechnology, Inc. in January 2020 (Geotechnology, Inc. 2020). The purpose of the geotechnical investigations was to explore the general site and subsurface conditions within the Project Area.

In April 2013, Askew Hargraves Harcourt and Associates, Inc. obtained a hydrologic determination from the Tennessee Department of Environment and Conservation (TDEC) on the 100-acre portion of the Project Area (TDEC 2013a). Further, Brophy-Heineke & Associates, Inc. conducted an on-site wetland delineation and hydrologic determination (Brophy-Heineke 2020) in February 2020 for the approximate 65-acre portion of the site. The purpose of the wetland delineation and hydrologic determinations was to identify wetlands and waterbodies jurisdictional to the United States Army Corps of Engineers (USACE) and the TDEC. The USACE provided an approved jurisdictional determination (AJD) in February 2020 for the remaining 65-acre portion of the Project Area (USACE 2020).

In April 2013 and May 2020, A2H, Inc. received correspondence from the Tennessee Division of Archaeology (TDOA) (TDEC 2013b and 2020) regarding Cultural Resources Desktop Review and Assessments for the Project Area. In April 2018, A2H, Inc. also received correspondence from the TDEC Division of Natural Areas regarding their review of the site for rare, threatened, or endangered species for the 100-acre portion of the Project Area (TDEC 2018). In January 2022, a Phase I cultural resources investigation was conducted by Cardno, now Stantec (Cardno) on the entire 165-acre Project Area (Cardno 2022).

The Phase I ESAs, geotechnical investigation reports, wetland delineation, hydrologic determination from TDEC, AJD, correspondence from the TDOA and TDEC Division of Natural Areas, and the Cardno Phase I cultural resources investigation were used in the preparation of this EA.

3.0 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.

3.1 The No Action Alternative

Under the No Action Alternative, TVA would not provide TVA InvestPrep funds to the CIDB. TVA would not be furthering 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 CIDB were to obtain alternate funding and proceed with its current plans, the overall environmental consequences would be similar to those expected from implementing the Action Alterative. In the event the project is postponed, any environmental effects would be delayed for the duration of the postponement. If the project were cancelled, no direct environmental effects are anticipated, as environmental conditions on the site would remain essentially unchanged from the current conditions for the foreseeable future.

3.2 The Action Alternative

Under the Action Alternative, TVA would provide TVA InvestPrep funds to the CIDB for site improvements to the Project Area. These improvements would include the rough grading of approximately 112,000 cubic yards (CY) of fill in the Project Area (Attachment 1, Figure 1-B). The grading of the Project Area would improve stormwater drainage and no off-site borrow would be needed. The final Project Area elevation would crown at approximately 270 feet above mean sea level (msl). Erosion prevention, sediment control, and stabilization measures would be implemented after grading is complete. Activities required for the Action Alternative would occur over approximately 3 months and would require a small workforce that would most likely be assigned from a local contractor. For ease of discussion in this EA, the proposed actions are collectively described as grading and/or construction.

The CIDB, 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, but are not limited to, the installation of sediment and erosion controls (silt fences, sediment traps, etc.) management of fugitive dust, and daytime work hours.

TVA's preferred alternative is the Action Alternative. 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 fully defined. Given this uncertainty, an analysis of the potential impacts for development of the adjacent lots is beyond the scope of this EA.

4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

4.1 Site Description

The 165-acre Project Area encompasses the vacant, undeveloped Rialto Industrial Park in Tipton County, Tennessee, on agricultural upland flats south of the Hatchie River and east of Highway

51, approximately 3 miles northeast of the City of Covington Tennessee (Attachment 1, Figure 1-A).

The Project Area is situated within a mixed agricultural and industrial area of Covington, Tennessee, and is located in zone M-1 (City/Industrial Park District) (City of Covington 2022). Existing land use within the Project Area is classified as Public Use and Agricultural (Tennessee 2022a). Industrial neighbors adjacent to the Project Area include Unilever, CSC Sugar, and U.S. Cold Storage. In addition, the Canadian National Railroad occurs immediately east of the Project Area, making the location "rail ready". The land use surrounding the Project Area includes industry to the northwest, forest to the northeast, and agricultural lands to the west, south, and east. No permanent structures or utilities are present within the Project Area. Utilities located adjacent to the Rialto Industrial Park include water (10-inch-diameter and 16-inch-diameter mains), a 30-inch-diameter sewer main, overhead 13-kilovolt (kV) distribution lines, and a 4-inch-diameter natural gas main and regulator station.

The land types identified in the Tennessee Real Estate Assessment Database includes Crop, Non-Productive, and Exempt as assessed using land use data derived from the Computer Assisted Appraisal System property assessment data maintained by the State of Tennessee's Comptroller of the Treasury (Tennessee 2022b).

The Project Area ranges from approximately 270 to 280 feet above msl (Attachment 1, Figure 1-C). In the past, the Project Area has been used for farming (row crops including soybeans). The northernmost portion of the Project Area is a graveled parking lot approximately 2 acres in size. The Project Area had a year-to-year farming lease agreement through 2021. According to the CIDB, once crops were harvested in October 2021, the farming lease was not renewed. The tenant farmer created the drainage features that exist in the Project Area. While the existing land use of the Project Area is agricultural, it is zoned for industrial activities.

4.2 Impacts Evaluated

As stated previously, two Phase I ESAs were conducted on the Project Area. Neither Phase I ESA identified any current or historical chemical, petroleum, or hazardous substance operations or storage areas or locations within the Project Area that would indicate the presence of solid or hazardous wastes (ACI 2018 and Tioga 2019). According to the 2019 Phase I ESA, there is no evidence that historical use of pesticides/herbicides at the Project Area was conducted outside of standard practices. Therefore, the possible long-term use of agricultural grade pesticides or herbicides that may persist in the soils at the subject Property does not represent a REC. No demolition or construction waste activities are associated with the Action Alternative. Therefore, the Proposed Action is not expected to result in significant impacts from the creation or disposal of solid and hazardous wastes.

The Federal Emergency Management Agency (FEMA) flood insurance rate map for Tipton County, Tennessee (Attachment 1, Figure 1-D), (panel numbers 47167C0160F and 47167C0180F, effective 12/19/2006) indicates the Project Area would not be located within an identified 100-year floodplain. The 2013 and 2020 hydrologic determinations identified no perennial streams within the Project Area. Therefore, the Proposed Action would be consistent with EO 11988 and would have no impact on floodplains or their natural and beneficial values.

A hydrologic determination conducted by the TDEC in April 2013 identified two channels (TDEC 2013a). The western-most channel was determined to be a wet weather conveyance (WWC) that

occurs just outside of the Project Area along Highway 51. This channel does not appear as a feature on the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map (Attachment 1, Figure 1-E). The second channel, a linear feature, identified by TDEC flows eastward across the northern 100-acre portion of the Project Area and was classified as wetlands (Attachment 1, Figure 1-F). This channel also does not appear as a feature on the NWI map.

Additionally, according to the Memphis District USACE's February 12, 2020, AJD memorandum, that referenced the approximate 65-acre parcel located east of the intersection of Highway 51 and Ervin Lane, no wetlands or other waters of the United States (WOTUS) were identified on the property (USACE 2020). A feature was identified in the National Hydrography Dataset as a flowline in the north-central part of the Project Area (Attachment 1-E), but this feature was not observed during the 2013 and 2020 field surveys.

Neither the WWC outside of the Project Area, nor the wetland identified within the Project Area would be impacted by the Proposed Action. The proposed site improvements would borrow soil from an area located just north of the wetland feature identified by TDEC in 2013. The CIDB indicated that the development plan avoids the wetlands. The wetland originates at a culvert draining the adjacent Unilever factory property located west of the Project Area. This water source would be unaffected by the Proposed Action. The area north of the wetland would be used as a borrow area and currently has relatively flat topography. The proposed fill area south of the wetland would be set back approximately 1,700 feet from the wetland and the topographic contours in that area indicate that drainage patterns north toward the wetland and east would not be modified. Given these drainage and topographic characteristics, the hydrology of the wetland would not be impacted. Additionally, there are no wetlands located in the area of the Project Area to which fill would be added; therefore, the Proposed Action would not result in impacts to surface waters or wetlands. Because the Proposed Action would have no effect to surface waters, there would be no effects for aquatic zoology.

The Proposed Action would not cause alteration in land use or have negative impacts on prime farmland as the Project Area is located within a property zoned as industrial, and the Proposed Action would not result in a change to the zoned land use.

Natural areas include ecologically significant sites; federal, state, or local park lands; national or state forests; wilderness areas; scenic areas; wildlife management areas (WMA); recreational areas; greenways; trails; Nationwide Rivers Inventory (NRI) streams; and wild and scenic rivers. Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, United States Department of Agriculture, United States Forest Service, State of Tennessee) to protect and maintain certain ecological and/or recreational features. Ecologically significant sites are either tracts of privately owned land that are recognized by resource biologists as having significant environmental resources or identified tracts on TVA lands that are ecologically significant but not specifically managed by TVA's Natural Areas program. NRI streams are free-flowing segments of rivers recognized by the United States National Park Service (NPS) as possessing remarkable natural or cultural values.

A review of data from the TVA Regional Natural Heritage Database indicated that there are two natural areas located within 3 miles of the Project Area: the Hatchie River (NRI and State Scenic River) located 1.2 miles from the Project Area and the Lower Hatchie National Wildlife Refuge operated by the USFWS as a resting and feeding area for waterfowl and other migratory birds.

The Lower Hatchie National Wildlife Refuge is located 1.5 miles from the Project Area. In addition, four U.S. Department of Agriculture conservation easements (15 to 23 acres in size) are located between 1.0 and 2.4 miles away from the Project Area. Given the distance of these resources relative to the Project Area, no impacts to natural areas are anticipated from the Proposed Action.

There are no developed parks or outdoor recreation areas in the immediate vicinity of the Project Area. However, there are four recreation areas within 3 miles of the Project Area. These include Anderson Fields (1.7 miles), Frazier Park (2.3 miles), Patriot Park (2.9 miles), and Shelton Park (3.0 miles). Given the distances between the Project Area and the developed recreation areas, and the fact that the Project Area is zoned for industrial manufacturing and is located in a primarily industrialized area, implementation of the Action Alternative would not result in significant impacts to recreational opportunities near the Project Area.

TVA has determined that the Proposed Action, subsequent to TVA's selection of the Action Alternative, would have no impact on solid and hazardous wastes, floodplains, surface waters, wetlands, aquatic zoology, land use, prime farmland, natural areas, or recreation as discussed above. Therefore, potential impacts to these resources are not described in further detail in this EA.

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, terrestrial zoology, botany, and archaeology and historic structures and sites. Implementation of the Action Alternative could create potential impacts to the human environment, including visual effects, noise, socioeconomics and environmental justice, and transportation issues. Potential impacts to resources and impacts to the human environment resulting from implementation of the Action Alternative are discussed in detail below.

4.2.1 Air Quality and Climate Change

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 United States 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 (NO_2), carbon monoxide (CO), ozone, sulfur dioxide (SO_2), lead, particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), 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 Tipton County, Tennessee is designated as being in attainment with respect to the criteria pollutants (USEPA 2022).

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 (CO_2), methane, and nitrous oxide.

Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment and fugitive dust from ground disturbances. Fossil fuel-fired equipment are a source of combustion emissions, including nitrogen oxides (NO_X), CO, VOCs, SO_2, PM_{10}, $PM_{2.5}$, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Action Alternative are 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). No trees would be felled as part of the Proposed Action, so no burning of woody debris is anticipated.

Fugitive dust is a source of respirable airborne PM, including PM_{10} and $PM_{2.5}$, 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 CIDB, or its contractors, would be expected to comply with TDEC Air Pollution Control Rule 1200-3-8, which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include grading of roads, clearing of land, 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 minimal, temporary, and localized; and would not be anticipated to result in any violation of applicable ambient air quality standards or impact regional air quality.

Concerning climate change, no trees would be felled as a part of the Proposed Action. Since the Project Area is entirely vegetated with grasses, it contributes very little as a carbon sink. Therefore, the project would have little contribution to climate change.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar emissions associated from equipment and ground disturbances would occur, resulting in similar air quality and climate change impacts as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, emissions associated from equipment and ground disturbances would not occur and there would be no impacts to air quality and climate change from the No Action Alternative.

4.2.2 Groundwater

The Project Area is located within the East Gulf Coastal Plain Section of the Coastal Plain Province (United States National Park Service [USNPS] 2017 and USGS 2021). The East Gulf Coastal Plain Section extends from Eastern Louisiana and includes parts of Mississippi, Alabama, western Tennessee, western Georgia and the Florida panhandle. The East Gulf Coastal Plain Section in the vicinity of the Project Area is characterized by unconsolidated to semi-consolidated sediments, silts and clay. (USGS 1995).

In western Tennessee, the principal aquifer system in the East Gulf Coastal Plain Section is the Mississippi embayment aquifer system and consists of sediments that include sand, silt, lignite and clay that are primarily Late Cretaceous through late Eocene (USGS 1995). The Mississippi embayment aquifer system is comprised of several named aquifers. The local aquifer systems underlying the Project Area include: (in descending order) the upper Claiborne aquifer, middle Claiborne aquifer, lower Claiborne-upper Wilcox aquifer, Middle Wilcox aquifer, lower Wilcox aquifer and the McNairy-Nacatoch aquifer (USGS 1995). The upper Claiborne aquifer consists of interbedded silt, fine sand and sporadic lignite. The middle Claiborne aquifer consists of thick sand sequences with few or no clay layers. The lower Claiborne-upper Wilcox aquifer consists of thick beds of coarse to fine sand interbedded with thin layers of silt, clay and lignite. The middle Wilcox aquifer is made up of thin, interbedded silt, fine sand and clay layers. The lower Wilcox aquifer consists primarily of fluvial-deposited sands. The bottom-most aquifer that comprises the Mississippi embayment aquifer system is the McNairy-Nacatoch aquifer, which consists of a single thick sand bed or two or more sand beds separated by thinner marl or clay layers (USGS 1995).

The water quality in the Mississippi embayment aquifer system is considered soft to moderately hard with a calcium bicarbonate type near outcrop areas of the aquifer and transitions to a sodium bicarbonate type as it flows deeper into the aquifers. The dissolved solids concentrations for the Mississippi embayment aquifer system are typically less than 250 milligrams per liter (mg/L) in the vicinity of the Project Area. The principal aquifers used for water supply in the Mississippi embayment aquifer system are the middle Claiborne, lower Wilcox and the McNairy-Nacatoch aquifers. The middle Claiborne and lower Wilcox receive recharge via precipitation in aquifer outcrops and downward leakage from the above overlying aquifers. The McNairy-Nacatoch receives recharge primarily from precipitation infiltration in aquifer outcrop areas and a small portion of recharge is upward from the underlying aquifers (USGS 1995).

Implementation of the Action Alternative would result in ground disturbance during grading activities. Rough site grading involving 112,000 CY of fill would result in greater ground disturbance at moderate depths anticipated to be approximately 10 feet or less based on topography in the Project Area. Ground disturbances are not anticipated to be at depths that would intersect public groundwater supplies approximately 200 to 1,500 feet beneath the land surface (USGS 1995) or result in significant impacts to groundwater resources. The geotechnical borings conducted on-site in the 2013 and 2020 reports conducted by S&ME, Inc., indicate the overburden at the Project Area consists mostly of clays, silts, silty clays and a few lenses of sands at greater depths (>30 feet below land surface). Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by grading 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. A Phase I ESA was completed in June 2018 and December 2019 by ACI Environmental Associates, Inc. and Tioga Environmental Consultants which indicates that the Project Area consists of cultivated farmland with no structures existing within the Project Area. There was no discovery of adverse environmental conditions on the Project Area; however, as noted in the report by Tioga Environmental Consultants, it is likely the routine use of herbicides/pesticides did occur on-site but their use does not represent a recognized environmental condition. Historical land use of the Project Area has been primarily agricultural production since approximately the 1950's. As such, it is not anticipated that project activities would encounter hazardous substances during the aforementioned site improvements. Furthermore, it is expected that the CIDB, or its contractors, would conduct safety minded operations involving chemical or fuel storage and resupply, along with equipment and vehicle servicing to avoid leakage, spillage, and subsequent ground water contamination.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar ground disturbance would occur, resulting in similar impacts to groundwater resources as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, ground disturbance associated with rough grading to improve stormwater drainage would not occur and there would be no impacts to groundwater resources.

4.2.3 Soil Erosion

The Project Area is in Tipton County, Tennessee in the Mississippi Valley Loess Plains ecoregion within the Gulf Coastal Plain physiographic region of Tennessee. The Project Area is located approximately 1.2 miles southwest of the Hatchie River which drains into the Mississippi River to the west, within the Hatchie River-Boar Creek watershed (Hydrologic Unit Code [HUC]-12 080102080804).

Precipitation in the vicinity of the Project Area averages about 54 inches per year. The average monthly air temperature ranges from a high of 90 degrees Fahrenheit in July to a low of 29 degrees Fahrenheit in January (US Climate Data 2022).

Soil types and descriptions were obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2021) (Attachment 1, Figure 1-G). Soil types found within the Project Area include Dekoven silt loam, rarely flooded, Dekoven silt loam, overwash, rarely flooded, Dubbs-Dekoven complex (0-4 percent slopes), Dubbs-Routon complex (0-4 percent slopes), and Routon silt loam (0-2 percent slopes).

Two geotechnical investigations were conducted, one on the 100-acre northern portion of the Project Area in 2013 (S&ME 2013) and another on the southern 65-acre portion of the Project Area in 2020 (Geotechnology Inc. 2020).

With respect to the northern 100 acres of the Project Area, the 2013 investigation found cultivated clayey silt and loess clayey silt within the 0 to 5 feet of the 35-foot bores. The remainder of the bores were comprised of firm to stiff or very soft to soft dark gray silt. The report recommends that initially, the Rialto Industrial Park should be cleared and grubbed, and grass, roots, topsoil, and other organic material should be stripped to prepare the area for construction. The stripping, clearing, and grubbing should extend at least 10 horizontal feet beyond the construction limits, where possible. Any materials suitable for reuse as topsoil may be stockpiled and subsequently

reused in landscaped areas or to dress slopes, if suitable for that purpose. Otherwise, these materials should be removed from the site (S&ME 2013).

According to the 2020 geotechnical report, in the southern 65-acres of the Project Area the ground surface at the boring locations was generally covered with one to six inches of topsoil. Below the topsoil, the soil stratigraphy generally consisted of predominately fine-grained soils underlain by predominantly coarse-grained soils to the boring termination depths. At two locations, the fine-grained soils extended to the boring termination depth. This portion of the Project Area is currently used for agricultural purposes and would require stripping of topsoil for site grading to remove organic materials, if any (Geotechnology Inc. 2020).

Soils in the Project Area would be disturbed by widespread grading including approximately 8 acres of borrow and 90 acres of fill. The maximum depth of grading would be approximately 11 feet. However, the Proposed Action includes the stabilization of disturbed soils following grading as described in section 3.2. Further, BMPs would be required as part of the National Pollutant and Discharge Elimination System (NPDES) General Permit for Discharges Associated with Construction Activities (TNR100000). This permit requires the development and implementation of a Storm Water 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 and Sediment Control Handbook (TDEC 2012) would be used during site development to avoid contamination of surface water in the Project Area. These factors would effectively avoid or minimize impacts on soils and from soil erosion.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on soils as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts on soils or from soil erosion.

4.2.4 Terrestrial Zoology

4.2.4.1 Wildlife

The Project Area consists of approximately 165 acres of agricultural land owned and managed by the CIDB. Landscape features surrounding the Project Area consist of a variety of early successional habitat and cropland (i.e., pasture and agricultural), and developed or otherwise disturbed areas.

The northern most section of the Project Area, approximately 2 acres, is a graveled parking lot. Pastures and agricultural fields comprise the remaining approximate 163 acres of the Project Area. The fields are surrounded by a road to the west and a rail line with a thin strip of trees to the east. These areas would not be impacted by the Proposed Action. Common inhabitants of early successional habitat include brown-headed cowbird (*Molothrus ater*), brown thrasher (*T. rufum*), common yellowthroat (*Geothlypis trichas*), dickcissel (*Spiza americana*), eastern bluebird (*Sialia sialis*), eastern kingbird *(Tyrannus tyrannus*), eastern meadowlark (*Sturnella magna*), field sparrow (*Spizella pusilla*), and grasshopper sparrow (*Ammodramus savannarum*). bobcat (*Lynx rufus*), coyote (*Canis latrans*), eastern cottontail (*Sylvilagus floridanus*), hispid cotton rat (*Sigmodon hispidus*), red fox (*Vulpes vulpes*), and white tailed deer (*Odocoileus virginianus*) are

mammals typical of fields and cultivated land (Kays and Wilson 2002). Reptiles including common garter snake (*Thamnophis sirtalis*), northern copperhead (*Agkistrodon contortrix mokasen*), and southern black racer (*Coluber constrictor priapus*) are also known to occur in this habitat type (Dorcas and Gibbons 2005).

Review of the TVA Regional Natural Heritage database on September 24, 2021, indicated that no caves have been documented within three miles of the Project Area. This same review did not find any records of heronries or other aggregations of migratory birds within three miles of the Project Area. Review of the USFWS's Information for Planning and Consultation (IPaC) website on September 24, 2021, did not identify any migratory birds of concern that have the potential to occur within the Project Area.

Under the Action Alternative, TVA would provide funds to assist with the grading of the Project Area by the CIDB. Approximately 98 acres of the approximate 165 acres Project Area has the potential to be graded. This would result in the displacement of any wildlife (primarily common, habituated species) currently using the area. Direct effects to some individuals may occur if those individuals are immobile during the time of habitat removal. This could be the case if activities took place during breeding/nesting seasons. Habitat removal likely would disperse mobile wildlife into surrounding areas in an attempt to find new sources for food and habitat. Due to the amount of similarly suitable habitat in areas immediately adjacent to the Project Area, populations of common wildlife species would not likely be impacted by the Proposed Action.

Based on the lack of documented caves, documented aggregations of migratory birds, and negative search results from the USFWS IPAC the Proposed Action is unlikely to affect populations of migratory birds and unique or important karst habitats.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on terrestrial wildlife as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts on terrestrial wildlife.

4.2.4.2 Threatened and Endangered Species (Wildlife)

A review of terrestrial animal species in the TVA Regional Heritage Database on September 24, 2021, returned one state-listed terrestrial animal species (osprey (*P. haliaetus*)) and no federally listed species within three miles of the Project Area. One federally listed species is known from Tipton County, Tennessee (northern long-eared bat (*Myotis septentrionalis*)). The USFWS also has determined that the federally listed Indiana bat (*Myotis sodalis*) and the monarch butterfly (*Danaus plexippus*), a candidate for federal listing, have the potential to occur in the Project Area. Thus, habitat suitability and potential impacts to these species also will be addressed (**Table 4-1**).

Table 4-1. Federally Listed Terrestrial Animal Species Reported from Tipton County, Tennessee and Other Species of Conservation Concern Documented within Three Miles of the Project Area for Tipton County, Tennessee[1]

Common Name	Scientific Name	Status[2]	
		Federal	State[3] (Rank[3])
Birds			
Osprey	*Pandion haliaetus*	-	-(S3)
Invertebrates			
Monarch butterfly	*Danaus plexippus*	C	-(S1)
Mammals			
Gray bat	*Myotis grisescens*	E	E(S2)
Indiana bat	*Myotis sodalis*	E	E(S1)
Northern long-eared bat	*Myotis septentrionalis*	T	T(S1S2)

[1]Source: TVA Regional Natural Heritage Database, extracted 9/24/2021 and USFWS Information for Planning and Consultation (IPaC) resource list (https://ecos.fws.gov/ipac/), accessed 9/24/2021.

[2]Status Codes: C = Candidate species; D = Deemed in Need of Management; E = Endangered; T = Threatened.

[3]State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable

Osprey can be found near rivers, lakes and other large bodies of water. Osprey primarily nest over water, constructing large stick nests on trees or non-natural objects like poles or transmission structures (TWRA 2022). Seven osprey nests have been reported within three miles of the Project Area, the closest of which is approximately 0.95 miles away.

The Indiana bat hibernates in caves during winter and inhabits forested areas around these caves for swarming (mating) in the fall and staging in the spring, prior to migration to summer habitat. During summer, Indiana bats roost under exfoliating bark and in cracks and crevices of trees. These trees are typically located in mature forests with an open understory and a nearby source of water. Indiana bats are known to change roost trees frequently throughout the season, yet still maintain site fidelity, returning to the same summer roosting areas in subsequent years (Pruitt and TeWinkel 2007; Kurta et al. 2002). The USFWS has determined that this species has the potential to occur statewide in Tennessee; however, no records are known from Tipton County, Tennessee (USFWS 2022a; TNBWG 2022).

The northern long-eared bat predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the fall and spring, they utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. Roost selection by northern long-eared bat is similar to Indiana bat; however, it is thought that northern long-eared bats are more opportunistic in roost site selection. 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 2014). The USFWS has determined that this species has the potential to occur statewide in Tennessee. There is one known record from Tipton County, approximately 11.9 miles from the Project Area (USFWS 2022b).

No known caves or suitable winter roosting structures for either Indiana bat or northern long-eared bat exist in the Project Area. No suitable winter roosting structures are known within 3 miles of

the Project Area. Summer roosting habitat for these species is not present within the Project Area. Foraging habitat is present over one wetland, but the wetland would be avoided.

The monarch butterfly is a highly migratory species, with eastern United States (U.S.) populations overwintering in Mexico. Monarch populations typically return to the eastern U.S. in April (Davis and Howard 2005). Summer breeding habitat requires milkweed plant species, on which adults exclusively lay eggs for larvae to develop and feed on. Adults drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2021). The edges of the fields within the Project Area have some potential to contain some wildflower and other flowering plant species that could provide suitable foraging. However, due to the intense agricultural use of the site for some time, no significant quantity of flower plants is likely to occur in the Project Area. 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.

Under the Action Alternative, TVA would provide funds to assist with the grading of the site by the CIDB. Impacts were assessed for four terrestrial animal species with the potential to occur in the Project Area. Due to the distance away from known nests (0.95 miles or greater) and lack of suitable foraging habitat, osprey would not be impacted by the Proposed Action.

Monarch butterfly foraging habitat may exist in small, narrow strips along field edges that have not been impacted by agricultural crop production. Grading would impact monarch butterfly foraging habitat should it occur in the Project Area. However, these impacts are expected to be minor due to the small quantity of habitat potentially present. This species is currently identified under the Endangered Species Act (ESA) as a candidate species and is not subject to Section 7 consultation under the ESA. Significant impacts to the monarch butterfly are not anticipated as a result of the Proposed Action.

No caves or other hibernacula for Indiana bat or northern long-eared bat exist in the Project Area or would be impacted by the Proposed Action. No suitable summer roosting habitat would be removed since tree clearing is not a part of the Proposed Action. One wetland in the Project Area may project a small amount of foraging habitat, however this wetland would be avoided during proposed grading activities.

Activities associated with the proposed project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2), which was completed in April 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures are identified on page 5 of the TVA Bat Strategy Project Screening Form (Attachment 2) and need to be reviewed/implemented as part of the Proposed Action.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on threatened and endangered terrestrial wildlife as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts on threatened and endangered terrestrial wildlife.

4.2.5 Botany

4.2.5.1 Vegetation

The Project Area is located in the Mississippi Valley Loess Plains ecoregion, which stretches from near the Ohio River in western Kentucky to Louisiana. It consists primarily of irregular plains, with oak-hickory and oak-hickory-pine natural vegetation. Thick loess tends to be the distinguishing characteristic. With flatter topography than the Southeastern Plains to the east, streams tend to have less gradient and more silty substrates. In Tennessee, agriculture is the dominant land use (USGS 2022).

Based on existing studies and a desktop review of past and current conditions, the Project Area has been in use for agricultural purposes, most recently in the summer of 2021, for row crops including soybeans.

According to the 2018 Phase I ESA, based on a review of historic aerial photographs (oldest dated 1970) and anecdotal information collected during the assessment, the Project Area appears to have been cultivated farmland since at least 1970 (ACI 2018).

While the existing land use of the Project Area is agricultural, it is zoned for industrial manufacturing. The most recent field review of the Project Area was conducted in January 2022 for the purposes of conducting a Phase I cultural resources investigation. At the time of the investigation, the 165-acre Project Area primarily consisted of recently harvested agricultural land covered in low grass and weeds (Cardno 2022). In addition, the Project Area contained a gravel parking lot in the northern most section, several drainage ditches, and areas of standing water.

Implementation of the Action Alternative would not result in negative impacts to native vegetation on any appreciable scale. Tree clearing is not part of the Proposed Action. Adoption of this alternative would result in disturbance of the entire Project Area. All vegetation would be removed and the area would be graded. Impacts to vegetation may be permanent, but the vegetation found within the Project Area is comprised of non-native weeds and early successional plants that have little conservation value and was previously comprised of mono-cultured row crops.

Under the No Action Alternative, if the County were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts to vegetation as those described above for the Action Alternative. If the County were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts to vegetation.

4.2.5.2 Threatened and Endangered Species

A December 2021 query of the TVA Regional Natural Heritage Database indicates that no federally listed plant species have been previously reported from within a five-mile vicinity of the proposed Project Area or within Tipton County, Tennessee.

A total of four state-listed plant species have been previously reported within Tipton County, three of which are also within a five-mile vicinity of the proposed Project Area, including American ginseng (*Panax quinquefolius)*, bay (red) starvine (*Schisandra glabra)*, earleaf foxglove (*Agalinis auriculata)*, and reniform sedge (*Carex reniformis)*. **Table 4-2** shows the State listing and ranking of the species occurring within Tipton County.

Table 4-2 Plant Species of Conservation Concern Previously reported within Tipton County, Tennessee[1]

Common Name	Scientific Name	Federal Status[2]	TN State Status[2]	State Rank[3]	Habitat[4]
PLANTS					
American ginseng[5]	*Panax quinquefolius*	–	S-CE	S3S4	Rich woods
Bay (red) starvine[5]	*Schisandra glabra*	–	T	S2	Rich mesic woods, bluffs
Earleaf foxglove[5]	*Agalinis auriculata*	–	E	S2	Barrens, prairies
Reniform sedge	*Carex reniformis*	–	S	S1	Shallow water

[1] Source: TVA and Tennessee Natural Heritage Database, queried December 2021

[2] Status Codes: T = Threatened; S = Special Concern; E = Endangered; CE = Commercially Exploited

[3] State Ranks: S1 = Extremely rare and Critically Imperiled; S2 = Very rare and Imperiled; S3 = Rare and uncommon; S4 = Widespread

Habitat: TDEC 2022b

[5] Species occur within 5 miles of the Project Area as well

Based on previous reports and studies detailing on-site conditions, the entirety of the Project Area has been highly disturbed by agricultural activity and is populated primarily with non-native species. No designated critical habitat for plants occurs in the Project Area. Previous agricultural activities within the Project Area have resulted in significant disturbance that makes the parcel unsuitable for threatened or endangered plant species. In 2018, a rare species review was conducted by TDEC Division of Natural Areas on the 100-acre northern portion of the Project Area. TDEC consulted their rare species database and determined that based on the habitat within that portion of the Project Area, that there would be no impacts to rare, threatened, or endangered species under TDEC's jurisdiction provided that BMPs to address erosion and sediment are implemented and maintained during grading activities (TDEC 2018). Therefore, impacts to sensitive botanical species are expected to be insignificant.

Similar to the Action Alternative, under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be no direct or indirect impacts to state and federally listed threatened and endangered plant species. If the CIDB were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, also resulting in no impacts to state and federally listed threatened and endangered plant species.

4.2.6 Archaeology and Historic Structures and Sites

Historic and cultural resources, including archaeological resources, are protected under various federal laws, including: the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act (NHPA). Section 106 of the NHPA requires federal agencies to consult with the respective State Historic Preservation Officer (SHPO) when proposed federal actions could affect these resources.

TVA determined that the Proposed Action Alternative is an "undertaking" as defined by the regulations under NHPA. Once an action is determined to be an undertaking, the regulations require agencies to consider whether the proposed activity has the potential to impact historic

properties. If the undertaking is such an activity, then the agency must follow the following steps: (1) involve the appropriate consulting parties; (2) define the Area of Potential Effect (APE); (3) identify historic properties in the APE; (4) evaluate possible effects of the undertaking on historic properties in the APE; and (5) resolve adverse effects (36 CFR § 800.4 through 800.13). An APE is defined as the "geographic area or areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR § 800.16). TVA recommends that the APE be considered as the total area within which the proposed grading would take place (165 acres), where physical effects could occur as well as areas within a half-mile radius of the project within which the project would be visible where visual effects on historic structures could occur.

TVA contracted with Cardno to carry out an archaeological and architectural survey for the project APE, which was conducted on January 4-8, 2022 and to write a report titled, *Phase I Cultural Resource Investigation Rialto Industrial Park, Covington, Tipton County, Tennessee*. TVA determined that the survey and the report are consistent with the *Secretary of Interior's Standards and Guidelines for Identification* (National Park Service [NPS](1983).

4.2.6.1 Archaeology

Cardno's background research did not identify any previously known archaeological sites within the APE. The Phase I archaeological survey identified two new archaeological sites, 40TP155 and 40TP156, within the APE. These sites are small, early to mid-20th century historic-period refuse scatters associated with rural domestic occupations. Both sites have been significantly impacted by modern agriculture and little material remains from the occupations. Based on the shovel test results, significant deposits are doubtful and both sites are unlikely to yield additional information important to the history of the county, state, or region. Cardno recommends these sites as ineligible for listing in the National Register of Historic Places (NRHP) and no further archaeological work is recommended. TVA received concurrence from the Tennessee Historical Commission on March 14, 2022, with the report's findings.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on archaeological resources as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts on archaeological resources.

4.2.6.2 Historic Structures and Sites

Cardno documented and evaluated 13 architectural resources (HS-1 through HS-13). Twelve of these resources are newly recorded properties and one is a previously surveyed resource (HS-10/TP-61). Cardno recommends that HS-1 through HS-13 are not eligible for the NRHP. This recommendation was made for the following reasons:

- alterations and deteriorations that seriously undermine architectural integrity;
- lack of documented architectural significance; and
- lack of documented historic significance.

HS 8, the Canadian National Railroad which runs adjacent to the project, is a potentially significant resource. However, Cardno has determined that it lacks integrity, and is thus recommended not eligible for the NRHP.

TVA agrees with the findings and recommendations of Cardno's survey report. TVA received concurrence from the Tennessee Historical Commission on March 14, 2022, with the report's findings. TVA therefore finds that the proposed undertaking would result in no effects to historic properties included in, or eligible for inclusion in, the NRHP.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on historic structures and sites as those described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur and there would be no impacts on historic structures and sites.

4.2.7 Visual Resources

The Project Area is approximately 165 acres consisting mainly of agricultural and open land. The Project Area is bordered by agricultural lands to the east and west, industrial development to the north-northwest, an area of forest to the northeast, and rural residences and agricultural lands to the south. The visual landscape consists of rural, flat areas with primarily agricultural land and open fields, some scattered riparian corridors, as well as industrial development adjacent to the Project Area. The Hatchie River, a Tennessee Scenic River, is approximately 1.2 miles northeast of the Project Area.

The Project Area would be directly adjacent to Tennessee Highway 51 to the west-southwest and Canadian National Railroad to the east-southeast. There are no trees or visual screening between Highway 51 and the Project Area. Residences occur sporadically, primarily to the south of the Project Area. There is a tree line between the Canadian National Railroad and the Project Area that diminishes somewhat to the north. Three residences immediately west of Highway 51 near the southwestern corner of the Project Area would have a direct line of sight to the Project Area. A tree line and a riparian corridor east of the Canadian National Railroad would provide some visual screening between the residences located to the east of the railway right-of-way and the Project Area.

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 rough grading. Drivers along Highway 51 would have direct views of the Project Area; however, there are other industrial areas along the roadway within 0.5 mile, and any changes to the views would be similar to other areas along the road. The land along Highway 51 is dominated by agricultural/pastureland, industrial areas, and some residences. While motorists using Highway 51 may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. The views from the residences southwest and east of the Project Area would experience a minor change. Current views from those areas would change from open agricultural land including row crops to developed industrial land available for development, but with other industrial facilities already located in the immediate vicinity. Implementation of the Action Alternative would result in a minor decrease in visual quality for residents in the viewshed.

Under the No Action Alternative, if the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, the proposed work would occur, resulting in similar direct and indirect visual quality impacts as described above for the Action Alternative. If the CIDB were not able to secure the funding for the actions described in this EA, the proposed work would not occur, and existing site conditions would likely be maintained resulting in no visual quality impacts.

4.2.8 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 are primarily associated with traffic along the surrounding roads and the surrounding businesses and residences.

Noise impacts associated with construction activities under the Action Alternative would be primarily from the heavy equipment used. Construction activities would involve operation of an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery over the temporary duration of construction. Heavy equipment noise levels are rarely steady; fluctuate depending on the number and type of vehicles and equipment in use at any given time, and would occur for only a few weeks. 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.

Primary sensitive noise receptors in the area include the businesses directly north adjacent to the Project Area (Unilever Covington), as well as the residences south and east of the Project Area. The noise would be localized and temporary, and no receptor would be exposed to significant noise levels for an extended period of time. Further, construction activities would be conducted during daylight hours and only when ambient noise levels are often higher, and most individuals are less sensitive to noise. Thus, noise-related impacts resulting from implementation of the Action Alternative are anticipated to be temporary and minor.

If the CIDB were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be no impacts to noise receptors. If the CIDB were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, also resulting in no impacts to noise receptors.

4.2.9 Socioeconomics and Environmental Justice

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 a disproportionate and adverse impact 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 (Tipton), and locality (Covington, Tennessee) (**Table 4-3**). Details of the Action Alternative were then used to evaluate likely effects on existing socioeconomic

resources. The demographics and income of the host counties and locality were considered, relative to the demographics and wealth levels at the state level, to identify the potential for a disproportionate and adverse impact on minority and low-income populations, which is commonly referred to as an evaluation of Environmental Justice.

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

	Tennessee	Tipton County	Covington, Tennessee
Population [1]			
April 2020 Population	6,910,840	60,970	8,663
April 2010 Population	6,346,105	61,081	9,038
Population, Percent Change	8.9%	0.2%	- 4.1%
Population per Square Mile	153.9	133.3	790.8
Demographics [1]			
White Alone, not Hispanic or Latino	73.5%	75.6%	46.9%
Black or African American Alone	17.1%	18.5%	48.6%
American Indian and Alaska Native Alone	0.5%	0.5%	0.0%
Asian Alone	2.0%	0.8%	0.0%
Native Hawaiian and Other Pacific Islander Alone	0.1%	0.1%	0.0%
Two or More Races	2.0%	2.2%	2.5%
Hispanic or Latino (of any race)	5.7%	2.9%	1.8%
Income [1]			
Median Household Income	$53,320	$61,291	$32,568
Per Capita Income	$29,859	$28,457	$23,400
Percent with Income Below the Poverty Level	13.6%	12.7%	24.7%
Employment (Not Seasonally Adjusted): October 2021 [2]			
Labor Force	3,296,326	27,740	(Not Available)
Employed	3,186,080	26,749	(Not Available)
Unemployed	110,246	991	(Not Available)
Unemployment Rate (%)	3.3%	3.6%	(Not Available)

[1] Source: United States Census Bureau (2022)
[2] Source: United States Bureau of Labor Statistics (2022)

The evaluation of Environmental Justice determined the following:

- Relative to the average Tennessee resident, the residents of Tipton County live at a lower population density and lower population growth. Relative to the average Tennessee resident, the residents of Covington, Tennessee live at much greater population density but much lower population growth.
- Relative to the average Tennessee resident, the residents of Tipton County are less likely to self-identify as a minority race or ethnicity. Relative to the average Tennessee resident, the residents of Covington, Tennessee are much more likely to self-identify as a minority race or ethnicity.
- Per capita income in Tennessee is greater than in Tipton County and in Covington, Tennessee. Median household income in Tennessee is lower than in Tipton County, but greater than in Covington, Tennessee. Residents of Tipton County are less likely to live below the poverty level than residents of Tennessee as a whole. Residents of Covington, Tennessee are more likely to live below the poverty level than residents of Tennessee as a whole.
- The unemployment rate in Tipton County is higher than the statewide unemployment rate in Tennessee.

There are several large subdivisions within 0.5 mile of the southern end of the Project Area. EPA's EJScreen Tool identified the following demographic characteristics for this area. Relative to the state, these neighborhoods in aggregate have a higher percentile population of color, a similar level of low-income population, higher rates of linguistic isolation and have a similar level of population with less than high school education.

As described in Section 1.0 (Proposed Action and Need), the Action Alternative would include rough grading including cut and fill with 112,000 CY of on-site soil. In addition, erosion prevention, sediment control and stabilization activities would also be undertaken after grading activities are completed. This effort is expected to take place over a 3-month period and would require a small workforce, likely drawn from a local contractor. Implementation of the Action Alternative is not anticipated to materially impact the local economy nor the local workforce. In addition, no negative socioeconomic impacts are expected from the Proposed Action; therefore, no disproportionate negative impacts are anticipated to minority or economically disadvantaged 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 a disproportionate and adverse impact 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 approximate 165-acre Project Area.

Under the No Action Alternative, if the CIDB was able to secure the funding for the actions described in this EA from outside sources, similar activities would occur which would result in socioeconomic impacts similar to those described in the preceding paragraph. If the CIDB was

not able to secure the funding for the action, the economic activity and socioeconomic changes would not occur.

4.2.10 Transportation

The Project Area likely would be accessed during construction activities from Charles Smith Street or Witherington Drive. The entrances to the Project Area would be located on the northwest corner for Charles Smith Street or the northern corner for Witherington Drive.

Charles Smith Street is a local road that provides access to the Project Area and an industrial development. Charles Smith Street is paved along its length and is sufficiently wide for a single lane of traffic in each direction. Based on observations during cultural resources field studies performed in January 2022 the road is in good condition with narrow grassy verges. Necessary precautions would be expected to be taken during mobilization and de-mobilization such as reduced speed in areas of poor visibility or poor road condition, with other precautions such as a flagman or traffic control to be considered if required. Charles Smith Street terminates to the west at Highway 51.

Witherington Drive is a local road that provides access to the Project Area and multiple industrial developments. Witherington Drive is paved along its length and is sufficiently wide for a single lane of traffic in each direction. Based on observations during cultural resources field studies performed in January 2022 the road is in good condition with narrow grassy verges. Necessary precautions would be expected to be taken during mobilization and de-mobilization such as reduced speed in areas of poor visibility or poor road condition, with other precautions such as a flagman or traffic control to be considered if required. Witherington Drive terminates to the west at Highway 51 and Rialto Road to the north.

Highway 51 provides access to multiple commercial and residential properties to the north and south. Based on observations during cultural resources field studies performed in January 2022, the road is in good condition, has wide vegetated verges, is sufficiently wide for two lanes of traffic in each direction, and has dedicated turning lanes to Charles Smith Street and Witherington Drive. Highway 51 is defined as a Principal Arterial by the Functional Classification System for Covington, Tipton County (Tennessee Department of Transportation [TDOT] 2019). Normal care would be expected to be taken by workers entering Highway 51 with regards to traffic safety.

There are no traffic count stations located on Charles Smith Street or Witherington Drive. It is anticipated that existing traffic volumes for these local roads would be minor as they provide access to a limited number of other sites. Because of the anticipated limited volume of workers on the site required for grading and the short timeframe of the proposed work, direct or indirect impacts to local traffic, including the adjacent Unilever facility, are anticipated to be temporary and minor.

Based on a review of TDOT historical traffic data (TDOT 2020) the nearest traffic count station is located on Highway 51. The 2020 annual average daily traffic count (AADT) for the relevant station is presented in **Table 4-4** below.

Table 4-4. Tennessee Department of Transportation Traffic Count Data for the Project Area[1]

Route Description	Location ID	Distance from Project Area (Miles)	Year	AADT
United States Highway 51	84000135	0.08	2020	13,513

[1] Source: Tennessee Department of Transportation (Annual Average Daily Traffic (AADT) (tn.gov)), extracted 1/21/2022.

In the context of the existing AADT road volumes of these highways, the anticipated traffic generated by the proposed activities would be minor. It is anticipated that implementation of the Action Alternative would generate minor traffic associated with construction activities and have a temporary and negligible impact on overall traffic volumes and level of service of Highway 51.

Under the No Action Alternative, if the CIDB were able to secure the funding for the actions described in this EA from outside sources, or if the CIDB were to proceed without any supplemental funding, construction of project components would occur, also resulting in temporary and negligible impact on overall traffic volumes and level of service. If the CIDB were not able to secure any funding for the actions described in this EA there would be no impact to overall traffic volumes and level of service.

5.0 PERMITS, LICENSES, AND APPROVALS

The Action Alternative would result in greater than one acre of earth disturbing activities; therefore, it would be necessary for the CIDB, or its contractors, to obtain local, state, or federal permits, licenses, and approvals necessary for the project for coverage under the applicable NPDES General Permit for Discharges Associated with Construction Activity (TNR100000). Coverage would require submittal of a Notice of Intent (NOI) and development of a site-specific SWPPP.

6.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

To minimize or reduce the environmental effects of site activities associated with the Action Alternative, the CIDB, or its contractors, are expected to ensure all grading activities conducted are 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 are expected to be handled outside of riparian areas and in such a manner as to prevent these items from reaching a watercourse. Earthen berms or other effective means are expected to be installed to protect nearby stream channels from direct surface runoff. 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 are expected to be collected and disposed of properly.

Specific avoidance and conservation measures would be implemented as a part of the Action Alternative to reduce effects to Indiana bat and NLEB. These measures are identified in the TVA Bat Strategy Project Screening Form (Attachment 2).

7.0 LIST OF PREPARERS

Table 7-1 summarizes the expertise and contribution made to the EA by the Project Team.

Table 7-1. Environmental Assessment Project Team

Name/Education	Experience	Project Role
TVA		
Brooke Davis B.S. Forestry/ Wildlife Biology and B.S. Environmental Science	22 years in Project Management, Managing and Performing NEPA Analyses; ESA Compliance; CWA Evaluations; NHPA Compliance	Economic Development Grant Project NEPA Compliance Manager
Adam Dattilo M.S., Forestry; B.S., Natural Resource Conservation Management	21 years in ecological restoration and plant ecology, 16 years in botany	Botany, Threatened and Endangered Species QA/QC
Kerry Nichols *Ph.D. Anthropology, M.A. Anthropology, B.A. Political Science*	21 years of experience as a field archaeologist and SHPO project reviewer	Cultural resources, NHPA Section 106 compliance
Craig Phillips *M.S., and B.S., Wildlife and Fisheries Science*	15 years Sampling and Hydrologic Determinations for Streams and Wet-Weather Conveyances; 10 years in Environmental Reviews	Aquatic Ecology
Carrie Williamson, P.E., CFM *B.S. and M.S., Civil Engineering*	9 years in Floodplain and Flood Risk; 11 years in Compliance Monitoring; 3 years in River Forecasting	Floodplains QA/QC
Elizabeth Burton Hamrick *M.S., Wildlife and Fisheries Science, University of Tennessee* *B.A., Biology, B.A., Anthropology, Grinnell College*	22 years in biological field studies, 9 years in biological compliance, NEPA compliance, and ESA consultation for T&E terrestrial animals.	Terrestrial zoology, threatened and endangered species
Cardno		
Douglas Mooneyhan *M.S., Biology, Tennessee Technological University* *B.S., Wildlife and Fisheries Science, University of Tennessee*	31 years in managing and performing environmental studies, Project Manager for a variety of different project types including NEPA, construction monitoring, natural resources, water resources, and fisheries biology.	EA Program Manager QA/QC

Name/Education	Experience	Project Role
Amanda Koonjebeharry, PMP *B.S, Zoology and Botany, University of the West Indies*	20 years in environmental resource surveys and permitting, including EIS and EA preparation, compliance monitoring, state and federal wetland and waterbody permitting and mitigation, protected species surveys and coordination, and wetland delineations.	EA Project Manager QA/QC Purpose and Need, Air Quality and Climate Change, Other Environmental Documentation, Alternatives, Site Description, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures
Jaclyn Martin *M.S., Environmental Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden* *M.S., Environmental Sciences, University of Natural Resources and Life Sciences, Vienna, Austria* *B.S., Biology, Winthrop University, South Carolina*	8 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.	Air Quality and Climate Change, Visual
Duane Simpson *M.A., Anthropology, University of Arkansas* *B.A., Anthropology, Ohio University*	27 years in archaeological consulting including management of projects across the southeast and midatlantic regions. Principal Investigator for over 15 years.	Archaeology
Rachel Kennedy *M.H.P., Historic Preservation, University of Kentucky* B.A., Political Science and History, University of Kentucky	21 years of experience working in non-profit, governmental, and private sectors with all aspects of preservation planning, from interpretation of the Secretary of the Interior's Standards for the Treatment of Historic Properties to cultural landscape examinations to identifying, evaluating, and listing properties to the NRHP. Meets the Secretary of the Interior's Professional Qualifications Standards for History and Architectural History, per 36 Code of Federal Regulations (CFR), Part 61.	Historic Structures and Sites
Josh Yates, P.G. *M.S., Geology, University of South Florida* *B.S. Natural Resources Management and Engineering, University of Connecticut*	16 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.	Groundwater

Name/Education	Experience	Project Role
Trey Fitzpatrick *M.S., Environmental Management, Samford University* *B.S., Biology, Samford University*	7 years of experience working on natural gas projects primarily in the southeastern United States. Support for projects regulated by the Federal Energy Regulatory Commission, as well as smaller pipeline projects in the southeast, NEPA permitting, FERC licensing and compliance, wetland delineation and mitigation, wildlife and vegetation surveys, and environmental permitting.	Terrestrial Zoology
Sam Waltman *B.S., Marine Biology, Texas A&M University*	13 years in natural resource surveys and permitting, including EIS and EA preparation, field sampling, GIS analysis, USACE jurisdictional delineations, T&E species surveys, hydrogeomorphic assessments, NRDA, Phase 1 ESAs, and environmental compliance monitoring.	Prime Farmland, Managed and Natural Areas, Recreation
Kimberly Sechrist *M.S., Environmental Science, Towson University* *B.S., Biology, McDaniel College (originally Western Maryland College)*	Over 12 years of professional experience in the environmental consulting field. During this time, she has participated in a wide range of projects and tasks including on data validation, chemistry lab coordination and sample tracking, restoration, wetland delineation, endangered species studies and environmental sampling. She has authored numerous Land Use, Recreation, Visual, Socioeconomic, and Environmental Justice resource sections on a variety of third party EAs/EISs.	EA Project Manager QA/QC Purpose and Need, Air Quality and Climate Change, Other Environmental Documentation, Alternatives, Site Description, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures, Noise
Yosef Shirazi, Ph.D. *Ph.D., Marine Policy, University of Delaware* *M.S., Marine Science, University of North Carolina at Wilmington* *B.S., Biology, University of Maryland* *B.S., Environmental Science and Policy, University of Maryland*	11 years of experience in the fields of ecology and economics. He has performed extensive work implementing and interpreting surveys and survey results, valuing ecosystem services, and evaluating the socioeconomic impacts of infrastructure projects. His areas of technical knowledge include welfare economics, biophysical relationships in coastal environments, and regional economics modeling.	Socioeconomics and Environmental Justice
Brenton Jenkins, P.E. *B.S. Environmental Engineering, Louisiana State University*	9 years in environmental consulting for various private and public sector clients, including project management, engineering design, permitting, and assessments, primarily in the oil and gas sector.	Transportation

8.0 AGENCIES AND OTHERS CONSULTED

The following federal and state agencies and federally recognized Indian Tribes were consulted.

- Tennessee Historical Commission
- Absentee Shawnee Tribe of Indians of Oklahoma
- Cherokee Nation
- The Chickasaw Nation
- Eastern Shawnee Tribe of Oklahoma

- Jena Band of Choctaw Indians
- The Quapaw Nation
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians of Oklahoma.

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