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ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR SITE IMPROVEMENTS AT MORGAN CENTER BUSINESS PARK

FINAL ENVIRONMENTAL ASSESSMENT

Morgan County, Alabama

Prepared by:
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EXECUTIVE SUMMARY

An integral part of the Tennessee Valley Authority's (TVA's) mission is to promote the economic development of the Tennessee Valley region. TVA provides financial assistance to communities to help them bring new improved sites and facilities to market and to position communities to compete successfully for new jobs and investment. While future prospects for the Morgan Center Business Park (Business Park) are not known at this time, the primary purpose of this project is to enhance the marketability and facilitate the development of the Business Park. TVA needs to make a decision about providing a grant to the Morgan County Economic Development Association (MCEDA) for improvements to the existing zoned Business Park. The MCEDA is also expected to provide funding for these improvements. TVA funding would be used to prepare the approximately 44 acre "Lot 1" within the Business Park including clearing trees, mitigating wetland impacts, and relocating a stream.

Alternatives

This Environmental Assessment (EA) addresses potential impacts of the proposed project as well as the alternative of not implementing the action. Under the No Action Alternative, TVA would not provide funding. In this event, MCEDA could seek alternative funding or not complete the project. If the project were not completed, the eventual development of the site would likely be delayed and the Business Park could lose prospective developers interested in a prepared site. The likely eventual development of the site would result in environmental consequences similar to the Action Alternative.

Under the Action Alternative, TVA would provide funding for the project. The Business Park would be prepared then be available for light industrial and/or commercial development. Project related actions would include: clearing and grubbing of approximately 36 acres of trees on Lot 1; wetland delineation and permitting; wetland mitigation and associated mitigation fees; and stream relocation and associated permitting fees.

Impact Assessment

TVA has determined that the proposed actions would have no or negligible impacts on land use, floodplains, threatened and endangered vegetation, socioeconomics and environmental justice, transportation, navigation, natural areas, and cultural and historic resources. Additionally, TVA determined there would be no significant impacts on wildlife, vegetation, and threatened and endangered species of wildlife and aquatic ecology. The proposed clearing activities would result in minor impacts to aquatic ecology, prime farmland, air quality, noise, and waste materials.

TVA conducted an onsite survey of the proposed project area in June 2017 to identify sensitive environmental resources. One wetland was identified within the project area. Wetland impacts will be regulated under U.S. Army Corps of Engineers (USACE) Section 404 and mitigation will be required to offset project impacts to an insignificant level. There is "no practicable alternative" to avoid~~ing~~ impacts to the wetlands. Mitigation will be achieved via purchase of credits at a

wetland mitigation bank within the vicinity of the Morgan Center Business Park. The requirements of EO 11990 have been met.

Foraging habitat for gray bat exists over wetlands and streams within the project footprint. Suitable summer habitat for Indiana and northern long-eared bats exists within the forested areas of the site. These bat habitats would not be affected as a result of the buffer protections established to retain those habitats.

A Phase I Environmental Site Assessment was performed during initial investigations for the Business Park in May 2007. The Site Assessment identified no outstanding environmental concerns regarding the release of hazardous wastes on the site. The site has been vacant and/or agricultural land for most of its history.

A Phase I Cultural-Resources Survey of the Business Park identified no cultural resources. The Alabama State Historic Preservation Officer concurred there would be no effects to cultural resources from TVA's proposed action. TVA received no objections from federally recognized tribes for this undertaking.

Mitigation

To minimize or reduce the environmental effects of the project, MCEDA or its contractors would ensure all earth-disturbing activities are in compliance with U.S. Army Corps of Engineers and applicable storm water, waste, and air permitting requirements and would use applicable best management practices (BMP) to minimize and control erosion and fugitive dust during the actions.

TVA would include the commitments prescribed below in its financial assistance grant to MCEDA in order to reduce or mitigate environmental impacts associated with the future construction activities:

- Wetland impacts will be regulated under USACE Section 404 program and mitigation will be required to offset project impacts to an insignificant level. Mitigation will be achieved via purchase of credits at a wetland mitigation bank within the vicinity of the Morgan Center Business Park.

- No trees identified as suitable bat habitat, including habitat for the gray bat, Indiana bat and the Northern long-eared bat, will be removed. A vegetated buffer will be maintained around the boundaries of the site preserving the identified suitable bat habitat.

Conclusion and Findings

Based on the findings listed above TVA's proposed action is to provide funding to the MCEDA for improvements to the Morgan Center Business Park.

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Symbols, Acronyms, and Abbreviations

°F	degrees Fahrenheit
CFR	Code of Federal Regulations
CO_2	carbon dioxide
dB	decibel
dBA	A-weighted decibel
EA	Environmental Assessment
EO	Executive Order
ft^3	cubic feet
GHG	greenhouse gas
Leq	continuous equivalent sound level or average sound level
MaxP	maximum peak sound level
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
SPCC	spill prevention, control, and countermeasure plan
SR	state route
SWPPP	Stormwater Pollution Prevention Plan
TRM	Tennessee River Mile
TVA	Tennessee Valley Authority
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

CHAPTER 1 - PURPOSE OF AND NEED FOR ACTION AND ALTERNATIVES

1.1 Purpose and Need

An integral part of the Tennessee Valley Authority's mission is to promote the economic development of its service area. TVA provides financial assistance to help bring to market new improved sites and facilities within the Tennessee Valley region and position communities to compete successfully for new jobs. While future prospects for the site are not known at this time, the primary purpose of this project is to enhance the marketability and facilitate the development of the Morgan Center Business Park (Business Park). TVA needs to make a decision about providing a grant to the Morgan County Economic Development Association (MCEDA) for improvements to the existing zoned Business Park. The MCEDA is also expected to provide funding for these improvements. TVA is preparing this environmental assessment to evaluate the environmental impacts of its proposal.

1.2 Action

TVA proposes to provide a grant to the MCEDA for improvements within the existing zoned Business Park located in Morgan County, Alabama. The approximately 135 acre Business Park is new and located approximately two miles southeast of the center of Hartselle, Alabama, along I-65 at Exit 325 (Figure 1). TVA funding would be used for the following improvements: clearing and grubbing of approximately 36 acres of trees on the approximately 44 acre "Lot 1" within the Business Park; wetland delineation and permitting; wetland mitigation and associated mitigation fees; and stream relocation and associated permitting fees (Figure 2).

1.3 Related Environmental Reviews and Documentation

A Phase I Environmental Site Assessment was performed during initial investigations for the Business Park. It was performed by Gallet & Associates in May 2007 consistent with the procedures in ASTM E 1527-13 (Standard Practice for Environmental Site Assessments). The primary purpose of this study was to perform due diligence prior to purchase of the property for establishment of the Business Park. The Phase I Site Assessment (2007) identified no outstanding environmental concerns regarding the release of hazardous wastes on the site. The site has been vacant and/or agricultural land for most of its history (Reaves, Reymann, and Noble 2007).

Figure 1. Location of the Morgan Center Business Park in Morgan, AL

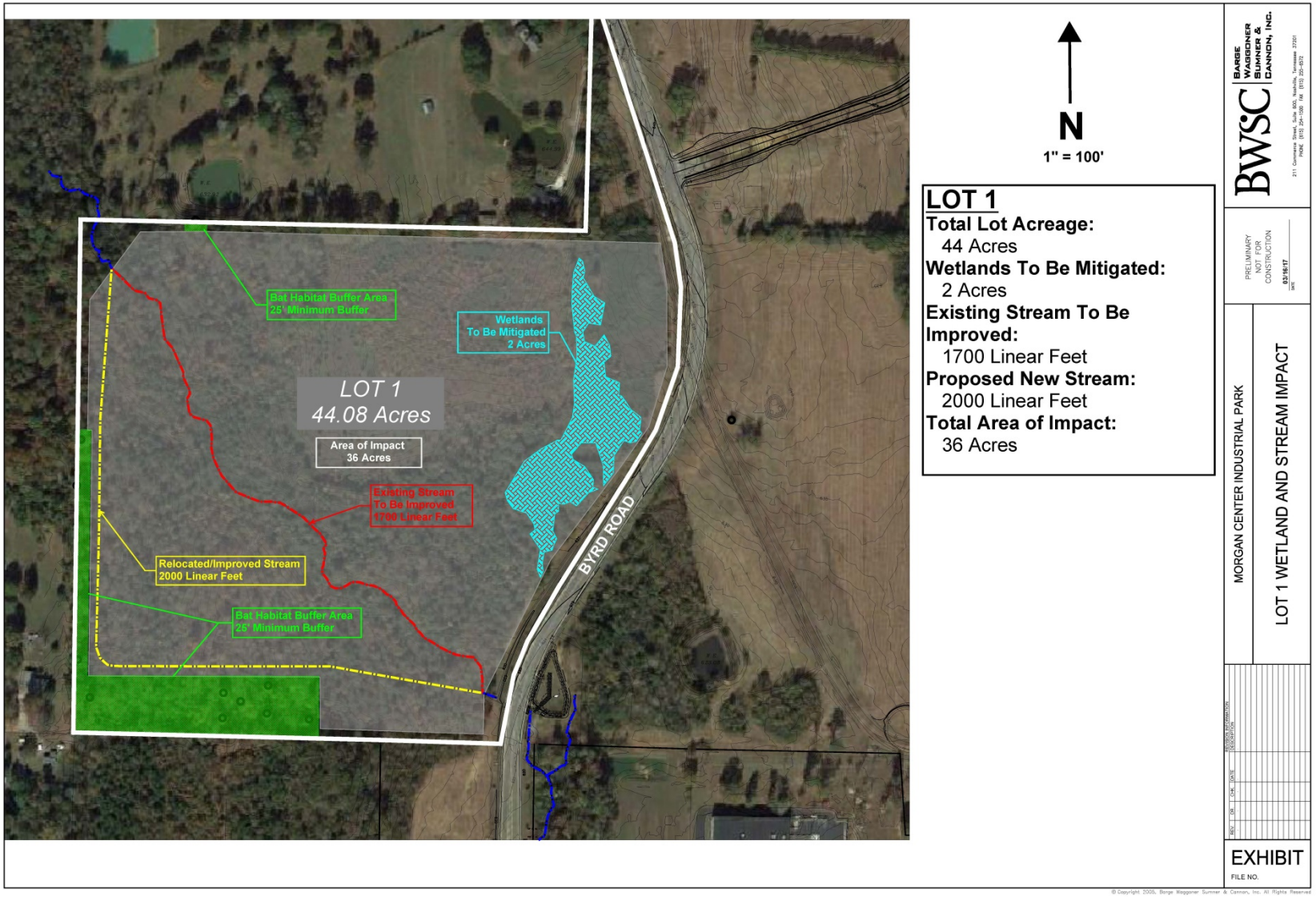

Figure 2. Morgan Center Business Park Lot 1 Project Area and Activities

1.4 Permits, Licenses, and Approvals

The provision of economic development assistance to MCEDA for the activities is not subject to any TVA permits or licenses; however, the actions to be undertaken by MCEDA require the following permits:

- A general construction storm water permit would be needed since more than one acre would be disturbed. This permit also requires the development and implementation of a Construction Best Management Practices Plan (CBMPP). The CBMPP would identify specific BMPs to address construction-related activities that would be adopted to minimize storm water impacts.

- A Joint permit application would be submitted to the Alabama Department of Environmental Management (ADEM) and the Army Corp of Engineers (USACE) to obtain the required 401 Water Quality Certification and USACE permit , respectively, for stream crossings and stream alterations.

- BMPs, as described in *Alabama Handbook for Erosion Control, Sediment Control and Storm water management on Construction Sites and Urban Areas* (ASWCC, 2014), would be used to avoid contamination of surface water in the project area.

- Wetland impacts will be regulated under U.S. Army Corps of Engineers Section 404 program, and mitigation will be required to offset project impacts to an insignificant level. TVA will be required to comply with Executive Order (EO) 11990 (Protection of Wetlands) and TVA's National Environmental Policy Act procedures including the requirement for a public notice for actions affecting wetlands. Wetland mitigation as required by permitting requirements (typically at a 2:1 ratio) will offset wetland impacts to an insignificant level. Mitigation will be achieved via purchase of credits at a wetland mitigation bank within the vicinity of the Business Park.

- Any previously unidentified wells and/or septic tanks that may be present on the site from past residential uses would be closed/abandoned in accordance with applicable regulations.

1.5 Alternatives

TVA has determined that from the standpoint of the National Environmental Policy Act (NEPA), there are two alternatives available to TVA: the No Action Alternative and the Action Alternative.

1.5.1 No Action Alternative – Alternative A

Under the No Action Alternative, TVA would not provide funding. In this event, MCEDA could seek alternative funding or not complete the project. If the project were not completed the eventual development of the site would likely be delayed and the Business Park could lose prospective developers interested in a prepared site. The likely eventual development of the site would result in environmental consequences similar to the Action Alternative.

1.5.2 Action Alternative – Alternative B

Under the Action Alternative, TVA would provide funding for the project. The Business Park would be prepared, as described above and shown in Figure 2, and would then be available for light industrial and/or commercial development. Project related actions would include: clearing and grubbing of approximately 36 acres of trees on Lot 1; wetland delineation and permitting; wetland mitigation and associated mitigation fees; and stream relocation and associated permitting fees.

1.6 Affected Environment and Anticipated Impacts

1.6.1 Site Description

The Business Park (135 acres) is a new industrial park located on Byrd Road, southeast of Hartselle, Alabama, on the west side of I-65 at Exit 325 (Thompson Road). The property is also located east of Highway 31. Currently the tract consists of mixed forest and is undeveloped. Surrounding land uses are primarily industrial, residential, and agricultural uses. In general, the topography of the Business Park site slopes gently toward the southeast.

The Business Park site is located within the Interior Plateau ecoregion and the Little Mountain physiographic region of Alabama. The site is within the Hartselle topographic quadrangle and lies within the Robertson Branch-Cedar Creek (060300021004) 12-digit HUC (Lynch 2016).

1.6.2 Impacts Evaluated

The following resources are being considered to be potentially affected by the action:

- Surface Water
- Aquatic Ecology
- Terrestrial Resources (Wildlife and Vegetation)
- Threatened and Endangered Species (Wildlife and Aquatic Ecology)
- Wetlands
- Prime Farmland
- Air Quality
- Noise
- Waste Materials

According to current information, the action would have no impact or would be limited to negligible or minor effects on the following resources.

- *Land Use* – The Business Park is located within the Hartselle, Alabama, city limits and is zoned as industrial. TVA's contribution to the action will result in a change in the vegetation on the site. However, TVA's contribution will not affect the ultimate land use of the site. Therefore, there would be no impacts to land use associated with the actions.

- *Floodplains* - The site is located outside the 100-year floodplain and well above the 500-year flood elevation. Therefore, the grant to MCEDA would be consistent with Executive Order 11988 and have no significant impact on floodplains.

- *Threatened and Endangered Species (Vegetation)* - Three state-listed and one federally listed plant species have been previously reported from within a 5 mile vicinity of the project area. Two additional federally listed plants have been documented from Morgan County, Alabama. No designated critical habitat for plant species occurs on the survey parcel. Despite the fact that field surveys occurred during the dormant season when most plants are not visible above ground (January 2017), habitat present on site is clearly incapable of supporting rare plants. The property has been heavily disturbed by previous land use and does not support the species present in the County or the surrounding 5 mile area, which require specific habitats including rocky, shaded cave entrances, limestone cedar glades, and boulder strewn forests indicative of the Cumberland Plateau Escarpment. Therefore, there would be no impacts to threatened and endangered plant species associated with the actions.

- *Socioeconomics and Environmental Justice* - TVA's contribution to clearing the site is not likely to directly affect the local economy beyond a minimal amount. TVA's contribution would create indirect, potentially beneficial impacts to socioeconomics. Morgan County currently has a limited number of fully served, available sites ready for industrial development. Closures of large industries have occurred in neighboring Lawrence and Morgan Counties in recent years. The ability to attract a new industry to the Business Park would benefit the economy and residents by creating new jobs. Clearing and grubbing about 36 acres of trees on Lot 1 within the Business Park would create a small number of temporary construction jobs likely to be filled by a local company using existing employees. While the anticipated impacts of the preferred actions to socioeconomics are expected to be beneficial, they would also represent only a minor change within the overall economy of the county. No disproportionate impacts to minority or low-income populations are anticipated, and therefore no impacts to environmental justice would occur.

- *Transportation* - Direct and immediate impacts from construction activities are not likely to affect local roads or traffic loads because of the short duration of the actions and the limited amount of equipment that would be required onsite. Therefore, TVA's contribution to clearing the site is not likely to affect transportation. TVA's contribution could create indirect impacts to transportation as a result of the eventual development of Lot 1 at the Business Park; however, the nature and extent of those impacts are unknown at this time as the future developer, extent and design of the future development, and extent and nature of transportation impacts is unknown at this time. .

- *Navigation:* No navigable rivers are located on or within 2 miles of the property. Because no clearing or demolition would occur near navigable rivers, undertaking the project would not affect navigation interests.

- *Natural Areas* - Natural areas include managed areas, ecologically significant sites, and Nationwide Rivers Inventory streams. A review of data from the TVA Regional Natural Heritage database indicates there are no natural areas on, immediately adjacent to (within 0.5 mile), or within the region of the Business Park (5 mile radius).

- *Cultural and Historic Resources* - Prior to TVA's involvement, a Phase I cultural resources survey was conducted by PanAmerican Consultants, Inc. within the larger Business Park boundaries (Wood 2007). No archaeological or historic sites were identified within Lot 1. Based on the results of its survey, TVA finds that the undertaking has no potential to effect historic properties under either alternative. In a letter dated December 15, 2016, the Alabama State Historic Preservation Office concurred with TVA's "no effect" finding. Pursuant to 36 CFR Part 800.3(f)(2),TVA consulted with federally recognized Indian tribes regarding properties within the project's area of potential effect that may be of religious and cultural significance to them and eligible for the NRHP. TVA received no objections from federally recognized tribes for this undertaking.

1.7 Public Involvement

The Economic Development Grant Proposal for Site Improvements at Morgan County Center Business Park in Morgan County, Alabama was released for comment on June 27, 2017. The comment period closed on July 10, 2017. The Draft EA was posted on TVA's public NEPA review website. Comments were accepted through July 10, 2017, via TVA's website, mail, and e-mail. No comments were received.

CHAPTER 2 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental effects that could result from implementation of either of these alternatives based on the information available at the time of analysis.

2.1 Surface Water

2.1.1 Affected Environment

The project area drains to streams within the Flint Creek (HUC 06030000210) 10-digit HUC watershed. The surface water streams in the vicinity of this project are unnamed tributaries of Cedar Creek. These unnamed tributaries flow into Cedar Creek and ultimately flows into Flint Creek. According to a preliminary jurisdiction determination conducted in October 2010, the entire site (including Lot 1 and 2) contained approximately six streams which totaled 2,890 linear feet occur within the boundary of the Business Park. Lot 1, the proposed project area in this EA contains one stream that traverses the project site (Figure 2).

Precipitation in the general area of the project averages about 56 inches per year. The average annual air temperature ranges from a monthly average of 31degrees Fahrenheit in January to 89 degrees Fahrenheit in July (best places 2017). Stream flow varies with rainfall and averages about 24.57 inches of runoff per year; i.e., approximately 1.81 cubic feet per second, per square mile of drainage area (USGS 2008).

The Clean Water Act requires all 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. None of the streams directly in the project area are on Alabama’s 303(d) list (ADEM 2016a); however, Flint Creek which is in the watershed of to the project is listed on the 303(d) list for impairment of mercury due to atmospheric deposition. The primary designations for the streams listed in this project area are for fish and wildlife and swimming and other whole body water contact sports use classification (ADEM 2016b, 2016c).

2.1.2 Environmental Consequences

2.1.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, there would be no changes to water bodies or activities that could affect water bodies. Therefore, there would be no impacts to surface water associated with Alternative A. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.1.2.2 Alternative B (Action Alternative)

Under Alternative B, the approximately 1700 linear foot stream that traverses Lot 1 would be relocated to approximately 2000 linear feet along the western and southern perimeters of the

site. The stream and surrounding forested riparian area and vegetation would be restored as part of the relocation. This restoration would require a mitigation plan with approval and concurrence by both ADEM and the USACE. Details of the stream relocation would be included in the mitigation plan and would be expected to only have temporary minor impacts to surface waters due to construction activities.

Surface Runoff - *C*onstruction activities have the potential to temporarily affect surface water via storm water runoff. Soil erosion and sedimentation can clog small streams and threaten aquatic life. The developer would comply with all appropriate federal, state and local permit requirements. A portion of a stream would be relocated as part of this proposed project. This proposed action would require the reestablishment of the riparian zone around the newly diverted stream path and other appropriate mitigative measures as required by the Alabama Department of Environmental Management and the USACE as part of the steam mitigation plan. The vegetative buffer maintained around the site boundary would partially serve as a riparian buffer along one side of the stream. Appropriate BMPs would be followed, and all project activities would be conducted in a manner to ensure that waste materials (including but not limited to sediment, chemical and solid wastes) are contained, and the introduction of pollution materials to the receiving waters would be minimized. A general construction storm water permit would be needed since more than one acre would be disturbed. This permit also requires the development and implementation of a Construction Best Management Practices Plan (CBMPP). Additionally, a Joint permit application would be submitted to the Alabama Department of Environmental Management (ADEM) and the USACE to acquire the required Clean Water Action Section 401 Water Quality Certifications and USACE permits for stream crossings and stream alterations. The CBMPP would identify specific BMPs to address construction-related activities that would be adopted to minimize storm water impacts. Additionally, BMPs, as described in *Alabama Handbook for Erosion Control, Sediment Control and Storm water management on Construction Sites and Urban Areas* (ASWCC 2014), would be used to avoid contamination of surface water in the project area.

Additionally, impervious buildings and infrastructure prevent rain from percolating through the soil and result in additional runoff of water and pollutants into storm drains, ditches, and streams. Presumed future construction on Lot 1, which could be facilitated as a result of the actions, would impact impervious surface area, increasing it moderately. Under the preferred alternative, the concentrated storm water flow from the project area would come primarily from any such future development. Any future development would need to be properly treated with either implementation of the proper BMPs or to engineer a discharge drainage system that could handle any increased flows prior to discharge into the outfall(s).

Domestic Sewage - Portable toilets would be provided for the construction workforce as needed. These toilets would be pumped out regularly, and the sewage would be transported by tanker truck to a publicly-owned wastewater treatment works that accepts pump out. Future installation of septic facilities may require permitting for either onsite sewage system through the Alabama Department of Health or municipal sewer system by the local water and sewer system authority.

Equipment Washing and Dust Control – Equipment washing and dust control discharges would be handled in accordance with BMPs described in the Construction Best Management Practices Plan for water-only cleaning.

With the proper implementation of BMPs and the approval from the USACE and ADEM of a mitigation plan for the stream relocation this project would be expected to have only minor, temporary impacts to surface waters. Additionally, no cumulative impacts are anticipated.

2.2 Aquatic Ecology

2.2.1 Affected Environment

Because construction and maintenance activities mainly affect riparian conditions and in-stream habitat, TVA evaluated the condition of both of these at the stream crossing on the project site. Riparian condition was evaluated during a field survey by Gallet & Associates Inc.

One forested riparian area is present within Lot 1. A forested riparian area is defined as fully vegetated with trees, shrubs and herbaceous plants. Vegetative disruption from mowing or grazing is minimal or not evident. Riparian width extends more than 60 feet on either side of the stream. Additional information regarding watercourses in the vicinity of the project area can be found in Section 2.6 Surface Water.

2.2.2 Environmental Consequences

2.2.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative there would be no changes to water bodies or activities that could affect water bodies. Therefore, there would be no impacts to aquatic ecology associated with Alternative A. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.2.2.2 Alternative B (Action Alternative)

Under Alternative B, impacts would either occur directly by the alteration of habitat conditions within the stream or indirectly due to modification of the riparian zone and storm water runoff resulting from construction and maintenance activities and stream relocation.

Potential impacts due to removal of streamside vegetation within the riparian zone include increased erosion and siltation, loss of instream habitat, and increased stream temperatures. Other potential effects resulting from construction and maintenance include alteration of stream banks and stream bottoms by heavy equipment and by herbicide runoff into streams. Siltation has a detrimental effect on many aquatic animals adapted to riverine environments. Turbidity caused by suspended sediment can negatively impact spawning and feeding success of fish and mussel species (Brim Box and Mossa 1999; Sutherland et al. 2002).

Applicable U.S. Army Corps of Engineers 404 permits would be obtained for the relocation of 2000 linear feet of stream within the project area and the terms and conditions of these permits would require mitigation for impacts to streams. The MCEDA would follow state BMPs for construction activities (such as erosion and sedimentation control) to minimize impacts on

aquatic ecology. With adherence to the permit requirements and implementation of BMPs, impacts to aquatic ecology would be minor and temporary.

2.3 Wildlife

2.3.1 Affected Environment

Habitat assessments for terrestrial animal species were conducted in the field on January 9, 2017 at the Business Park. Landscape features within and surrounding the approximately 44 acre Lot 1 consist of a variety of fragmented and contiguous forest habitat, a wetland, a stream, and early successional habitat. Approximately 29 acres of forested habitat within the Business Park footprint would be cleared for the actions. Approximately 12.5 acres of early successional habitat and 2.5 acres of riparian and wetland habitat would be disturbed. Each of the varying vegetative community types offers suitable habitat for animal species common to the region, both seasonally and year-round.

Deciduous forest represents approximately 66 percent of the habitat type across the project area. These forest types provide habitat for an array of common terrestrial animal species. Birds typical of this habitat include Acadian flycatcher, chuck-will's-widow, downy and hairy woodpecker, eastern screech-owl, eastern wood-pewee, great horned-owl, red-headed woodpecker, summer tanager, wood thrush, wild turkey, and yellow-billed cuckoo (National Geographic 2002). This area also provides foraging and roosting habitat for several species of bat, particularly in areas where the forest understory is partially open. Bat species likely found within this habitat include big brown bat, eastern red bat, evening bat, silver-haired bat, and tricolored bat. Eastern chipmunk, gray fox, and woodland vole are other mammals likely to occur within this habitat (Kays and Wilson 2002, Whitaker 1996). Black rat snake, eastern black kingsnake, eastern box turtle, and northern ring-necked snake are common reptiles of deciduous forests in this region (Conant and Collins 1998, Dorcas and Gibbons 2005, Scott and Redmond 2008).

Early successional, herbaceous habitat comprises approximately 34 percent of the project footprint. Common inhabitants of this type of early successional habitat include brown-headed cowbird, brown thrasher, common yellowthroat, dickcissel, eastern bluebird, eastern kingbird, eastern meadowlark, field sparrow, and grasshopper sparrow (National Geographic 2002). Bobcat, coyote, eastern cottontail, eastern mole, and red fox are mammals typical of fields and cultivated land (Kays and Wilson 2002, Whitaker 1996). Reptiles, including northern copperhead and southern black racer are also are known to occur in this habitat type (Dorcas and Gibbons 2005, Scott and Redmond 2008).

Wetland and streamside riparian habitat, both forested and herbaceous, comprise approximately 5 percent of the project footprint. Such habitat provides resources for birds, including Acadian flycatcher, northern harrier, prothonotary warbler, red-winged blackbird, song sparrow, swamp sparrow, and white-throated sparrow (National Geographic 2002). American beaver, golden mouse, and muskrat are common mammals of palustrine wetland and aquatic communities (Whittaker 1996). Midwestern worm snake, ringneck snake, rough green snake, and timber rattlesnake are common reptiles likely present within this habitat (Dorcas and

Gibbons 2005, Scott and Redmond 2008). Amphibians likely found in forested wetlands in this area include marbled, northern slimy, and spotted salamander, eastern narrowmouth toad, eastern spadefoot toad, Fowler's toad, gray treefrog, and southern leopard frog (Conant and Collins 1998, Scott and Redmond 1996).

Review of the TVA Regional Natural Heritage database in April 2017 indicated one cave documented within 3 miles of the project area, occurring approximately 2 miles from the action area. No caves were identified during field review of the project footprint in January 2017. No other unique or important terrestrial habitats were identified within the project area. In addition, no aggregations of migratory birds or wading bird colonies have been documented within 3 miles of the project area and none were observed during field surveys. The likely project actions are approximately 5.2 miles away from Wheeler National Wildlife Refuge, a known hotspot for migratory birds.

2.3.2 Environmental Consequences

2.3.2.1 Alternative A (No Action Alternative)

Under Alternative A, no clearing of vegetation would occur. Trees and other vegetation would remain in place in their current state. No direct, indirect, or cumulative impacts to wildlife would occur. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.3.2.2 Alternative B (Action Alternative)

Under Alternative B, TVA would provide a grant to MCEDA. TVA funding would be used to clear and grub 36 forested acres on Lot 1 within the Business Park; as well as for wetland mitigation and the relocation of 2000 linear feet of stream. Forested, herbaceous, and aquatic habitat that may provide habitat for common wildlife species would be removed in association with the actions.

Vegetation removal may occur on some of the 11.9 acres of early successional, herbaceous habitat. Clearing of some of the 29 acres of forested habitat would take place as part of the actions. A vegetative buffer of trees would remain in place around the exterior site boundary. Potential bat habitat within this buffer would be protected. As a result of the clearing, direct effects to some individual wildlife that are immobile during the time of construction may occur, particularly if construction activities transpire during breeding/nesting seasons. However, the actions are not likely to affect populations of species common to the area, as similar habitat exists in the surrounding landscape.

Construction-associated disturbances and habitat removal would disperse wildlife into surrounding areas in an attempt to find new food and shelter sources and to reestablish territories potentially resulting in added stress or energy use to these individuals. These adjacent areas would be relatively pervious to terrestrial animal species dispersing from the action area. In the event that surrounding areas are already overpopulated, further stress to wildlife populations presently utilizing these areas may result, as well as to those attempting to relocate. The landscape surrounding the project area is relatively forested, however, making it

unlikely that species currently occupying adjacent habitat would be negatively impacted by the influx of new residents. Cumulative effects of the project on common wildlife species are expected to be minor.

2.4 Vegetation

2.4.1 Affected Environment

Field surveys were conducted at the Morgan Center Business Park in January 2017 to document plant communities and infestations of invasive plants, and to search for possible threatened and endangered plant species. All plant communities present on the parcel were visited during the survey. Using the National Vegetation Classification System (Grossman et al. 1998), vegetation types observed during field surveys can be classified 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).

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. Fields and young thickets account for the vast majority of herbaceous vegetation in the project area. Most of these areas are dominated by plants indicative of early successional habitats including some non-native species. Common species in these disturbed areas include broomsedge bluestem, bushy bluestem, Johnson grass, purpletop tridens, southern blackberry, and tall goldenrod.

All of the forests in the project area are deciduous in composition, which are characterized by trees with overlapping crowns where deciduous species account for more than 75 percent of the canopy cover. Deciduous forests in the project area are dominated by a variety of tree species including pignut hickory, red maple, scarlet oak, southern red oak, sweetgum, water oak, and white oak with scattered evergreens of eastern red cedar, loblolly pine, and shortleaf pine. The understory consisted of Chinese privet, eastern baccharis, farkleberry, and lowbush blueberry. Herbaceous plants were sparse and include cranefly orchid and the woody vines Japanese honeysuckle and yellow jassamine. The deciduous forests in the project area have trees that average between 6 and 18 inches diameter at breast height, with a few oak trees reaching about 30 inches.

EO 13112 serves to prevent the introduction of invasive species and provides for their control to minimize the economic, ecological, and human health impacts that those species potentially cause. In this context, invasive species are nonnative species that invade natural areas, displace native species, and degrade ecological communities or ecosystem processes (Miller 2010). No federal-noxious weeds were observed, but populations of plant species listed by the Alabama Invasive Plant Council were observed at multiple locations on the parcel (Table 2.4-1). During field surveys, invasive plants were present in both deciduous forests and areas of herbaceous vegetation.

Table 2.4-1. Invasive plant species observed during field surveys of Morgan Center Business Park

Common Name	Scientific Name
Chinese Privet	*Ligustrum sinense*
Japanese Honeysuckle	*Lonicera japonica*
Johnson Grass	*Sorghum halepense*

2.4.2 Environmental Consequences

2.4.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, TVA would not provide the grant and portions of the industrial site would remain in their current condition for some length of time. Changes to local plant communities resulting from natural ecological processes and human-related disturbance would continue to occur, but the changes would not result from TVA funding the project. The site has a high proportion of invasive plants and does not support intact native plant communities. Adoption of the No Action Alternative would not affect the terrestrial ecology of the region. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.4.2.2 Alternative B

Adoption of the Action Alternative would not affect the terrestrial ecology of the region. While implementation of the Action Alternative would result in some additional disturbance at the industrial park, the site has a high proportion of invasive plant species, does not support intact native plant communities, and possesses no conservation value. Granting money to the MCEDA would facilitate clearing of approximately 36 acres of forest, but this is negligible compared to the well over 1 million acres of forest that occurs in Morgan and the surrounding counties in Alabama (USFS 2016).

2.5 Threatened and Endangered Species

The Endangered Species Act (ESA) requires federal agencies to conserve endangered and threatened species, and to determine the effects of actions on endangered and threatened species and Designated Critical Habitat. Endangered species are those determined to be in danger of extinction through all or a significant portion of their range. Threatened species are those determined to likely become endangered within the foreseeable future. Section 7 of the ESA requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) when actions may affect endangered or threatened species or Designated Critical Habitat. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize federally listed species or designated critical habitat. The policy of Congress is that federal agencies must seek to conserve endangered and threatened species and use their authorities in furtherance of the Act's purposes.

The State of Alabama provides protection for species considered endangered or of special concern within the state other than those federally listed under the ESA. The listing is handled by the Alabama Commission on Wildlife, Fisheries and Parks; however, the Alabama Natural

Heritage Program and TVA both maintain databases of aquatic animal species that are considered endangered or of special concern in Alabama.

2.5.1 Aquatic Ecology – Threatened and Endangered Species

2.5.1.1 Affected Environment

A review of the TVA Regional Natural Heritage Database (11/14/2016) indicated six federally-listed species and 16 state-listed fish within the Flint Creek (HUC 06030000210) 10-digit HUC watersheds of the project and/or within Morgan County, AL and a 10 mile radius. Five of the six federally listed species are considered either historical or extirpated records, because the records are greater than 25 years old. No suitable habitat is known to be present for the sixth federally-listed species, the pink mucket, in the project area. No suitable habitat occurs within the project area for the 16 state-listed species. Additionally, no federally designated critical habitat occurs within the 10-digit HUC watershed potentially affected by the project, or within Morgan County, or a 10 mile radius of the project (Table 2.5-1).

2.5.1.2 Environmental Consequences

Alternative A (No Action Alternative)

Under the No Action Alternative, there would be no changes to water bodies or activities that could affect water bodies. Therefore, there would be no impacts to aquatic ecology associated with Alternative A. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

Alternative B (Action Alternative)

Under the Action Alternative, TVA would provide funding for the project. The site would be prepared and available for light industrial and/or commercial development. Adverse water quality impacts can potentially result from the implementation of the project, which could have direct and indirect impacts to aquatic biota within watercourses in the project area. However, MCEDA would utilize state BMPs, as required by the site construction permit, such as erosion and sedimentation controls to minimize impacts to watercourses be protected by standard BMPs and additional protection measures as identified in the Alabama Handbook for Erosion Control, Sediment Control and Stormwater management on Construction Sites and Urban Areas (ASWCC, 2014) . These BMPs are designed in part to minimize disturbance of riparian areas and subsequent erosion and sedimentation that can be carried to streams. Furthermore, habitat for the federal and state-listed freshwater mussels known to occur within the vicinity of the proposed project does not occur within the project boundaries. The Alabaman cave crayfish, troglobitic crayfish, and Southern cavefish are cave obligate species. No impacts to these species would occur. The state-listed Tuscumbia darter is strictly an inhabitant of ponded spring-fed habitats. No suitable habitat occurs within the project area.

Additionally, no designated critical habitat occurs within the 10-digit HUC watershed potentially affected by the project, or within Morgan County, AL or a 10 mile radius of the project. Therefore, no direct, indirect, or cumulative impacts to federally protected aquatic species are anticipated to occur as a result of the project.

Table 2.5-1. Records of federal and state-listed aquatic animal species within the Flint Creek (HUC 06030000210) 10-digit HUC watersheds of the project and/or Within Morgan County, AL and a 10 mile radius of the project.[1]

Common Name	Scientific Name	Element Rank	Federal Status	State Status	State Rank
CRAYFISH					
Alabama Cave Crayfish	*Cambarus jonesi*	E			S2
Troglobitic Crayfish	*Procambarus pecki*	E			S1S2
FISH					
Southern Cavefish	*Typhlichthys subterraneus*	E		SP	S3
Tuscumbia Darter	*Etheostoma tuscumbia*	H		SP	S2
MUSSELS					
Black Sandshell	*Ligumia recta*	E		PSM	S2
Butterfly	*Ellipsaria lineolata*	E		PSM	S4
Cumberland Bean	*Villosa trabalis*	X	LE	SP	SX
Cumberland Moccasinshell	*Medionidus conradicus*	H		SP	S1
Hickorynut	*Obovaria olivaria*	H		PSM	SX
Kidneyshell	*Ptychobranchus fasciolaris*	H		PSM	S2
Monkeyface	*Quadrula metanevra*	E		PSM	S3
Ohio Pigtoe	*Pleurobema cordatum*	E		PSM	S2
Orange-foot Pimpleback	*Plethobasus cooperianus*	H	LE	SP	SH
Pink Mucket	*Lampsilis abrupta*	E	LE	SP	S1
Pink Papershell	*Potamilus ohiensis*	E		PSM	S3
Pocketbook	*Lampsilis ovata*	E		PSM	S2
Pyramid Pigtoe	*Pleurobema rubrum*	H		SP	S1
Ring Pink	*Obovaria retusa*	H	LE	SP	SH
Round Pigtoe	*Pleurobema sintoxia*	E		SP	S1
Sheepnose	*Plethobasus cyphyus*	H	LE	SP	S1
Spike	*Elliptio dilatata*	E		PSM	S1
Tuberculed Blossom Pearlymussel	*Epioblasma torulosa torulosa*	X	LE	SP	SX

[1] Source: TVA Regional Natural Heritage database, queried on 11/14/2016; Mississippi State Heritage Records

[2] Heritage Element Occurrence Rank: E = extant record ≤25 years old; H = Historical Record ≥25 years old; X = Extirpated, there is documented destruction of the habitat or environment of the species, or persuasive evidence of its eradication based on adequate survey efforts.

[3] Status Codes: NMGT = In Need of Management; NOST = No Status; TRKD = Tracked by state natural heritage program (no legal status)

[4] State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; SX = Presumed Extirpated

2.5.2 Wildlife – Threatened and Endangered Species

2.5.2.1 Affected Environment

A review of the terrestrial animal species in the TVA Regional Heritage database in April 2017 did not identify in any state or federally listed species records within 3 miles of the project footprint. One federally protected species (bald eagle) and two federally listed species (gray bat and Indiana bat) have a documented presence in Morgan County, Alabama. Additionally, the USFWS has determined that the federally threatened northern long-eared bat is believed to have the potential to occur in Morgan County (Table 2.5-2).

Table 2.5-2. Federally listed terrestrial animal species reported from Morgan County, Alabama and other species of conservation concern documented within 3 miles of the Morgan Center Business Park[1]

Common Name	Scientific Name	Federal Status	State Status[2] (Rank[3])
Birds			
Bald eagle[4]	*Haliaeetus leucocephalus*	DM	SP(S4B)
Mammals			
Gray bat[4]	*Myotis grisescens*	LE	SP(S2)
Indiana bat[4]	*Myotis sodalis*	LE	SP(S2)
Northern long-eared bat[5]	*Myotis septentrionalis*	LT	SP(S2)

[1] Source: TVA Regional Natural Heritage database, extracted 4/26/2017; USFWS Information for Planning and Consultation (https://ecos.fws.gov/ipac/), accessed 4/26/2017.
[2] Status Codes: DM = Delisted, Recovered, and Being Monitored; LE = Endangered; LT = Listed Threatened; SP = State Protected.
[3] State Ranks: S#B = Rank of Breeding Population; S2 = Imperiled; S4 = Apparently Secure.
[4] Federally listed or protected species known from Morgan County, Alabama, but not within three miles of the project area.
[5] Federally threatened species whose known range includes Morgan County, Alabama, although there are no known records of this species within the county.

Bald eagles are protected under the Bald and Golden Eagle Protection Act (USFWS 2013). This species is associated with large, mature trees capable of supporting its massive nests. These are usually found near larger waterways where eagles forage (Turcotte and Watts 1999). The nearest known species account occurs approximately 13.1 miles from the project footprint. This nest was reported active from 2005 to 2006. No recent information about this nesting pair is known. Suitable nesting habitat for bald eagle does not exist within the project footprint as the nearest source of water is over 5 miles from the Business Park. No bald eagle nests or bald eagles were observed in the project footprint during field surveys in January 2017.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (Brady et al. 1982, Tuttle 1976). Bats disperse over bodies of water at dusk where they forage for insects emerging from the surface of the water (Harvey 1992). The closest gray bat record is known from a cave approximately 9.1 miles from the project footprint

in Morgan County. One cave is known within 3 miles of the project footprint, approximately 2 miles from the action area. There are no known recent surveys of the cave to determine its use by bats. Based on information about the size and shape of the cave, this is a potential for it to be used by gray bats. No additional caves were observed during field reviews in January 2017. Foraging habitat for gray bat exists over wetlands and streams within the project footprint. Based on the quantity of potential roosting and foraging habitat in the region, proximity to travel corridors, and known presence of the species in the county, it is likely that the project area may be used by gray bat for foraging habitat.

Indiana bats hibernate in caves in winter and use areas around them in fall and spring (for swarming and staging), prior to migration back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead and living trees in mature forests with an open understory, often near sources of water. Indiana bats are known to change roost trees frequently throughout the season, yet still maintain site fidelity, returning to the same summer roosting areas in subsequent years. This species forages over forest canopies, along forest edges and tree lines, and occasionally over bodies of water (Pruitt and TeWinkel 2007, Kurta et al. 2002, USFWS 2016). One Indiana bat record is known from Morgan County, Alabama, approximately 18 miles from the project footprint. As mentioned above, one cave has been documented within 3 miles of the project area, approximately 2 miles away. There are no known recent surveys of the cave to determine its use by bats. Based on information about the size and shape of the cave, this is a potential for it to be used by Indiana bats. Foraging habitat for Indiana bat exists throughout the project footprint over forested wetlands, forest fragments, fence rows, and streams. Suitable summer roosting habitat for Indiana bat exists within the forested areas of the project footprint. Based on the quantity of potential roosting and foraging habitat in the region, proximity to travel corridors, and known presence of the species in the county, it is likely that the project area may be used by Indiana bat for summer roosting and foraging habitat.

The northern long-eared bat overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures, though they are also known to roost in abandoned buildings and under bridges. During the fall and spring they utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. Roost selection by northern long-eared bat is similar to that of Indiana bat; however northern long-eared bats are thought to be more opportunistic in roost site selection. Northern long-eared bats emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2014). While northern long-eared bats have the potential to occur within Morgan County, and thus the project footprint, this species is not yet known from Morgan County. As mentioned above, one cave has been documented within three miles of the project area, approximately 2 miles away. There are no known recent surveys of the cave to determine its use by bats. Based on information about the size and shape of the cave, this is a potential for it to be used by the northern long-eared bat. Foraging habitat for northern long-eared bats exists throughout the project area in forest fragments, along fence rows, and over forested wetlands and streams. Suitable summer roosting habitat for northern long-eared bat exists within the forested areas of the project footprint. Based on the quantity of

potential roosting and foraging habitat in the region, proximity to travel corridors, and assumed presence of the species in the county, it is likely that the project area may be used by the northern long-eared bat for summer roosting and foraging habitat.

Assessment of the project area for presence of Indiana bat and northern long-eared bat summer roosting habitat occurred in January 2017 and followed federal guidance (USFWS 2016). Surveys resulted in the identification of approximately 17 suitable roost trees totaling approximately 2.8 acres. Habitat quality ranged from moderate to high based on the presence of trees with exfoliating bark (i.e., three snags, 14 white oaks), open forest understory, and proximity to water. Suitable summer roosting areas were comprised of deciduous mature hardwood stands dominated by a mixture of pignut hickory, red maple, scarlet oak, southern red oak, sweetgum, water oak, and white oak with scattered evergreens of eastern red cedar, loblolly pine, and shortleaf pine.

2.5.2.2 Environmental Consequences

Alternative A (No Action Alternative)

Under Alternative A, no clearing of vegetation would occur. Trees and other vegetation would remain in place in their current state. No direct, indirect, or cumulative impacts to wildlife would occur. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

Alternative B

Vegetation removal may occur on some of the 11.9 acres of early successional, herbaceous habitat. Clearing of some of the 29 acres of forested habitat would take place as part of the actions. No trees identified as suitable habitat for the gray bat, Indiana bat and the northern long-eared bat, would be removed. A vegetated buffer will be maintained around the boundaries of the site preserving the identified suitable bat habitat. Based on these protections, there would no effect on the gray bat, Indiana bat and the northern long-eared bat.

2.6 Wetlands

2.6.1 Affected Environment

The USACE regulates the discharge of fill material into waters of the United States, including wetlands pursuant to Section 404 of the Clean Water Act (CWA) (33 USC 1344). Additionally, EO 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact to wetlands and to preserve and enhance their natural and beneficial values.

As defined in the Section 404 of the CWA, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands and wetland fringe areas can also be found along the edges of many watercourses and impounded waters (both natural and man-made). Wetland habitat provides

valuable public benefits including flood storage, erosion control, water quality improvement, wildlife habitat, and recreation opportunities.

The Business Park is located within the Interior Plateau ecoregion of Alabama. (Griffith et al. 2001). Wetlands comprise approximately 0.7 percent of overall land use in this ecoregion and are primarily associated with low-lying, poorly drained areas, floodplain and riparian areas, and the margins and embayments of reservoirs (Drummond 2016).

Field surveys were conducted in December 2016 to document the presence and extent of wetlands in Morgan Center Business Park. A total of eight wetlands totaling 6.34 acres were identified within the boundaries of the 140 acre site. Within the boundary of Lot 1, there is one wetland (Figure 2); the 1.63 acre wetland consists of an open, emergent/herbaceous dominated area and a forested component. Dominant vegetation includes water oak (*Quercus nigra),* cherrybark oak (*Quercus pagoda*), black willow (*Salix nigra*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and soft rush (*Juncus effusus*).

2.6.2 Environmental Consequences

2.6.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, portions of the industrial site would remain in their current condition for some length of time. However, the Morgan County Economic Development Association could seek alternative funding and the project may continue even if TVA did not participate. Wetland impacts will likely occur on Morgan Center Business Park, but the changes would not result from TVA funding the project.

2.6.2.2 Alternative B (Action Alternative)

Under the Action Alternative, TVA would provide funding for the site preparation of Lot 1, which includes the clearing of 1.63 acres of wetland. TVA is required to comply with EO 11990 including the requirement for a public notice for actions affecting wetlands. The MCEDA completed a “no practicable alternatives analysis in April 2017. This analysis is required under EO 11990 to demonstrate that wetland impacts are unavoidable when taking into consideration cost, existing technology, and logistics in light of overall project purposes. MCEDA indicated that the location of the wetlands on Lot 1 affected the ability of the organization to provide a large, “shovel ready” developable parcel and thus be competitive for economic development projects in the region. TVA published the public notice on June 23, 2017. No public comments were received. Accordingly, TVA concludes that there is “no practicable alternative” to avoid impacts to wetlands.

Wetland impacts will be regulated under USACE Section 404 and mitigation will be required to offset project impacts to an insignificant level. Mitigation will be achieved via purchase of credits at a wetland mitigation bank within the vicinity of the Morgan Center Business Park.

2.7 Prime Farmland

2.7.1 Affected Environment

Prime farmland is land that is the most suitable for economically producing sustained high yields of food, feed, fiber, forage, and oilseed crops. Prime farmlands have the best combination of soil type, growing season, and moisture supply and are available for agricultural use (i.e., not water or urban built-up land). The Farmland Protection Policy Act (7 United States Code [U.S.C.] 4201 et seq.) requires Federal agencies to take into account 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."

Over 99 percent of the soils present within the approximately 36 acre area of disturbance within Lot 1 of the Morgan Center Business Park include prime farmlands and farmland of statewide importance as shown in Table 2.7-1.

Table 2.7-1 Prime Farmland and Farmland of Statewide Importance within the Area of Disturbance on Lot 1 of the Morgan Center Business Park

Soil	Farmland Rating	Approximate Acres in Area of Disturbance	Percent of Area of Disturbance
Atkins silt loam	Farmland of statewide importance	6.2	16.8%
Cotaco loam	All areas are prime farmland	2.8	7.6%
Pearman loam, eroded, rolling	Not prime farmland	0.1	0.2%
Pearman loam, undulating	Farmland of statewide importance	9.0	24.4%
Tilsit (Wynnville) silt loam, 2 to 5 percent slopes, eroded	All areas are prime farmland	1.8	4.8%
Tilsit (Wynnville) silt loam, 2 to 5 percent slopes	All areas are prime farmland	17.0	46.2%

2.7.2 Environmental Consequences

2.7.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative the site would remain in its current condition and changes to prime farmlands resulting from natural processes and human-related disturbance would continue to occur. Therefore, there would be no impact to prime farmland as a result of the No Action Alternative. If the MCEDA obtained alternate funding, the overall environmental consequences would be similar to the Action Alternative.

2.7.2.2 Alternative B (Action Alternative)

Prime farmlands and farmlands of statewide importance are present within the area of disturbance on Lot 1 of the Morgan Center Business Park. The Business Park is inside the

Hartselle City Limits and are thus considered urban land (7 C.F.R. § 658.2). The Business Park site is already planned for industrial uses.

For comparison, Table 2.7-2 provides a summary of farming in Morgan County and overall in the State of Alabama. The change in farming and farming acreages from 2007 to 2012 is also included.

Though the actions would impact prime farmlands and farmland of statewide importance on the Business Park, the land in question is within city limits and has been designated for commercial and industrial land uses. Additionally, the amount of prime farmland and farmland of statewide importance that would be removed from agricultural use is minor in comparison to the total acres of farmland in Morgan County and in the State of Alabama. Therefore, impacts to prime farmlands are minor.

Table 2.7-2. Farming Statistics for Morgan County, Alabama

Location	Number of Farms	Percentage of Total Area in Farms	Land in Farms (Acres)	Average Size of Farms (Acres)	Change from 2007 to 2012		
					Number of Farms	Land in Farms (Acres)	Average Size of Farms (Acres)
Morgan County	1,237	41.1	152,567	123	-220	-8,964	+12
Alabama	43,223	27.5	8,902,654	206	-5,530	-130,883	+21

Source: U.S. Department of Agriculture 2012

2.8 Air Quality

2.8.1 Affected Environment

The U.S. Environmental Protection Agency (USEPA) uses an Air Quality Index (AQI) to characterize air quality at a given location. AQI categories range from Good (i.e., values from 0 to 50) to Hazardous (values from 301 to 500). The AQI for Morgan County was 44 in 2009 (USA.Com 2017), which corresponds to a rating of “Good”.

A nonattainment area is an area were air pollution levels exceed the National Ambient Air Quality Standards promulgated under the federal Clean Air Act Amendments of 1970. The criteria air pollutants considered in determining nonattainment include ozone, sulfur dioxide, carbon monoxide, particulate matter, lead, and nitrogen dioxide. Morgan County is in attainment for all these criteria air pollutants (USEPA 2017).

2.8.2 Environmental Consequences

2.8.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, natural changes associated with ecological process and human activities would continue to occur. There would be no anticipated impacts to air quality

from the No Action Alternative. Should the MCDEA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.8.2.2 Alternative B (Action Alternative)

The clearing and stream relocation activities would generate some air pollution in the form of fugitive dust, particulate matter in equipment exhaust, and possibly, smoke from burning debris. Additionally, carbon monoxide and sulfur dioxide would be generated by equipment exhaust. Because of the short time period required to complete this work, any effects to local air quality would be temporary and localized. These effects are expected to be minor and would not have a major influence on the air quality of Hartselle or Morgan County.

Future activities, including any potential industrial park construction are not presently foreseeable. Future activities that produce air pollutants, including additional site preparation and the siting of industrial or commercial tenants in the Business Park would be subject to applicable air quality regulations incorporated in Clean Air Act permits obtained for project activities; thus, any associated impacts to air quality are anticipated to be minor. Given their brief duration (a few months), clearing and stream relocation activities (a few months) are not anticipated to contribute to any cumulative impacts to air quality.

2.9 Noise

2.9.1 Affected Environment

The Business Park is situated in a semi-rural area approximately 2 miles southeast of the center of Hartselle, Alabama. The site is located on the west side of I-65 at Exit 325 (Thompson Road) and east of Highway 31. Currently the tract consists of mixed forest and is undeveloped. Surrounding land uses are primarily industrial, residential, and agricultural uses.

The nearest sensitive receptors are several homes located within 0.03 mile (200 feet) of the site boundaries. One residence is located adjacent to the northern boundary and several are located adjacent to the southwestern boundary of the site.

At high levels, noise can cause hearing loss, and at moderate levels, noise can interfere with communication, disrupt sleep, and cause stress. Even at relatively low levels, noise can cause annoyance. Noise is measured in decibels (dB), a logarithmic unit, so an increase of 3 dB is just noticeable and an increase of 10 dB is perceived as a doubling of sound level. Since not all noise frequencies are perceptible to the human ear, A-weighted decibels (dBA), which filter out sound in frequencies above and below human hearing, were used for this assessment.

2.9.2 Environmental Consequences

2.9.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, natural changes associated with ecological process and human activities would continue to occur. There would be no anticipated noise impacts from the No Action Alternative. Should the MCDEA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.9.2.2 Alternative B (Action Alternative)

Noise measurements were not collected at the Morgan Center Business Park site; however, average noise levels in rural areas are typically around 40 dBA during the day. The clearing and stream relocation activities would result in noise impacts greater than 40 dBA. Table 2.9-1 provides the noise levels of typical construction activities.

Typical indoor noise levels are 15 to 20 dBA less than outdoor levels when the doors and windows are closed (Cowan 1994). Therefore, it is anticipated that the clearing and stream relocation activities would result in elevated noise levels at the nearest residences, particularly when the construction activities are near the site boundaries. The construction noise level is not likely to interfere with normal speech or telephone conversations. The clearing and stream relocation activities would typically occur only during normal work hours (e.g., 7:00 a.m.–5:00 p.m.) on a Monday-to-Friday schedule. While sleep disturbance is more often associated with intermittent or impulsive noises, continuous noise at these levels may disrupt sleep for anyone sleeping during the day. Noise from construction activities is intermittent and temporary in nature; therefore, the impacts associated with elevated noise levels would be expected to be minor.

Table 2.9-1. Noise Levels from Typical Construction Equipment at Various Distances

Equipment	Typical Sound Pressure Level at 50 feet (dBA)	Expected Sound Pressure* Level at		
		1000 feet	2500 feet	5000 feet
Bulldozer (250 to 700 horsepower)	88	62	54	48
Front-end Loader (6 to 15 cubic yards)	88	62	54	48
Truck (200 to 400 horsepower)	86	60	52	46
Grader (13- to 16-foot blade)	85	59	51	45
Backhoe (2 to 5 cubic yards)	84	58	50	44
Portable Generators (50 to 200 kilowatts)	84	58	50	44
Tractor (3/4 to 2 cubic yards)	80	54	46	40

* Estimated levels include attenuation due to distance only (geometric spreading). Atmospheric effects (molecular adsorption and excess attenuation) for standard day conditions (59°F, 70 percent relative humidity) would reduce levels by an additional 3, 7, and 11 dBA at 1,000, 2,500, and 5,000 feet, respectively. Source: Barnes et al. 1977.

2.10 Waste Materials

2.10.1 Affected Environment

A records review conducted as part of the Phase I Environmental Site Assessment by Gallet & Associates in 2007 identified no outstanding environmental concerns regarding the release of hazardous wastes on the site. The site has been vacant and/or agricultural land for most of its history (Reaves, Reymann, and Noble 2007).

2.10.2 Environmental Consequences

2.10.2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, there would be no development of waste at the site and thus no associated impacts. Should the MCEDA pursue future development of the site with alternative funding sources, it would likely result in similar consequences to the Action Alternative.

2.10.2.2 Alternative B (Action Alternative)

The MCEDA is responsible for disposal of all debris and other materials associated with the clearing and relocation of the stream in an environmentally responsible manner. This responsibility includes the disposal of any special wastes or hazardous materials in landfills or disposal facilities approved for handling such wastes and in a manner consistent with all applicable local, state, and federal regulations. Any marketable timber would be removed from the site and the remaining woody debris would be burned on-site in accordance with a local burn permit obtained by the county. Thus, any potential direct, indirect, or cumulative effects related to wastes associated with the site preparations are expected to be minor.

Gallet & Associates did recommend that any wells and/or septic tanks that may be present on the site from past residential uses be properly closed/abandoned. If such features are present or discovered on Lot 1, the MCEDA would close and abandon these in accordance with applicable regulations.

The eventual occupation and use of the industrial site could result in the production of solid wastes in the form of construction debris and wastes from manufacturing and processing operations. Because the future use of the site is unknown, the future impacts associated with wastes that might be generated at the site after it is developed are not forseeable at this time. However, the USEPA regulates industrial, manufacturing, and commercial solid and hazardous wastes under the Resource Conservation and Recovery Act (RCRA). Producers of such wastes would be subject to RCRA regulations; therefore, any long-term effects related to waste production are expected to be minor.

2.11 Cumulative Impacts

Cumulative impacts are defined in the Regulations for Implementing the Procedural Provisions of the NEPA (Council on Environmental Quality 1987) as follows:

> Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Past actions that have already occurred and present actions are integrated into the existing baseline conditions discussed in the sections above. Projects planned elsewhere in the community are not likely to have a cumulative impact with respect to the clearing and stream

relocation activities given the small scale of the activities at the Morgan Center Business Park and the distance separating other regional projects from the project area.

Based on the level of anticipated impacts to the resources described above which would result from TVA's action of providing an economic development grant, TVA has determined that the action would not result in any adverse cumulative impacts.

2.12 Mitigation Measures

To minimize or reduce the environmental effects of the project, MCEDA or its contractors would ensure all earth-disturbing activities are in compliance with U.S. Army Corps of Engineers and applicable storm water, waste, and air permitting requirements and would use applicable BMPs to minimize and control erosion and fugitive dust during the actions.

TVA would include the commitments prescribed below in its financial assistance grant to MCEDA in order to reduce or mitigate environmental impacts associated with the future construction activities:

- Wetland impacts will be regulated under USACE Section 404 program and mitigation will be required to offset project impacts to an insignificant level. Mitigation will be achieved via purchase of credits at a wetland mitigation bank within the vicinity of the Morgan Center Business Park.

- No trees identified as suitable bat habitat, including habitat for the gray bat, Indiana bat and the northern long-eared bat, would be removed. A vegetated buffer will be maintained around the boundaries of the site preserving the identified suitable bat habitat.

CHAPTER 3 - LIST OF PREPARERS

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Carol Butler Freeman, Contract Senior NEPA Specialist – Document Preparation, NEPA Compliance

Elizabeth Burton Hamrick, Zoologist – Wildlife and Threatened and Endangered Species

Michaelyn S. Harle, Archaeologist – Cultural Resources, National Historic Preservation Act Compliance

Sara McLaughlin, Contract Biologist **-** Wildlife and Threatened and Endangered Species

Craig L. Phillips, Aquatic Biologist –Aquatic Ecology and Threatened and Endangered Species

Kim Pilarski-Hall, Wetlands and Natural Areas Specialist – Wetlands and Natural Areas

Dana Vaughn – Environmental Program Manager – Project Management

A. Chevales Williams, Environmental Engineer – Water Resources

Carrie C. Williamson, Civil Engineer – Floodplains

CHAPTER 4 - CONSULTATION

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

- Alabama Historical Commission / Alabama State Historic Preservation Officer
- U.S. Army Corps of Engineers, Nashville District
- Eastern Band of Cherokee Indians
- United Keetowah Band of Cherokee Indians in Oklahoma
- Cherokee Nation
- Chickasaw Nation
- Muscogee (Creek) Nation of Oklahoma
- Thlopthlocco Tribal Town
- Kialegee Tribal Town
- Alabama-Quassarte Tribal Town
- Alabama-Coushatta Tribe of Texas
- Eastern Shawnee Tribe of Oklahoma
- Shawnee Tribe
- Absentee Shawnee Tribe of Oklahoma
- Seminole Tribe of Florida
- Seminole Nation of Oklahoma
- Poarch Band of Creek Indians

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Appendix A – Agency Correspondence

ALABAMA HISTORICAL COMMISSION

468 South Perry Street
Montgomery, Alabama 36130-0900
334-242-3184 / Fax: 334-240-3477

Lisa D. Jones
Executive Director
State Historic Preservation Officer

December 15, 2016

Clinton E. Jones
TVA
400 West Summit Hill Drive
Knoxville, TN 37902

Re: AHC 17-0215
Morgan County Center Business Park
Morgan County

Dear Mr. Jones:

Upon review of the above-referenced project forwarded by your office, we have determined that project activities will have no effect on any cultural resources listed on or eligible for the National Register of Historic Places Therefore, we concur with the proposed project activities.

However, should artifacts or archaeological features be encountered during project activities, work shall cease and our office shall be consulted immediately. Artifacts are objects made, used or modified by humans. They include but are not excluded to arrowheads, broken pieces of pottery or glass, stone implements, metal fasteners or tools, etc. Archaeological features are stains in the soil that indicate disturbance by human activity. Some examples are post holes, building foundations, trash pits and even human burials. **This stipulation shall be placed on the construction plans to insure contractors are aware of it.**

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Amanda McBride at 334.230.2692 or Amanda.McBride@ahc.alabama.gov. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

Lee Anne Wofford
Deputy State Historic Preservation Officer

LAW/EDS/amh

MCEDA

MORGAN COUNTY, ALABAMA
ECONOMIC DEVELOPMENT ASSOCIATION

April 4, 2017

Mr. Bill L. Adams, CEcD
Senior Target Market Specialist
TVA Economic Development
26 Century Blvd
Suite 100, Mail Stop 6D
Nashville, TN 37214

Dear Bill,

Thank you for continued consideration of our InvestPrep funding request for Morgan Center Business Park in Hartselle, AL. In regards to the wetlands delineation, I have included bulleted items below which will help explain why we chose Morgan Center, specifically Lot #1, for this funding and why there are no alternative sites available for the targeted companies we are trying to recruit for location at this business park.

- Morgan Center Business Park is owned by the Morgan County Industrial Park and Economic Development Cooperative District which is made up of the cities and towns in Morgan County who dedicate specific funds for economic development purposes in Morgan County. The site is a fully-served park and has been labeled by Deloitte Consulting as a Data Center Certified Site through a TVA funded initiative and was awarded the Alabama Advantage Site designation in 2012. The site is zoned for light industrial and was constructed with the anticipation that high-tech, light industrial sectors such as automotive, aerospace, distribution, information, and data center type operations would have a first class business park to consider for location. At this time there are no other fully served locations in Morgan County that can accommodate these types of operations.
- Lot #1 at Morgan Center is approximately 43 acres, is heavily forested, has approximately 1.7 acres of wetlands, 0.37 acres of pond and 1,070 LF of intermittent stream. Mitigating the wetlands will allow prospective buyers to better envision the potential of the site and move forward with a grading plan immediately. It will take approximately 60 days to complete the mitigation process once the Corps of Engineers signs off on the mitigation. Mitigation of the wetlands will remove the barrier of potential economic development projects' concern over wetlands being present on the site under consideration, therefore offering more opportunities to "win" a project for the business park. "Winning" the first project to locate at Morgan Center will benefit the local community by providing quality jobs and revenue, directly and through the trickle-down

300 MARKET ST. NE, SUITE 2 • DECATUR, AL • USA • 35601 • Voice (256) 353-1213 • Toll-Free 1-800-927-0807 • Fax (256) 353-0407 • Internet www.mceda.org

Thank you for your continued consideration of this project. We look forward to working with TVA in regards to the projects at Morgan Center Business Park in Hartselle/Morgan County, Alabama.

Sincerely,

Jeremy Nails
President & CEO