

Document Type: EA-Administrative Record
Index Field: Environmental Assessment
Project Name: Economic Development Grant
Pontotoc County, MS (Pontotoc)
Project Number: 2021-6

**ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR
PONTOTOC INDUSTRIAL PARK
ENVIRONMENTAL ASSESSMENT
Pontotoc County, Mississippi (Pontotoc)**

Prepared by:
TENNESSEE VALLEY AUTHORITY
Knoxville, Tennessee

March 2021

For Information, contact:
Ashley Pilakowski
NEPA Compliance
Tennessee Valley Authority
400 West Summit Hill Drive, WT 11B
Knoxville, Tennessee 37902-1499
Phone: 865-632-2256
Email: aapilakowski@tva.gov

This page intentionally left blank

Table of Contents

1.0	Proposed Action and Need	1
2.0	Other Environmental Reviews and Documentation	3
3.0	Alternatives	4
4.0	Affected Environment and Anticipated Impacts	5
4.1	Site Description.....	5
4.2	Impacts Evaluated	5
4.2.1	Air Quality and Climate Change.....	6
4.2.2	Groundwater.....	8
4.2.3	Surface Water.....	9
4.2.4	Wetlands	11
4.2.5	Aquatic Ecology.....	14
4.2.6	Terrestrial Zoology.....	14
4.2.7	Botany	16
4.2.8	Prime Farmland	18
4.2.9	Archaeology and Historic Structures and Sites	19
4.2.10	Visual	21
4.2.11	Noise	22
4.2.12	Socioeconomics and Environmental Justice	23
4.2.13	Transportation	25
5.0	Permits, Licenses, and Approvals	27
6.0	Best Management Practices and Mitigation Measures	27
7.0	List of Preparers	28
8.0	Agencies and Others Consulted	31
9.0	References	31

List of Tables

Table 4-1	Designation for Waterbodies in the Project Area.....	9
Table 4-2	Wetlands Identified in the Project Area	12
Table 4-4	Plant Species of Conservation Concern Previously Reported from within Five Miles of the Pontotoc Industrial Park ¹	17
Table 4-5	Soils Identified within the Project Area	18
Table 4-6	Farming Statistics for Pontotoc County, MS	19
Table 4-7	Cultural Resources Identified during the Archaeological and Architectural Survey	20
Table 4-8	Population, Demographics, Income, and Employment	23
Table 7-1	Environmental Assessment Project Team.....	28

List of Figures

Figure 1. Project Location Map 2

List of Attachments

Attachment 1 – Project Figures

Figure 1-A: Aerial

Figure 1-B: Proposed Activities

Figure 1-C: USGS Quadrangle

Figure 1-D: FEMA Floodplain

Figure 1-E: USFWS NWI and Water Resources Inventory Map

Figure 1-F: Wetlands and Waterbodies Map

Figure 1-G: NRCS Soils Map

Attachment 2 – TVA Bat Strategy Project Screening Form

Attachment 3 – Agency Correspondence

3-A: Mississippi Department of Archives and History / State Historic Preservation Office

3-B: Federally Recognized Indian Tribes

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 Pontotoc County, Mississippi with involvement by the Three Rivers Planning and Development District (TRPDD) to assist with the development of the Pontotoc Industrial Park (PIP). The area of potential effect (APE) for TVA's proposed action (herein referred to as the Project Area) comprises approximately 29 acres within the existing 98-acre PIP located along Highway 345 and Magee Drive in the City of Pontotoc, Pontotoc County, Mississippi (MS) (see Figure 1-1 and Attachment 1, Figure 1-A). TVA funds would be used to assist with:

- tree clearing, grubbing, and cut and fill earthwork at two building pad areas, approximately 17 acres at the western pad (with 11 acres of pad grading and compacting earthwork) and approximately 10 acres at the eastern pad (with 6 acres of pad grading and compacting earthwork);
- development of a Y-shaped access/haul road in the central portion of the site linking both pads to Magee Drive during construction;
- 19 geotechnical borings;
- construction of a 300,000 gallon elevated water tower, and associated laydown and utility work area, with construction of a gravel access road to the water tower; and
- extension of a 10-inch-diameter sewer line to the PIP from an existing 15-inch-diameter sewer line located approximately 1,755 feet away.

The purpose of the Proposed Action is to improve the ability of the community to market the PIP to prospective clients by conducting site preparation and improvement activities, increasing the likelihood of recruiting a new industry to the PIP. Proposed improvements will lead to an increased probability of achieving TVA's core mission of job creation and capital investment. Target industries for the PIP include automotive suppliers, specifically suppliers to Toyota in Blue Springs, MS and Toyota-Mazda in Huntsville, Alabama. This Environmental Assessment (EA) assesses the environmental resources that would potentially be affected by TVA's Proposed Action. TVA's decision is whether or not to provide the requested funding to Pontotoc County.

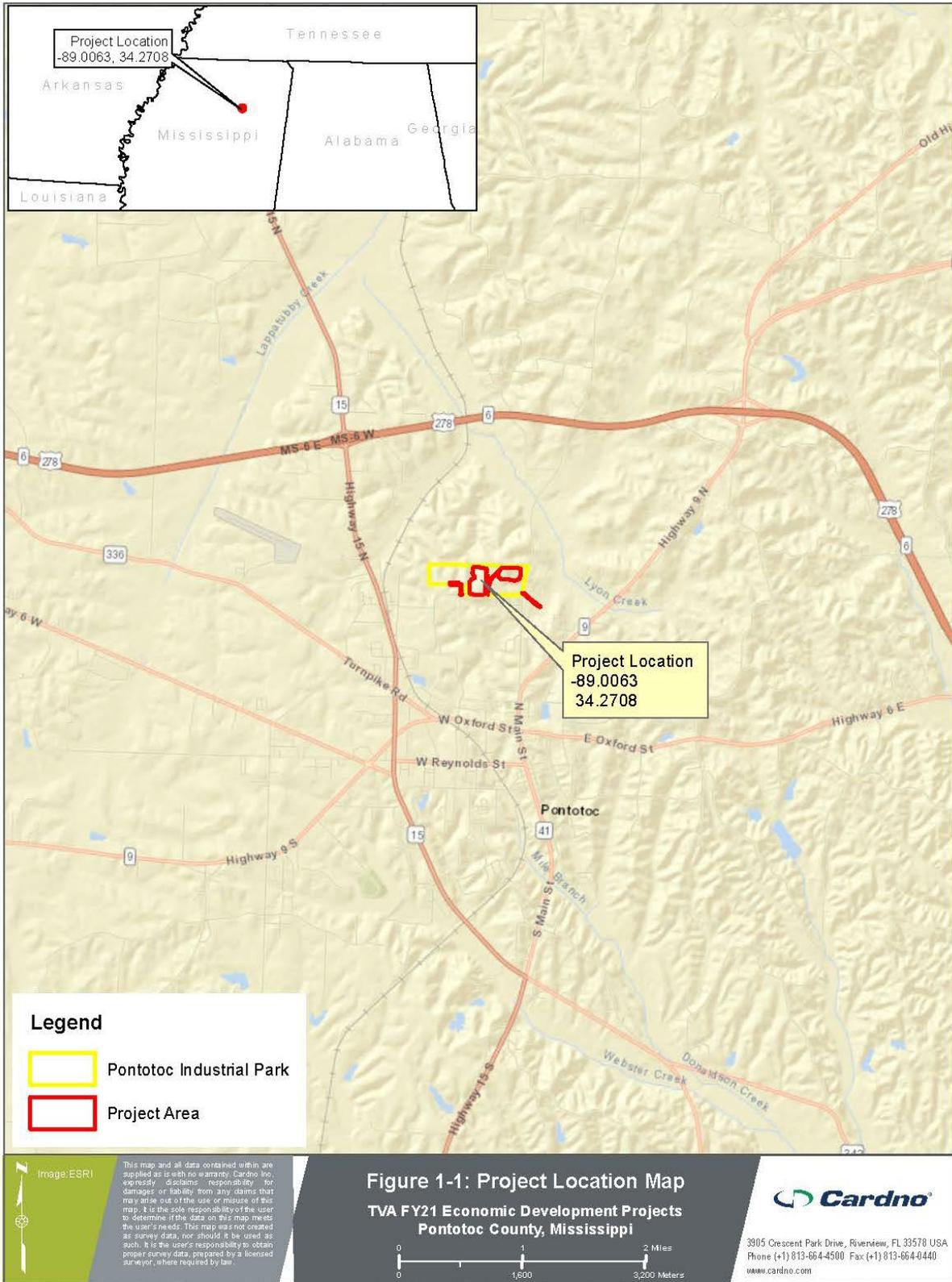


Figure 1. Project Location Map

2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

A Phase I Environmental Site Assessment of the 98-acre PIP, including the 29-acre Project Area, was performed consistent with the procedures included in ASTM E 1527-05 (Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process) by Wildlife Technical Services, Inc. (WTSI) in October and November 2008 (WTSI 2008a). The primary purpose of the Phase I Environmental Site Assessment was to identify the presence of recognized environmental concerns or other environmental liabilities within the Project Area. The Phase I Environmental Site Assessment did not indicate the presence of any adverse environmental conditions at the property. Additionally, no off-site regulatory issues potentially affecting the site were documented.

A Preliminary Geotechnical Investigation of the Project Area was performed by Aquaterra Engineering, LLC (AE) in December 2008 (AE 2008). The primary purpose of the Preliminary Geotechnical Investigation was to document the soils, groundwater characteristics, and subsurface conditions within a 108-acre area that included the 29-acre Project Area. The study noted that high plasticity clay and moisture-sensitive soils were present requiring consideration during development of the grading plan and structure/pavement design. However, the soils were not considered to be a major issue. Typical soil mitigating factors would include separating the building or pavement from the subject soils with a layer of non-expansive soil, use of drying agents during wet season construction if applicable, and other measures as needed. No groundwater was encountered at the four soil borings, which ranged from 25-feet to 50-feet in depth. Groundwater levels can vary seasonally.

A cultural resources survey of a 100-acre area, that included the 29-acre Project Area, was conducted on behalf of WTSI in November 2008 (Johnson 2008). No cultural resources were found and no other cultural resources work was recommended. The Mississippi Department of Archives and History (MDAH) concurred with the study's findings. (MDAH 2008).

A preliminary environmental review of an approximately 100-acre area, that included the 29-acre Project Area, was performed in 2008 (WTSI 2008b). The preliminary study did not identify the presence of regulated waters or wetlands, federally endangered or threatened species, historic structures, or hazardous materials. The United States Army Corps of Engineers (USACE 2009) concurred with the findings that no jurisdictional waters were present at the site. Further, the United States Fish and Wildlife Service (USFWS) concurred with the findings that no federally-listed species were present at the site (USFWS, 2008).

Reports for a Jurisdictional Waters Determination - Environmental Report (Cardno 2021) and a Phase I Cultural Historic Survey (Ambrosino et al. 2021) were prepared by Cardno, Inc. (Cardno) in January 2021 and February 2021, respectively. The findings of these studies are discussed further below.

The Phase I Environmental Site Assessment, Preliminary Geotechnical Investigation Report, 2008 cultural resources survey, 2008 preliminary environmental review, and Cardno's 2021 reports 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 the National Environmental Policy Act (NEPA): the No Action Alternative and the Action Alternative.

The No Action Alternative

Under the No Action Alternative, TVA would not provide InvestPrep funds to Pontotoc County. 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. The Appalachian Regional Commission (ARC) awarded Pontotoc County a grant for the same Project scope. If Pontotoc County was to obtain alternate supplemental funding beyond that provided by the ARC and/or proceed with its current plans without supplemental funding, the overall environmental consequences would be similar to those anticipated from implementing the Action Alternative. If the Project is postponed, 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.

The Action Alternative

Under the Action Alternative, TVA would provide InvestPrep funds to Pontotoc County to assist with site preparation and improvements of the PIP, including: tree clearing and grubbing, geotechnical borings, grading and compacting of two building pads, construction of a 300,000 gallon elevated water tower, construction of a gravel access road to the water tower, and the extension of a 10-inch-diameter sewer line to the PIP from an existing 15-inch-diameter interceptor sewer line (Attachment 1, Figures 1-A and 1-B). Site activities required for the Action Alternative would occur over a short period, approximately 6 months, and would involve operation of an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery. Cleared trees, stumps, vegetation, and debris would be cut and burned on-site. TVA's preferred alternative is the Action Alternative.

It is expected that Pontotoc County/TRPDD 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 Project to insignificant levels. These practices would include installation of sediment and erosion controls (silt fences, sediment traps, etc.), management of fugitive dust, daytime work hours, and other appropriate measures.

The Action Alternative does not include assessment of activities that may be associated with adjacent lots already developed or under construction or the eventual build-out, occupation, and future use of the Project Area. It would be speculative to do so because the future use of the site has not been defined.

4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

4.1 Site Description

The 29-acre Project Area of Potential Effect (APE or Project Area) is located within the existing 98-acre PIP located along Highway 345 and Magee Road in the City of Pontotoc, Pontotoc County, MS. The Project Area is classified as un-zoned, though it is within the boundaries of the previously established industrial park.

The PIP was created in 2009 with the purchase of approximately 100 acres. The approximately 100-acre PIP site was formerly utilized for timber production, and is currently a combination of deciduous forest and herbaceous vegetation along with a pond in the southeast corner of the site, but outside of the Project Area (Attachment 1, Figure 1-A). There are no existing tenants within the PIP, however ESI (a local engineering firm) purchased an adjacent 2 acres in 2017 to construct its office. Existing water, natural gas, and electricity service occur in the immediate vicinity of the site and existing sewer service is located approximately 900 feet to the southeast. Access is provided by Magee Drive to the south. Highway 345 (also known as North Main Street) is located to the east, but without direct access to enter the PIP. Both are paved roads.

The PIP is bordered to the west by forest and pasture, to the southwest by commercial development, to the south by forest, residential lands and Magee Drive, to the east by residential areas and Highway 345/North Main Street, and to the north by forested areas. Topography at the Project Area is gently rolling to flat with elevations ranging between approximately 450 feet to 480 feet mean sea level (MSL) (site topography is depicted on Attachment 1, Figure 1-C). Floodplains in the Project Area are depicted in Attachment 1, Figure 1-D. The east-central portion of the site contains one wet weather conveyance (BWA01) within the Project Area at the eastern building pad. The PIP's southeast corner also contains a pond, but it is located outside the Project Area (Attachment 1, Figures 1-E and 1-F). Two small wetlands are located in the Project Area, WPC01 in the northwest corner of the proposed western building pad and WPC02 where the proposed sewer line intersects with the PIP's southeast corner. No permanent structures are located within the Project Area. Soil types within the Project Area are depicted in Attachment 1, Figure 1-G.

4.2 Impacts Evaluated

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, managed or natural areas, land use, and recreation as discussed below. Therefore, potential impacts to these resources are not described in further detail in this EA.

As noted above, the Phase I Environmental Site Assessment did not indicate the presence of adverse environmental conditions at the property and no solid or hazardous wastes were identified. The Proposed Action would have no impact on solid or hazardous wastes.

Based on Pontotoc County, MS, flood insurance rate map panel number 28115C0150D, effective August 19, 2010, and the Northwest Pontotoc, MS, 1:24,000 topographic map, the only activity proposed within the 100-year floodplain would be a portion of the proposed sewer line (Attachment 1, Figure 1-D). Consistent with EO 11988, an underground sewer line would result in minor impacts. As a mitigation measure to minimize adverse impacts of the Action Alternative, standard BMPs would be used during construction activities. Therefore, the Action

Alternative would not result in significant impacts to floodplains and their natural and beneficial values.

Natural areas include ecologically significant sites; federal, state, or local park lands; national or state forests; wilderness areas; scenic areas; wildlife management areas; recreational areas; greenways; trails; United States National Park Service (NPS) Nationwide Rivers Inventory (NRI) segments; 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 [USDA], United States Forest Service [USFS], State of Mississippi) to protect and maintain certain ecological and/or recreational features. A review of data from the TVA Regional Natural Heritage Database indicates that there are no natural or managed areas within three miles of the Project Area. In addition, there are no developed parks or outdoor recreation areas in the vicinity of the Project Area. The Proposed Action would have no impact on natural or managed areas or recreation sites and their beneficial values. The Project Area is not zoned, and is located within the boundaries of a previously established industrial park, resulting in no effects upon land use.

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, surface water, wetlands, aquatic ecology, terrestrial zoology, botany, prime farmland, 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 U.S.C. 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 Pontotoc County, MS, meets the ambient air quality standards and is in attainment with respect to the criteria pollutants (USEPA 2021).

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 toxics, 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. They 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.

Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment, fugitive dust from ground disturbances, and emissions from the burning of wood debris. Fossil fuel-fired equipment are 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 comply 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). In addition, the Action Alternative would comply with Mississippi Department of Environmental Quality (MDEQ) Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants, 11 Mississippi Administrative Code, Part 2, Chapter 1. Rule 1.3 (D), (1).

Fugitive dust is a source of respirable airborne PM, including PM₁₀ 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. Pontotoc County/TRPDD and their contractors would be expected to comply with MDEQ Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants, 11 Mississippi Administrative Code, Part 2, Chapter 1. Rule 1.3 (C), (2), which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include, but are not limited to the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles as needed.

Many variables affect emissions from ground-level open burning emissions, including wind, ambient temperature, composition and moisture content of the debris burned, and compactness of the pile. In general, the relatively low temperatures associated with open burning increase emissions of NO_x, CO, VOCs, PM₁₀, PM_{2.5}, GHGs, and HAPs. Pontotoc County/TRPDD and its contractors would be subject to local burn permits and the requirements in MDEQ Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants, 11 Mississippi Administrative Code, Part 2, Chapter 1. Rule 1.3 (G), which provides open burning prohibitions, exceptions, and certification requirements.

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, 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. The clearing of approximately 18 acres of land containing trees, saplings, and shrubs for the Action Alternative would result in a minor loss of carbon sequestration capacity in the area since evergreen and deciduous forest habitat is common and well represented throughout the region and in the immediate vicinity of the Project Area.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the proposed TVA-funded actions described in this EA from outside sources, or if Pontotoc County was to proceed without any supplemental funding, similar emissions associated from equipment, ground disturbances, and burning would occur, resulting in similar air quality and climate change impacts as those described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA, emissions associated from equipment, ground disturbances, and burning 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 (NPS 2017). 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 poorly unconsolidated to consolidated clastic sedimentary rocks consisting of sands, clay, limestone, chalk and marl. (United States Geological Survey [USGS] 1995a, USGS 2021).

In northern Mississippi, the principal aquifers in the Coastal Plain Province consist of sedimentary rocks, sand and clay that are primarily Eocene, Paleocene and Upper Cretaceous in age (USGS 2021). The local aquifer systems underlying the Project Area include: (in descending order) the Black Warrior River confining unit, intersected by the McNairy Sand Member of the McNairy-Nacatoch aquifer and the Black Warrior River aquifer (USGS 1996). The Black Warrior River confining unit consists of chalk, shale and clay. The McNairy Sand Member of the McNairy-Nacatoch aquifer consists of sandy limestone, clay and glauconitic sand (USGS 2021). The Black Warrior River aquifer consists of glauconitic quartz sand that is loosely consolidated, and fine to medium grained (USGS 1996). Dissolved solid concentrations for groundwater in the McNairy Sand Member ranges from 500 milligrams per liter (mg/L) to 2,000 mg/L. The Black Warrior River aquifer contains dissolved solid concentrations of 200 mg/L to 1,000 mg/L (USGS 1995b, USGS 1995c). Recharge in the McNairy Sand Member and the Black Warrior River aquifers occurs primarily along areas where the aquifer outcrops and groundwater flow is generally from topographic highs and westward in the McNairy Sand Member; while flow in the Black Warrior River aquifer migrates down gradient into the confined portions of the aquifer and discharges into rivers that have deeply eroded and exposed the aquifer. (USGS 1995b, USGS 1995c).

Implementation of the Action Alternative would result in ground disturbance during construction activities. Tree clearing and grubbing would result in minor ground disturbance at shallow depths. Site grading and compaction for development of the two building pads, construction of a 300,000 gallon elevated water tower, construction of a gravel access road to the water tower, extension and trenching of a 10-inch diameter sewer line from an existing 15-inch diameter

sewer line and geotechnical borings would result in greater ground disturbance at moderate depths. Ground disturbances are not anticipated to be at depths that would intersect public groundwater supplies (typically 100 to 1,000 feet beneath the land surface [USGS 1996]) or result in significant impacts to groundwater resources. This conclusion is supported based on data from the geotechnical borings conducted on-site in the 2008 report “Preliminary Geotechnical Investigation Pontotoc County” conducted by AE, LLC (AE 2008) that indicate the overburden at the Project Area consists mostly of clay indicating the presence of the Black Warrior River confining unit. Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by clearing, and 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 actions would have little to no impacts to groundwater. A Phase I Environmental Site Assessment was completed in December 2008 by WTSI, Inc. (WTSI 2008a), which indicated the Project Area is undeveloped and there was no discovery of adverse environmental conditions in the Project Area. Historical land use of the Project Area was primarily timber production. As such, it is not anticipated that construction activities would encounter significant areas of hazardous substances during the aforementioned site improvements. Furthermore, it is expected that Pontotoc County/TRPDD or their contractors would conduct operations involving chemical or fuel storage, resupply, and equipment and vehicle servicing with care to avoid leakage, spills, and subsequent groundwater contamination. Implementation of the Action Alternative would have insignificant effects upon groundwater.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the proposed TVA-funded actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, similar ground disturbance would occur, resulting in similar impacts to groundwater resources as those described above for the Action Alternative. If Pontotoc County were not able to secure any funding for the actions described in this EA, ground disturbance associated with the proposed actions would not occur and there would be no impacts to groundwater resources.

4.2.3 Surface Water

The Project Area is located in the Southeastern Plains ecoregion. The Project Area drains to streams within the Town Creek (03160102) 8-digit hydrologic unit code (HUC) watershed. According to the aquatics field survey conducted in November 2020, a single wet-weather conveyance (WWC) occurs in the Project Area (TVA 2020). The WWC located in the Project Area is described below in Table 4-1.

Table 4-1 Designation for Waterbodies in the Project Area

Stream ID	Stream Type	Streamside Management Zone Category	Stream Name	Channel Description	Cowardin Code	HGM Code
BWA01	WWC	Best Management Practices (BMP's)	n/a	2 feet by 1 foot	R6 (ephemeral)	Riverine

Precipitation in the general area of the proposed project averages about 58.4 inches per year. The wettest month is January with approximately 5.9 inches of precipitation, and the driest

month is September with 3.9 inches. The average annual air temperature is 58 degrees Fahrenheit, ranging from an annual average of 50 degrees Fahrenheit to 71 degrees Fahrenheit (United States Climate Data 2020). Stream flow in the region varies with rainfall and averages about 20.2 inches of runoff per year, i.e., approximately 1.5 cubic feet per second, per square mile of drainage area (USGS 2008).

The federal Clean Water Act (CWA) requires states to identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the USEPA. The term “303(d) list” refers to the list of impaired and threatened streams and water bodies identified by the state. Lyon Creek, classified for use by fish and wildlife, is currently listed as impaired for biological impairments in Pontotoc County by the State of Mississippi (MDEQ 2018). Lyon Creek is located within the Lappatubby Creek (0803020102) 10-digit HUC watershed encompassing the Project Area.

Implementation of the Action Alternative would result in clearing and grubbing construction activities that would affect WWC BWA01 via direct disturbance and potential stormwater runoff. Soil erosion and sedimentation can clog small streams and threaten aquatic life.

Pontotoc County/TRPDD would be expected to comply with all appropriate federal, state and local permit requirements. Appropriate BMPs would be followed, and all proposed project activities would be conducted in a manner to ensure that waste materials are contained, and the introduction of pollution materials to receiving waters would be minimized. Since the Action Alternative would disturb more than 5 acres, a MDEQ Large Construction General Permit (MSR10) would be required. As part of MSR10, a stormwater pollution prevention plan (SWPPP) would be developed. The SWPPP would include erosion prevention measures, sediment control measures, and other site management practices necessary to prevent the discharge of sediment and other pollutants that would result in the degradation to waters.

Because it is ephemeral in nature, the WWC identified in the Project Area is not on the USGS Quadrangle Map (Attachment 1, Figure 1-C). When water is present, this feature flows into the pond in the southeast corner of the PIP outside of the Project Area. A portion of the WWC would be directly affected by clearing, grubbing, and earthwork requiring accommodation of the existing flow pattern either through or re-routed outside of the proposed eastern building pad. As defined by the 2020 Navigable Waters Protection Rule (NWPR), ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools, are considered non-jurisdictional waters of the United States (WOTUS). As such, it is anticipated that the WWC identified in the Project Area would be considered a non-jurisdictional WOTUS. However, the USACE would make the final jurisdictional determination. The WWC would need to be deemed as a non-jurisdictional WOTUS under the 2020 NWPR in order to remove it without additional permitting from the USACE.

No other commitments beyond compliance with all applicable environmental laws and regulations, proper implementation of BMPs and best engineering practices, and proper containment, treatment, and disposal of wastewater, stormwater runoff, wastes, and potential pollutants, are proposed at this time. The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize stormwater impacts. Equipment washing and dust control discharges would be managed in accordance with BMPs

described in the SWPPP for water-only cleaning. Additionally, BMPs, as described in the Mississippi Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas (MDEQ 2011) would be used to avoid contamination of surface water in the Project Area.

It is expected that portable toilets would be provided for the construction workforce as needed. It is expected that these toilets would be pumped out regularly, and the sewage would be transported by tanker truck to a publicly-owned wastewater treatment plant that accepts pump out. The project scope includes the extension of a 10-inch-diameter sewer line to the PIP from an existing 15-inch-diameter sewer line located approximately 1,755 feet to the southeast. This extension would be properly sized, permitted and maintained and may be subject to MDEQ plan design review requirements.

Impervious surfaces prevent rain from percolating through the soil and result in additional runoff of water and pollutants into storm drains, ditches, and streams. The Action Alternative would increase impervious flows in the area. All flows would need to be properly treated with either implementation of proper BMPs or engineering of a discharge drainage system that could process any increased flows prior to discharge into the outfall(s). Use of pervious pavement could reduce runoff.

Improper use of chemicals to control vegetation could result in runoff to streams and subsequent aquatic impacts. In areas requiring chemical treatment, it is expected that only USEPA-registered products would be used in accordance with label directions designed in part to restrict applications near receiving waters and to prevent unacceptable aquatic impacts. With proper implementation and application of these products no significant impacts to surface waters would be expected.

Proper implementation of BMPs and other controls for the Action Alternative would be expected to result in only minor impacts to surface waters. The WWC in the Project Area would be directly affected through clearing and grading. Since this WWC primarily conveys stormwater, the project would need to ensure that the proposed activities would not concentrate stormwater runoff and would have adequate drainage to mitigate the loss of the WWC. Impacts due to the Action Alternative would have direct and indirect impacts, but with proper BMPs and stormwater conveyance those impacts would be minor. No formal regulatory mitigation would be expected to be required if this WWC is deemed non-jurisdictional by the USACE.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the proposed TVA-funded actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, similar ground disturbance would occur, resulting in similar impacts to surface water resources as those described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA, ground disturbance associated with the proposed actions would not occur and there would be no impacts to surface water resources.

4.2.4 Wetlands

Wetlands are areas inundated by surface or groundwater often enough to support vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, mud flats, and natural ponds.

Wetlands potentially present in the Project Area were identified by reviewing prior evaluations described in Section 2.0, aerial photographs, site photographs, topographic maps, the USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD), and the Natural Resources Conservation Service (NRCS) Soils and Soil Survey Geographic (SSURGO)/State Soil Geographic (STATSGO) databases. Following the desktop review, wetlands were delineated during a December 2020 field survey of the Project Area (Cardno 2021). The wetland delineation was performed using the routine on-site determination methods described in the USACE Wetlands Delineation Manual and was consistent with the methods, guidelines, and indicators present in the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2010). Broader definitions of wetlands, such as the one used by the USFWS (Cowardin et al. 1979), and as defined under 18 Code of Federal Register (CFR) Part 1318.40, were also considered in this review. Two wetlands are present within the Project Area as described below (Table 4-2).

Table 4-1 Wetlands Identified in the Project Area

Wetland ID	Wetland Type	Wetland Acreage
WPC01	Palustrine Scrub-shrub	0.20
WPC02	Palustrine Emergent	0.03

Wetland WPC01 is a palustrine scrub-shrub wetland located within the Project Area at the northwest corner of the proposed western building pad (Attachment A, Figure 1-F). The majority of the area was dominated by American sycamore (*Platanus occidentalis*), Chinese privet (*Ligustrum sinense*), and soft rush (*Juncus effusus*). The wetland occurs where the soil was mapped as Atwood silt loam (AtC3). Munsell™ soil colors observed in the soil from 0-18 inches had a matrix soil color of 10yr 3/2 and met the Redox Depressions (F8) hydric soil criterion. The indicators of hydrology observed included Drainage patterns (B10), Geomorphic Position (D2), and the FAC-Neutral Test (D5). This wetland is part of a large wetland that extends beyond the Project Area to the northwest. Based on review of the USGS Quadrangle Map (Attachment 1, Figure 1-C) and USFWS NWI Map (Attachment 1, Figure 1-E), the large wetland is adjacent to a tributary of Lyon Creek. As such, it is anticipated that the USACE would consider this wetland to be a jurisdictional WOTUS. However, the USACE would make the final jurisdictional determination.

Wetland WPC02 is a palustrine emergent wetland located within the Project Area at the southeast corner of the PIP where the proposed 10-inch-diameter sewer line intersects with the PIP boundary (Attachment A, Figure 1-F). The majority of the area was dominated by wool grass (*Scirpus cyperinus*) and soft rush. The wetland occurs where the soil was mapped as Atwood silt loam (AtB). Munsell™ soil colors observed in the soil from 0-18 inches had a matrix soil color of 10yr 3/2 and met the Redox Depressions (F8) hydric soil criterion. The indicators of hydrology observed included Drainage patterns (B10), Geomorphic Position (D2), Sphagnum moss (D8), and the FAC-Neutral Test (D5). This wetland is situated below the dam of the pond (the pond is located within the PIP, but outside of the Project Area) and Highway 345. This wetland is an isolated wetland, and does not appear to have a connection to other WOTUS. Due to the lack of connection, it is anticipated the USACE would consider this wetland to be a

non-jurisdictional WOTUS. However, the USACE would make the final jurisdictional determination.

Construction activity associated with the Action Alternative would involve clearing, grubbing, and cut/fill earthwork at wetland WPC01 within the western building pad area. The Action Alternative also would involve clearing, grubbing, and trenching at WPC02 for the proposed sewer line. Executive Order 11990 (Protection of Wetlands) requires avoidance, to the greatest extent practicable, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Section 404 of the CWA of 1972 regulates discharges of dredged and fill materials into WOTUS and is administered by the USACE. The MDEQ relies on the USACE decision regarding wetland determinations and delineations including whether a wetland is isolated or non-isolated. The MDEQ does not regulate or issue permits for wetland impacts. Impacts to WOTUS would require a CWA Section 404 permit and a CWA Section 401 Water Quality Certification. Should avoidance of wetland WPC01 be determined infeasible, coordination with the USACE Vicksburg District to confirm the jurisdictional status of the wetland would be required. Due to Wetland WPC02's lack of connection to WOTUS, it is anticipated the USACE would not consider this wetland to be a WOTUS or a jurisdictional wetland and no permit would be required.

Under the Action Alternative, any dredge or fill activities that would occur in a wetland must comply with the above-mentioned regulations. Coordination with the USACE would determine required compensatory mitigation for permanent impacts to jurisdictional wetlands. Wetland impacts and mitigation are anticipated to be confirmed through coordination with the USACE. Because avoidance of impacts to WOTUS may not be feasible, consultation and permitting with the USACE Vicksburg District would be required prior to initiation of construction. Therefore, by implementing the required measures and mitigation per MSR10, CWA Section 401, and CWA Section 404 permits, the Action Alternative would not result in significant adverse impacts to wetlands and would be in compliance with EO 11990.

In addition to the direct impacts associated with construction disturbance, there could be indirect impacts associated with changes in hydrology and sedimentation if the Action Alternative is implemented. It is anticipated that Pontotoc County/TRPDD or their contractors would employ applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) during construction activities, and activities would be accomplished in compliance with applicable stormwater permitting requirements. As noted above, the MDEQ authorizes stormwater discharges from land disturbing activities affecting more than 5 acres through its Large Construction General Permit (MSR10). As part of MSR10, a SWPPP would be required. Therefore, by implementing the permit-required measures per the MSR10, indirect impacts to wetlands resulting from sediment-laden runoff during construction activities would be minimized or avoided.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, resulting in similar impacts to wetlands as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA, ground disturbance associated with the proposed actions would not occur and there would be no impacts to wetlands.

4.2.5 Aquatic Ecology

4.2.5.1 Aquatic Species

As noted above, a November 2020 field review documented one WWC (BWA01) within the Project Area. Since BWA01 only flows for a short time in direct response to precipitation, it does not provide preferred habitat for aquatic species. As noted above, a portion of the WWC would be directly affected by clearing, grubbing, and earthwork requiring accommodation of the existing flow pattern either through or re-routed outside of the proposed eastern building pad. Potential ground disturbance associated with clearing and grubbing would be minimized to the extent possible and applicable BMPs would be implemented to minimize erosion and subsequent sedimentation. Therefore, with proper implementation of BMPs and in consideration of the WWC's low aquatic habitat value, no significant impacts from the proposed actions are anticipated to aquatic habitats and species.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, resulting in similar impacts to the low value and small amount of aquatic habitat in BWA01 as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to aquatic species because the site would not be disturbed.

4.2.5.2 Threatened and Endangered Aquatic Species

A query of the TVA Natural Heritage Database conducted in November 2020 for records of listed aquatic animal species did not document federally-listed or state-listed aquatic species within the Lappatubby Creek (0803020102) 10-digit HUC watershed encompassing the Project Area.

Implementation of the Action Alternative would affect BWA01 through clearing and grading, however, no federally-listed or state-listed aquatic species occur in the watershed. Therefore, there would be no effects to federally-listed or state-listed aquatic species.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur. However, similar to the Action Alternative, there would be no impacts to federally-listed or state-listed aquatic species. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would also be no impact to aquatic species because the site would not be disturbed.

4.2.6 Terrestrial Zoology

4.2.6.1 Terrestrial Wildlife

A field survey conducted in October 2020 included a habitat assessment for terrestrial animal species and habitats in the Project Area. The broader PIP is comprised of approximately 53 acres of scattered deciduous forest (including saplings and shrubs) and 45 acres are herbaceous fields or pasture/agricultural fields. The Project Area includes about 18 acres of scattered forest at the proposed western building pad and water tank area and approximately 10

acres of herbaceous fields at the proposed eastern building pad and access road. Approximately 0.2 acre of scattered forest and developed residential areas (lawn or pasture) would be affected by the proposed sewer line. A pond approximately 2.5 acres in size was identified in the southeast corner of the PIP, but is outside of the Project Area. The herbaceous fields are mowed pastures, bald eagles would not be impacted by the proposed project actions.

Wood storks are highly colonial and require wetland habitat for nesting and foraging. Nests are frequently located in the upper branches of large cypress trees or in mangroves on islands (USFWS 2020). Wood storks feed on small fish and invertebrates in shallow, fresh waterbodies and wetlands. There are no known records of wood stork within Pontotoc County, MS. During the field review in October 2020, no wood storks and no wood stork rookeries were documented within the Project Area. Marginal foraging habitat for wood stork exists within the Project Area at two small wetlands and outside the Project Area along the shoreline of the adjacent pond. These wetlands have the potential to be impacted by proposed actions. Based on the lack of known records of wood stork near the Project Area and the small amount of low quality foraging habitat in the Project Area wood stork would not be impacted by the Action Alternative.

The NLEB 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, NLEB roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. This habitat includes snags and living trees in mature forests with an open understory and a nearby source of water. Roost site selection by NLEB can be opportunistic. This species is also known to roost in abandoned buildings and under bridges. NLEB emerge at dusk to forage below the canopy of mature forests on hillsides, forest clearings, and along riparian areas (Harvey et al. 2011; USFWS 2014). There are no known records of NLEB from Pontotoc County, MS. No known cave records exist within 3.0 miles of the Project Area.

Assessment of the Project Area for presence of summer roosting habitat for NLEB in October 2020 followed federal guidance (USFWS 2019). One potential roosting tree (PRT) was identified as suitable summer roosting habitat for NLEB. This tree likely will be removed during the Non-Winter Season (Apr 15 – May 31 and Aug 1 – Sept 30). No caves or other winter roosting habitat for NLEBs was observed in the Project Area during the field survey. Foraging habitat for NLEBs occurs over, alongside, and through the forest fragments and above wetlands and one WWC in the Project Area.

Several activities associated with the Action Alternative (including burning and tree clearing) during potentially occupied timeframes were addressed in TVA's programmatic consultation with the USFWS on routine actions and federally-listed bats in accordance with Endangered Species Act (ESA) Section 7(a)(2). For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures, identified on page 5 of the TVA Bat Strategy Project Screening Form (Attachment 2), would be reviewed and implemented as part of the Action Alternative. With adherence to the identified conservation measures, implementation of the Action Alternative would not significantly affect NLEB.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur,

resulting in similar impacts to threatened and endangered terrestrial species as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to terrestrial threatened and endangered species because the site would not be disturbed.

4.2.7 Botany

Field surveys of the Project Area were conducted in October of 2020 and focused on documenting plant communities and possible threatened and endangered plant populations. Using the National Vegetation Classification System (Grossman et al. 1998), vegetation types observed during field surveys can be categorized as a combination of deciduous forest and herbaceous vegetation. No forested areas in the Project Area had structural characteristics indicative of old growth forest stands (Leverett 1996). All plant communities observed within the project area are common and well represented across Mississippi.

4.2.7.1 Vegetation

Herbaceous vegetation is characterized by greater than 75 percent cover of forbs and grasses and less than 25 percent cover of other types of vegetation. Mowed fields and old unmowed fields with thickets account for the vast majority of vegetation in the eastern portion of the Project Area. Most of these areas are dominated by plants indicative of early successional habitats and are comprised of mainly native vegetation. Common herbaceous species include annual ragweed (*Ambrosia artemisiifolia*), beaked panic grass (*Panicum anceps*), broomsedge (*Andropogon virginicus*), Carolina horsenettle (*Solanum carolinense*), dallis grass (*Paspalum dilatatum*), dog fennel (*Eupatorium capillifolium*), eastern baccharis (*Baccharis halimifolia*), eastern blackberry (*Rubus pensilvanicus*), gray goldenrod (*Solidago nemoralis*), Japanese honeysuckle (*Lonicera japonica*), lateflowering thoroughwort (*Eupatorium serotinum*), purpletop tridens (*Tridens flavus*), rice button aster (*Symphotrichum dumosum*), sericea lespedeza (*Lespedeza cuneata*), silver plume grass (*Erianthus alopecuroides*), tall goldenrod (*Solidago altissima*), Lindheimer's croton (*Croton lindheimeri*), and yellow bristle grass (*Setaria glauca*). Shrubs and young saplings blanketing old fields and thickets include beautyberry (*Callicarpa americana*), eastern baccharis and winged sumac (*Rhus copallinum*) along with loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), and winged elm (*Ulmus alata*).

Deciduous forests, stands where deciduous tree species account for more than 75 percent of the canopy cover, predominate in the western portion of the Project Area. Much of the forested area within the Project Area is young and relatively disturbed, with trees averaging 6 to 12-inches diameter at breast height. A few small areas totaling about 1 acre have larger, more mature trees. Common canopy trees include black locust (*Robinia pseudoacacia*), black willow (*Salix nigra*), eastern cottonwood (*Populus deltoides*), mockernut hickory (*Carya tomentosa*), red maple (*Acer rubrum*), southern red oak (*Quercus falcata*), sweetgum, tulip poplar (*Liriodendron tulipifera*), water oak (*Quercus nigra*), white oak (*Quercus alba*), and winged elm along with scattered loblolly pine. The understory consists of beautyberry, eastern baccharis, eastern redbud (*Cercis canadensis*), and winged sumac. The herbaceous layer is sparse and includes plants like Christmas fern (*Polystichum acrostichoides*), longleaf woodoats (*Chasmanthium sessiliflorum*), and tall goldenrod along with the woody vines Japanese honeysuckle and roundleaf greenbrier (*Smilax rotundifolia*).

Overall, the Project Area does not support high quality plant communities with significant conservation value. Under the Action Alternative, Pontotoc County/TRPDD would not

significantly impact plant species because the herbaceous and woody plant species that would be affected by clearing and grading are otherwise common in the vicinity of the Project Area. The use of BMPs would stabilize and revegetate disturbed areas.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, resulting in similar impacts to vegetation as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to vegetation because the site would not be disturbed.

4.2.7.2 Threatened and Endangered Plant Species

An October 2020 query of the TVA Regional Natural Heritage Database indicated that seven state-listed and no federally-listed plant species have been previously reported from within 5.0 miles of the Project Area (Table 4-4). One federally-threatened plant species, Price’s potato-bean, is known from Pontotoc County, MS. Price’s potato-bean occurs in open, mixed-hardwood forests, forest edges, and clearings on river bottoms and ravines over limestone being unable to tolerate deep shade (Schotz 2016).

Table 4-4 Plant Species of Conservation Concern Previously Reported from within Five Miles of the Pontotoc Industrial Park¹

Common Name	Scientific Name	Federal Status ²	MS State Status ²	State Rank ³
PLANTS				
Price’s potato-bean ⁴	<i>Apios priceana</i>	LT	SLNS	S1
Canada wild-ginger	<i>Asarum canadense</i>	–	SLNS	S3
Eastern purple coneflower	<i>Echinacea purpurea</i>	–	SLNS	S3
American ginseng	<i>Panax quinquefolius</i>	–	SLNS	S3
Purple fringeless orchid	<i>Platanthera peramoena</i>	–	SLNS	S2S3
Greek valerian	<i>Polemonium reptans</i>	–	SLNS	S2S3
American bladdernut	<i>Staphylea trifolia</i>	–	SLNS	S3
Horse-gentian	<i>Triosteum angustifolium</i>	–	SLNS	S3

¹ Source: TVA and Tennessee Natural Heritage Database, queried October 2020

² Status Codes: SLNS = State Listed, no status assigned; LT = Listed Threatened

³ State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S#S# = Denotes a range of ranks because the exact rarity of the element is uncertain (e.g., S1S2)

⁴ Federally-listed species occurring within Pontotoc County, but not necessarily within 5.0 miles of the Project area

Field surveys conducted in October 2020 indicated that no habitat for state or federally-listed plant species occurs within the Project Area. The majority of the Project Area is highly disturbed and is populated primarily with native weedy species. No designated critical habitat for plants occurs in the Project Area.

Under the Action Alternative, Pontotoc County/TRPDD would not impact rare or listed plant species because no rare or listed species or their habitats occur in the Project Area.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, also resulting in no impacts to rare or listed plant species as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to rare or listed plant species.

4.2.8 Prime Farmland

Prime farmland is land most suitable for economically producing sustained high yields of food, feed, fiber, forage, and oilseed crops. Prime farmlands are available for agricultural use, i.e., not water or urban built-up land, and have the best combination of soil type, growing season, and moisture supply. Farmland of statewide importance is not federally-recognized prime farmland, but land that is important in the production of food, feed, fiber, forage, and oil seed crops. Individual states delineate their own important farmland (NRCS 2019).

Soils classified as Prime Farmland (excluding considerations for flooding) comprise 7 acres (24.3%) of the Project Area. Farmland of statewide importance does not occur in the Project Area. Table 4-5 provides a summary of soils and their farmland classifications within the Project Area and they are depicted in Attachment A, Figure 1-G.

Table 4-5 Soils Identified within the Project Area

Map Unit Symbol	Map Unit Name	Rating	Area (Acres)	% of Project Area
AtB	Atwood silt loam, 2 to 5 percent slopes	All areas are prime farmland	6.9	23.9%
AtC3	Atwood silt loam, 5 to 8 percent slopes, severely eroded	Not prime farmland	10.3	35.5%
BuB	Bude silt loam, 2 to 5 percent slopes	All areas are prime farmland	0.1	0.4%
Co	Commerce silt loam (belden)	Prime farmland if drained	0.1	0.5%
RuE	Ruston and Cahaba sandy loams, 17 to 30 percent slopes	Not prime farmland	7.2	24.7%
RuE2	Ruston and Cahaba sandy loams, 12 to 30 percent slopes, eroded	Not prime farmland	4.4	15.0%
Total			29.0	100.0

The Farmland Protection Policy Act (FPPA], 7 U.S.C.§ 4201 et seq.) requires federal agencies to consider the adverse effects of their actions on prime or unique farmlands. The purpose of the Act is “to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.” TVA coordinated with the NRCS regarding the Project Area and the FPPA. Staff at the NRCS-Tupelo, Mississippi office responded on February 23, 2021 (Attachment 3-C) that the prime farmland soils in the Project Area were contained within the City limits of Pontotoc and that no further FPPA documentation would be required.

Table 4-6 provides a summary of farming in Pontotoc County and overall in the State of Mississippi. The change in farming acreages from the 2012 to 2017 Census is also included.

Table 4-6 Farming Statistics for Pontotoc County, MS

	Number of Farms	% of Total Area in Farms	Land in Farms (Acres)	Median Size of Farms (Acres)	Change from 2012 to 2017		
					Number of Farms	Land in Farms (Acres)	Median Size of Farms (Acres)
Pontotoc County	745	43%	137,139	77	-144	-15,461	-10
Mississippi	34,988	34%	10,415,136	98	-3,088	-515,944	-2
Source: USDA 2017							

The Action Alternative would remove 7 acres of prime farmland at the Project Area from potential agricultural use, but this acreage is located within the city limits and is not subject to the FPPA. Further, this amount is minor in comparison to the total acres of farmland in operation within Pontotoc County and the State of Mississippi. Therefore, there would not be impacts to prime farmlands as a result of the proposed actions.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, but there would not be impacts to prime farmlands and no impacts to farmland of statewide importance as described above for the Action Alternative. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to prime farmlands and farmland of statewide importance.

4.2.9 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 (in this case granting InvestPrep funds) could affect these resources.

The project APE includes multiple areas within the PIP totaling 29 acres plus an adjacent 0.5-mile area with high visibility and therefore potential for effects to properties eligible for or listed in the National Register of Historic Places (NRHP). The Project Area is located within sections 28 and 29 of Township 9 South, Range 3 East, according to the Chickasaw Meridian. This location can be found on the 1981 Northwest Pontotoc and the 1981 Northeast Pontotoc 7.5-minute USGS topographic quadrangles.

Background research indicated that eight previous surveys have been undertaken within 1.0 mile of the APE. Five of these surveys were predominantly linear in nature, conducted for road and sewer line expansions. Two of the previous surveys intersect the current APE. Survey 00-115 included survey of over 3.0 miles of proposed sewer lines, one section of which crosses the proposed sewer line extension of the current APE. Survey 08-2077, performed in 2008, included archaeological survey of the entire PIP property and covered most of the current project APE (Johnson, 2008). The survey was not completed to current TVA survey standards, and as such those portions of the current project APE that lie within survey 08-2077 were resurveyed.

The background research also identified five previously recorded archaeological sites, 18 historic properties and one cemetery. None of the resources are located within the project APE or within the 0.5-mile viewshed of the Project Area.

A Phase I cultural resources investigation was performed that included both an assessment of standing structures as well as archaeological survey of the APE (Ambrosino et al. 2021). The architectural survey recorded 15 newly identified structures of over 50 years in age (FS-1 through FS-15 (Table 4-7). The fifteen newly identified structures include an assortment of types from the twentieth century. FS-2, the Browning House, was recommended as eligible for the NRHP under criterion C as an important example of a Contemporary Style Ranch house in Pontotoc County. Due to the distance and extant vegetation, the proposed project will have No Adverse Effects on this historic property. No additional eligible resources were found, nor were any potential NRHP districts documented as part of this study.

The archaeological survey excavated 139 shovel tests on a 30-meter grid across the entire breadth of the 29-acre project APE. None of these shovel tests yielded any cultural material. No archaeological artifacts or resources were identified as a result of the Phase I survey. No further archaeological work is recommended in this APE.

TVA consulted with the Mississippi SHPO in a letter dated March 8, 2021 regarding TVA's findings and recommendations and is currently awaiting response. TVA is also consulting with federally recognized Indian tribes regarding properties within the proposed project's APE that may be of religious and cultural significance to them and eligible for the NRHP.

Table 4-7 Cultural Resources Identified during the Archaeological and Architectural Survey

Cultural Resource Number	Description	Eligibility Recommendation
FS-1	170 Oakhill Drive: 1968 one-story, brick veneered, Ranch style house	Ineligible
FS-2	164 Oakhill Drive: 1971 split-level, brick and vinyl, Ranch style house	Eligible / No Adverse Effect
FS-3	165 Oakhill Drive: 1971 split-level house with side gable, brick and vinyl	Ineligible
FS-4	158 Oakhill Drive: 1975 one-story, vinyl siding, Ranch style house	Ineligible
FS-5	161 Oakhill Drive: 1971 one-story, stone veneered, Ranch style house	Ineligible
FS-6	157 Oakhill Drive: 1976 one-story, brick veneered, Ranch style house	Ineligible
FS-7	154 Oakhill Drive: 1965 one-story, brick veneered, Ranch style house	Ineligible
FS-8	150 Oakhill Drive: 1966 one-story, vinyl siding, Ranch style house	Ineligible
FS-9	149 Oakhill Drive: 1975 one-story, aluminum siding, Ranch style house	Ineligible
FS-10	156 McNabb Road: 1965 one-story, metal siding, Ranch style house	Ineligible
FS-11	165 McNabb Road: 1968 one-story, vinyl siding, Ranch style house	Ineligible
FS-12	164 McNabb Road: 1976 one-story, brick veneered, Ranch style house	Ineligible
FS-13	170 McNabb Road: 1970 one-story, brick veneered, Ranch style house	Ineligible
FS-14	171 McNabb Road: 1973 vinyl siding, Split-Level Ranch style house	Ineligible
FS-15	175 McNabb Road: 1968 one-story, brick veneered, Ranch style house	Ineligible

Under the Action Alternative Pontotoc County/TRPDD would not affect archaeological resources and historic structures because no archaeological materials were found in the Project Area and no historic structures would be impacted.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, also resulting in no impacts to cultural resources. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to cultural resources.

4.2.10 Visual

The Project Area consists mainly of open land and forested land, and is broadly bordered by open and residential land to the east, Magee Drive and residential and forested land to the south, forested and developed land to the west and forested land to the north.

The Project Area is directly adjacent to Magee Drive to the south and about 255 feet west of North Main Street/Highway 345. There are essentially no trees between North Main Street and the Project Area; however, there is a small berm that provides a partial visual screen between the Project Area and North Main Street. There is a row of trees along the south border of the Project Area that provides a visual screen between the Project Area and Magee Drive. There are several residences near the Project Area along Magee Drive and North Main Street. There are two residences about 240 feet south of the Project Area, across Magee Road. Each residence is set back from Magee Road at least 120 feet, with forested land between the residence and the road. This provides a substantial visual screen between the residences and the Project Area, especially in tandem with the line of trees on the north side of Magee Drive. There are several other residences along North Main Street that are about 375 feet east of the Project Area. The portion of the Project Area in closest proximity to these residences would be open area that would be graded. No forested land would be removed from this eastern portion of the Project Area.

Adoption of the Action Alternative would result in construction vehicles and equipment visible during construction activities (an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery) and would have a minor visual impact over the temporary construction period of approximately 6 months as well as a minor permanent impact due to tree removal. Drivers along Magee Drive would not have direct unobstructed views of the Project Area due to the line of trees along the southern portion of that Project Area that would partially screen their view. The proposed water tower would also be partially screened by these same trees as well as three existing buildings located north of Magee Drive. Given that an existing, large commercial area is located south of these three buildings across Magee Drive, the water tower would fit within the existing viewshed. Similarly, the residences along Magee Drive would not have direct views of the Project Area given the trees surrounding the residences. The views from the closest residences along North Main Street, 375 feet east of the Project Area, would experience a minor, permanent change to visual quality although partial screening would be provided by a small berm on the west side of North Main Street. Current views from those areas would change from open land to developed industrial land. There are no other large industrial areas in view of the impacted residences along North Main Street. The existence of several trees along the

residential property also would provide some visual screening from the Project. Implementation of the Action Alternative would result in a minor decrease in visual quality for residents south of the PIP and a minor to moderate decrease in visual quality for residents located east of the PIP that would not be significant.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, also resulting in minor impacts to visual quality. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to visual quality.

4.2.11 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 Magee Drive and North Main Street, existing commercial operations to the southwest along Magee Drive, and surrounding residential activities.

Noise impacts associated with construction activities under the Action Alternative would be primarily from construction equipment. Construction activities would involve operation of an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery in addition to power tools over the temporary duration of construction. Construction equipment noise levels are temporary and rarely steady; they fluctuate depending on the number and type of vehicles and equipment in use at any given time. In addition, construction-related sound levels experienced by a noise sensitive receptor near construction activity would be a function of distance, other ambient 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 residents of the homes located 240 feet south of the Project Area along Magee Drive, residents with the homes across North Main Street to the east of the Project Area, and the businesses located adjacent to the Project Area to the southwest. The construction noise would be localized and temporary, and no receptor would be exposed to significant noise levels for an extended period. Further, construction activities are assumed to be conducted during daylight hours only, when ambient noise levels are often higher and most individuals are less sensitive to noise. Additionally, there would be a level of continuous ambient noise for the receptors resulting from traffic on both Magee Drive and North Main Street. Thus, noise-related impacts resulting from implementation of the Action Alternative are anticipated to be temporary and minor to moderate.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, also resulting in minor to moderate impacts to sensitive noise receptors. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to sensitive noise receptors.

4.2.12 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 (Mississippi), county (Pontotoc), and locality (City of Pontotoc, MS) (Table 4-8). 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 a disproportionate and adverse impact on minority and low-income populations, which is commonly referred to as an evaluation of Environmental Justice.

Table 4-8 Population, Demographics, Income, and Employment

	Mississippi	Pontotoc County	Pontotoc, MS
Population¹			
April 2010 Population	2,967,297	29,957	5,625
Most Recent Population Estimate (July 2019)	2,976,149	32,174	6,169
Population Change: April 2010 to July 2019	0.3%	7.4%	10.5%
Population per Square Mile	63.2	60.2	503.1
Demographics¹			
White Alone, not Hispanic or Latino	56.4%	75.9%	59.0%
Black or African American Alone	37.8%	15.6%	27.3%
American Indian and Alaska Native Alone	0.6%	0.6%	0.0%
Asian Alone	1.1%	0.4%	0.2%
Native Hawaiian and Other Pacific Islander Alone	0.1%	0.1%	0.0%
Two or More Races	1.3%	1.5%	1.6%
Hispanic or Latino (of any race)	3.4%	7.3%	15.5%
Income¹			
Median Household Income	\$45,081	\$44,759	\$49,063
Per Capita Income	\$24,369	\$21,191	\$20,845
Percent with Income Below the Poverty Level	19.6%	15.9%	15.8%

	Mississippi	Pontotoc County	Pontotoc, MS
Not Seasonally Adjusted Employment: November 2020²			
Labor Force	1,276,813	14,861	(Not Available)
Employed	1,201,102	14,180	(Not Available)
Unemployed	75,711	681	(Not Available)
Unemployment Rate (%)	5.9%	4.6%	(Not Available)
1 – Source: United States Census Bureau (2020)			
2 – Source: United States Bureau of Labor Statistics (2020)			

The results of the evaluation of Environmental Justice consist of the following:

- Relative to the average Mississippi resident, the residents of Pontotoc County live at a slightly lower population density, but much higher population growth. Relative to the average Mississippi resident, the residents of the City of Pontotoc, MS live at much greater population density and much higher population growth.
- Relative to the average Mississippi resident, the residents of Pontotoc County are less likely to self-identify as a minority race or ethnicity. Relative to the average Mississippi resident, the residents of Pontotoc City, MS are slightly less likely to self-identify as a minority race or ethnicity.
- Median household income in Mississippi is higher than in Pontotoc County, but lower than in the City of Pontotoc, MS. Per capita income in Mississippi is higher than that for both Pontotoc County and the City of Pontotoc, MS. However, the percent of those with income below the poverty line is higher in Mississippi than in Pontotoc County and the City of Pontotoc, MS.
- The unemployment rate in Pontotoc County is lower than the statewide unemployment rate in Mississippi.

During project review, a subdivision in close proximity to the Project Area was identified (within 0.25 miles to the east). Using USEPA's EJScreen Tool, certain demographic characteristics for this area were identified. Relative to the State of Mississippi, this neighborhood has a lower minority population, is more linguistically isolated, has a higher level of population with less than a high school education, and has a lower level of low-income population.

The Action Alternative would include tree clearing and grubbing, geotechnical borings, grading and compacting of two building pads, construction of a 300,000 gallon elevated water tower, construction of a gravel access road to the water tower, and the extension of a 10-inch-diameter sewer line to the PIP from an existing 15-inch-diameter interceptor sewer line. This effort would require a small workforce, likely drawn from existing contractors working on similar projects in the region. According to the preferred timeline, the construction activities will reach completion in October 2021. Implementation of the Action Alternative is not anticipated to materially impact the local economy or workforce. In addition, no negative socioeconomic impacts are expected from the project; therefore, no disproportionate negative impacts are anticipated to minority or economically disadvantaged populations as a result of the Action Alternative. Positive and minor

impacts may be noted through the increase in local employment because of the Action Alternative.

The Action Alternative would have a positive effect on the local economy and would be unlikely to result in a disproportionate or adverse impact on minority and low-income communities. Therefore, as described throughout this document, environmental effects associated with the Action Alternative on these resources would generally be minor and/or minimized through BMPs and permitting requirements, and would generally be constrained to the Project Area.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was to proceed without any supplemental funding, construction of project components would occur, also resulting in no impacts to minority or economically disadvantaged populations. If Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, there would be no impact to minority or economically disadvantaged populations.

4.2.13 Transportation

The Project Area would be accessed during construction activities from Magee Drive. The site entrances would be located on the southern side of the Project Area, and would require installation of a new entrance and an improved entrance from Magee Drive.

Magee Drive is a local road that provides access to multiple commercial properties to the southwest of the Project Area. Magee Drive is paved and unmarked along its length and is sufficiently wide for a single lane of traffic in each direction. Based on preliminary review of Google streetview images (recorded January 2014) and verified during the December 2020 field review, the road is in good condition and transitions from narrow vegetated verges in the east to wide grassy verges to the west. The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Magee Drive from the property. Necessary precautions would 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. Magee Drive terminates to the southwest at the intersection of Sallie Hardin Road and Stafford Boulevard, and terminates to the east at North Main Street/Highway 345.

Sallie Hardin Road is paved and unmarked along its length and is sufficiently wide for a single lane of traffic in each direction. Sallie Hardin Road provides access to multiple commercial properties. Based on preliminary review of Google streetview images (recorded January 2014) and verified during the December 2020 field review, the road is in good condition and has narrow grassy verges. Sallie Hardin Road terminates to the west at Highway 15 (MS 15) with stop signs used for merging on MS 15. MS 15 is paved along its length, provides a center turning lane, is sufficiently wide for a single lane of traffic in each direction, and is defined as a minor arterial by the Functional Classification System for Pontotoc County, Mississippi (Mississippi Department of Transportation [MDOT] 2015). Normal care would be taken by workers entering MS 15 with regards to traffic safety.

Stafford Boulevard is paved and unmarked along its length and is sufficiently wide for a single lane of traffic in each direction. Stafford Boulevard provides access to multiple commercial properties. Based on preliminary review of Google streetview images (recorded January 2014)

and verified during the December 2020 field review, the road is in good condition and has wide, narrow grassy verges. Stafford Boulevard terminates at Industrial Drive which provides access to multiple commercial and residential properties.

Highway 345 provides access to multiple commercial and residential properties to the north and south. Based on a review of Google streetview images (recorded September 2019) and verified during the December 2020 field review, the road is in good condition and has wide, vegetated verges. Normal care would be taken by workers entering Highway 345 with regards to traffic safety.

There are no traffic count stations located on Magee Drive, Sallie Hardin Road, or Stafford Boulevard. It is anticipated that existing traffic volumes for these local roads would be low during most daylight hours as they provide access to a small number of other commercial sites and access to Highway 345 and MS 15. The exception would be during shift changes at the existing commercial facilities when traffic would be expected to increase. These shift changes could coincide with workers arriving and leaving the Project Area during construction. Because of the anticipated small workforce required for the proposed activities, and the short timeframe of the proposed work, impacts to local traffic are anticipated to be temporary and minor.

The proposed 10-inch-diameter sewer line would cross Highway 345. Although the crossing method has not been finalized, it is anticipated that the crossing may be accomplished via trenchless conventional bore without the need to open cut and temporarily close Highway 345. Regardless of the final crossing method selected, Pontotoc County/TRPDD would need to coordinate with the MDOT and the City of Pontotoc, obtain permits where applicable, and adhere to BMPs. Because of the anticipated relatively low volume of workers on the site required for construction activities, the nature of construction, and the relative short timeframe of the proposed work, impacts to local traffic are anticipated to be temporary and minor.

Based on a review of MDOT historical traffic data (MDOT 2019) the nearest traffic count stations are located on Highway 345 and MS 15. The Highway 345 traffic count station is located approximately 1.0 mile southeast of the site entrance (Site ID 580890). The 2019 annual average daily traffic count (AADT) for this station is 1,900. The MS 15 traffic count station is located approximately 1.3 miles southwest of the site entrance (Site ID 580250). The 2019 annual AADT for this station is 16,000.

In the context of the existing AADT road volumes of these highways, the anticipated traffic generated by the proposed activities would be manageable. 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 either Highway 345 or MS 15.

Under the No Action Alternative, if Pontotoc County was able to secure the supplemental funding for the actions described in this EA from other sources, or if Pontotoc County was 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 Pontotoc County was not able to secure any funding for the actions described in this EA or if the Action Alternative did not proceed, 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 5 acres of earth disturbing activities; therefore, it would be necessary to obtain coverage under the MDEQ's Large Construction General Permit (MSR10). As part of MSR10, a SWPPP would be developed. The SWPPP would include erosion prevention measures, sediment control measures, and other site management practices necessary to prevent the discharge of sediment and other pollutants. Impacts to WOTUS, if the single WWC or the two wetlands are determined to be jurisdictional, would require a CWA Section 404 permit from the USACE and a CWA Section 401 Water Quality Certification from the MDEQ. At this time, only WPC01 is anticipated to be considered jurisdictional and impacts to WOTUS could occur as part of the Action Alternative.

Project activities would need to comply with MDEQ Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants, 11 Mississippi Administrative Code, Part 2, Chapter 1. Rule 1.3 (D), (1) for the minimization of emissions and requiring a maximum sulfur content in diesel fuel, Rule 1.3 (C), (2), which requires reasonable precautions to prevent PM from becoming airborne, and Rule 1.3 (G), which provides open burning prohibitions, exceptions, and certification requirements. Pontotoc County/TRPDD also would need to coordinate with the MDOT and the City of Pontotoc, and obtain permits where applicable, regarding the proposed sewer line crossing of Highway 345.

Pontotoc County/TRPDD or their contractors would be responsible for obtaining all local, state, or federal permits, licenses, and approvals necessary for the project.

6.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

To minimize or reduce the environmental effects of site activities associated with the Proposed Action, Pontotoc County/TRPDD or their contractors is expected to ensure that clearing and grading activities are conducted in compliance with stormwater permitting requirements and to utilize applicable BMPs to minimize and control erosion and fugitive dust during these actions. These practices would include installation of sediment and erosion controls (silt fences, sediment traps, etc.). Potential impacts from noise would be minimized by utilizing daytime work hours. On-site burning activities would be conducted in compliance with local burn permits and the requirements in MDEQ Rule 1.3 (G).

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 or ponds from direct surface runoff. Servicing of equipment and vehicles is expected to be done with care to avoid leakage, spillage, and subsequent surface or ground water contamination. Oil waste, filters, and other litter are expected to be collected and disposed of properly.

Unavoidable impacts to the WWC and two wetlands would require consultation and permitting with the USACE if determined to be jurisdictional. If determined jurisdictional, impacts to the resources may require a CWA Section 404 permit and a CWA Section 401 Water Quality Certification, which would include mitigation measures and possibly compensatory mitigation (e.g., purchase of mitigation credits or implementation of a permittee responsible mitigation plan).

One tree was identified as suitable summer roosting habitat for NLEB. The single PRT will be removed during the Non-Winter Season (April 15 – May 31 and August 1 – September 30). Several activities (including tree clearing) during potentially occupied timeframes were addressed in TVA’s programmatic consultation with the USFWS on routine actions and federally-listed bats in accordance with Endangered Species Act (ESA) Section 7(a)(2). For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These measures are identified on page 5 of 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		
Ruth Horton <i>B.A., History</i>	25 years in NEPA, environmental compliance and policy	Environmental Program Manager
Ashley A. Pilakowski <i>B.S., Environmental Management</i>	10 years in environmental planning and policy and NEPA compliance	NEPA Compliance, Implementation of ESA Section 7 Programmatic Consultation for federally-listed bats and routine actions
Chevales Williams <i>B.S. Environmental Engineering</i>	15 years in water quality monitoring and compliance, 14 years in NEPA planning, input and environmental services	Soil Erosion and Surface Water
Kim Pilarski-Hall <i>M.S., Geography, Minor Ecology</i>	24 years expertise in wetland assessment, wetland monitoring, watershed assessment, wetland mitigation, restoration as well as NEPA and Clean Water Act compliance	Natural Areas and Wetlands
Britta Lees <i>M.S. Botany, B.A. Biology</i>	15 years experience in wetland assessment, wetland monitoring, watershed assessment, wetland mitigation, restoration as well as NEPA and Clean Water Act compliance	Wetlands
Kerry Nichols <i>Ph.D. Anthropology, University of Missouri-Columbia, M.A. Anthropology, University of Colorado-Denver, B.A. Political Science, University of Northern Colorado</i>	21 years of experience as a field archaeologist and SHPO project reviewer	Cultural resources, NHPA Section 106 compliance
Craig Phillips <i>M.S., and B.S., Wildlife and Fisheries Science</i>	10 years Sampling and Hydrologic Determinations for Streams and Wet-Weather Conveyances; 9 years in Environmental Reviews	Threatened and Endangered Species and Aquatic Ecology
Carrie Williamson, P.E., CFM <i>B.S. and M.S., Civil Engineering</i>	8 years in floodplains and flood risk	Floodplains

Name/Education	Experience	Project Role
John Shelton B.S. Biology M.S. Environmental Science	7 years in field biology, 2 years in NEPA and ESA compliance	Threatened and Endangered Species and Botany
Robert A. Marker B.S. Outdoor Recreation Resources Management	45 years in outdoor Recreation planning and management	Recreation
David Nestor B.S. Aquaculture, Fisheries, & Wildlife Biology M.S. Botany	25 years of plant identification, 20 years in Threatened & Endangered plant species and plant ecology	Botany
Aaron Bradner M.S. Crop and Soil Environmental Science	9 years of aquatic chemistry and aquatic ecology habitat assessment	Threatened and Endangered Species and Aquatic Ecology
Christopher Logan Barber B.S. Wildlife and Fisheries Management	10 years in wildlife population surveys and management	Terrestrial Zoology
Cardno		
Rachel Bell, PMP <i>B.S., Environmental Science, Auburn University</i>	15 years in natural resources planning and NEPA compliance, including project management, preparation of EAs and Environmental Impact Statements (EISs), state and federal permitting, and biological and environmental studies and analysis	EA Program Manager QA/QC
Doug Mooneyhan <i>M.S., Biology, Tennessee Technological University</i> <i>B.S., Wildlife and Fisheries Science; University of Tennessee</i>	31 years in natural resources and NEPA compliance, including project management and biological and environmental studies and analysis, compliance monitoring during construction, aquatic ecology.	EA Project Manager QA/QC Purpose and Need, Other Environmental Documentation, Alternatives, Site Description, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures
Duane Simpson <i>MA, Anthropology, University of Arkansas</i> <i>BA, Anthropology, Ohio University</i>	26 years in archaeological consulting including management of projects across the southeast and midatlantic regions. Principal Investigator for over 15 years.	Archaeology
Amanda Koonjebharry, PMP <i>B.S. Zoology and Botany, University of the West Indies</i>	19 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	Air Quality and Climate Change

Name/Education	Experience	Project Role
<p>Josh Yates, P.G. <i>M.S., Geology, University of South Florida</i> <i>B.S. Natural Resources Management and Engineering, University of Connecticut</i></p>	<p>15 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.</p>	<p>Groundwater</p>
<p>Sean Peacock <i>B.S., Environmental Science, Georgia College & State University</i></p>	<p>6 years of experience in the environmental consulting field. He regularly conducts wetland and stream delineation; wildlife surveys and monitoring; gopher tortoise surveys, monitoring, and relocations; NPDES inspections, and water quality sampling</p>	<p>Terrestrial Zoology, Aquatic Ecology, Wetlands</p>
<p>Sam Waltman <i>B.S., Marine Biology, Texas A&M University</i></p>	<p>10 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.</p>	<p>Prime Farmland</p>
<p>Kimberly Sechrist <i>M.S., Environmental Science, Towson University</i> <i>B.S., Biology, McDaniel College (originally Western Maryland College)</i></p>	<p>Over 13 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</p>	<p>Visual and Noise</p>
<p>Yosef Shirazi, Ph.D. <i>Ph.D., Marine Policy, University of Delaware</i> <i>M.S., Marine Science, University of North Carolina at Wilmington</i> <i>B.S., Biology, University of Maryland</i> <i>B.S., Environmental Science and Policy, University of Maryland</i></p>	<p>10 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</p>	<p>Socioeconomics and Environmental Justice</p>
<p>Brenton Jenkins, P.E. <i>B.S. Environmental Engineering, Louisiana State University</i></p>	<p>8 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.</p>	<p>Transportation</p>

8.0 AGENCIES AND OTHERS CONSULTED

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

- Mississippi Department of Archives and History / State Historic Preservation Office

9.0 REFERENCES

Ambrosino, J.N, T. Donaldson, C. Harris, R. Kennedy, and D. Simpson. 2021. Phase I Cultural Resources Survey of the Pontotoc Industrial Park, Pontotoc County, Mississippi. February 2021.

Aquaterra Engineering. 2008. Preliminary Geotechnical Investigation. 108 Acre Magee Property. December 1, 2008.

Bailey, M.A., J.N. Holmes, K.A. Buhlmann, and J.C. Mitchell. 2006. Habitat Management Guidelines for Amphibians and Reptiles of the Southeastern United States. Partners in Amphibian and Reptile Conservation Technical Publication HMG-2, Montgomery, AL.

Brady, J., T.H. Kunz, M.D. Tuttle and D. Wilson, 1982. Gray bat recovery plan. U.S. Fish and Wildlife Service, Denver, Colorado 80205. 143 pp.

Brock, J.P., and K. Kaufman. 2003. Field Guide to Butterflies of North America. Houghton Mifflin, New York, NY.

Cardno. 2021. Environmental Report – Jurisdictional Waters Determinations. TVA Pontotoc County Economic Development Project. January 2021.

Conant, R., and J. T. Collins. 1998. A Field Guide to Reptiles and Amphibians: Eastern and Central North America. Third edition. Houghton Mifflin, Boston, MA.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetland and Deepwater Habitats of the United States. Washington, D.C.: U.S. Fish and Wildlife Publication FWS/OBS-79/31.

Dorcas, L. and W. Gibbons. 2005. Snakes of the Southeast. The University of Georgia Press, Athens, GA.

Grossman, D. H., D. Faber-Langendoen, A. S. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. *International classification of ecological communities: terrestrial vegetation of the United States. Volume I. The National Vegetation Classification System: development, status, and applications.* The Nature Conservancy, Arlington, Virginia. 139pp.

Harvey, M. J. 1992. Bats of the eastern United States. Arkansas Game and Fish Commission, Little Rock, Arkansas. 46 pp.

Johnson, Jay K. 2008. Cultural Resources Survey of the Magee property, Pontotoc County, MS. November 2008.

- Kays, R, and D E. Wilson. 2002. Mammals of North America. Princeton University Press, Princeton, NJ. 240pp.
- Kurta, A, S. W. Murray, and D. H. Miller. 2002. Roost selection and movements across the summer landscape. In Kurta, A. and J. Kennedy, eds. The Indiana Bat: Biology and Management of an Endangered Species. Bat Conservation International, Austin, Texas.
- Leverett, Robert 1996. Definitions and History in Eastern old-growth forests: prospects for rediscovery and recovery. Edited by Mary Byrd Davis. Island Press, Washington D.C. and Covelo, California.
- Mississippi Department of Archives and History. 2008. Letter Regarding Cultural Resources Survey of the Magee property. December 3, 2008.
- Mississippi Department of Environmental Quality (MDEQ). 2011. Mississippi Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas. 2011.
- MDEQ. 2012. State of Mississippi Water Quality Criteria for Intrastate, Interstate, and Costal Waters. Jackson, MS.
- MDEQ. 2014. Mississippi 2014 Water Quality Assessment, Section 305(b) Report. Jackson, MS.
- MDEQ. 2018. Mississippi 2018 Section 303(d) List of Impaired Water Bodies. Jackson, MS.
- Mississippi Department of Transportation. 2015. Functional Classification System for Pontotoc County Mississippi. Available at: https://mdot.ms.gov/documents/Planning/Maps/FC%20Counties/Pontotoc_fcs.pdf. Accessed February 10, 2021.
- Mississippi Department of Transportation. 2019. Available at: <https://mdot.ms.gov/applications/trafficcounters/>. Accessed February 10, 2021.
- Mississippi Department of Wildlife, Fisheries, and Parks. 2008. Letter Regarding Environmental Assessment. November 20, 2008.
- National Geographic. 2002. A Field Guide to the Birds of North America. 4th ed. National Geographic Society Washington, D.C. 480pp.
- National Park Service. 2017. Physiographic Provinces. Available at: <https://www.nps.gov/subjects/geology/physiographic-provinces.htm>. Accessed February 10, 2021. Niemiller, M.L, and R.G. Reynolds. 2011. The Amphibians of Tennessee. The University of Tennessee Press, Knoxville.
- Natural Resources Conservation Service. 2019. Pontotoc Co. MS Prime and Important Farmlands. Available at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html Accessed January 2021.

- Powell, R., Conant, R., and J. T. Collins. A Field Guide to Reptiles and Amphibians: Eastern and Central North America. 4th edition. Boston: Houghton Mifflin, 2016. 494 pp.
- Pruitt, L., and L. TeWinkel. 2007. Indiana Bat (*Myotis sodalis*) Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.
- Schotz, Alfred 2016. Recovery of the Price's Potato-bean (*Apios priceana*) at Sauta Cave National Wildlife Refuge, Alabama. Final Report. Alabama Natural Heritage Program, Auburn University, Alabama.
- Sibley, D.A. 2003. The Sibley Field Guide to Birds of Eastern North America. Alfred A. Knopf, Inc. New York, New York. (431 pp.).
- Tennessee Valley Authority (TVA). 1981. Class Review of Repetitive Actions in the 100-Year Floodplain, Federal Register Vol. 46, No. 76, April 21, 1981. 22845-22846.
- TVA. 2017. A Guide for Environmental Protection and Best management Practices for Tennessee Valley Authority Construction and Maintenance Activities, Revision 3. Edited by G. Behel, S. Benefield, R. Brannon, C. Buttram, G. Dalton, C. Ellis, G. Henley, T. Korth, T. Giles, A. Masters, J. Melton, R. Smith, J. Turk, T. White, and R. Wilson. Chattanooga, TN.: Available at: <https://www.tva.com/Energy/Transmission-System/Transmission-System-Projects>. Accessed April 19, 2019.
- TVA. 2020. TVA Categorical Exclusion Checklist Input – Aquatic Ecology / T&E. November 12, 2020.
- Turcotte, W. H. and D. L. Watts. 1999. Birds of Mississippi. University Press of Mississippi, Jackson, Mississippi.
- Tuttle, M. D. 1976. Population ecology of the gray bat (*Myotis grisescens*): philopatry, timing, and patterns of movement, weight loss during migration, and seasonal adaptive strategies. Occasional Papers of the Museum of Natural History, University of Kansas, 54:1-38.
- United States Army Corps of Engineers (USACE). 2009. Letter Regarding Mendrop-Wages, Wetlands Assessment – Magee Property. January 28 2009.
- USACE. 2010. Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region.
- United States Bureau of Labor Statistics. 2020. Available at: <https://data.bls.gov/PDQWeb/la>. Accessed February 10, 2021.
- United States Census Bureau 2020. Available at: https://www.census.gov/quickfacts/fact/table/MS_pontotoccountymississippi.pontotoccitymississippi/RHI625219#RHI625219. Accessed February 10, 2021.
- United States Climate Data. 2020. Available at: www.usclimatedata.com. Accessed November 10, 2020.

- United States Department of Agriculture (USDA). 2017. Available at: https://www.nass.usda.gov/Quick_Stats/CDQT/chapter/2/table/1/state/MS/county/115/year/2017. Accessed January 2021.
- United States Environmental Protection Agency (USEPA). 2021. Green Book; Mississippi Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available at: https://www3.epa.gov/airquality/greenbook/anayo_ms.html. Accessed February 10, 2021.
- United States Fish and Wildlife Service (USFWS). 2008. Letter Regarding the Results of a Threatened and Endangered Species Survey for the Magee Property. December 12, 2008.
- USFWS. 2013. Bald and Golden Eagle Protection Act. Available at: <http://www.fws.gov/northeast/ecologicalservices/eagleact.html>. Accessed November 2, 2020.
- USFWS. 2014. Northern Long-eared Bat Interim Conference and Planning. Available at: <https://www.fws.gov/northeast/virginiafield/pdf/NLEBinterimGuidance6Jan2014.pdf>. Accessed November 2, 2020.
- USFWS. 2019. 2019 Range-Wide Indiana Bat Survey Guidelines. Available at: https://www.fws.gov/midwest/endangered/mammals/inba/surveys/pdf/2019_Rangewide_IBat_Survey_Guidelines.pdf. Accessed November 2, 2020.
- USFWS. 2020. Wood Stork Species Profile. Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B06O>. Accessed November 2, 2020.
- United States Geological Survey (USGS). 1995a. Ground Water Atlas of the United States, Arkansas, Louisiana, Mississippi, HA 730-F Regional Summary. 1995. Available at: https://pubs.usgs.gov/ha/ha730/ch_f/F-text1.html. Accessed February 10, 2021.
- USGS. 1995b. Ground Water Atlas of the United States, Arkansas, Louisiana, Mississippi, HA 730-F Mississippi Embayment Aquifer System. 1995. Available at: https://pubs.usgs.gov/ha/ha730/ch_f/F-text4.html. Accessed February 10, 2021.
- USGS. 1995c. Ground Water Atlas of the United States, Arkansas, Louisiana, Mississippi, HA 730-F Cretaceous Aquifers. 1995. Available at: https://pubs.usgs.gov/ha/ha730/ch_f/F-text5.html. Accessed February 10, 2021.
- USGS. 1996. Hydrogeology of the Southeastern Coastal Plain aquifer system in Mississippi, Alabama, Georgia, and South Carolina. 1996. Available at: <https://pubs.usgs.gov/pp/1410b/report.pdf>. Accessed February 10, 2021.
- USGS. 2008. Annual Precipitation and Runoff Averages. PRISM Product. The PRISM Climate Group. Oregon State University. Corvallis, OR.
- USGS. 2021. Geologic Units in Pontotoc County, Mississippi. 2021. Available at: <https://mrdata.usgs.gov/geology/state/fips-unit.php?code=f28115>. Accessed February 10, 2021.

Whitaker, J.O. 1996. National Audubon Society: Field Guide to North American Mammals. Alfred A. Knopf, Inc., New York, NY.

Wildlife Technical Services, Inc. 2008a. Phase I Environmental Site Assessment. Magee Property. December 2008.

Wildlife Technical Services, Inc. 2008b. Magee Property, Preliminary Environmental Review. October 15, 2008.