

**JOHNSONVILLE FOSSIL PLANT  
ASH IMPOUNDMENT CLOSURE  
ENVIRONMENTAL IMPACT STATEMENT**

**Draft  
Humphreys County, Tennessee**

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## SUMMARY

### JOHNSONVILLE FOSSIL PLANT ASH IMPOUNDMENT CLOSURE ENVIRONMENTAL IMPACT STATEMENT

#### INTRODUCTION

This Environmental Impact Statement (EIS) evaluates the potential environmental effects of closing Ash Pond 2, which contains coal combustion residuals (CCR), at the Tennessee Valley Authority (TVA) Johnsonville Fossil Plant (JOF). Located in Tennessee on the east bank of the Kentucky Reservoir at Tennessee River mile 100, JOF operated from 1952 until the retirement of its coal-fired units between 2012 and 2017. The coal-fired units have since been demolished, but TVA continues to operate combustion turbine units within the Johnsonville Reservation boundary.

Ash Pond 2, covering approximately 107 acres, was the primary ash disposal area for JOF and currently holds approximately 4,500,000 cubic yards (yd<sup>3</sup>) of CCR. The impoundment stopped receiving CCR in 2017 following the retirement of the coal-fired units. The U.S. Environmental Protection Agency's (EPA) 2015 final Disposal of Coal Combustion Residuals from Electric Utilities Rule (CCR Rule) mandates management and closure standards and requirements for CCR facilities, including Ash Pond 2. The Tennessee Department of Environment and Conservation (TDEC) 2015 Commissioner's order number OGC15-0177 (TDEC Order) established a process for TVA to investigate, assess and remediate unacceptable risks from the management and disposal of CCR at TVA's coal-fired power plants in Tennessee, including JOF. Closure of Ash Pond 2 will be performed in accordance with state and federal requirements, as applicable.

In 2016, TVA issued a Record of Decision for the programmatic National Environmental Policy Act (NEPA) review of ash impoundment closures entitled *Ash Impoundment Closure Environmental Impact Statement* (CCR PEIS). This EIS provides a site-specific assessment of the environmental impacts associated with the closure options for Ash Pond 2 at JOF, tiering from TVA's 2016 CCR PEIS.

#### PURPOSE AND NEED FOR ACTION

The purpose of this EIS is to address the closure of Ash Pond 2 in a manner that is protective of human health and the environment and in accordance with state and federal requirements as applicable. This EIS evaluates the potential environmental, cultural, and socioeconomic impacts of proposed Ash Pond 2 closure options at JOF. TVA prepared this Draft EIS to comply with NEPA (42 U.S.C. 4331 *et seq.*) and TVA's procedures for implementing NEPA (18 Code of Federal Regulations Part 1318).

## **ALTERNATIVES**

The following alternatives are considered in detail in this EIS:

### **Alternative A – The No Action Alternative**

Under the No Action Alternative, TVA assumes it would not close the ash impoundment (neither in-place nor by removal) and would not complete any restorative actions at JOF. Under the No Action Alternative, Ash Pond 2 would continue to operate under the administratively continued National Pollutant Discharge Elimination System permit (Permit number TN0005444). TVA would continue safety inspections of dikes to maintain stability and provide continued care and maintenance activities. This alternative would not satisfy the project Purpose and Need since it does not comply with state and federal regulations. Therefore, the No Action Alternative is not considered viable or reasonable. It does, however, provide a benchmark for comparing the environmental impacts associated with implementation of the Action Alternatives.

### **Alternative B – Closure-in-Place of Ash Pond 2**

Under Alternative B, TVA would first decant water from the impoundment located in the southern section of the Ash Pond 2 CCR unit. After decanting, the unit would be regraded to promote site drainage using existing material or imported borrow, as needed. An approved cover system would be installed across the entire unit to encompass the CCR material footprint. The transport of borrow material is a component action under this alternative. All borrow material would be obtained from an existing and permitted offsite borrow source or from a TVA-owned borrow site. TVA estimates up to 800 truck trips (up to 400 truckloads) of borrow per day would be transported to JOF when needed throughout the closure period. Under this alternative, the estimated closure period would be up to approximately 6 years, following completion of design and permitting.

### **Alternative C – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Existing Offsite Landfill**

Under Alternative C, TVA would remove CCR from Ash Pond 2 and transport it in dump trucks to one or more landfills located within approximately 75 miles of JOF. Closure-by-Removal would also involve decanting residual impounded areas and excavation of approximately one foot of underlying soil (total of about 175,000 yd<sup>3</sup>) in addition to approximately 4.5 million yd<sup>3</sup> of CCR, along with the excavation of support structures from the impoundment footprint. The estimated closure period for this alternative is 10 to 13 years, following completion of design and permitting. Potential locations of the offsite landfill and potential methods of transport are evaluated as “component actions” in the EIS. TVA is considering two options for post-closure restoration of Ash Pond 2 under Alternative C, Post-closure Site Restoration and Post-closure Dike Breach.

- **Sub-Alternative C1 – Post-Closure Site Restoration.** Under Sub-Alternative C1, the area of Ash Pond 2 would be restored upon completion of the excavation activities with grading, soil, and vegetation. The transport of borrow material is a “component action” under this sub-alternative as approximately 2.2 to 3 million yd<sup>3</sup> of suitable borrow

material would be needed to achieve proposed finished grades and provide a suitable medium to support restoration and vegetation of the former impoundment. Like Alternative B, TVA estimates up to 800 truck trips (up to 400 truckloads) of borrow per day over the estimated closure period.

- **Sub-Alternative C2 – Post-Closure Dike Breach.** Under Sub-Alternative C2, the dikes surrounding Ash Pond 2 would be breached in one or more places and the interior of the unit would be allowed to be inundated by Kentucky Reservoir upon completion of the CCR removal activities. Slopes around the breach would be covered in riprap or an approved alternative method to protect them from erosion and large boulders could be placed in the breach to block any boat traffic from entering the flooded Ash Pond 2 footprint. Water flow into the unit would not be impeded. Some areas may remain above the normal lake level and would be stabilized and vegetated.

### **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Under Alternative D, TVA would close Ash Pond 2 by removal in the same manner as Alternative C. However, all the usable excavated CCR would be transported to either an onsite or offsite beneficiation processing facility to be processed for use in concrete and other marketable materials. The offsite beneficiation processing facility could be located up to 75 miles away. Any unusable CCR and excavated soil material would be transported to an existing offsite permitted landfill. Like Alternative C, TVA is considering two options for post-closure restoration of Ash Pond 2 under Alternative D, Post-closure Site Restoration and Post-closure Dike Breach, as described below:

- **Sub-Alternative D1 – Post-Closure Site Restoration.** Same as described for Sub-Alternative C1.
- **Sub-Alternative D2 – Post-Closure Dike Breach.** Same as described for Sub-Alternative C2.

### **PREFERRED ALTERNATIVE**

The proposed project would help support the goal to close Ash Pond 2 in a manner that is protective of human health and the environment. Alternative B would meet the purpose and need of the project and, subject to compliance with state and federal requirements, is TVA's preferred alternative. The selection of this alternative is subject to TDEC's approval of the Corrective Action/Risk Assessment Plan in accordance with the TDEC Order, TVA's compliance with the EPA's CCR Rule, and other regulatory requirements as applicable.

### **SUPPLEMENTAL NEPA ANALYSIS**

Bounding analyses for beneficiation processing facilities and landfills that may be used for disposition of CCR were completed for the EIS and are included in Appendix D. Three landfills have been identified as suitable for accepting CCR from JOF, along with proposed over-the-road haul routes. In addition, the EIS assumes there would be direct access to a beneficiation processing facility from a collector road or major highway that would support truck traffic without noticeable traffic effects. If a landfill or beneficiation processing facility site is identified

for use after the completion of this EIS that does not meet the criteria of the bounding analyses in this EIS, a supplemental NEPA review would be conducted.

### **SUMMARY OF ENVIRONMENTAL IMPACTS**

Overall, with the application of minimization and mitigation measures, the action alternatives evaluated in this EIS are not expected to result in significant environmental impacts. Generally, Alternatives C and D (Closure-by-Removal) would have greater adverse impacts than Alternative B, primarily due to the increased transportation of CCR materials and the longer closure duration of 10-13 years, compared to the 6-year period for Alternative B (Closure-in-Place). Both Alternatives C and D involve transporting CCR either to an offsite landfill (Alternative C) or to a beneficiation processing facility, which may be located onsite or offsite (Alternative D). The movement of CCR would have negative effects on the transportation system, air quality, noise levels, visual resources, and natural and recreational areas. Notably, under Alternative D, transporting CCR to an onsite beneficiation facility would result in fewer impacts than transporting it to an offsite facility.

Alternative B's installation of a cover system over Ash Pond 2 would benefit groundwater and surface water by preventing additional water from entering the CCR, thereby lowering hydraulic pressure and reducing the risk of structural instability and post-closure release of CCR constituents. While Alternatives C and D offer greater long-term benefits by removing CCR from the site and further reducing the risk of post-closure CCR constituent escape, the longer closure timelines lessen these advantages in the short term. Both Alternatives C and D would also enhance vegetative cover and habitat following site restoration.

Alternative B generally has fewer transportation-related impacts because CCR would not be transported, and it requires less borrow material than Sub-Alternatives C1/D1. Transport of borrow materials, required under Alternatives B and Sub-Alternatives C1/D1, would result in fewer impacts if the borrow is obtained from the TVA-owned borrow site located 1.8 miles south of JOF compared to transporting from another permitted borrow site within 30 miles. Finally, although CCR transport is required under Sub-Alternatives C2/D2 (dike breach), no borrow is required, making these options generally less impactful than Sub-Alternatives C1/D1.

The action alternatives would have minor to moderate impacts to air quality from emissions and fugitive dust, with no exceedance of National Ambient Air Quality Standards. Climate change would not be impacted by any of the alternatives. Geology would experience minor impacts from soil erosion during site preparation, closure, and restoration activities across all action alternatives. Groundwater and surface waters would benefit in the long term under all action alternatives from reduced hydraulic input and post-closure escape of CCR constituents, with minor and temporary impacts from runoff and erosion during construction and restoration activities.

Floodplains would experience minor impacts from sedimentation and runoff during closure, with long-term beneficial impacts from increased floodwater storage under Sub-Alternatives C2/D2 (dike breach). Aquatic ecology would be affected by minor and temporary impacts from flow and water quality alterations, sedimentation, and fugitive dust deposition.

Vegetation and wildlife would experience minor and temporary impacts under all action alternatives from earth moving, tree clearing, fugitive dust, and potential spread of invasive species, with potential long-term habitat improvements under Sub-Alternatives C1/D1 and C2/D2. The action alternatives would cause minor impacts on threatened and endangered species from habitat loss, noise, collisions, sedimentation, and invasive species spread, with potential long-term benefits associated with restoration. Wetlands would experience minor impacts under all action alternatives from tree clearing within a 0.6-acre forested wetland and potential indirect alterations in hydrology; however, impacts would be permitted under Section 404 and Tennessee Department of Environment and Conservation Aquatic Resources Alteration Permit regulatory processes.

Only minor amounts of non-CCR solid and hazardous waste would be generated during closure activities, and these materials would be managed in permitted facilities. Under Alternative D, where some CCR is transported to a beneficiation processing facility, long-term waste volumes would be reduced. Visual resources would be affected by minor short-term viewshed alterations, with long-term benefits from cover and restoration. Transportation and noise impacts would be minor and temporary, with temporary and localized moderate effects from increased traffic under Alternatives C and D. Natural areas, parks, and recreation would experience minor, indirect, and temporary impacts from fugitive dust, noise, and traffic, with long-term benefits from increased vegetation at the Ash Pond 2 site. There would be short-term benefits to socioeconomics from increased employment, payroll, and tax payments, with minor impacts on access to community facilities. Closure activities, transport of borrow and CCR materials, and restoration activities would cause minor and temporary impacts on public health and safety.

## **SCOPING AND PUBLIC INVOLVEMENT**

TVA conducted two public scoping periods for this project following Notices of Intent published in the *Federal Register* in 2019 and 2024. Public outreach included a scoping meeting in 2019 and multiple notification methods during the 2024 scoping period, with comments summarized in Scoping Reports issued in 2020 and 2025.

TVA's public and agency involvement for the Draft EIS includes publication of a public notice and a 45-day public review. To solicit public input, the availability of the Draft EIS was announced in *The News-Democrat* and *The Waverly* newspapers. A media advisory was also issued to local news outlets. The Draft EIS was posted on TVA's website, and hard copies were made available by request.

TVA's agency involvement includes sending notices to local, state, and federal agencies, and key stakeholders to inform them of the availability of the Draft EIS.

## **MITIGATION MEASURES**

Long-term monitoring and mitigation measures include groundwater monitoring, erosion control, revegetation with non-invasive species, and implementation of best management practices to minimize environmental impacts during and after closure. TVA also commits to conservation measures for bats and other sensitive species.



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## CHAPTER 1 – PURPOSE AND NEED FOR ACTION

### 1.1 INTRODUCTION

Tennessee Valley Authority’s (TVA) Johnsonville Fossil Plant (JOF) was located within the 720-acre Johnsonville Reservation along the Tennessee River (Kentucky Reservoir) near New Johnsonville, Tennessee. The plant, which began operating in 1952, had 10 coal-fired units with a total capacity of 1,254 megawatts. TVA retired these units between 2012 and 2017, and the plant was demolished following a 2018 environmental assessment (TVA 2018). TVA continues to operate combustion turbine (CT) units, as well as natural gas-fired aeroderivative CT units, at the Johnsonville Combustion Turbine Facility (JCT) within the reservation boundary. With the retirement of the coal-fired units at JOF, Active Ash Pond 2 (Ash Pond 2) is no longer receiving coal combustion residuals (CCR). Therefore, TVA’s proposed action is to close Ash Pond 2.

Ash Pond 2 is an approximately 107-acre impoundment situated on a peninsula surrounded by the Kentucky Reservoir to the north and west. To the south and east of the peninsula are two dredged channels for coal unloading/barge mooring (boat harbor channel) and a condenser cooling water (CCW) intake. Ash Pond 2 is connected to the mainland by a 1,000-foot asphalt causeway (Figure 1-1).

On April 17, 2015, the U.S. Environmental Protection Agency (EPA) published the final Disposal of Coal Combustion Residuals from Electric Utilities rule (CCR Rule) in the Federal Register (80 FR 21302). The EPA’s CCR Rule establishes national criteria and schedules for management, and closure standards and requirements for CCR facilities. In Tennessee, the Tennessee Department of Environment and Conservation (TDEC) 2015 Commissioner’s order number OGC15-0177 (TDEC Order) established a process for TVA to investigate, assess and remediate unacceptable risks from the management and disposal of CCR at TVA’s coal-fired power plants in Tennessee, including JOF. Closure of Ash Pond 2 would be performed in accordance with state and Federal requirements, as applicable.

On July 28, 2016, TVA issued a Record of Decision for a programmatic National Environmental Policy Act (NEPA) review entitled *Ash Impoundment Closure Environmental Impact Statement* (CCR PEIS). TVA has prepared this Environmental Impact Statement (EIS) pursuant to NEPA to assess the potential environmental impacts associated with closure of Ash Pond 2 at JOF (proposed action), which tiers from TVA’s 2016 CCR PEIS.

#### What are CCR?

CCR are byproducts produced from burning coal and include fly ash, bottom ash, and flue gas desulfurization materials.

**Fly Ash:** Fly ash is composed mainly of non-combustible inorganic material contained in the coal. Fly ash typically consists of fine particles that are entrained in the combustion exhaust gas.

**Bottom Ash:** Bottom ash is comprised of the incombustible coarse particles that settle to the bottom of the combustion chamber of a boiler. Bottom ash or boiler slag slurry is produced from washing the boiler bottom with a water jet stream.

**Flue Gas Desulfurization Materials:** Coal-fired boilers produce flue gas that exits through the stack and is mainly nitrogen, carbon dioxide, water vapor, and oxygen. It also contains pollutants such as particulate matter (PM), nitrogen oxides, and sulfur oxides. Flue gas desulfurization (FGD) scrubbers remove sulfur oxides using limestone, producing gypsum as a reaction byproduct.

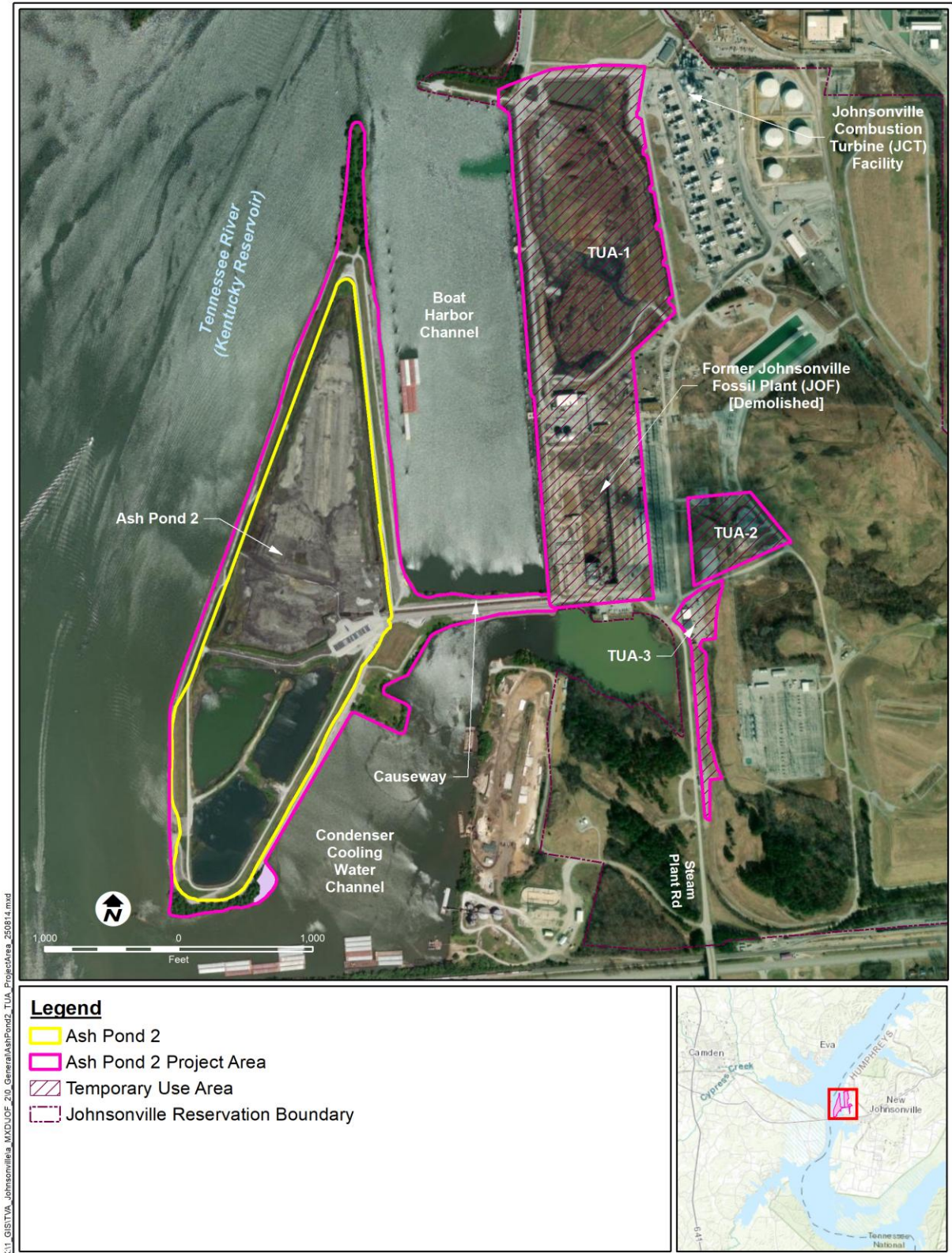
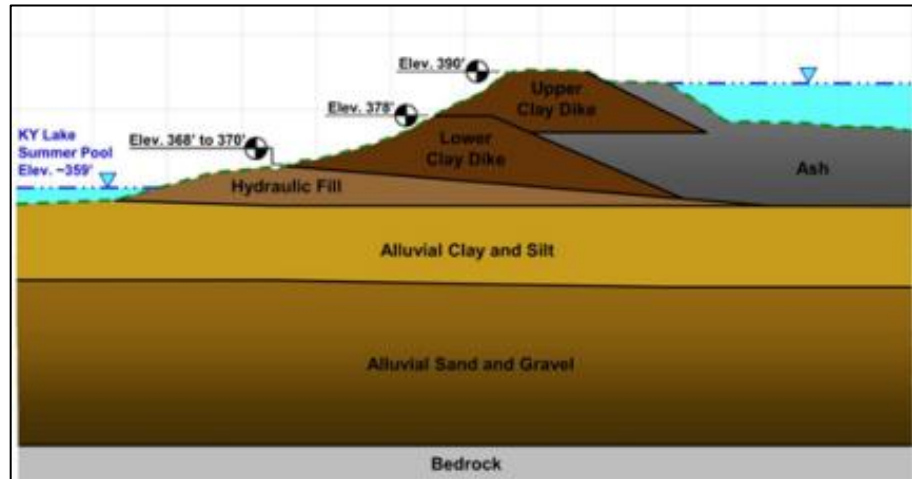


Figure 1-1. Ash Pond 2 Project Area

## 1.2 BACKGROUND

Ash Pond 2 is located on an area that was originally farmland on the Tennessee River floodplain. TVA constructed Ash Pond 2 using dredged material from the boat harbor and CCW channel as fill along the east side of the impoundment area. The fill served as a breakwater to protect barges in the harbor from wave action on the Kentucky Reservoir (Stantec 2016a). Throughout the 1970s, Ash Pond 2 served as the JOF's sole ash disposal area and as the ash level rose through the years, the dike was raised to its current elevation of 390 feet using compacted clay. Ash Pond 2 stopped receiving CCR material in 2017. Figure 1-2 shows a typical section of the Ash Pond 2 dike system.

Ash Pond 2 has a surface area of approximately 87 acres and is enclosed by a dike approximately 10,000 feet in length (Figure 1-1). The total area of the impoundment and dikes is approximately 107 acres. The southern portion of the unit consists of a three-pond complex (Ponds A, B, and C) separated by internal dikes. The northern



Source: Stantec 2016a

**Figure 1-2. Ash Pond 2 Dike System**

portion of the pond contains a sluice channel, a temporary ash stacking area, and several temporary dredge cells. While in operation, accumulated ash was periodically dredged and disposed of in approved landfills to maintain the required water storage volume in the ash pond (TVA 2010). Currently there are approximately 4,500,000 cubic yards (yd<sup>3</sup>) of CCR stored in Ash Pond 2. The pond has received numerous plant wastewater flows, site storm water runoff, as well as sluiced bottom and fly ash from plant operations. Some process flows ceased and others were rerouted after the JOF coal-fired units were retired.

## 1.3 PURPOSE AND NEED

TVA has retired and demolished all coal-fired units at JOF. Because CCR is no longer being produced at JOF, TVA is proposing to permanently close Ash Pond 2. The purpose of this EIS is to address the closure of Ash Pond 2 in a manner that is protective of human health and the environment and in accordance with state and federal requirements as applicable. The EIS assesses the direct, indirect, and reasonably foreseeable impacts of various alternatives for permanent closure of Ash Pond 2 on the environment.

#### **1.4 DECISION TO BE MADE**

This EIS is being prepared to inform TVA decision makers and the public about the environmental consequences of the proposed action. Specifically, TVA needs to make a decision regarding the method of closure of Ash Pond 2. TVA's decision will consider factors such as potential environmental impacts, economic issues, and TVA's long-term goals.

#### **1.5 RELATED ENVIRONMENTAL REVIEWS**

The following environmental reviews have been prepared for actions related to ash pond closure at JOF:

- *Final TVA Construction and Operation of Beneficiation Processing Facilities Programmatic Environmental Assessment (TVA 2025a)*. This programmatic environmental assessment (EA) considered constructing CCR beneficiation processing facilities at former and existing TVA coal-fired power plant sites within the TVA Power Service Area. Action Alternative D of this EIS considers transport of CCR to an onsite beneficiation processing facility, the construction and operation of which were evaluated in the 2025 programmatic EA.
- *Final Groundwater Corrective Action Programmatic Environmental Assessment (TVA 2025b)*. This EA programmatically assessed the effects of groundwater corrective actions implemented to address exceedances of groundwater protection standards at one or more coal plants. As part of this programmatic assessment, TVA developed new guidance, including an Environmental Screening Checklist and a bounding analysis, that complies with NEPA's procedural requirements, up to and including potential site-specific considerations of groundwater corrective actions at one or more of these coal plants, including JOF.
- *Final Johnsonville Aeroderivative Combustion Turbines Project Environmental Assessment (TVA 2022a)*. This EA evaluated the addition of 10 natural gas-fired aeroderivative combustion turbines at the Johnsonville Reservation. Portions of the Johnsonville Reservation evaluated in the EA are proposed as temporary use areas (TUAs) in this EIS.
- *Final Coal Yard and Coal Yard Runoff Pond Closure, Construction of a Process Water Basin and Development of a Borrow Site on TVA-Owned Property on or near the Johnsonville Fossil Plant Environmental Assessment (TVA 2019)*. Retirement of the coal-fired generating units at JOF prompted TVA to evaluate the closure of the coal yard and coal yard runoff pond and construction of a process water basin to manage storm water and non-CCR process water from the JCT Plant. The EA also considered the development of a borrow site on TVA-owned property located approximately 1.8 miles south of JOF. A 7.7-acre site located southeast of the north rail loop on JOF identified as a TUA in this EIS and the borrow site evaluated in this EIS were previously evaluated in the 2019 EA.
- *Final Johnsonville Fossil Plant Decontamination and Deconstruction Environmental Assessment (TVA 2018)*. This EA evaluated the disposition of the buildings and structures at JOF that are no longer needed for their original purpose of power generation. Portions of the JOF coal plant site evaluated in the EA are proposed as TUAs in this EIS.

- *Final Ash Impoundment Closure Environmental Impact Statement Part I- Programmatic NEPA Review* (TVA 2016). The CCR PEIS was prepared to address the closure of CCR impoundments at all of TVA’s coal-fired power plants. This EIS is intended to tier from the CCR PEIS to evaluate the closure alternatives for the existing ash impoundments at JOF.
- *Final Johnsonville Fossil Plant Dike Stabilization Environmental Assessment* (TVA 2010). This EA was prepared for a project to stabilize and regrade the dike supporting the northeast side of Ash Pond 2. The project was needed to meet safety standards set by the U.S. Army Corps of Engineers (USACE), as well as to allow TVA to perform routine dike maintenance without affecting slope stability.

**1.6 SCOPE OF THE EIS AND SUMMARY OF THE PROPOSED ACTION**

This EIS evaluates the potential environmental, cultural, and socioeconomic impacts of the proposed closure of Ash Pond 2 at JOF. A detailed description of the proposed action and alternatives considered are provided in Chapter 2.

TVA prepared this Draft EIS to comply with NEPA and TVA’s procedures for implementing NEPA (18 Code of Federal Regulations [CFR] Part 1318). TVA considered the possible environmental effects of the proposed action and determined that the following resources were relevant and should be assessed for potential impacts in this EIS:

- |                                       |                                     |  |
|---------------------------------------|-------------------------------------|--|
| • Air Quality                         | • Wildlife                          | • Cultural and Historic Resources      |
| • Climate Change and Greenhouse Gases | • Aquatic Ecology                   | • Transportation                       |
| • Geology and Soils                   | • Threatened and Endangered Species | • Noise                                |
| • Groundwater                         | • Wetlands                          | • Natural Areas, Parks, and Recreation |
| • Surface Water                       | • Solid and Hazardous Waste         | • Socioeconomics                       |
| • Floodplains                         | • Visual Resources                  | • Public Health and Safety             |
| • Vegetation                          |                                     |  |

TVA’s preliminary analysis identified the following resources as not being affected by the proposed action. These resources are therefore eliminated from further review in this EIS.

- Land use – Proposed activities would occur on previously disturbed land located within the former coal plant and Johnsonville Reservation boundaries. Therefore, no changes in land use are anticipated as a result of implementation of the proposed action, and this resource is not evaluated any further in this EIS. If Ash Pond 2 is closed by removal and restored (Alternatives C1 or D1), future land use of the site is unknown at this time.
- Prime Farmland – The entire project area has been previously disturbed by the construction and use of JOF, and the Ash Pond 2 surface impoundment no longer contains native soils. Most of the soils within JOF have been replaced by anthropogenic fill to support development or operations of the plant facilities. Therefore, closure of

Ash Pond 2 would have no impact on prime farmland soils, and this resource is not evaluated any further in this EIS. Accordingly, completion of Form AD 1006 and consultation on prime farmland is not required (Farmland Protection Policy Act, 7 U.S. Code [USC] 4201).

## **1.7 PUBLIC AND AGENCY INVOLVEMENT**

### **1.7.1 Scoping**

The initial public scoping process began with a Notice of Intent (NOI) to prepare an EIS, published in the Federal Register on November 15, 2019. The public scoping period took place from November 15, 2019, to December 20, 2019. TVA held a public meeting on December 2, 2019, in New Johnsonville, Tennessee, with about 12 attendees. The meeting was announced through TVA's social media accounts to increase public awareness. Comments from this period were summarized in a Scoping Report released on March 23, 2020.

The project was paused after completion of the 2019 scoping while TVA continued to refine the purpose and need, project proposal, and alternatives. TVA reinitiated public scoping with a revised NOI to prepare an EIS, published in the Federal Register on November 26, 2024. The NOI initiated a 35-day public scoping period, which concluded on December 30, 2024. TVA also published notices in *The News-Democrat* newspaper that serves the Humphreys County area; issued a news release to media; and posted the news release on the TVA website to solicit public input. Additionally, notifications were issued to state and federal agencies and interested stakeholders. Comments from this period were summarized in a Scoping Report released in March 2025. A summary of public scoping feedback and the Scoping Report are included in Appendix A.

Comments from both scoping periods were considered in development of the Draft EIS.

### **1.7.2 Public and Agency Review of the Draft EIS**

TVA's public and agency involvement for the Draft EIS includes publication of a public notice and a 45-day public review of this Draft EIS. To solicit public input, the availability of this Draft EIS was announced in *The News-Democrat* and *The Waverly* newspapers. A media advisory was also issued to local news outlets. The Draft EIS was posted on TVA's website, and hard copies were made available by request.

TVA's agency involvement includes sending notices to local, state, and federal agencies, and key stakeholders to inform them of the availability of the Draft EIS.

## 1.8 NECESSARY PERMITS OR LICENSES

A summary of the laws and executive orders (EOs) relevant to the proposed action is provided in Table 1-1. TVA holds the permits necessary for current operations at all facilities within the Johnsonville Reservation.

**Table 1-1. Laws and Executive Orders Relevant to the Proposed Action**

<b>Environmental Resource Area</b>	<b>Law/EO</b>
Geology, Soils, and Prime Farmland	Farmland Protection Policy Act
Water Resources	Administrative Code of Tennessee TDEC, Chapter 0400-04 Clean Water Act Sections 401, 402, and 404 EO 11988 – Floodplain Management EO 11990 – Protection of Wetlands EPA Final CCR Rule 257.73
Biological Resources	Administrative Code of TDEC, Chapter 0400 Bald and Golden Eagle Protection Act Endangered Species Act Section 7 (Consultation with U.S. Fish and Wildlife Service) EO 13112 – Invasive Species EO 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds Migratory Bird Treaty Act
Air Quality and GHG Emissions	Clean Air Act Administrative Code of TDEC – Chapter 1200-3 and Chapter 0400-30
Cultural Resources	Administrative Code of TDEC – Chapter 0400.02 Archaeological Resources Protection Act Archaeological and Historic Preservation Act National Historic Preservation Act Section 106 Native American Graves Protection and Repatriation Act
Waste Management	Administrative Code of Tennessee, Chapter 0400.10-12 Comprehensive Environmental Response, Compensation, and Liability Act Emergency Planning and Community Right-to-Know Act Resource Conservation and Recovery Act Solid Waste Disposal Act TDEC Commissioner’s Order No. OGC15-0177 EPA Final CCR Rule Toxic Substances Control Act
Public and Occupational Health and Safety	Occupational Safety and Health Act
Intergovernmental Review	EO 12372 – Intergovernmental Review of Federal Programs

Key: CCR Rule = Disposal of Coal Combustion Residuals from Electric Utilities Rule; EO = Executive Order; EPA = U.S. Environmental Protection Agency; TDEC = Tennessee Department of Environment and Conservation.

TVA would maintain, obtain, or seek modifications for all necessary permits, licenses, and approvals required for the alternative selected. TVA anticipates the following may be required for implementing the proposed alternatives.

- Obtain a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities or an Individual Construction Storm Water Permit, if required for the proposed project, and prepare a Storm Water Pollution Prevention Plan (SWPPP) to detail sediment and erosion control best management practices (BMPs).
- Maintain the existing Individual NPDES Permit for process wastewaters (TN0005444).
- Obtain a TDEC Section 401 Water Quality Certification/Aquatic Resources Alteration Permit (ARAP) and a USACE Section 404 permit for any disturbance to wetlands or stream features.
- Obtain an Air Pollution Control Permit to Construct under the Clean Air Act (CAA) prior to construction; revisions to TVA's Title V operating permit may also be required.
- Modify the existing Tennessee Storm Water Multi-Sector General Permit for Industrial Activities (TMSP) (TNR053188), if necessary.
- Evaluate and secure any additional permits based on site-specific conditions as design details are finalized.

## CHAPTER 2 – ALTERNATIVES

### 2.1 INTRODUCTION

TVA is considering several options to close JOF Ash Pond 2 in a manner that is protective of human health and the environment. This chapter describes the alternatives being considered in this EIS to implement the proposed action. Closure of Ash Pond 2 would be performed in accordance with state and Federal requirements, as applicable.

The alternatives in this EIS include primary actions directly related to the project purpose and need, and component actions supporting the primary actions. Primary actions address options for closing Ash Pond 2, while component actions involve transporting CCR and borrow material. Figure 2-1 shows the relationship between these actions.

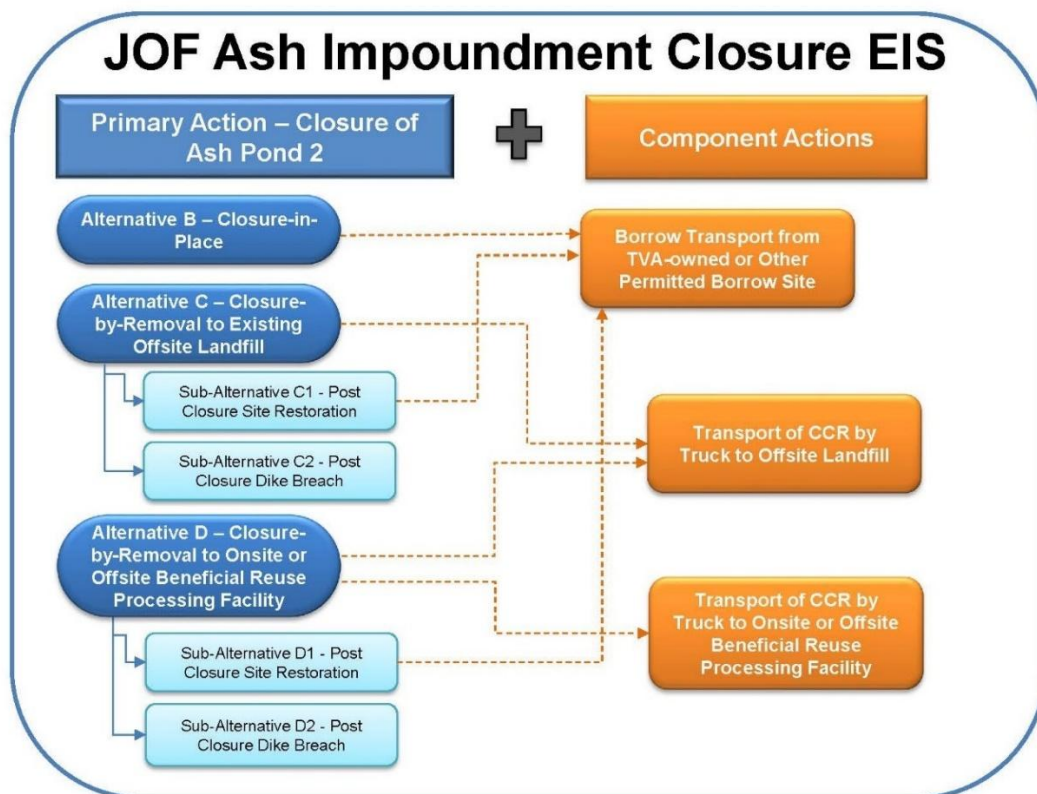


Figure 2-1. Primary and Component Actions Evaluated

### 2.2 DEVIATIONS FROM THE ASH IMPOUNDMENT CLOSURE PEIS

TVA’s CCR PEIS (TVA 2016) programmatically assessed methods for closing impoundments with CCR materials at TVA fossil plants. It identified screening and evaluation factors for future closure actions and considered the environmental effects of two primary ash impoundment closure methods: Closure-in-Place and Closure-by-Removal.

This EIS is intended to tier from the CCR PEIS to evaluate the closure alternatives for Ash Pond 2 at JOF. Substantial deviations in either impoundment characteristics or the type and extent of proposed actions to conduct closure may either negate the applicability of tiering or necessitate additional specialized site-specific analyses. These deviations are discussed below and further in Appendix C.

TVA's CCR PEIS evaluated the rate of truck loading and determined it to be up to 100 truckloads of CCR per day, each with a capacity of approximately 10 yd<sup>3</sup>, for up to 150 working days per year. This results in approximately 200 truck trips per day over a nine-hour workday throughout the closure period. In this EIS, TVA is evaluating larger trucks with a 17 yd<sup>3</sup> capacity, two 9-hour shifts per workday, and up to 365 working days per year. This would result in a shorter closure duration.

Primary actions common to all impoundment closures were identified in the CCR PEIS. Table C-2 in Appendix C summarizes these actions and shows the consistency of the closure alternatives for Ash Pond 2 with the CCR PEIS analyses. The characteristics and proposed actions for closing Ash Pond 2 at JOF are sufficiently covered by the CCR PEIS, allowing the closure to tier off its analysis. The impact of the shorter closure duration is evaluated in terms of air quality, transportation, noise, solid waste, and socioeconomic impacts in this EIS.

### **2.3 ALTERNATIVES EVALUATED IN THIS EIS**

The primary action in this EIS is the closure of Ash Pond 2 at JOF, affecting approximately 221 acres of the previously disturbed Johnsonville Reservation. This includes the 107-acre impoundment, the peninsula, the causeway, and three temporary use areas (TUAs) (Figure 2-2). The TUAs would provide vehicle and equipment parking, material storage, and construction of facilities needed to close Ash Pond 2. Borrow needed to support closure activities would be obtained from an offsite existing and permitted borrow site within 30 miles of JOF or from the previously approved areas within the borrow site on TVA-owned property approximately 1.8 miles south of JOF, as shown in Figure 2-2.

TVA is considering the following four alternatives for closure and restoration of Ash Pond 2:

- Alternative A – No Action
- Alternative B – Closure-in-Place of Ash Pond 2
- Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill
- Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility

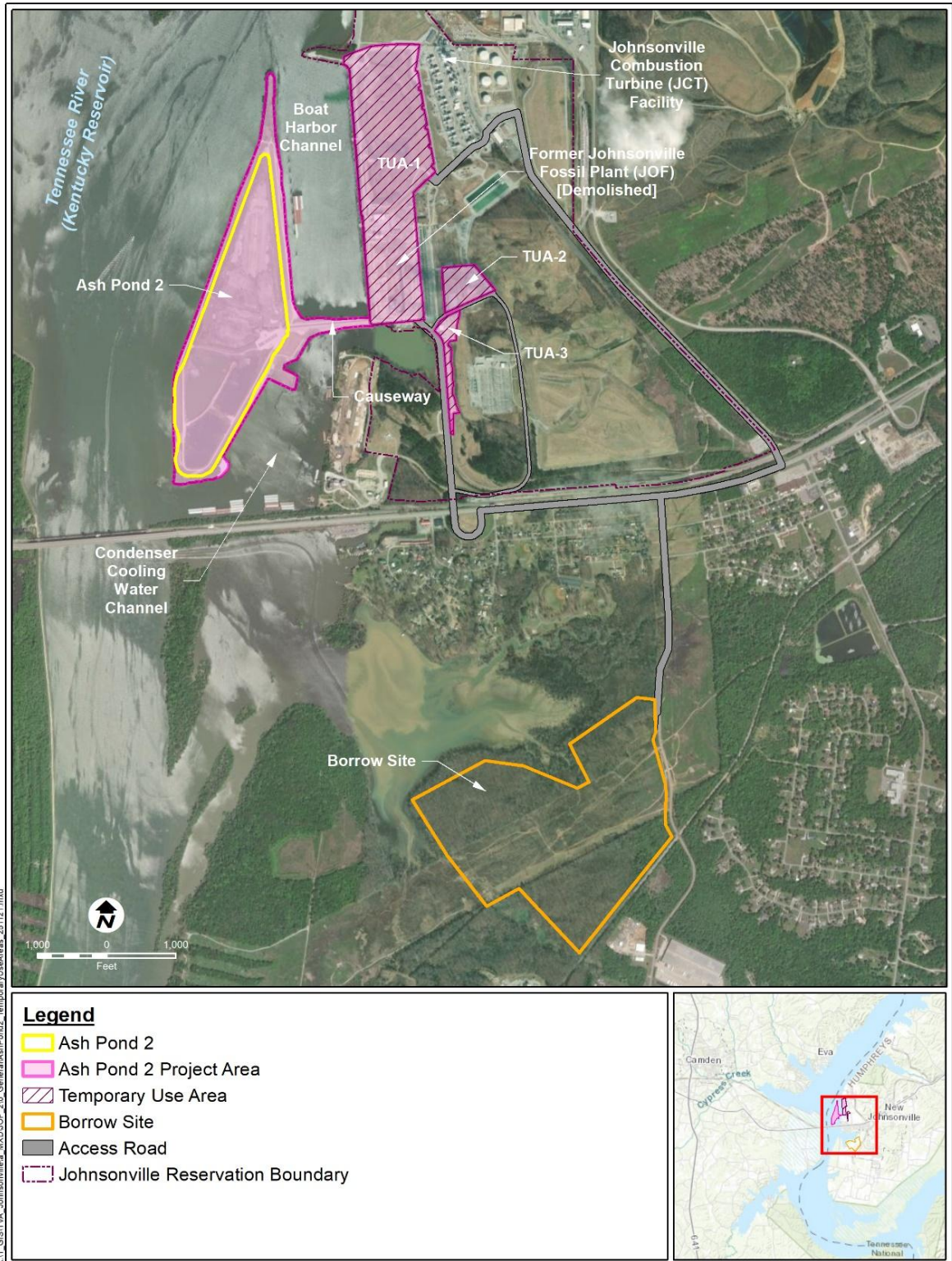


Figure 2-2. JOF Ash Impoundment Closure Project Area and Vicinity

### **2.3.1 Alternative A – The No Action Alternative**

Under the No Action Alternative, TVA would not close Ash Pond 2, and no closure activities would occur. Ash Pond 2 would continue to operate under the existing NPDES permit number TN0005444. All process flows were rerouted before April 2021. Flows from the JCT facility now go to the non-CCR Process Water Basin (PWB) and maintain coverage under NPDES permit TN0082023, while other flows are rerouted to the Interim Flow Management (IFM) system, discharging to the NPDES permitted Outfall 001. TVA would continue dike safety inspections and maintenance. TVA would continue to collect groundwater samples from existing monitoring wells and review the analytical results as a part of the TDEC Order, the EPA's CCR Rule, and other regulatory requirements.

The No Action Alternative would not satisfy the project Purpose and Need since it does not comply with state and federal requirements. Therefore, it is not considered viable or reasonable. It does, however, provide a benchmark for comparing the environmental impacts associated with implementation of the Action Alternatives.

### **2.3.2 Alternative B – Closure-in-Place of Ash Pond 2**

Under Alternative B, TVA would close Ash Pond 2 in place. TVA would first decant water from the impoundment located in the southern section of the Ash Pond 2 CCR unit. After decanting, the unit would be regraded to promote site drainage using existing or imported borrow material, as needed. An approved cover system would be installed across the entire unit to encompass the CCR material footprint.

TVA would close Ash Pond 2 (Figure 1-1 and Figure 2-2) by capping it with either a composite flexible membrane liner and 24 inches of cover soil or ClosureTurf® or an equivalent system that would meet state and federal requirements, described in more detail below. The closure would start from the north end and proceed to the south, covering the ash and connecting to the dike on all sides. The process would include:

- Demolition of existing facilities, structures, and utilities including various sluice piping and foundations, spillway pipes and structures, carbon dioxide (CO<sub>2</sub>) injection system components, and truck scales.
- Establishing a stormwater management system to include a temporary stormwater management pond, diversion berms and swales, and pumps. This would include any water treatment system necessary to achieve water quality standards prior to discharging from NPDES Outfall 001. Any existing structures that support NPDES compliance would remain in place.
- Grading the pond to the final ash elevation of approximately 410 feet; the final elevation would be subject to final design. Grading could include movement and compaction of CCR to achieve positive drainage, sloping the final grades to new stormwater outfalls, and cutting down portions of the perimeter dike for use as soil cover.

- Construction of the final cover system, using one of the following options:
  - Cap Option 1 would include, from bottom to top, a geomembrane liner, geocomposite drainage layer, placement of 24 inches of soil with the upper 6 inches capable of supporting vegetation.
  - Cap Option 2 would include a ClosureTurf® or equivalent system, which consists of an engineered turf and approximately 1/2-inch-thick sand layer.
  - An alternative cap option that would meet federal and state requirements.
- Obtaining soil for closure and restoration of the site from an offsite existing and permitted borrow site located within 30 miles of JOF or the existing and permitted borrow site approximately 1.8 miles south of JOF on TVA property. If expansion of existing borrow sites becomes necessary, a supplemental NEPA review would be conducted to evaluate potential impacts.
- Construction of a 16-foot-wide gravel access road around the perimeter of the closed Ash Pond 2.
- Long-term monitoring of previously installed groundwater monitoring wells.
- TVA would continue safety inspections of dikes to maintain stability and provide continued long-term care and maintenance activities.
- The boat ramp and causeway road providing access to the peninsula would remain in place and be maintained.

The transport of borrow material is a “component action” under this alternative. Closure-in-Place of Ash Pond 2 at JOF would entail the addition of borrow material to use as fill and achieve proposed finished grades. Up to 330,000 yd<sup>3</sup> of borrow material would be obtained from an existing and permitted offsite borrow source within 30 miles of JOF or from the previously approved 44 acres within the TVA-owned 165-acre borrow site located 1.8 miles south of JOF (Figure 2-2). TVA estimates that up to 800 truck trips (up to 400 truckloads) of borrow per day would be transported to JOF when needed throughout the closure period. Under this alternative, the estimated closure period would be up to approximately 6 years, following completion of design and permitting.

### **2.3.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

Under Alternative C, TVA would remove CCR from Ash Pond 2 and transport it in covered, over-the-road dump trucks (capacity of 17 yd<sup>3</sup>) to one or more landfills within approximately 75 miles of JOF. This process would involve excavation and relocation of the CCR from the ash impoundment in accordance with federal and state requirements. TVA would decant and regrade (stabilize) residual ponded areas and then excavate the approximately 4.5 million yd<sup>3</sup> of CCR, approximately one foot of underlying soil (total of about 175,000 yd<sup>3</sup>), and support structures from the impoundment footprint. The estimated closure period for closure-by-removal would be 10 to 13 years, following completion of design and permitting. Closure activities would include:

- Excavation of ash using a tracked excavator

- Mechanical moisture conditioning of the excavated ash by dumping, scooping, and windrowing the ash within the existing footprint of the impoundment or pond until it is sufficiently dried for hauling
- After drying, ash would be loaded into covered trucks and hauled to an existing, offsite permitted landfill within approximately 75 miles of JOF
- Ash would be hauled in 17 yd<sup>3</sup> capacity covered trucks for two 9-hour shifts per workday, at a rate of up to 800 truck trips (400 truckloads) per day, for up to 365 working days per year throughout the 10- to 13-year closure period
- Over-excavation of soil within the CCR unit footprint

The location of the offsite landfill has not been determined at this time. Potential locations of the offsite landfill and potential methods of transport were studied and evaluated for the EIS (see further information in Section 2.4 and Appendices D and E).

Subject to state and Federal requirements and approvals, as applicable, TVA is considering two options for post-closure restoration of Ash Pond 2 under Alternative C: Post-closure Site Restoration and Post-closure Dike Breach.

#### **2.3.3.1 Sub-Alternative C1 – Post-Closure Site Restoration**

Sub-Alternative C1 relates to post-closure activities. Under this option, the area of Ash Pond 2 would be restored upon completion of the excavation activities to a soil and vegetated state. After excavation and reclamation, Ash Pond 2 would be graded as needed and vegetation would be established over the excavation areas.

As part of this action, Closure-by-Removal of Ash Pond 2 is expected to require approximately 2.2 to 3 million yd<sup>3</sup> of suitable borrow material. Soil utilized for closure and restoration of the site is proposed to be obtained from an existing and permitted offsite borrow source within 30 miles from JOF or a previously evaluated borrow area on TVA-owned property located 1.8 miles south of JOF. The transport of borrow material is a “component action” under this sub-alternative. Closure-by-Removal of Ash Pond 2 and post-closure site restoration would entail the addition of borrow material to achieve proposed finished grades and provide a suitable medium to support restoration of the former impoundment with approved, non-invasive seed mixes designed to quickly establish desirable vegetation. TVA estimates that up to 800 truck trips (up to 400 truckloads) of borrow per day would be transported to JOF when needed throughout the estimated 10- to 13-year closure period. Transport of borrow may be concurrent with transport of CCR.

#### **2.3.3.2 Sub-Alternative C2 – Post-Closure Dike Breach**

Sub-Alternative C2 is another post-closure option. Upon completion of the excavation activities, the dikes surrounding Ash Pond 2 would be breached in one or more places, allowing water from Kentucky Reservoir to inundate the interior of the unit. Slopes around the breach would be covered in riprap or an approved alternative method to protect them

from erosion. Large boulders could be placed in the breach to block any boat traffic from entering the inundated Ash Pond 2 footprint. Thereafter, water inside the unit would fluctuate with the Kentucky Reservoir. Some areas may remain above the normal lake level and would be stabilized and vegetated. TVA would evaluate long-term stabilization and potential future use of this area. Although a small number of boulders and riprap may be transported from an existing permitted rock quarry, no transport of borrow material would be required for this sub-alternative.

### **2.3.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Under Alternative D, TVA would close Ash Pond 2 by removal in the same manner as Alternative C. However, all of the usable excavated CCR (up to approximately 4.5 million yd<sup>3</sup>) would be transported in off-road covered, heavy haul trucks to an onsite beneficiation processing facility or in covered, over-the-road dump trucks (capacity of 17 yd<sup>3</sup>) to an offsite beneficiation processing facility up to 75 miles away for use in concrete and other building materials. Any unusable CCR and excavated soil material would be transported to an existing offsite permitted landfill.

No specific provider of the beneficiation services or the specific site at which a beneficiation processing facility would be constructed has been developed at this time. TVA programmatically evaluated the construction and operation of potential CCR beneficiation processing facilities in a separate NEPA review (TVA 2025a). This EIS assesses only the transport of CCR to such a facility.

TVA is considering the same options for restoration of Ash Pond 2 as described for Alternative C.

#### **2.3.4.1 Sub-Alternative D1 – Post-Closure Site Restoration**

Same as described for Sub-Alternative C1.

#### **2.3.4.2 Sub-Alternative D2 – Post-Closure Dike Breach**

Same as described for Sub-Alternative C2.

### **2.3.5 Closure Alternatives Considered but Eliminated from Further Evaluation**

The following alternatives were considered by TVA but were eliminated from further evaluation.

#### **2.3.5.1 Barge and Rail Transport to an Offsite Landfill**

TVA considered transport of CCR from Ash Pond 2 to an offsite landfill via barge or rail. Based on numerous challenges including lack of barge and rail loading facilities at JOF, an absence of direct port or rail service at many existing landfills within 75 miles of JOF, and excessively high costs and time requirements to construct such facilities at JOF and the landfill, closure-by-removal by barge or rail transport to an offsite landfill is eliminated

from further consideration as impractical and was eliminated from detailed consideration in the EIS.

### **2.3.5.2 Closure-by-Removal to an Onsite Landfill**

TVA considered transport of CCR from Ash Pond 2 to an onsite landfill. Closure-by-removal to an onsite landfill was eliminated from consideration because adequate undeveloped space free of power lines is not available on site at JOF to accommodate the removed material.

### **2.3.5.3 Closure-in-Place with Pasting Process**

TVA considered closure-in-place utilizing a pasting process. Pasting is an innovative new technology for CCR management that TVA evaluated as a method to further bind the ash. During the pasting process, CCR material would be dredged from Ash Pond 2 and pumped to a new onsite paste plant. The CCR material would be decanted using mechanical equipment (e.g., tanks, thickeners, pumps). Process water needs would be expected to range between 220 to 450 gallons per minute and are typically sourced from the process itself as recycled feed. Depending on the properties of the thickened (paste) material, some material may be incorporated into the paste stream to optimize and control paste deposition properties. The paste material would then be pumped via pipeline back to Ash Pond 2 and distributed per a defined deposition plan. TVA eliminated this option due to the quality of the CCR in Ash Pond 2 not meeting the minimum specifications required.

## **2.4 DISPOSITION OF CCR REMOVED FROM ASH POND 2**

TVA is considering two options for disposition of the CCR removed from Ash Pond 2: transport and disposal of CCR in an existing offsite permitted landfill (Alternative C) and transport of CCR to a beneficiation processing facility to be processed for use in concrete and other building materials (Alternative D).

Bounding analyses for landfill and beneficiation processing facilities that may be used for disposition of CCR were completed for the EIS and are included in Appendix D. The landfill analyses report is included in Appendix E. Three landfills have been identified as suitable for accepting CCR from JOF, along with proposed over-the-road haul routes. In addition, the EIS assumes there would be direct access to a beneficiation processing facility from a collector road or major highway that would support truck traffic without noticeable traffic effects. If a landfill or beneficiation processing facility site is identified for use after the completion of this EIS that does not meet the criteria of the bounding analyses in this EIS, a supplemental NEPA review would be conducted.

## **2.5 COMPARISON OF ALTERNATIVES**

The environmental impacts of each of the alternatives under consideration are summarized in Table 2-1. These summaries are derived from the information and analyses provided in the Affected Environment and Environmental Consequences sections of each resource in Chapter 3.

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

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Air Quality	No impact	Minor and temporary impacts from emissions and fugitive dust during closure activities and transport of borrow material  No exceedance of NAAQS	Minor and temporary impacts from emissions and fugitive dust during closure activities  Moderate, temporary, and localized impacts from increased emissions along haul routes to an offsite facility; minor impacts from CCR transport to an onsite facility  Minor impacts on regional air quality, and no exceedance of NAAQS	Minor impacts associated with emissions and fugitive dust from transport of borrow material and restoration activities  No exceedance of NAAQS	Minor and temporary impacts associated with emissions during dike breach  Lower emissions than Sub-Alternatives C1/D1 because borrow is not required  No exceedance of NAAQS
Climate Change	No impact	Negligible impact on global climate change	Negligible impact on global climate change	Negligible impact on global climate change	Negligible impact on global climate change
Geology	No impact	Minor impacts associated with soil erosion during site preparation and closure  No impacts associated with the transport of borrow material	Minor impacts associated with soil erosion during site preparation and closure, greater than those from Alternative B due to longer closure period  No impacts associated with transport of CCR to an offsite landfill or on/offsite beneficiation processing facility	Minor impacts associated with soil erosion during restoration activities  No impacts associated with the transport of borrow material	Minor impacts associated with soil erosion during dike breach

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Groundwater	Risk to groundwater is not reduced	Long-term beneficial impacts from reductions in hydraulic input and associated risk of post-closure escape of CCR constituents  No impacts associated with the transport of borrow material	Long-term beneficial impacts associated with CCR removal, greater than Alternative B  Extended closure period diminishes benefit in the short term  Minor and temporary impacts associated with construction activities  No impacts associated with CCR transport to an offsite landfill or on/offsite beneficiation processing facility	Minor and temporary impacts associated with restoration activities  No impacts associated with the transport of borrow material	No impact
Surface Water	Risks to surface water would not be reduced	Risks to surface water would be reduced  Minor and temporary impacts associated with storm water runoff during construction activities  No impact associated with transport of borrow material	Risks to surface water would be reduced  Minor and temporary impacts associated with storm water runoff during construction activities  No impact associated with transport of CCR to an offsite landfill or on/offsite beneficiation processing facility	Minor and temporary impacts associated with erosion from restoration activities  No impact associated with transport of borrow material	Minor and temporary impacts associated with erosion from dike breach and stabilization
Floodplains	No impact	Minor impacts associated with sedimentation and runoff during closure activities  No impact associated with transport of borrow material	Minor impacts associated with sedimentation and runoff during closure activities  No impacts associated with CCR transport to an offsite landfill or on/offsite beneficiation processing facility	No impact	Long-term beneficial impacts associated with increased floodwater storage due to fill reductions

Resource	Alternative A: No Action	Alternative B: Closure-in-Place	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Vegetation	No impact	Minor and temporary impacts from earth moving, tree clearing, fugitive dust, and potential spread of invasive species; low conservation value of affected species/communities  Long-term improvement of resource if cover is vegetated	Minor and temporary impacts from earth moving, tree clearing, fugitive dust, and potential spread of invasive species; low conservation value of affected species/communities	Minor and temporary impacts from fugitive dust and potential spread of invasive species; low conservation value of affected species/communities  Long-term improvement of resource following seeding with non-invasive species	Minor and temporary impacts from fugitive dust and potential spread of invasive species; low conservation value of affected species/communities  Minor long-term improvement of habitat for aquatic vegetation
Wildlife	No impact	Minor impacts from loss of low-quality habitat and displacement, negligible habitat loss relative to availability within the vicinity  Minor and temporary impacts due to the transport of borrow material	Minor impacts from loss of low-quality habitat and displacement; negligible habitat loss relative to availability within the vicinity  Long-term beneficial impacts associated with removal of CCR material and seeding with non-invasive species  Minor and temporary impacts from noise and collision potential during transport of CCR	Minor and temporary impacts from noise and displacement during grading and transport of borrow material  Long-term beneficial impacts associated with habitat improvement following restoration	Minor and temporary impacts from noise and displacement during dike breach  Long-term beneficial impacts associated with habitat improvement following dike breach

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Aquatic Ecology	No impact	Minor and temporary impacts from flow and water quality alterations during closure; fugitive dust deposition during transport of borrow material	Minor and temporary impacts from flow and water quality alterations during closure; fugitive dust deposition during transport of CCR, greater than Alternative B	Minor and temporary impacts from sedimentation and fugitive dust deposition during restoration	Minor and temporary impacts from sedimentation during dike breach  Long-term beneficial impacts associated with the creation of new aquatic habitat following dike breach
Threatened and Endangered Species	No impact	Minor impacts on bat species from potential habitat loss  Minor and temporary impacts on other sensitive species from noise, collisions, sedimentation, and risk of invasive species spread during closure borrow material transport	Minor impacts to bat species from potential habitat loss  Minor and temporary impacts to sensitive species associated with noise, collisions, sedimentation, and risk of invasive species spread during closure activities and CCR transport; greater impacts than alternative B due to longer closure period	Minor and temporary impacts from noise, collisions, sedimentation, and risk of invasive species spread during restoration activities and transport of borrow material  Potential long-term beneficial impacts to terrestrial species from restoration	Minor and temporary impacts associated with noise, collisions, sedimentation of aquatic habitats, and risk of spread of invasive species during restoration  Potential long-term beneficial impacts to aquatic species from increased habitat
Wetlands	No impact	Minor impacts from conversion of 0.6-acre forested wetland, permitted under CWA Section 404 and TDEC ARAP process  No impact associated with transport of borrow material	Minor impacts from conversion of 0.6-acre forested wetland, permitted under CWA Section 404 and TDEC ARAP process  No impacts associated with transport of CCR	Potential indirect impacts to wetland hydrology that are anticipated to be minor and temporary	No impact is anticipated due to compliance with applicable permits under CWA Section 404 and/or the TDEC ARAP process along with use of BMPs to minimize indirect onsite impacts

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Solid and Hazardous Waste	No impact	Minor and temporary impacts from small volumes of non-CCR waste generated during closure and transport of borrow material	Minor and temporary impacts from non-CCR waste generated during closure and transport of CCR but greater than Alternative B due to longer closure duration  Transport to a beneficiation processing facility would result in long-term moderate beneficial impacts associated with a reduction in solid wastes	Minor and temporary impacts from small volumes of non-CCR waste generated during restoration and transport of borrow material	Minor and temporary impacts from small volumes of non-CCR waste generated during dike breach
Visual Resources	No impact	Minor short-term impacts from viewshed alterations and visual discord during closure  Long-term beneficial impacts from cover and restoration  Minor and temporary impacts along haul routes from transport of borrow material	Minor short-term impacts from viewshed alterations and visual discord during closure  Long-term beneficial impacts from CCR removal  Minor short-term impacts from transport of CCR; Alternative C duration greater than Alternative D	Minor and temporary impacts from restoration activities and transport of borrow material  Long-term beneficial impacts associated with restoration	Minor and temporary impacts from dike breach  Long-term beneficial impacts associated with inundation
Cultural and Historic Resources	No impact	No impact	No impact	No impact	No impact

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Transportation	No impact	Minor and temporary impacts from workforce traffic  Minor and temporary impacts to regional transportation network	Minor and temporary impacts associated with workforce traffic, greater impacts than Alternative B  Minor to Moderate impacts on low-volume roadway segments, or roadways that are already near capacity, from transport CCR transport to offsite facility  Minor and temporary impacts to regional transportation network from transport of CCR to an offsite facility  No impacts associated with CCR transport to an onsite beneficiation processing facility	No impacts from restoration activities  Minor to moderate, temporary and localized impacts to low-volume roadway segments or roadways that are already near capacity, from borrow material transport  Minor and temporary impacts to regional transportation network from transport of borrow material from regional source	No impacts associated with dike breach
Noise	No impact	Minor and temporary, indirect impacts from noise and traffic during closure  Minor, intermittent, and temporary impacts from increased traffic noise during borrow transport	Minor to moderate and temporary, indirect impacts from noise and traffic during closure and CCR transport to an offsite landfill or on/offsite beneficiation processing facility  Offsite traffic noise impacts would be less if an onsite beneficiation facility is used; truck noise from transport to an onsite beneficiation facility would be minor, as the Johnsonville Reservation roadways are heavily associated with industrial use and are not located near sensitive receptors.	Minor and temporary, indirect impacts from grading during restoration  Minor to moderate, intermittent, and temporary impacts from increased traffic noise during borrow transport	Minor and temporary, indirect impacts from dike breach and stabilization activities

<b>Resource</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Closure-in-Place</b>	<b>Alternatives C/D: Closure-by-Removal, Transport of CCR to an Offsite Landfill or to an Offsite or Onsite Beneficiation Processing Facility</b>	<b>Sub-Alternatives C1/D1: Closure-by-Removal with Post-Closure Site Restoration</b>	<b>Sub-Alternatives C2/D2: Closure-by-Removal with Post-Closure Dike Breach</b>
Natural Areas, Parks and Recreation	No impact	Minor, indirect, intermittent, localized, and temporary impacts to enjoyment or use from fugitive dust, noise, and traffic during closure and transport of borrow material	Minor, indirect, intermittent, localized, and temporary impacts to enjoyment or use from fugitive dust, noise, and traffic during closure and transport of CCR	Minor and short-term impacts from erosion, sedimentation, and contamination of stormwater runoff during restoration; noise, fugitive dust, and increased traffic volumes during transport of borrow material  Long-term beneficial impacts from increased vegetation	Minor, indirect, localized, and temporary impacts to enjoyment or use from fugitive dust, noise, and chemical pollutants during dike breach  Long-term beneficial impacts from inundation
Socioeconomics	No impact	Short-term beneficial impacts from increased employment, payroll, and tax payments  Minor and temporary impacts on access to community facilities from increased truck traffic during borrow transport	Short-term beneficial impacts from increased employment, payroll, and tax payments, greater than Alternative B  Minor and temporary impacts on access to community facilities from increases in truck traffic during CCR transport to an offsite facility	Short-term beneficial impacts from increased employment, payroll, and tax payments  Minor and temporary impacts on access to community facilities from increased truck traffic during borrow transport	Short-term beneficial impacts from increased employment, payroll, and tax payments
Public Health and Safety	No impact	Minor and temporary impacts during closure and transport of borrow material	Minor and temporary impacts during closure and CCR transport; greater than Alternative B due to longer duration and increased vehicle miles associated with CCR hauling  Fewer impacts associated with CCR transport to an onsite beneficiation facility	Minor and temporary impacts; greater than Sub-Alternatives C2/D2 due to increased vehicle miles associated with transport of borrow material	Minor and temporary impacts from dike breach, less than Sub-Alternatives C1/D1

Notes: ARAP = Aquatic Resource Alteration Permit; CCR = coal combustion residuals; CWA = Clean Water Act; NAAQS = National Ambient Air Quality Standards; TDEC = Tennessee Department of Environment and Conservation.

## 2.6 TVA'S PREFERRED ALTERNATIVE

Alternative B is TVA's preferred alternative. Alternative B is consistent with the established Purpose and Need to permanently close Ash Pond 2 in a manner that is protective of the human health and the environment. The selection of this alternative is subject to TDEC's approval of the Corrective Action/Risk Assessment (CARA) Plan in accordance with the TDEC Order, TVA's compliance with the EPA's CCR Rule, and other regulatory requirements.

## 2.7 SUMMARY OF ENVIRONMENTAL COMMITMENTS, MITIGATION MEASURES, AND BMPS

This section summarizes the environmental commitments, mitigation measures, and BMPs that TVA would use to avoid or reduce adverse impacts from the alternatives analyzed. These measures are required to reduce or avoid environmental effects and are discussed in Chapter 3. They include:

- **Standard Best Management Practices** – Implemented by construction personnel or included in contract specifications to ensure public safety, dust abatement, air pollution abatement, noise abatement, water pollution abatement, proper waste material disposal, erosion control, and measures to avoid or reduce impacts to archaeological and historical resources, vegetation, and wildlife.
- **Erosion and Sedimentation** – BMPs (e.g., silt fences) described in the *Tennessee Erosion Prevention and Sediment Control Handbook* (TDEC 2026) and outlined in the project-specific SWPPP would be implemented to minimize erosion, protect surface waters and groundwater, and preserve soils and geologic features during construction and site restoration activities.
- **Storm Water Discharge** – Construction-related materials and waste would be contained and properly transported, handled and stored, so that the introduction of pollutants to receiving waters is avoided and minimized. A General Permit for Discharges of Stormwater Associated with Construction Activities TNR100000 (TDEC Construction General Permit [CGP]) (TDEC 2021a) or an Individual Construction Storm Water Permit would be obtained and would require development of a project-specific SWPPP in accordance with the TDEC CGP (TDEC 2021a) and the *Tennessee Erosion Prevention and Sediment Control Handbook* (TDEC 2026). The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize stormwater impacts.
- **Storm Water Management** – Storm water drainage would be directed as appropriate to ensure compliance with all applicable regulations and permits. The closure processes and changes may require the modification/update of the NPDES permit and/or the TMSP general permit coverage. Prior to construction, TVA would obtain a TMSP application and/or modification for new stormwater outfalls installed to direct storm water runoff towards the Tennessee River and discharges not covered by the existing site NPDES permit. During construction, a positive grade stormwater management system would be established to include a temporary stormwater management pond, diversion berms and swales, and pumps. This would include any water treatment system

necessary to achieve water quality standards prior to discharging from NPDES Outfall 001. Any existing structures that support NPDES compliance would remain in place.

- **Groundwater Monitoring** – Groundwater monitoring wells have been installed at JOF for various monitoring programs. TVA would continue to collect groundwater samples from these wells and review the analytical results as a part of the TDEC Order, the CCR Rule, and other regulatory requirements. Access to groundwater wells for post-closure monitoring would be maintained regardless of closure method or post-closure sub-alternative option. TVA would implement supplemental mitigative measures as required by TDEC, as well as its approved closure plan, which could include additional groundwater monitoring assessment, or corrective action programs.
- **Point Source Discharge** – Equipment washing and dust control discharges would be handled in accordance with BMPs described in the CGP’s SWPPP or BMP Plan required by the site’s NPDES Permit TN0005444 to minimize construction impacts to surface waters.
- **Fugitive Dust** – Fugitive dust produced from construction activities would be controlled by using truck washing stations and BMPs (e.g., wet suppression) as stated in the TVA’s fugitive dust control plans required under existing Clean Air Act Title V operating permits and the construction permit required by TDEC. In addition, TVA requires all contractors to keep construction equipment properly maintained and use BMPs (such as covered loads and watering unpaved haul roads) to minimize dust generation.
- **Vehicle Emissions** – Truck emissions would be minimized by implementation of BMPs such as use of vehicles with new emission control technologies, efficient fuel mixtures, and regular maintenance of vehicles.
- **Occupation and Public Health and Safety** – Industrial safety standards including Occupational Safety and Health Administration (OSHA) requirements for workers would be followed during project activities. The establishment of appropriate BMPs and job site safety plans would describe how job safety would be maintained during the project. It is TVA policy that all contractors have in place a site-specific health and safety plan prior to operation on TVA properties. The establishment of traffic procedures to minimize potential safety concerns would be addressed in these health and safety plans.
- **Sanitary Wastes** – During construction, TVA would provide onsite workforce with temporary toilet facilities supplied and serviced by a licensed vendor, with wastewater being disposed of at an approved facility.
- **Solid and Hazardous Wastes** – TVA would manage all solid waste and hazardous wastes generated from closure activities in accordance with standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state, and local requirements. OSHA requirements for workers engaged in these activities would also be applied.
- **Revegetation** – Areas would be graded and restored through planting approved, non-invasive seed mixes or sod consistent with EO 13751 to prevent introduction or spread of invasive species.

- **CCR Removal** – Alternatives C and D would require removal of the CCR material to comply with closure-by-removal standards of the CCR Rule. Decanting of the southern impounded area in the Ash Pond 2 unit would occur under existing NPDES authorizations and would comply with all TDEC regulations. The CCR removed from the impoundment would be dried to an acceptable level prior to being loaded for transport. A CCR removal plan would be submitted for TDEC approval prior to removal.
- **Bat Strategy Programmatic Consultation** – TVA committed to implementing specific conservation measures under TVA’s Bat Strategy Programmatic Section 7 Endangered Species Act (ESA) consultation for those activities with potential to affect bats. Relevant conservation measures to this project are identified in the TVA Bat Strategy Project Screening Form and would be reviewed and implemented as part of the approved project (Appendix F).
- **Osprey Nests** – Twenty osprey nests have been recorded within 3 miles of the project area. Three active nests were documented within 660 feet of the proposed actions. These birds are likely to be habituated to human activities, but if nests are active at the time of construction, coordination with US Department of Agriculture (USDA) Wildlife Services would be required.
- **Wetlands and Streams** – TVA would coordinate with the USACE and TDEC to determine jurisdictional status of any wetlands that cannot be avoided. Unavoidable impacts to jurisdictional wetlands would not occur unless authorized by the USACE through the Clean Water Act (CWA) Section 404 permitting process and/or TDEC ARAP process. BMPs would include those described in TVA 2022b, TDEC 2026, and the site-specific SWPPP.
- **Floodplains** – Closure activities located within adjacent floodplains would comply with EO 11988 (Floodplain Management) and BMPs would be implemented. Activities occurring within Ash Pond 2 would continue to be protected from inundation in a 100-year flood event.
- **Corrective Action/Risk Assessment Plan** – Post-closure care, monitoring, and any required remediation would be implemented in accordance with the Corrective Action/Risk Assessment (CARA) Plan (TVA 2026). As required under the TDEC Order and described in the CARA Plan, TVA would implement groundwater, surface water, and air monitoring plans; an adaptive management plan; a short-term CCR material management plan, and closure and post-closure plans. These plans may include provisions that overlap with the environmental commitments listed above. If monitoring results or site conditions indicate the need for additional actions, TVA would implement supplemental mitigative measures, such as additional groundwater monitoring, assessment, or corrective action programs, as required by TDEC and in compliance with applicable state and federal requirements.

## **CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **3.1 SCOPE OF ANALYSIS**

This chapter describes the baseline environmental conditions (affected environment) of environmental resources in the study areas and the anticipated environmental consequences (or impacts) that would occur from the implementation of the alternatives described in Chapter **Error! Reference source not found.**

#### **3.1.1 Impact Assessment**

The impacts evaluated may be beneficial or adverse and may apply to the full range of natural, aesthetic, historic, cultural, and socioeconomic resources within the project areas of each alternative and within the surrounding areas. Impact severity is dependent upon their relative magnitude and intensity and resource sensitivity. Four descriptors are used to characterize the level of impacts and are consistent with TVA's current practice. In order of degree of impact, the descriptors are as follows:

- No Impact (or “absent”) – Resource not present or, if present, not affected by project alternatives under consideration.
- Minor – Environmental effects are not detectable or are so minor that they would not noticeably alter any important attribute of the resource.
- Moderate – Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
- Significant – Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

Past and present actions inherently have environmental impacts that are integrated into the base condition for each resource analyzed in this chapter. These actions are not related to the proposed project but could also affect environmental resources in the project area. Current activities in the surrounding areas include ongoing operations of adjacent industrial facilities, including emissions from local vehicles and related impacts to air quality, including greenhouse gas (GHG) emissions. These activities are considered part of the existing environmental setting and are not expected to increase in the foreseeable future.

#### **3.1.2 Reasonably Foreseeable Future Actions**

Reasonably foreseeable future actions would include those actions that are clearly presented in approved planning documents, have been funded to adequately support full construction and operation, or have applied for appropriate permits for construction or operation. No such reasonably foreseeable future actions were identified during internal or external scoping in proximity to the proposed actions.

## **3.2 AIR QUALITY**

### **3.2.1 Affected Environment**

The proposed impoundment closures would be subject to both federal and state (Tennessee Division of Air Pollution Control) regulations. These regulations impose permitting requirements and specific standards for expected air emissions. The CAA (as amended) is the comprehensive federal law that protects air quality by regulating emissions from both stationary sources and mobile sources using a cooperative federalism model. It requires the EPA to establish National Ambient Air Quality Standards (NAAQS) and directs the states to develop State Implementation Plans to meet and maintain these standards. This is primarily accomplished through state permitting programs that establish limits for emissions of air pollutants. The CAA also requires the EPA to set standards for emissions of hazardous air pollutants.

NAAQS have been established for pollutants considered harmful to public health and the environment. Primary NAAQS were promulgated to protect public health, and secondary NAAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. The following criteria pollutants have been set to protect public health and welfare (EPA 2025a):

- Sulfur dioxide (SO<sub>2</sub>) (Primary)
- Ozone (Primary and Secondary)
- Nitrogen dioxide (NO<sub>2</sub>) (Primary and Secondary)
- Particulate matter (PM) with particle sizes less than or equal to 10 micrometers (PM<sub>10</sub>) (Primary and Secondary)
- Particulate matter with particle sizes less than or equal to 2.5 micrometers (PM<sub>2.5</sub>) (Primary and Secondary)
- Carbon monoxide (CO) (Primary)
- Lead (Pb) (Primary and Secondary)

In accordance with the Clean Air Act Amendments of 1990, all counties are designated with respect to compliance, or degree of noncompliance, within the NAAQS. These designations are either attainment, nonattainment, or unclassifiable (lacks data to form a basis of attainment status). The Johnsonville Reservation is in Humphreys County, Tennessee. Humphreys County is currently classified as an attainment area, which means it meets NAAQS and Tennessee ambient air quality standards referenced in the Tennessee Air Pollution Control Regulations (Chapter 1200-03) (EPA 2025b).

### **3.2.2 Environmental Consequences**

#### **3.2.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no impoundment closure activities would occur and there would be no additional construction activities or transport of borrow or CCR materials. Therefore, no impacts to air quality are expected.

### **3.2.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

#### Surface Impoundment Closure-in-Place

Construction activities may cause temporary, localized air quality impacts during the approximately 6-year closure period due to fugitive dust and exhaust emissions from gas and diesel-powered construction equipment. These impacts can be controlled with BMPs like truck washing stations and wet suppression. Emissions would be minimized using vehicles with new emission control technologies and regular maintenance. Overall, air quality impacts are expected to be minor and short term, without exceeding NAAQS.

#### Transport of Borrow Material

Transporting borrow material from the nearby TVA-owned site may cause localized air quality impacts due to increased traffic, fugitive dust, and vehicle emissions. These impacts would be temporary and controlled with BMPs like covering loads and watering unpaved roads. If borrow material is sourced from an offsite location within 30 miles of JOF, the impacts would be similar but slightly greater due to additional vehicle miles traveled. Regional air quality impacts are not anticipated, and emissions would not exceed NAAQS.

### **3.2.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Closure activities may cause temporary, localized air quality impacts due to fugitive dust and exhaust emissions. These impacts would be controlled with standard dust control measures and permitting requirements as described for Alternative B. Because the closure period is expected to last up to 13 years, air quality impacts would persist for a longer duration than Alternative B. Overall, air quality impacts are expected to be minor and short-term, without exceeding NAAQS.

#### Transport of CCR

Transporting CCR would cause a moderate increase in traffic, especially along roadways in the vicinity of JOF, which would generate fugitive dust and vehicle emissions. Impacts to air quality would be moderate due to the extended closure period in comparison to Alternative B, but they would be temporary and localized. Regional impacts would be minor, and emissions would not exceed NAAQS.

#### **3.2.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration**

Restoration activities may cause temporary, localized air quality impacts due to fugitive dust and emissions from construction equipment. These impacts are expected to be similar to, but slightly greater than, those associated with the transport of borrow under Alternative B. This is due to the extended closure period and the larger amount of material required. Impacts would be controlled with BMPs like truck washing stations and wet suppression. Emissions would be minimized using vehicles with new emission control technologies and regular maintenance. Overall, regional air quality impacts are expected to be minor and short-term, without exceeding NAAQS.

### 3.2.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Stabilization activities and transporting boulders and riprap may cause temporary, localized air quality impacts due to emissions from construction equipment. These impacts would be minor and controlled with BMPs. Emissions would not exceed NAAQS.

Impacts on air quality would be similar to those described in Sub-Alternative C1. However, emissions under Sub-Alternative C2 would be lower than those under Sub-Alternative C1, as the transport of borrow material to the site is not required. Therefore, impacts to air quality are anticipated to be minor, temporary, and would not exceed NAAQS.

### 3.2.2.4 **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Impacts to air quality due to surface impoundment closure-by-removal would be similar to those described under Alternative C.

#### Transport of CCR

If an offsite beneficiation facility is chosen, impacts on air quality would be similar to Alternative C. If an onsite facility is chosen, vehicle emissions would be minimal due to shorter travel distances. While unusable CCR material and soil would still be transported to an existing offsite landfill, the volume of material transported would be lower than Alternative C. Overall, air quality impacts are expected to be minor and short-term, without exceeding NAAQS.

#### 3.2.2.4.1 Sub-Alternatives D1 and D2

Impacts to air quality under Sub-Alternatives D1 and D2 would be similar to those described in Sub-Alternatives C1 and C2, respectively.

### 3.2.3 **Summary of Impacts to Air Quality**

As summarized in Table 3-1, TVA has determined that impacts to air quality related to the primary action and associated component actions for the proposed closure of Ash Pond 2 at JOF are minor to moderate, and localized, and would not have an impact on regional NAAQS.

**Table 3-1. Summary of Impacts to Air Quality**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Impacts associated with emissions from onsite vehicles and equipment as well as generation of fugitive dust over closure period (6 years). Minor impacts due to effective use of BMPs.	Minor. No exceedance of NAAQS.
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Impacts associated with emissions from onsite vehicles and equipment as well as generation of fugitive dust over the closure period (up to 13 years). Minor impacts due to effective use of BMPs.	Minor. No exceedance of NAAQS.

Alternative	Action	Impact	Severity
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an existing offsite landfill.	Impacts associated with increases in vehicle emissions along haul routes. Moderate localized impacts, with no impact on regional air quality.	Moderate and localized. No exceedance of NAAQS.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an existing onsite or offsite beneficiation processing facility	Impacts associated with increases in vehicle emissions along haul routes. Moderate localized impacts, no impact on regional air quality.	Impacts of transport to an offsite beneficiation facility would be similar to Alternative C. Impacts of transport to an onsite facility would be minor and of a lower magnitude than transport to an offsite facility.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	The intermittent transport of borrow material may result in localized impacts to residents living near the borrow site and along the haul routes to JOF.  Minor due to the implementation of BMPs. No impact to regional air quality.	Minor, localized impacts related to transport of borrow. Impact reduced for use of TVA-owned borrow site south of JOF. Impacts would not result in exceedances of NAAQS.
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Emissions from construction equipment to complete restoration activities.	Minor and temporary
Sub-Alternatives C2/D2	Dike breach	Emissions from construction equipment to complete stabilization activities.	Minor and temporary

BMPs=Best Management Practices, CCR=Coal Combustion Residuals, JOF= Johnsonville Fossil Plant, NAAQS=National Ambient Air Quality Standards, TVA=Tennessee Valley Authority

### 3.3 CLIMATE CHANGE AND GREENHOUSE GASES

#### 3.3.1 Affected Environment

The Earth’s natural warming process is known as the “greenhouse effect.” The Earth’s atmosphere consists of a variety of gases that regulate the Earth’s temperature by trapping solar energy. These gases—including CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride—are cumulatively referred to as GHGs because they trap heat like the glass of a greenhouse (EPA 2025c). Since the Industrial Revolution, anthropogenic activities, which include the burning of fossil fuels and deforestation, have contributed to elevated concentrations of GHGs in the atmosphere. The rise of GHGs in the atmosphere has resulted in an increase in average temperature, known as global warming. The broader effects, such as shifting weather patterns, rising sea levels and more extreme weather events are referred to as climate change. Because

the global warming potential that each GHG has varies, the common metric of carbon dioxide equivalent (CO<sub>2</sub>e) is used to report a combined impact from all of the GHGs.

### **3.3.2 Environmental Consequences**

#### **3.3.2.1 Alternative A – No Action**

Under this alternative, no closure activities would occur. Therefore, no change in regional GHG emissions or climate change would occur.

#### **3.3.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

As discussed in Section 3.2.2.2, emissions from construction equipment would be localized and occur during the 6-year closure period. Impacts from emissions would be reduced by implementing BMPs such as the use of vehicles with new emission control technologies, efficient fuel mixtures, and regular maintenance of vehicles. Additionally, emissions associated with closure-in-place would be negligible in comparison to state and national volumes of CO<sub>2</sub>e (EPA 2023a, b). Therefore, local and regional GHG levels would not be adversely impacted by emissions from closure activities, and the contribution to global climate change would be negligible.

##### Transportation of Borrow Material

Impacts on climate change and GHG could occur due to CO<sub>2</sub> emissions from gas and diesel-powered equipment and vehicles used to transport borrow material. The transport of approximately 330,000 yd<sup>3</sup> of borrow material is projected to generate approximately 2,300 metric tons of CO<sub>2</sub>e over the closure duration (EDF 2018). GHG emissions would be lower if borrow is sourced from the TVA-owned borrow site, or a third-party borrow site in similar proximity to JOF, due to reduced vehicle miles travelled. Impacts from emissions would be reduced by implementing BMPs such as use of vehicles with new emission control technologies, efficient fuel mixtures, and regular maintenance of vehicles. Additionally, when compared to annual state and national GHG emissions, this represents less than 0.01 percent of total CO<sub>2</sub>e emissions (EDF 2018; EPA 2023a, b). Therefore, regional GHG levels would not be adversely affected, and the contribution to global climate change would be negligible.

#### **3.3.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

##### Surface Impoundment Closure-by-Removal

GHG and climate change impacts from construction equipment would be similar to those described in Alternative B. However, because closure activities would extend over a 10- to 13-year period, GHG emissions would occur over a longer duration. Despite this extended timeframe, the overall emissions would remain minimal when compared to local and national CO<sub>2</sub>e levels. Therefore, regional GHG concentrations would not be adversely affected, and the contribution to global climate change would be negligible.

Transport of CCR

Impacts on GHG and climate change could occur due to CO<sub>2</sub> emissions from gas and diesel-powered vehicles used to transport CCR. The transport of approximately 4.5 million yd<sup>3</sup> of CCR would produce approximately 82,500 metric tons of CO<sub>2</sub>e over the closure duration (EDF 2018). However, this would equate to less than 0.1 percent of annual emissions in the State of Tennessee and less than 0.01 percent nationally (EDF 2018; EPA 2023a, b). Additionally, the effective use of BMPs, as described in Alternative B, would reduce these emissions. Therefore, impacts to GHGs are considered minor and there would be no impact on global climate change. However, the impact would be greater than Alternative B due to the greater number of vehicle miles traveled to transport CCR to the offsite landfill.

**3.3.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration**

Implementation of Sub-Alternative C1 would produce GHG from the transportation of borrow material and post-reclamation grading activities. The transport of approximately 3 million yd<sup>3</sup> of borrow material is projected to generate approximately 52,900 metric tons of CO<sub>2</sub>e over the closure duration (EDF 2018). When combined with CCR transport described above, CCR and borrow hauling would generate up to approximately 135,400 metric tons of CO<sub>2</sub>e in total, equating to less than 0.2 percent of annual emissions in the state and less than 0.01 percent nationally (EDF 2018; EPA 2023a, b). Thus, while emissions would be greater than those under Alternative B due to the extended closure period and larger volumes of CCR and borrow transport, impacts to GHGs would be minor and there would be no impact on global climate change.

**3.3.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach**

Sub-Alternative C2 would contribute to GHG emissions from the transportation of a small amount of boulders and riprap to the site and from emissions from construction equipment used during stabilization activities. A limited volume of rock materials needed would be sourced from a local rock quarry and, therefore, would not notably contribute to local and national GHG emissions. Therefore, impacts to GHG would be less than those associated with Sub-Alternative C1 and would not impact climate change.

**3.3.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**Surface Impoundment Closure-by-Removal

Impacts on GHG and climate change would be similar to those described for Alternative C.

Transport of CCR

Impacts to GHG and climate change due to the transportation of CCR material would be similar to those described for Alternative C. However, if an onsite beneficiation processing facility is selected, total vehicle miles traveled would be notably decreased, thereby reducing emissions and lowering the overall GHG impact as compared to transporting CCR to an offsite facility. Unusable CCR and excavated soil would be transported to an offsite landfill, with GHG emission impacts comparable to but less than Alternative C. Therefore, impacts to GHG are minor, and

similar to those under Alternative C, but would be of less magnitude when CCR is transported to an onsite beneficiation processing facility.

#### 3.3.2.4.1 Sub-Alternatives D1 and D2

Sub-Alternatives D1 and D2 would have similar impacts to those described for Sub-Alternatives C1 and C2, respectively.

### 3.3.3 Summary of Impacts to Greenhouse Gases and Climate Change

As summarized in Table 3-2, TVA has determined that there would be minor, localized and temporary increases in GHG emissions associated with the proposed actions at JOF. However, regional GHG levels and global climate change would not be impacted.

**Table 3-2. Summary of Impacts to GHGs and Climate Change**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	GHG emissions from onsite vehicles and equipment used during the closure period (6 years).  Local and regional GHG levels would not be adversely impacted by emissions from closure activities.	No impact on global climate change.
Alternatives C, D	Closure-by-Removal of Ash Pond 2	GHG emissions from onsite vehicles and equipment used during the closure period (10 to 13 years).  Local and regional GHG levels would not be adversely impacted by emissions from closure activities.	No impact on global climate change.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Impacts associated with increases in emissions of GHGs along haul routes during transport of CCR to an offsite landfill.  Local and regional GHG levels would not be adversely impacted by emissions from closure activities.	No impact on global climate change.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Impacts associated with increases in GHG emissions along haul routes to a beneficiation processing facility.  Similar to those described for Alternative C. However, if an onsite beneficiation processing facility is selected, total vehicle miles traveled would be notably decreased, thereby lowering the overall GHG impact compared to transporting CCR to an offsite facility.	No impact on global climate change.  Impact reduced for use of onsite beneficiation facility.

Alternative	Action	Impact	Severity
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Impacts associated with increases in GHG emissions along haul routes during transport of borrow material to JOF.  Local and regional GHG levels would not be adversely impacted. If borrow is sourced from the TVA-owned borrow site or a third-party borrow site in similar proximity to JOF, total vehicle miles traveled would be notably decreased, thereby reducing the overall GHG impact.	No impact on global climate change.  Impact reduced for use of TVA-owned borrow site south of JOF.
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Temporary and minor onsite impacts due to emissions from equipment used for grading activities.	No impact to global climate change.
Sub-Alternatives C2/D2	Dike breach	Temporary and minor onsite impacts due to emissions from equipment used for stabilization activities.	No impact to global climate change.

CCR = Coal Combustion Residuals, GHG =Greenhouse gases, JOF = Johnsonville Fossil Plant, TVA = Tennessee Valley Authority

### 3.4 GEOLOGY AND SOILS

#### 3.4.1 Affected Environment

##### 3.4.1.1 Geologic Setting

The Johnsonville Reservation is located within the Western Highland Rim division of the Interior Low Plateau Physiographic Province (Fenneman 1938; TVA 2025c). The Highland Rim is comprised of a series of ridges and valleys underlain by Mississippian aged limestone, chert, shale, and sandstone. The site is underlain by alluvium and terrace deposits that may be up to 70 feet thick. Underlying bedrock consists of the Lower Mississippian age Fort Payne Formation and Devonian age Chattanooga Shale and Camden Formations (TVA 2025c).

##### 3.4.1.2 Geologic Hazards

###### 3.4.1.2.1 Karst Topography

“Karst” refers to a type of topography that is formed when rocks with a high carbonate content, such as limestone and dolomite, are dissolved by groundwater to form sinkholes, caves, springs, and underground drainage systems (TVA 2019). A 2021 onsite geotechnical exploration found that carbonate bedrock at the Johnsonville Reservation is susceptible to karst development; however, surface signs of sinkhole activity at the site were not observed, nor did the test borings drilled at the site encounter open voids or other signs of incipient sinkhole conditions (S&ME, Inc. 2021). In 2025, TVA conducted an engineering inspection for Ash Pond 2. Evidence of sinkholes was not observed and no deficiencies related to structural stability were identified during this inspection (TVA 2025d).

#### 3.4.1.2.2 Seismic Events

The Johnsonville Reservation is located within an area with a moderate seismic hazard, primarily due to its proximity to the New Madrid Seismic Zone (NMSZ) approximately 125 miles from the reservation (S&ME, Inc. 2021). The NMSZ extends through parts of western Kentucky and Tennessee, southeastern Missouri, and northeastern Arkansas (USGS 2025a). The NMSZ is best known for a series of intense earthquakes that occurred in 1811 and 1812. These earthquakes were estimated to have magnitudes ranging from 7.0 to 8.6 and caused significant disruption at the ground surface (landslides, fissures, sand boils, lateral spreads, subsidence, submergence, and uplift) and damage to structures (S&ME, Inc. 2021).

#### 3.4.1.2.3 Faulting and Liquefaction Potential

There are two general categories of earthquake hazards: primary and secondary. Primary hazards include fault ground rupture and strong ground shaking. Earthquakes exceeding magnitude 5.5 may cause surface rupture along faults with the degree of displacement generally increasing with the magnitude of the earthquake (TVA 2022a). Secondary hazards include liquefaction, lateral spreading, landslides, and ground settlement (TVA 2022a).

A review of the U.S. Geological Survey (USGS) Quaternary Faults and Folds database shows there are no known faults of this age located within the vicinity of the Johnsonville Reservation (USGS 2025b). Additionally, subsurface conditions at the Johnsonville Reservation are generally not susceptible to liquefaction (S&ME, Inc. 2021).

#### 3.4.1.2.4 Seismicity and Slope Stability

According to TVA's Environmental Assessment Report (2025c), past geotechnical investigations confirm that the CCR units and the former coal yard at the Johnsonville Reservation have stable slopes under both static and seismic conditions. No voids or cavities were identified that could compromise structural support or lead to the release of overlying CCR materials.

In compliance with the EPA Final CCR Rule 257.73, TVA evaluated structural and seismic stability of Ash Pond 2. A 2021 assessment confirmed that Ash Pond 2 meets the requirements of the EPA CCR Final Rule (Stantec 2021). The minimum required Factor of Safety (FOS) is 1.0 for seismic stability and 1.20 for liquefaction. The 2021 study reported a seismic FOS of 1.37 and a liquefaction FOS of 1.25, both meeting regulatory thresholds (Stantec 2021; Geocomp 2016).

#### **3.4.1.3 Soils**

Most of the soils within the Johnsonville Reservation have been disturbed or replaced by anthropogenic fill to support development or operations of the plant facilities. According to the Natural Resources Conservation Service Web Soil Survey, approximately 50 percent of the Ash Pond 2 peninsula is composed of somewhat poorly drained silty clay loams, while 14 percent consists of well drained silty loam soils. The remaining 36 percent of the peninsula is covered by water (NRCS 2025). Soils mapped within the TUAs consist primarily of Paden silt loam which is moderately well drained and described as loess or silty alluvium over loamy alluvium derived

from interbedded sedimentary rock (Stantec 2016b, NRCS 2025). The Paden silt loam soils have an erosion hazard rating of moderate, meaning some erosion is likely (NRCS 2025).

### **3.4.2 Environmental Consequences**

#### **3.4.2.1 Alternative A – No Action Alternative**

Under Alternative A, no excavations or other closure activities would occur, and there would be no project-related impacts to geologic resources or soils. TVA would ensure that all impoundment dikes would be stable under static and seismic conditions and would meet appropriate safety factors through continued safety inspections of structural elements to maintain stability, and Ash Pond 2 would be subject to continued care and maintenance activities.

#### **3.4.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

Under this alternative, Ash Pond 2 would be decanted and regraded to promote drainage followed by installation of an approved cover system encompassing the CCR material footprint. The closure plan would be submitted to TDEC for approval prior to closure. Static and seismic FOS would remain compliant with CCR Rule requirements. Impacts to soil resources associated with ground disturbances related to the proposed closure activities are expected to be minor, as BMPs described in TDEC 2026 and outlined in the project-specific SWPPP would be implemented to minimize erosion during closure activities. State requirements for post-closure activities in accordance with the approved closure plan would be implemented as needed, and a CARA Plan has been developed and submitted to TDEC (TVA 2026). TVA would implement supplemental mitigative measures as required by TDEC and its approved closure plan, which could include additional groundwater monitoring, assessment or corrective action programs. Therefore, impacts to geology and soils resulting from the closure of the ash impoundment would be minor.

##### Transport of Borrow Material

Borrow would be obtained from an existing and permitted borrow site and the transport of borrow would be undertaken by covered trucks utilizing the existing roadway network and therefore would not impact geology or soils.

#### **3.4.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

##### Surface Impoundment Closure-by-Removal

Under Alternative C, CCR material and soil from Ash Pond 2 would be excavated and transported to an offsite landfill, and a CCR removal plan would be submitted for TDEC approval prior to removal. No impacts or risks of failure would occur at the project site from seismic considerations. However, grading and construction activities have the potential to disturb soil stability and increase erosion. Like Alternative B, impacts to soil resources associated with surface disturbances related to the closure activities are expected to be minor, as BMPs

described in TDEC 2026 and outlined in the project-specific SWPPP would be implemented to minimize erosion during clearing and site preparation.

State requirements for post-closure activities in accordance with the approved closure plan would be implemented as needed, and a CARA Plan has been developed and submitted to TDEC (TVA 2026). TVA would implement supplemental mitigative measures as required by TDEC and its approved closure plan. Therefore, impacts to geology and soils would be minor but incrementally greater than those for Alternative B due to a longer closure period.

#### Transport of CCR

CCR and underlying soil material would be transported offsite to an existing permitted landfill. This transport would be undertaken by covered trucks using the existing roadway network and as such would not impact geology or soils.

#### 3.4.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

After CCR is removed from Ash Pond 2, the area would be restored and graded with borrow material and vegetation cover. However, BMPs described in TDEC 2026 and outlined in the project-specific SWPPP would be implemented to minimize erosion during restoration and grading activities. Additionally, borrow materials would be suitable for the growth of non-invasive vegetation that would quickly establish to minimize erosion of soils from the site. Therefore, impacts to soils from Sub-alternative C1 would be minor.

Borrow would be obtained from an existing and permitted borrow site and the transport of borrow would be undertaken by covered trucks utilizing the existing roadway network and therefore would not impact geology or soils.

#### 3.4.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Upon completion of CCR removal, the dikes surrounding Ash Pond 2 would be breached in one or more places and the interior of the unit would be allowed to be inundated by the Kentucky Reservoir. Slopes around the breach would be covered in riprap or an approved alternative method to protect them from erosion. Some areas may remain above the normal lake level and would be stabilized and vegetated. As BMPs would be implemented to minimize soil erosion and disruption associated with dike breach activities, impacts on soils would be minor. There would be no impact to geological resources.

#### **3.4.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

##### Surface Impoundment Closure-by-Removal

Impacts to geology and soils under Alternative D would be similar to those described for Alternative C.

##### Transport of CCR

CCR excavated from Ash Pond 2 would be transported to an existing onsite or offsite beneficiation processing facility, and unusable CCR and excavated soil material would be

transported to an existing offsite landfill. Transport to an onsite beneficiation processing facility would utilize onsite haul roads and transport to an offsite facility would be undertaken by covered trucks using the existing roadway network. As such, there would be no impact to geology and soils.

**3.4.2.4.1 Sub-Alternatives D1 and D2**

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

**3.4.3 Summary of Impacts to Geology and Soils**

Based on the analysis summarized above and as shown in Table 3-3, impacts to geology and soils associated with the proposed project would be short-term and minor.

**Table 3-3. Summary of Impacts to Geology and Soils**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Temporary increase in soil erosion during site preparation and closure activities	Minor, minimized with the use of BMPs
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Temporary increase in soil erosion during site preparation and closure activities. Impacts would be slightly greater those for Alternative B due to longer closure period.	Minor, minimized with the use of BMPs
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	No impacts	None
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	No impacts	None
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Transport of borrow material to JOF	No impacts	None
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Temporary impacts from soil erosion during restoration activities.	Minor, minimized with the use of BMPs
Sub-Alternatives C2/D2	Dike breach	Temporary impacts from soil erosion during dike breach activities.	Minor, minimized with the use of BMPs

BMPs= Best Management Practices, CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

### **3.5 GROUNDWATER**

#### **3.5.1 Affected Environment**

The Johnsonville Reservation is located along the eastern bank of the Kentucky Reservoir, within the Western Highland Rim division of the Interior Low Plateaus Physiographic Province (Fenneman 1938, TVA 2025c). Much of the Interior Low Plateaus Physiographic Province is underlain by limestone aquifers in Mississippian rocks, called the Highland Rim aquifer system in Tennessee (TVA 2025c).

JOF is underlain by up to 70 feet of poorly sorted, unconsolidated alluvium composed of gravel, sand, silt, and clay. Beneath this lies the Chattanooga Shale which primarily serves as a confining unit, and below that, the Camden Formation, comprised of cherty limestone interbedded with clay layers. The Camden Formation is the principal aquifer in the region. The uppermost aquifer in the vicinity of Ash Pond 2 is located within the coarse-grained unconsolidated materials above the bedrock. This aquifer is confined by an overlying clay layer, 10 to 40 feet thick, which acts as an aquitard. As a result, groundwater in this confined aquifer is physically separated from the CCR material inside Ash Pond 2 (TVA 2025c).

Groundwater movement at JOF is generally from east to west toward the Kentucky Reservoir (Tennessee River). Physiographic features that affect groundwater flow in the vicinity of JOF include the steep topography of ridges to the east and the reservoir to the west. A higher elevation ridge to the east of JOF and a watershed boundary along the southern border are topographic divides for groundwater flow (TVA 2025c). In Ash Pond 2, fluctuations in groundwater elevations correlated with the Tennessee River stage; however, the elevations of pore water (i.e., subsurface water that occurs in pore spaces in CCR material) did not correlate with the Tennessee River stage or seasonal precipitation patterns (TVA 2025c). The low permeabilities of the perimeter dikes impede lateral and vertical flow of groundwater in Ash Pond 2. Therefore, pore water fluctuations are a result of precipitation events and operation of the pool levels within Ash Pond 2.

##### **3.5.1.1 Groundwater Use**

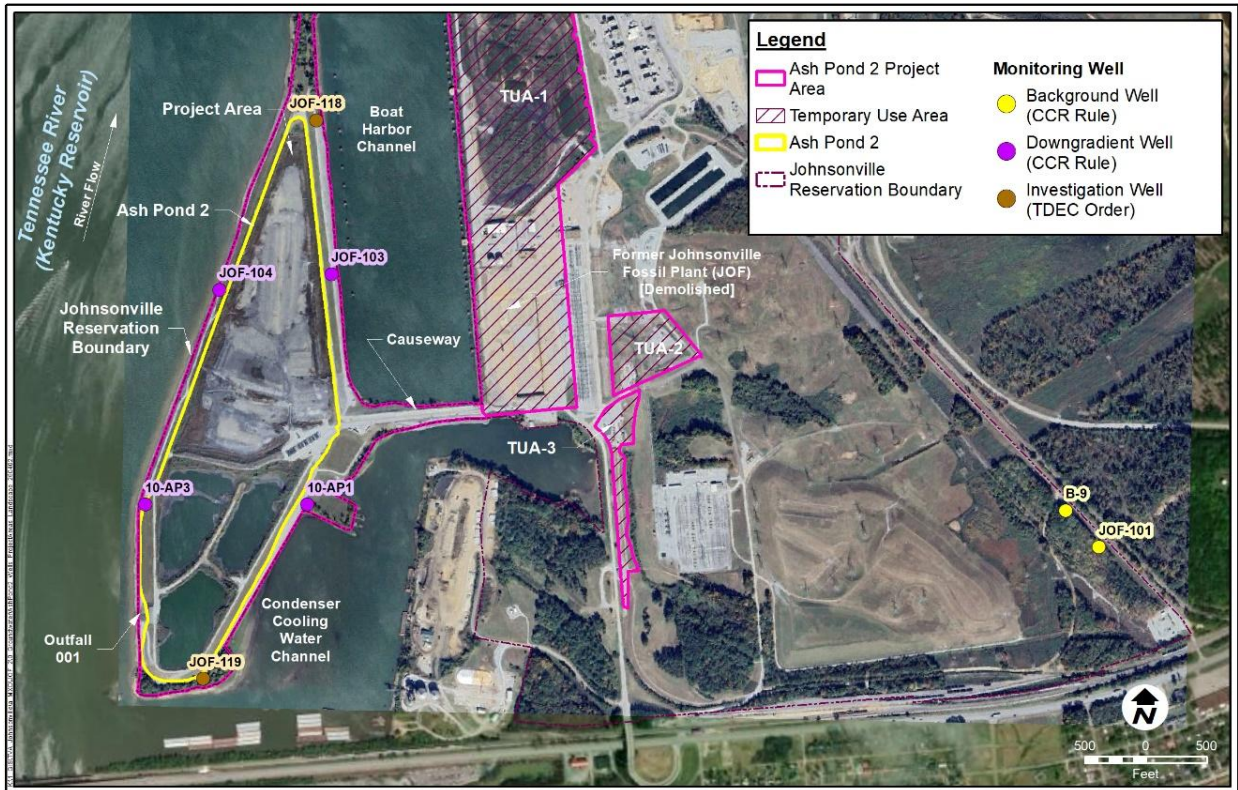
The New Johnsonville Water Department supplies drinking water to New Johnsonville and areas within 0.5 mile of JOF. The water is sourced from the Kentucky Reservoir (Tennessee River) at river mile marker 101.8R, located approximately one mile south (upstream) of JOF (TVA 2025c).

A water use survey was conducted in 2024 to identify and sample private water supply wells or springs within a 0.5-mile radius of JOF. Given the geologic and hydrogeologic conditions in and around JOF, parcels containing wells or springs west of the plant are considered more likely to be downgradient and therefore have the highest potential to be impacted from groundwater associated with Ash Pond 2. In contrast, potable water wells screened in overburden or bedrock located east, north, and south of JOF are considered upgradient and are unlikely to be affected by groundwater from Ash Pond 2. Six parcels south/southeast of JOF were determined to have the potential of being impacted by CCR management operations, on which two in-use water supply wells were identified. Neither are used for drinking water. Based on the overall results of

the water use survey, analytical results of water sampling indicated that current and historical CCR management associated with JOF have not affected water supply wells located in the vicinity of the plant (TVA 2025c).

### 3.5.1.2 Groundwater Monitoring

Groundwater monitoring has been conducted at JOF since approximately 1980. Groundwater monitoring wells have been installed at JOF for various monitoring programs including the TDEC Order, the EPA’s CCR Rule, and the TDEC permitted landfill program. The current groundwater monitoring systems associated with each CCR unit and the former coal yard are detailed in TVA’s JOF Environmental Assessment Report (TVA 2025c). The assessment monitoring program for the Ash Pond 2 CCR unit was initiated on July 16, 2018. The groundwater monitoring program includes sampling and analysis procedures used to identify potential statistically significant increases above groundwater protection standards (GWPS) at monitoring wells (TVA 2025e). The wells comprising the Ash Pond 2 groundwater monitoring system include four downgradient wells (10-AP1, 10-AP3, JOF-103, and JOF-104) and two background wells (JOF-101 and B-9) (TVA 2025e). Groundwater monitoring well locations downgradient of Ash Pond 2 are shown in Figure 3-1.



Source: TVA 2025e

Figure 3-1. Ash Pond 2 Groundwater Monitoring Wells

### **3.5.1.3 Groundwater Quality**

During the 2024 semiannual assessment monitoring events, in accordance with the CCR Rule, two of the six monitoring wells for Ash Pond 2 were observed as having statistically significant levels above the GWPS, specifically for cobalt (JOF-103 and 10-AP3). These are the same constituent exceedances at the same wells as previously identified during 2018 through 2023 assessment monitoring (TVA 2025e). In addition, one monitoring well (JOF-103) had a statistically significant concentration above an approved level for nickel, which is not a CCR Rule constituent but is monitored under the TDEC landfill program (Tennessee Rule 0400-11-01-.04, Appendix I) (TVA 2025c). TVA continues to monitor and assess groundwater testing results and take steps necessary to preserve and protect the quality of the environment and surrounding community (TVA 2025e).

### **3.5.2 Environmental Consequences**

#### **3.5.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, TVA would not proceed with closure of Ash Pond 2. TVA would continue to collect groundwater samples from existing monitoring wells and review the analytical results as a part of the TDEC Order, the EPA's CCR Rule, and other regulatory requirements.

#### **3.5.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

Under Alternative B, the decanting and installation of an improved cover system would prevent additional infiltration from precipitation and would also facilitate management of stormwater runoff. Elimination of the hydraulic inputs to the impoundment reduces the potential for post-closure escape of leachate and other CCR constituents to groundwater beneath the impoundment and to receiving surface waters. While both Alternative B and Alternative C offer long-term benefits to groundwater quality by eliminating subsurface discharges, Alternative B would provide source control sooner than Alternative C, due to the shorter construction schedule. Closure-in-place (Alternative B) halts water infiltration much earlier through its final cover system, providing more immediate groundwater protection.

TVA may also implement pore water extraction to achieve long-term hydrogeologic conditions sooner than with implementation of an improved cover system and drainage modifications alone. Horizontal well alignments could be installed near the bottom of the CCR material. Extracted pore water would be pumped through a conveyance pipeline and treated, if needed, prior to discharge under applicable permits (TVA 2026). The need to implement pore water extraction systems would be evaluated, incorporating flexibility to account for uncertainty, changes in site conditions, new information, an expanded understanding of the site, or new technology. Future pore water extraction modifications would be coordinated with TDEC and implemented in accordance with applicable regulations.

TVA would continue to collect groundwater samples from existing monitoring wells and review the analytical results as a part of the TDEC Order, the CCR Rule, and other regulatory

requirements. TVA would implement supplemental mitigative measures as required by TDEC, as well as its approved closure plan, which could include additional groundwater monitoring assessment, or corrective action programs. Corrective actions would be implemented under TVA’s Groundwater Corrective Action Final Programmatic EA (TVA 2025b). Such measures would further minimize risk from the closed ash pond.

Considering the beneficial effects of elimination of the hydraulic inputs to Ash Pond 2 and the commitment to supplemental mitigative measures such as groundwater monitoring, as appropriate, the impacts of this alternative on groundwater would be beneficial, long-term, and considerable, as compared to the No Action Alternative.

#### Transport of Borrow Material

Borrow material would be hauled to JOF from a previously permitted offsite borrow site. To minimize environmental impact, the transport would rely on the existing road network, which ensures no direct effects on groundwater during transit.

### **3.5.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Benefits to groundwater associated with this alternative include eliminating the potential interaction between the CCR and groundwater. This would eliminate new groundwater risk from groundwater contaminants of concern migrating offsite.

No federal post-closure care measures are required under this alternative. State requirements for post-closure certification would be implemented as needed. TVA would implement supplemental mitigative measures as required by TDEC, as well as its approved closure plan, which could include additional groundwater monitoring assessment, or corrective action programs. Corrective actions for groundwater would be implemented under TVA’s Groundwater Corrective Action Final Programmatic EA (TVA 2025b).

Alternative C offers long-term benefits to groundwater quality by eliminating subsurface discharges and removing contaminants of concern from the former CCR impoundment. However, because its implementation spans a 10- to 13-year closure period, Alternative C would provide source control later than Alternative B, due to the extended construction schedule. Closure-in-place (Alternative B) halts water infiltration much earlier through its final cover system, providing more immediate groundwater protection.

#### Transport of CCR

The CCR removed from Ash Pond 2 would be hauled to a permitted, offsite landfill equipped with protective liners and groundwater monitoring systems, as mandated by regulatory permits. To minimize environmental impact, the transport would rely on the existing road network, which ensures no direct effects on groundwater during transit.

**3.5.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration**

Site restoration under Sub-alternative C1 would involve backfilling excavated areas with borrow material conducive to the establishment of non-invasive vegetation. This work would be carried out using trucks and other earthmoving machinery. BMPs, such as regular vehicle maintenance, would be implemented in line with the TDEC 2026 and TVA 2022b to reduce the risk of stormwater contamination by construction-related chemicals. These safeguards help prevent pollutants from seeping into the ground and impacting groundwater. As a result, any potential effects on groundwater are expected to be minor.

**3.5.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach**

Upon completion of the excavation activities, the dikes surrounding Ash Pond 2 would be breached in one or more places and the ash impoundment would be inundated by the Kentucky Reservoir. There would be no impacts to groundwater.

**3.5.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

**Surface Impoundment Closure-by-Removal**

Impacts to groundwater under Alternative D would be similar to those described for Alternative C.

**Transport of CCR**

Impacts to groundwater under Alternative D would be similar to those described for Alternative C.

**3.5.2.4.1 Sub-Alternatives D1 and D2**

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

**3.5.3 Summary of Impacts to Groundwater**

Based on the analysis summarized above and as summarized in Table 3-4, impacts to groundwater associated with the proposed project would be short term and minor with the potential for long-term beneficial impacts.

**Table 3-4. Summary of Impacts to Groundwater**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Reduction of hydraulic input reduces risk of post-closure escape of constituents to groundwater.	Greater long-term beneficial impacts than the No Action Alternative.

Alternative	Action	Impact	Severity
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Reduces risk to groundwater by removing CCR from Ash Pond 2. Temporary impacts from construction activities, minor due to BMPs.	Long-term beneficial impacts are greater than Alternative B; however, extended closure period diminishes benefit in the short term.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	No Impact	No Impact
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	No Impact	No Impact
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	No Impact	No Impact
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Temporary impacts from construction activities, minor due to BMPs.	Minor and Temporary
Sub-Alternatives C2/D2	Dike breach	Temporary impacts from construction activities, minor due to BMPs.	Minor and Temporary

BMPs = Best Management Practices, CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant

## 3.6 SURFACE WATER

### 3.6.1 Affected Environment

JOF is located along the east bank of the Tennessee River (Kentucky Reservoir) near New Johnsonville. The normal river water elevation ranges between 354 and 359 feet above mean sea level (TVA 2020a). Kentucky Reservoir, formed by the Kentucky Dam, is the largest reservoir in the eastern U.S., extending approximately 184 miles and draining the entire Tennessee Valley watershed (TVA 2019). Ash Pond 2 is situated on approximately 125 acres of land within Kentucky Reservoir and is surrounded by it to the north and west (see Figure 2-1 in Chapter 1). The project area is south (upstream) of the confluence of the Tennessee River and Trace Creek. To the south and east of Ash Pond 2 are two dredged channels for coal unloading/barge mooring (boat harbor channel) and a CCW intake channel (Figure 1-1). The intake channel is a dredged channel that was constructed in 1949 from which river water was pumped through tubes in a condenser to cool and condense steam generated from burning coal to create electricity (TVA 2024a). The JOF boat harbor, adjacent to Ash Pond 2, was also constructed in 1949 for coal delivery and unloading.

Surface water features for the project area are shown in Figure 3-2. Ash Pond 2 is considered an artificial treatment system and is non-jurisdictional, not regulated under Section 401 or 404 of the CWA. As detailed in Section 3.12, a 2024 wetland delineation survey identified a single fringe potentially jurisdictional forested wetland within the project area on the southern end of the peninsula (Figure 3-2) (TVA 2024b). Surveys in 2020 and 2022 found a potentially jurisdictional intermittent stream channel adjacent to TUA-3 (TVA 2022a). A TVA Qualified Hydrologic Professional confirmed no other surface water features are present within the project area.

### **3.6.1.1 Water Quality**

TVA routinely conducts Reservoir Ecological Health assessments to monitor the ecological conditions of its reservoirs, focusing on five indicators: dissolved oxygen, chlorophyll, sediment quality, benthic macroinvertebrate community (bottom life), and the fish assemblage (TVA 2024c). In 2017, the Kentucky Reservoir received an overall ecological health score of 75 and a rating of “good”. The reservoir also received a sediment rating of “good” in 2017. No PCBs or pesticides were detected, and concentrations of metals were within expected background levels (TVA 2017). The benthic community and fish assemblage ratings for the Kentucky Reservoir are detailed in Section 3.10.

Biological monitoring of aquatic communities (fish and benthic invertebrates) in the Tennessee River near JOF in 2010 and 2011 (TVA 2012) found that upstream and downstream aquatic communities were ecologically similar. TVA concluded that JOF thermal effluent was not adversely affecting downstream biological communities, and water quality was satisfactory for aquatic life use (TVA 2025c). Historical fish population assessments from the mid-1970s to 2022 found that JOF thermal effluent and plant operations were not adversely affecting local and downstream fish communities (TVA 2025c).

Section 303(d) and EPA water quality planning and management regulations require states to identify waters that do not meet applicable water quality standards. States are required to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters (EPA 2025d). The 303(d) list of impaired and threatened waters (e.g., streams /river segments, lakes) is a list that all states are required to submit for EPA approval during even-numbered years (EPA 2009). JOF is located within the Lower Tennessee River Basin, near the south end of the Kentucky Reservoir Watershed. Trace Creek and Cypress Creek are impaired tributaries within the watershed. Trace Creek joins the Tennessee River north of the project area, while Cypress Creek meets it to the west of the project area. The designated uses for the Tennessee River include domestic water supply, industrial water supply, fish and aquatic life, recreation, livestock watering and wildlife, irrigation, and navigation and is considered “fully supporting” of its designated uses by TDEC (TDEC 2024a).

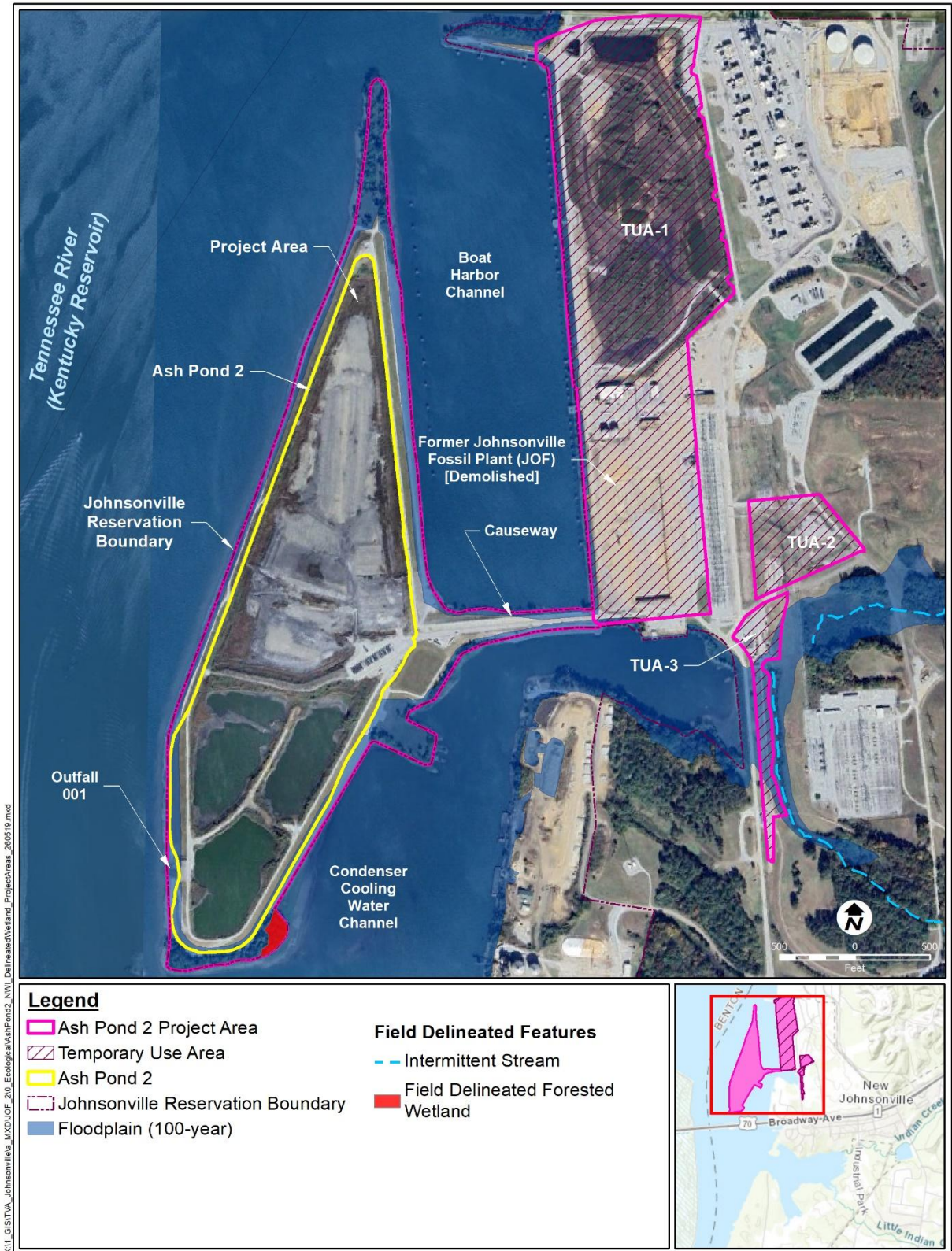


Figure 3-2. Surface Water Features of the Project Area

In 2015, TDEC issued the TDEC Order requiring TVA to investigate, assess, and remediate unacceptable risks from CCR management at TVA coal-fired plants in Tennessee. TVA prepared an Environmental Investigation Plan for JOF to provide information requested by TDEC (TVA 2025c). Between 2019 and 2021, TVA conducted environmental investigations for JOF CCR management units. The environmental investigation data was evaluated along with information collected as part of previous investigations and other ongoing regulatory monitoring programs conducted between 1970 and 2023. The results, presented in the 2025 Environmental Assessment Report, indicated that the water quality in the Tennessee River, intake channel, and boat harbor was within ranges protective of human health and aquatic life. Contaminants were detected at levels above chronic ecological screening values within sediments at one or more locations within the intake channel and boat harbor (TVA 2025c). Further evaluation was completed in the CARA Plan. Groundwater sampling indicated minimal exceedances of maximum contaminant levels resulting from CCR (TVA 2026).

### **3.6.1.2 Wastewater Streams**

Under the CWA, point source discharges are required to obtain coverage under an NPDES permit. These permits establish effluent limitations, monitoring and reporting requirements, and other provisions designed to protect water quality and public health. NPDES permits were originally issued for the operation of the JOF and JCT plants; however, they also authorize and regulate discharges within the project area. Permit No. TN0005444 authorizes discharges from Outfall 001, located on the southwestern portion of Ash Pond 2 (TDEC 2012). Outfall 001 discharges storm water and other flows that have been rerouted to the IFM system, including discharges from the coal yard runoff pond and Ash Pond 2 wastewater (TDEC 2012). Historically, Ash Pond 2 received various plant wastewater flows, site storm water runoff, and sluiced bottom and fly ash from plant operations; however, most process flows ceased or were rerouted after the JOF coal-fired units were retired in December 2017. Water from the existing coal yard pond continues to be managed through the IFM system. Water discharges at Outfall 001 are monitored.

Process flows from the JCT facility have been rerouted to the non-CCR PWB, separating the flows from JOF-related discharges. JCT's discharge is authorized under a separate NPDES permit (TN0082023) (TDEC 2023). Stormwater discharges for the Johnsonville Reservation are authorized by the TMSP Stormwater General Permit No. TNR053188 (EPA 2024a).

## **3.6.2 Environmental Consequences**

### **3.6.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, TVA would not close Ash Pond 2, and no closure or restorative activities would occur. Ash Pond 2 would continue to operate under the NPDES permit (Permit number TN0005444). All JOF-related process flows would continue to be routed to the IFM system that discharges to the NPDES permitted Outfall 001. TVA would continue safety inspections of dikes to maintain stability and provide continued care and maintenance activities.

Thus, continued operations at Johnsonville Reservation under the No Action Alternative would not be expected to cause any additional direct or indirect impacts to local surface water resources and, therefore, would not change existing conditions.

### **3.6.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

#### Surface Impoundment Closure-in-Place

Because Ash Pond 2 is considered non-jurisdictional, direct impacts associated with closure-in-place would not require mitigation under the Tennessee Water Quality Control Act or Sections 401 and 404 of the CWA. Construction activities that may impact the quality of regulated surface waters include soil disturbances, handling and storage of construction-related materials and wastes, and operation and maintenance of construction-related equipment. These activities can result in soil erosion and the transport of sediments via stormwater runoff to surface waters, introducing pollutants such as metals, pesticides, and nutrients. However, the low permeabilities of the perimeter dikes and foundation soils limit lateral and vertical flow into or out of Ash Pond 2, reducing the potential for water and sediment movement from the unit.

In addition to any federal requirements that may apply to Ash Pond 2 after closure is completed, TVA would implement supplemental mitigative measures as agreed upon by TDEC, as required by the CARA Plan, as well as its approved closure plan, which may include additional monitoring, assessment or corrective action programs, as needed. However, as noted in the CCR PEIS, TVA expects closure methods to have beneficial effects on surface water if conducted properly (TVA 2016). To minimize the introduction of pollutants and negative effects to surface waters during construction activities, TVA would carry out the following procedures:

- Prior to construction, comply with all new and existing local, state, and federal permit requirements for implementation of Alternative B, including those related to soil, waste, and chemical transportation, handling, storage, and disposal.
- Prior to construction, obtain necessary permits and implement BMPs to prevent pollutants from entering waters, as discussed in Section 2.7.
- Prior to construction, obtain a TMSP application and/or modification for new stormwater outfalls installed to direct storm water runoff towards the Tennessee River and discharges not covered by the existing site NPDES permit.
- Prior to construction, obtain CGP coverage for any construction or construction support activities that result in an area of disturbance of one or more acres.
- During decanting of Ash Pond 2, comply with applicable NPDES permit requirements to ensure decanting is performed in a manner protective of water quality.
- During construction, a positive grade stormwater management system would be established to include a temporary stormwater management pond, diversion berms and swales, and pumps. This would include any water treatment system necessary to achieve water quality standards prior to discharging from NPDES Outfall 001. Any existing structures that support NPDES compliance would remain in place.

- During construction, provide onsite workforce with temporary toilet facilities supplied and serviced by a licensed vendor, with wastewater being disposed of at an approved facility.

Construction activities and laydown would avoid the intermittent stream adjacent to TUA-3, and TVA would use BMPs to ensure that sedimentation, runoff, and chemicals from construction equipment do not enter the Kentucky Reservoir or the intermittent stream. With the proper maintenance of the stormwater management system and adherence to BMPs, only minor, short-term impacts to local surface waters would be expected during implementation of Alternative B.

Long-term impacts to surface waters would be reduced after completion of Alternative B due to installation of a cover system that either meets or exceeds CCR Rule cover system performance standards ( $1 \times 10^{-5}$  permeability) or state cover system requirements. The cover system would control, minimize, or eliminate, to the maximum extent practicable, post-closure infiltration of liquids into the CCR and escape of CCR constituents, leachate, or contaminated runoff to surface waters. Due to the implementation of proper BMPs and minimization procedures discussed above, the impacts to surface water would be minor.

#### Transport of Borrow Material

Transport of borrow material would not directly impact surface water quality, but fugitive dust emissions can contribute to sediment collection in waterways and pose a safety concern on public roads. Dust suppression BMPs would be implemented during hauling to reduce emissions, and borrow materials would be covered during transportation to minimize dust release. Consequently, there would be no indirect impacts to surface water associated with the transport of borrow over any surface water features along the haul routes.

### **3.6.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Construction activities under Alternative C would be similar to those under Alternative B, with additional soil disturbances related to decanting, excavation, and relocation of CCR. These activities can result in soil erosion and the transport of sediments via stormwater runoff to surface waters, introducing pollutants. TVA would implement the same procedures as in Alternative B to minimize pollutant introduction and negative effects on surface waters. Proper BMPs and stormwater management would ensure that impacts to surface water are minor.

#### Transport of CCR

Transport of CCR would not directly impact surface water quality, but fugitive dust emissions can contribute to sediment collection in waterways and pose a safety concern on public roads. Dust suppression BMPs would be implemented during hauling to reduce emissions, and CCR would be covered during transportation to minimize dust release. Consequently, there would be no indirect impacts to surface water associated with the transport of CCR materials over any surface water features along the haul routes.

### 3.6.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Upon removal of the CCR, Ash Pond 2 would be graded to drain stormwater and vegetated with native or non-invasive plants. Stormwater drainage would be directed to ensure compliance with regulations and permits. Borrow materials would be covered during transportation to reduce the release of dust particulate matter. Proper BMPs and stormwater management discussed in Section 2.7 would ensure that impacts to surface water are minor.

### 3.6.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Upon completion of excavation, the dikes surrounding Ash Pond 2 would be breached, allowing the interior to be inundated by Kentucky Reservoir. Slopes around the breach would be covered in riprap or an approved alternative to protect from erosion. Large boulders could be placed in the breach to block boat traffic from entering the flooded Ash Pond 2 footprint. Water flow would not be impeded. Some areas may remain above the normal lake level and would be stabilized and vegetated. TVA would evaluate long-term stabilization and potential future use of this area. Although a small number of boulders and riprap may be transported from a local rock quarry, no transport of borrow material would be required for this sub-alternative.

The design and specifications for the dike breach would incorporate BMPs to reduce potential impacts to water quality and aquatic species. Erosion and sedimentation control BMPs (e.g., silt fences) described in TDEC 2026 and outlined in the project-specific SWPPP would be implemented to minimize erosion, protect surface waters and groundwater, and preserve soils and geologic features during dike breach activities. Because all CCR and approximately 1-foot of the underlying soil would be removed, and the remainder of the dike would stay in place, TVA does not anticipate release of CCR or associated constituents of concern into Kentucky Reservoir. Therefore, only minor, short-term, impacts to local surface waters would be expected during implementation of Sub-Alternative C2.

### **3.6.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Impacts from construction activities under Alternative D would be similar to those under Alternative C. Proper BMPs and stormwater management would ensure that impacts to surface water are minor.

#### Transport of CCR

Transport of CCR material under Alternative D would not directly impact surface water quality, but fugitive dust emissions can contribute to sediment collection in waterways and pose a safety concern on public roads. Dust suppression BMPs would be implemented during hauling to reduce emissions, and CCR would be covered during transportation to minimize dust release. Consequently, there would be no indirect impacts to surface water associated with the transport of CCR materials over any surface water features along the haul routes.

3.6.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

**3.6.3 Summary of Impacts to Surface Water**

Based on the analysis summarized above and as summarized in Table 3-5, impacts to surface water associated with the proposed project would be short-term and minor.

**Table 3-5. Summary of Impacts to Surface Water**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Temporary minor impacts due to runoff during construction, minimized by BMPs. Long-term impacts reduced upon completion of cover system. All discharges would comply with current or potential NPDES permit limits and other state and federal regulations.	Minor impacts
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Temporary minor impacts due to runoff during construction, minimized by BMPs. Any ongoing surface water impacts reduced more slowly than Alternative B. All discharges would comply with current or potential NPDES permit limits and other state and federal regulations.	Minor impacts
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill.	No impact due to implementation of dust suppression BMPs.	No Impact
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	No impact due to implementation of dust suppression BMPs.	No Impact
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	No impact due to implementation of dust suppression BMPs.	No Impact
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Minor impacts due to implementation of BMPs for restoration activities, erosion and sediment control.	Minor impacts
Sub-Alternatives C2/D2	Dike breach	Minor impacts due to implementation of BMPs for dike breach, erosion and sediment control.	Minor impacts

BMPs= Best Management Practices, CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant, NPDES= National Pollutant Discharge Elimination System

## 3.7 FLOODPLAINS

### 3.7.1 Affected Environment

A floodplain is the relatively level land area along a stream or river that is subject to periodic flooding. The area subject to a 1 percent chance of flooding in any given year is normally called the 100-year floodplain. The area subject to a 0.2 percent chance of flooding in any given year is normally called the 500-year floodplain.

Development in a 100-year floodplain must be evaluated to ensure that a project is consistent with the requirements of EO 11988 (Floodplain Management). The objective of EO 11988 is “...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative”. The EO is not intended to prohibit floodplain development in all cases, but rather to create a consistent government policy against such development under most circumstances (U.S. Water Resources Council 1978). The EO requires that agencies avoid the 100-year floodplain unless there is no practicable alternative.

JOF is located adjacent to the Tennessee River from river mile 99.3 to 102.5, on the right descending bank, in Humphreys County, Tennessee. Ash Pond 2 is shown on Map Number 47085C0140D of the 2009 Humphreys County, Tennessee Flood Insurance Rate Map (FIRM) as being located adjacent to the 100-year floodplain of Kentucky Reservoir, which has a base flood elevation of 375.0 feet at this location, as referenced to National Geodetic Vertical Datum 1929 (**Error! Reference source not found.**) (FEMA 2009). All of Ash Pond 2 is in Flood Zone X (i.e., a reas determined to be outside the 500-year floodplain) as the current low crest elevation of the perimeter dike is 390.0 feet; 15 feet above the base flood elevation of Kentucky Reservoir. Approximately 46 acres within the project area along the outer boundary of Ash Pond 2 is located within the 100-year floodplain (FEMA 2009).

TUA-2 is located outside of the 100- and 500-year floodplains of Kentucky Reservoir (designated as Zone X) whereas TUA-1 and TUA-3 are partially located in Zone AE (i.e., special flood hazard area subject to inundation by the 100-year flood) with a base flood elevation of 375 feet. Approximately 6.6 acres of 100-year floodplain from the boat harbor channel are located within the western edge of TUA-1 and approximately 4.6 acres of 100-year floodplain from the CCW channel are located within TUA-3 (FEMA 2009).

### 3.7.2 Environmental Consequences

#### 3.7.2.1 Alternative A – No Action Alternative

TVA would not close Ash Pond 2, and no changes would occur to floodplains. The pond would continue to operate under the NPDES permit, with ongoing dike inspections and maintenance. As discussed in the CCR PEIS (TVA 2016), flood events greater than a 500-year flood could inundate Ash Pond 2, potentially washing CCR into the Kentucky Reservoir. However, such flooding has not occurred during the pond's operational life.

### **3.7.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

#### Surface Impoundment Closure-in-Place

Closure-in-place would involve demolition, stormwater management, grading, capping, access road construction, groundwater monitoring, and equipment storage within Ash Pond 2. The upper gravel access road along the dike would be graded between 380 and 390 feet. The perimeter dike's height would be reduced to approximately 380 to 390 feet, remaining at least five feet above the 100- and 500-year flood elevations of the Tennessee River. Therefore, the closure-in-place activities above and the upper gravel access road would be consistent with EO 11988 and the TVA Flood Storage Loss Guideline. Thus, Ash Pond 2 would remain protected from a 100-year flood event. Disturbances from proposed culverts, drainage ditches, outfalls, and the lower access road around Ash Pond 2 would occur within the 100-year floodplain. Consistent with EO 11988, these are considered repetitive actions in the 100-year floodplain that should result in only minor impacts. To minimize adverse impacts, road construction would be done in such a manner that upstream flood elevations would not be increased by more than 1.0 foot. Riprap or crushed stone fill would be placed at or below existing grade; however, given the small scale of these activities compared to the width of Kentucky Reservoir, no impacts to the base flood discharge are expected. Additionally, the proposed action is not expected to induce future floodplain development.

Adverse impacts to floodplains from this alternative include sedimentation and runoff contamination from ground disturbances and construction vehicles. These can harm the quality of adjacent floodplain values. To minimize these impacts, BMPs such as silt fences, vehicle maintenance, trash and debris management, and decanting treatment practices would be implemented.

Flood events greater than the 500-year flood could inundate the ash pond, potentially washing CCR into the Kentucky Reservoir. The ash would be covered by a final cover system designed to minimize erosion and infiltration. Even with this system, floodwaters could wash CCR into the reservoir, but the downstream extent of ash deposition is expected to be less than current conditions. Due to the reduced profile of existing dikes, impacts of dike erosion under this alternative would be less than existing conditions.

Based upon implementation of the above BMPs, the proposed closure of Ash Pond 2 under Alternative B would have minor impacts on floodplains and their natural and beneficial values.

#### Transport of Borrow Material

Borrow materials would be transported along established roads from an existing, permitted borrow site; therefore, transporting and temporarily storing borrow materials under Alternative B would not impact floodplains.

### **3.7.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Closure-by-removal activities within Ash Pond 2 would have impacts similar to Alternative B. The final grade would vary between 345 feet and 350 feet, with the perimeter dike and upper access road at 380 to 390 feet. Closure activities in adjacent floodplains would comply with EO 11988 and would not be expected to induce future floodplain development. Adverse impacts, such as sedimentation and runoff contamination, would be minimized with BMPs. Flood events greater than the 500-year flood could inundate the ash pond during or after the 13-year CCR removal period, but as the CCR is removed, risk of washout would be reduced. The downstream extent of ash deposition during such events is expected to be less than current conditions. Overall, closure-by-removal would have minor impacts on floodplains during the closure period and long-term beneficial impacts once complete.

#### Transport of CCR

Transport of CCR under Alternative C would be along established roads and would have no impact on floodplains.

#### 3.7.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Site restoration would involve filling Ash Pond 2 with borrow material and planting vegetation. As mentioned in sections 3.7.2.2 and 3.7.2.3, final grades would remain at or below existing grades, ensuring no adverse impact on floodplains, which would be consistent with EO 11988. Transport and temporary storage of borrow materials would also have no impact on floodplains, as they would be transported along established roads from a permitted borrow site.

#### 3.7.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

The final design for the post-closure dike breach is not complete, but the interior elevation would likely range from 345 feet to 354 feet. The dike would be breached in one or two locations, allowing Ash Pond 2 to be inundated while maintaining most of the perimeter dike and upper access road. Final grades, including any borrow material, within the 100-year floodplain would remain at or below existing grades, ensuring no adverse impact on floodplains. If the final design reduces fill volume, it would have long-term beneficial impacts by increasing flood water storage.

Transporting boulders and riprap would have no impact on floodplains, as materials would be transported along established roads from a local existing quarry.

### **3.7.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Adverse impacts to floodplains from Alternative D would primarily occur from sedimentation and runoff contamination. BMPs would be implemented to minimize these impacts. Like

Alternative C, there would be no risk of CCR inundation by floodwaters because the CCR would be completely removed from Ash Pond 2, creating a long-term beneficial impact on surrounding floodplains. During the 13-year closure period, the downstream extent of ash deposition in the receiving stream during a rare flood event is expected to be less than existing conditions and less than Alternative B after complete removal of CCR. Overall, the proposed closure of Ash Pond 2 under Alternative D would have minor impacts on floodplains during the closure period and long-term beneficial impacts once complete.

Transport of CCR

Transport of CCR under Alternative D would be along established roads and would have no impact on floodplains.

3.7.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

**3.7.3 Summary of Impacts to Floodplains**

As summarized in Table 3-6, TVA has determined that all alternatives would have minor impacts on floodplains and their natural and beneficial values and would be consistent with EO 11988.

**Table 3-6. Summary of Impacts to Floodplains**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Adverse impacts from sedimentation and contaminated runoff.	Minor, minimized with the use of BMPs
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Adverse impacts from sedimentation and contaminated runoff.	Minor, minimized with the use of BMPs
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill over existing roadways	No Impacts	No Impacts
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility over existing roadways	No Impacts	No Impacts
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF over existing roadways	No Impacts	No Impacts
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	No Impacts	No Impacts

Alternative	Action	Impact	Severity
Sub-Alternatives C2/D2	Dike breach	Potential long-term beneficial impacts from increased floodwater storage owing to fill reductions.	Minor

BMPs = Best Management Practices, CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant

### 3.8 VEGETATION

#### 3.8.1 Affected Environment

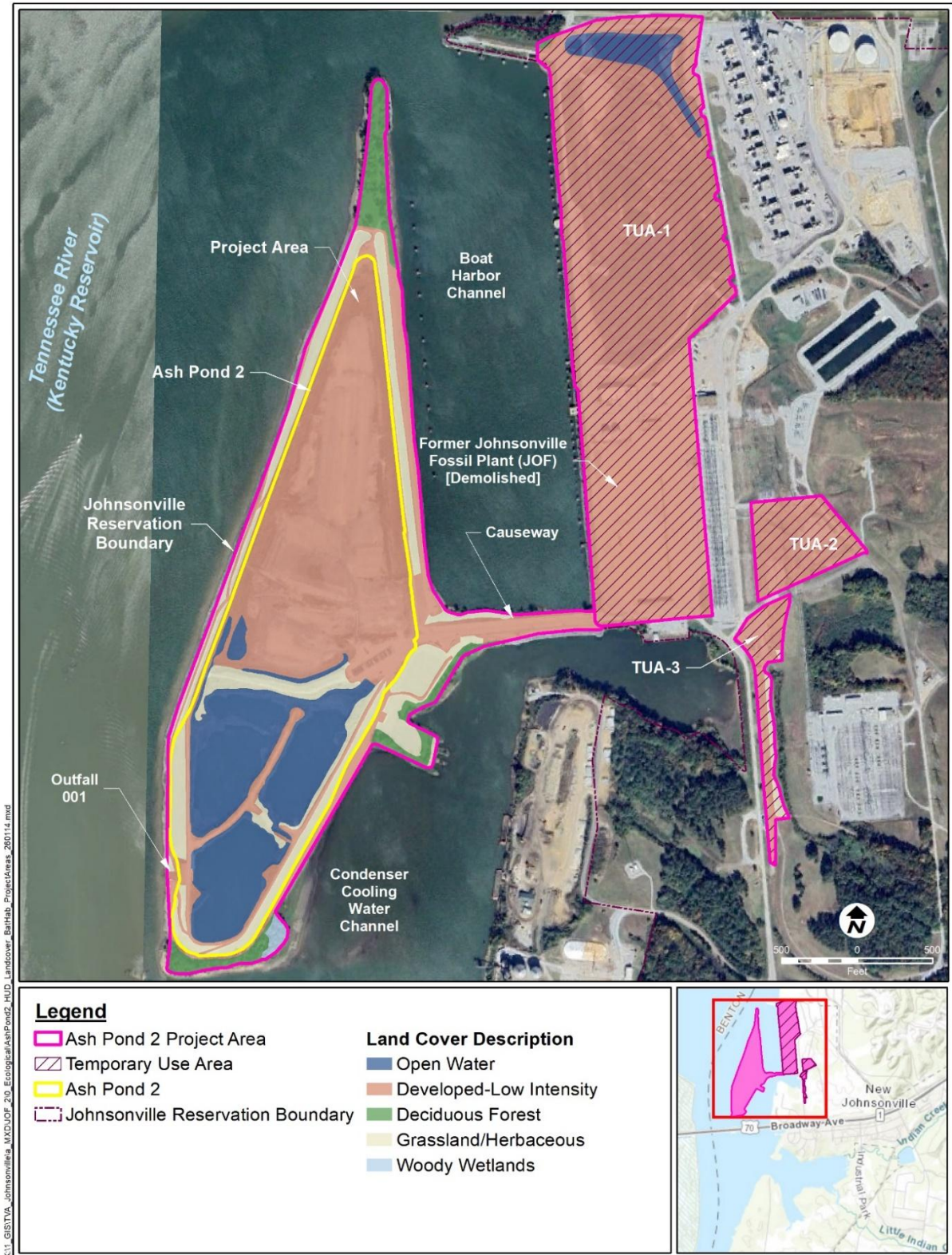
The project area is located within the Western Highland Rim, a sub-ecoregion of the Interior Plateau. The ecoregion consists of dissected and rolling terrain of open hills. Historically, this area was dominated by oak-hickory forests that were mostly removed in the 1800s in association with iron-ore mining. Currently, portions of this ecoregion are once again heavily forested with some agriculture occurring along the flatter interfluvies and in stream and river valleys (Griffith et al. 1998).

The vegetation within a 5-mile radius surrounding JOF and within the project area was evaluated with land cover information obtained from the National Land Cover Dataset (NLCD) (Dewitz 2023). Land cover within the project area was obtained from NLCD and revised using aerial photography and field reconnaissance (**Error! Reference source not found.**, Table 3-7). The most common land cover within the project area is developed, low intensity land (approximately 160 acres), which is predominately found on the northern half of the project area. Other land cover types include open water (about 31 acres) and herbaceous vegetation (about 23 acres), with smaller amounts of deciduous forest and woody wetlands also present. Land cover within the 5-mile vicinity of the project area is characterized as mostly being deciduous forest (18,245 acres), open water (10,829 acres), and hay/pasture (5,368 acres).

Vegetation found within the JOF site is largely a function of the land use history of the site. A large proportion of the JOF site has been heavily disturbed by the construction, operation, and maintenance of the generation and transmission infrastructure present there. In general, the most heavily disturbed and most degraded habitats are currently covered with herbaceous vegetation. Many areas support highly altered early-successional plant habitats, with scattered areas of forest. Species encountered during wetland delineations completed on May 9, 2024, are included in Table 3-8.

Invasive plants<sup>1</sup> are common in previously disturbed areas, such as those within the vicinity of the JOF Ash Pond 2 project area. Some of the invasive plant species observed within the area surveyed in May 2024 include Callery pear and Chinese privet (TVA 2024b).

<sup>1</sup> EO 13751 (Invasive Species) defines an invasive species as any species that is not native to that ecosystem and whose introduction does or is likely to cause economic or environmental harm or harm to human health.



**Table 3-7. Land Cover in the Project Area and Vicinity**

Land Cover Type	Project Area		
	Ash Pond 2 Site (acres) <sup>1</sup>	Temporary Use Areas (acres)	5-mile Radius (acres) <sup>2</sup>
Barren Land	0.0	0	250
Cultivated Crops	0.0	0	1,951
Deciduous Forest	7.1	0.1	18,245
Developed, High Intensity	0	0	457
Developed, Low Intensity	68.8	90.9	881
Developed, Medium Intensity	0.0	0	573
Developed, Open Space	0.0	0	2,570
Emergent Herbaceous Wetlands	0.0	0	1,848
Evergreen Forest	0.0	0	328
Hay/Pasture	0.0	0	5,368
Herbaceous	21.6	1.0	846
Mixed Forest	0.0	0	1,591
Open Water	26.8	3.9	10,829
Shrub/Scrub	0.0	0	282
Woody Wetlands	0.6	0	4,248
<b>Total</b>	<b>124.9</b>	<b>95.9</b>	<b>50,265</b>

<sup>1</sup> Land cover within project area was obtained from NLCD (Dewitz 2023), aerial photography, and field reconnaissance and is approximate.

<sup>2</sup> Land Cover within 5-mi radius obtained from Dewitz 2023

**Table 3-8. Vegetation Observed within the Project Area**

Common Name	Scientific Name
<b>Trees and Shrubs</b>	
American elm	<i>Ulmus americana</i>
Black willow	<i>Salix nigra</i>
Callery pear	<i>Pyrus calleryana</i>
Chinese privet	<i>Ligustrum sinense</i>
Green ash	<i>Fraxinus pennsylvanica</i>
Red mulberry	<i>Morus rubra</i>
Silver maple	<i>Acer saccharinum</i>
<b>Woody Vines</b>	
Poison ivy	<i>Toxicodendron radicans</i>
Roundleaf greenbrier	<i>Smilax rotundifolia</i>
Trumpet vine	<i>Campsis radicans</i>
Winter creeper	<i>Euonymus fortunei</i>
<b>Herbaceous Plants</b>	
Bladder sedge	<i>Carex intumescens</i>

Note: Species observed during 2024 wetland delineation of the peninsula within the Project Area (TVA 2024b).

Overall, vegetation in the project area is of low sensitivity to potential impacts. Land cover types in the project area are broadly distributed in the region and the species assemblages are typical of degraded sites, with many early-successional and invasive species present.

### **3.8.2 Environmental Consequences**

#### **3.8.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no impoundment closure activities would occur and there would be no additional construction activities or transport of borrow or CCR materials at JOF. Therefore, there would be no changes to existing vegetation under this alternative.

#### **3.8.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

Closure-in-place involves stabilizing CCR, grading, and installing a cover system. Earthmoving and other construction activities would disturb approximately 23 acres of herbaceous vegetation and up to 7.9 acres of forested areas, including 0.6 acres of woody wetlands. The affected plant communities are of low floristic quality and fragmented. Impacts would be minor and temporary, with long-term benefits from revegetation if a soil cover system is used that is capable of supporting vegetation. However, the use of an engineered turf cover system would not result in long-term benefits to vegetation. BMPs would minimize fugitive dust and invasive plant introduction.

##### Transport of Borrow

Borrow material transport may cause minor indirect effects from dust, mitigated by BMPs.

#### **3.8.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

##### Surface Impoundment Closure-by-Removal

Impacts would be similar to Alternative B but may increase due to a longer closure period.

##### Transport of CCR

Fugitive dust from CCR transport would be minimized by BMPs such as covered loads and watering unpaved haul roads.

##### 3.8.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Restoration would involve grading with borrow material and planting non-invasive vegetation consistent with EO 13751 to prevent introduction or spread of invasive species. Impacts from dust and invasive species would be minor and mitigated by BMPs. Impacts from transportation of borrow material are expected to be minor and similar to those described under Alternative B. Therefore, restoration activities may have minor short-term adverse impacts and a long-term beneficial impact on vegetation.

### 3.8.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Impacts to vegetation under Sub-Alternative C2 would be associated with the transport of small quantities of riprap and boulders, and dike breaching and stabilization activities. The transport of rock materials from a nearby quarry is not expected to significantly contribute to fugitive dust or spread invasive species. Sub-Alternative C2 does not require borrow material, resulting in fewer impacts compared to Sub-Alternative C1.

While dike breaching and stabilization may pose some risk to vegetation through dust and potential introduction of invasive species, these impacts are expected to be minor with effective BMPs. Flooding at Ash Pond 2 would reduce the area for terrestrial vegetation restoration but may create new habitats for aquatic plant species.

### 3.8.2.4 **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Impacts to vegetation under Alternative D would be minor and similar to those described under Alternative C.

#### Transport of CCR

Impacts to vegetation from transport of CCR would be minor and similar to those described under Alternative C. If an onsite beneficiation processing facility is chosen, impacts would be restricted to the Johnsonville Reservation. Therefore, impacts to vegetation under Alternative D would be minor and similar or less than those under Alternative C, but greater than Alternative B.

#### 3.8.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.8.3 **Summary of Impacts to Vegetation**

As summarized in Table 3-9, TVA has determined that impacts to vegetation related to the action alternatives and associated component actions of the proposed Ash Pond 2 closure at JOF would be minor.

**Table 3-9. Summary of Impacts to Vegetation**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Impacts associated with earth moving activities, tree clearing, fugitive dust deposition, and potential spread of invasive species.	Minor because of the low conservation value of affected species/communities; negligible long-term improvement of resource following potential establishment of an herbaceous cover.

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Impacts associated with earth moving activities, tree clearing, fugitive dust deposition, and potential spread of invasive species.	Minor because of the low conservation value of affected species/communities.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Potential temporary impacts due to deposition of fugitive dust on vegetation.	Minor impacts minimized with the use of BMPs.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Potential temporary impacts due to deposition of fugitive dust on vegetation.	Minor impacts minimized with the use of BMPs.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Temporary offsite impacts associated with fugitive dust deposition and potential introduction of invasive species.	Minor impacts minimized with the use of BMPs.
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Temporary onsite impacts associated with potential fugitive dust deposition and spread of invasive species during grading activities.	Minor because of the low conservation value of affected species/communities; negligible long-term improvement of resource following seeding with non-invasive species if soil cover system is used.
Sub-Alternatives C2/D2	Dike breach	Temporary onsite impacts associated with potential fugitive dust deposition and spread of invasive species during stabilization activities.	Minor because of the low conservation value of affected species/communities; minor long-term improvement of habitat for aquatic vegetation.

BMPs = Best Management Practices, CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant

### 3.9 WILDLIFE

#### 3.9.1 Affected Environment

The project area comprises the Ash Pond 2 peninsula and three TUAs on the Johnsonville Reservation. It covers approximately 160 acres of industrial development, 31 acres of open water, 24 acres of herbaceous vegetation, 5 acres of deciduous forest, and 0.6 acres of woody wetland (see Table 3-7 in Section 3.8). The project area is heavily disturbed with minimal vegetation, consisting mainly of mowed turfgrass and shoreline vegetation. Low-lying areas of shoreline vegetation on the peninsula include forested wetlands. Wildlife communities associated with these habitats consist of common species that readily adapt to utilizing disturbed lands.

Mowed herbaceous areas offer little suitable habitat for rare wildlife species but can be used by many common species. One arthropod species (brilliant jumping spider [*Phidippus clarus*]) and

three bird species (brown-headed cowbird [*Molothrus ater*], barn swallow [*Hirundo rustica*], and black vulture [*Coragyps atratus*]) were observed during a field survey on June 13th, 2024. Other birds that utilize these grassy areas include Canada goose (*Branta canadensis*), eastern meadowlark (*Sturnella magna*), grasshopper sparrow (*Ammodramus savannarum*), killdeer (*Charadrius vociferus*), European starling (*Sturnus vulgaris*), and red-tailed hawk (*Buteo jamaicensis*) (National Geographic 2002). Mammals that can be found in these grassy areas are common moles (*Talpa europaea*), coyotes (*Canis latrans*), ground hogs (*Marmota monax*), least shrews (*Cryptotis parva*), white-footed mice (*Peromyscus leucopus*), and white-tailed deer (*Odocoileus virginianus*) (Whitaker 1996). Common reptiles found in this habitat in western Tennessee include black racer (*Coluber constrictor priapus*), black rat snake (*Pantherophis obsoletus*), eastern kingsnake (*Lampropeltis nigra*), and eastern garter snake (*Thamnophis sirtalis sirtalis*) (Powell et al. 2016).

Forest fragments on the peninsula are thin strips of deciduous secondary growth trees. Narrow bands of upland forests are found on the peninsula along the river margin. Species observed in these habitats include raccoon (*Procyon lotor*), Carolina wren (*Thryothorus ludovicianus*), yellow warbler (*Setophaga petechia*), cardinal (*Cardinalis cardinalis*), and turkey vulture (*Cathartes aura*). Other common birds that may use the forest fragments include American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), American goldfinch (*Spinus tristis*), blue jay (*Cyanocitta cristata*), Carolina chickadee (*Poecile carolinensis*), eastern towhee (*Pipilo erythrophthalmus*), tufted titmouse (*Baeolophus bicolor*), and yellow breasted chat (*Icteria virens*) (National Geographic 2002). Common mammals in this habitat type are eastern red bat (*Lasiurus borealis*), nine-banded armadillo (*Dasypus novemcinctus*), eastern gray squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphis virginiana*), and northern flying squirrel (*Glaucomys sabrinus*) (Whitaker 1996). Reptiles and amphibians such as broad-headed skink (*Plestiodon laticeps*), eastern box turtle (*Terrapene carolina carolina*), copperhead (*Agkistrodon contortrix*), and gray treefrog (*Hyla versicolor*) use this type of habitat (Powell et al. 2016).

Wetlands, shorelines, and open water within Ash Pond 2 provide habitat for a variety of terrestrial species. Forested wetlands are found on the southern tip of the peninsula. Shorebirds may also use the ash pond as stopover grounds during migration events. Species associated with aquatic habitats observed during field surveys include common loon (*Gavia immer*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), red-winged blackbird (*Agelaius phoeniceus*), great blue heron (*Ardea herodias*), and mayflies (*Ephemeroptera*). Mammals specific to bottomland forests in the area include mink (*Lutreola*), beaver (*Castor*), and muskrat (*Ondatra zibethicus*) (Whitaker 1996). Amphibians potentially found here include the American toad (*Anaxyrus americanus*), spring peeper (*Pseudacris crucifer*), and chorus frog (*Pseudacris sp.*). Water snakes (*Nerodia sp.*) are also typically abundant. Fringe wetlands along the Tennessee River provide habitat for red-eared sliders (*Trachemys scripta elegans*), painted turtles (*Chrysemys picta*), and other turtle species (Powell et al. 2016).

Review of the TVA Regional Natural Heritage Database on May 30, 2025, resulted in no records of caves within 3 miles of the project area (TVA 2025f). No caves were found during field

reviews on June 13, 2024. No other unique terrestrial habitat is known from within 3 miles of the project area.

Review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database (USFWS 2025a) on October 17, 2025, resulted in the identification of 19 migratory birds of conservation concern that have the potential to be impacted by the proposed actions: bald eagle, black-billed cuckoo (*Coccyzus erythrophthalmus*), bobolink (*Dolichonyx oryzivorus*), brown-headed nuthatch (*Sitta pusilla*), chimney swift (*Chaetura pelagica*), eastern whip-poor-will (*Antrastomus vociferus*), field sparrow (*Spizella pusilla*), golden eagle (*Aquila chrysaetos*), grasshopper sparrow (*Ammodramus savannaru*), Kentucky warbler (*Geothlypis formosa*), Le Conte's sparrow (*Ammodramus leconteii*), least tern (*Sternula antillarum*), lesser yellowlegs (*Tringa flavipes*), prairie warbler (*Setophaga discolor*), prothonotary warbler (*Protonotaria citrea*), red-headed woodpecker (*Melanerpes erythrocephalus*), rusty blackbird (*Euphagus carolinus*), semipalmated sandpiper (*Calidris pusilla*), and wood thrush (*Hylocichla mustelina*). Herbaceous habitats in the project area are mowed turfgrass unsuitable for breeding. Forest fragments on the peninsula are narrow strips of shoreline habitat that do not have any quality interior forests required by several of the identified migratory birds of conservation concern. However, some of this habitat is suitable for those that use upland forest edge habitats and forested wetland. Species that may use the peninsula include field sparrow, grasshopper sparrow, prairie warbler, prothonotary warbler, red-headed woodpecker, and rusty blackbird.

Potential habitat for migrating lesser yellowlegs and semipalmated sandpiper and breeding least terns may exist in the Ash Pond 2 area, where habitat mimics natural mudflats. Three records of colonial wading bird colonies exist within 3 miles. The nearest viable record is approximately 0.6 miles from the project area and was last observed in 2007. No aggregations of migratory birds or colonial wading bird colonies were documented within the project area during field reviews on June 13, 2024. Overall, wildlife assemblages in the project area are of low sensitivity to potential project impacts because they include common species that are resilient to disturbance and that occupy habitats of marginal quality.

### **3.9.2 Environmental Consequences**

#### **3.9.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, TVA would not close Ash Pond 2, although no additional coal ash would be stored there since the plant has ceased operations. Soil and vegetation would remain in their current state. Current communities of terrestrial wildlife and their habitats would not be affected under the No Action Alternative.

#### **3.9.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

Earthmoving activities and noise from construction equipment may impact wildlife in the project area, which is already a disturbed industrial landscape with minimal habitat. Alternative B may remove up to 7.9 acres of trees scattered across five fragmented areas, including 0.6 acres of forested wetland. Mowed turfgrasses along Ash Pond 2 and roads offer

little wildlife habitat value. Most wildlife would likely disperse due to noise and earthmoving activities, with disturbances minimized by BMPs like limiting activities to daytime hours and maintaining equipment. Wildlife is expected to return post construction.

Removing grass, forest fragments, and wetlands would displace wildlife, primarily common species. Direct effects on immobile individuals would be minimized by seasonal restrictions on forest removal when possible. Depending on the capping method, non-invasive vegetation or turf grasses could provide post-closure wildlife habitat. ClosureTurf® or similar systems offer little wildlife value. The small amount of habitat removed and the abundance of similar or better habitat nearby mean common wildlife and migratory birds of conservation concern would not be significantly impacted. The area could provide habitat for birds, invertebrates, and other wildlife post closure.

Some migratory birds of conservation concern may be impacted, including temporary impacts to habitat for field sparrow, grasshopper sparrow, and prairie warbler. Forested wetland and upland forest suitable for red-headed woodpecker, rusty blackbird, and prothonotary warbler may be permanently removed. Potential habitat for migrating lesser yellow legs and semipalmated sandpiper and nesting least tern in the Ash Pond 2 area would be lost. Potential impacts to bald eagle are addressed in Section 3.11, Threatened and Endangered Species.

Overall, habitat alteration and wildlife displacement under Alternative B are not expected to destabilize any species populations. The disturbed project area and abundant nearby habitat mean impacts would be minor. Capping Option 1 (vegetation) may improve wildlife habitat long-term. Impacts from closure-in-place activities are anticipated to be minor and temporary.

#### Transport of Borrow Material

Borrow material transport from an offsite or TVA-owned borrow site may increase noise and vehicle collisions with wildlife, but impacts would be minor and limited to existing roadways during daytime hours. Transport would not impact wildlife habitats.

### **3.9.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Closure-by-removal activities within the project area would have similar impacts to those described under Alternative B but would extend for up to 13 years. Therefore, impacts to wildlife are anticipated to be minor and temporary but greater than those under Alternative B.

#### Transport of CCR

Transporting CCR by covered truck to an offsite landfill for up to 13 years may increase noise and vehicle collisions with wildlife. However, this activity would use existing roadways during daytime hours, and impacts would be minor and temporary. Transport of CCR would not impact wildlife habitats.

### 3.9.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Impacts to wildlife under Sub-Alternative C1 would be similar to those described in Alternative B and C and are expected to be minor. Site restoration would allow for revegetation with non-invasive species, providing habitat for wildlife and pollinators like songbirds, butterflies, and bees.

### 3.9.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Dike breach actions under Sub-Alternative C2 would result in similar minor impacts to wildlife as described under Alternative B in areas above normal lake level. Shoreline areas within the dikes would be exposed during lower lake levels and may be suitable for migrating shorebirds. The inundation of Ash Pond 2 may create more habitat for aquatic species and species that use aquatic areas for foraging.

### 3.9.2.4 **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Actions under Alternative D would result in similar impacts to wildlife as Alternatives B and C during the closure phase. If an onsite beneficiation processing facility is chosen, impacts would be limited to the Johnsonville Reservation and less than those described under Alternative C. Transporting unusable CCR and soil to an offsite landfill would have similar, but lesser, impacts to wildlife as those described in Alternative C. Overall, impacts to wildlife would be minor and temporary.

#### 3.9.2.4.1 Sub-Alternatives D1 and D2

Impacts to wildlife species under Sub-Alternatives D1 and D2 are expected to be the same as those described in Sub-Alternatives C1 and C2, respectively.

### 3.9.3 **Summary of Impacts to Wildlife**

As summarized in Table 3-10, TVA has determined that impacts to wildlife related to the primary action and associated component actions for the proposed closure of Ash Pond 2 at JOF are minor and temporary.

**Table 3-10. Summary of Impacts to Wildlife**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Loss of low-quality habitats associated with Ash Pond 2. Displacement of common wildlife species. Magnitude of habitat loss is considered negligible relative to the availability of these habitat types within the vicinity.	Minor due to other suitable habitat in the vicinity for migratory birds of conservation concern.

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Loss of low-quality habitats associated with Ash Pond 2. Displacement of common wildlife species. Magnitude of habitat loss is considered negligible relative to the availability of these habitat types within the vicinity.	Minor, long-term improvement following removal of CCR and seeding of non-invasive species
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Temporary impacts associated with noise and potential for collision with transport vehicles.	Minor and temporary
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Temporary impacts associated with noise and potential collision with transport vehicles.	Minor and temporary
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Temporary impacts associated with noise and potential collision with vehicles.	Minor and temporary
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Temporary onsite impacts due to displacement. However, restoration of the site may be beneficial in creating habitat for wildlife in the long term.	Minor and temporary Potential for minor, long-term habitat improvement following restoration.
Sub-Alternatives C2/D2	Dike breach	Temporary onsite impacts due to displacement. However, restoration of the site may be beneficial in creating habitat for some wildlife species in the long term.	Minor and temporary Potential for minor, long-term habitat improvement following dike breach.

BMPs = Best Management Practices, CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant

### 3.10 AQUATIC ECOLOGY

#### 3.10.1 Affected Environment

The project area lies within the Tennessee River 12-digit Hydrologic Unit Code (HUC) watershed 060400050402. Streams in this region are relatively clear with moderate gradients and substrates of chert gravel and sand with some bedrock. Ash Pond 2 is considered a treatment system and not an aquatic habitat. Surveys in 2020, 2022, and 2024 identified a potentially jurisdictional intermittent stream along the entrance road near TUA-3 (TVA 2024b, TVA 2022a). This stream, located on a disturbed industrial site, likely contains only common aquatic species adapted to low-quality habitats. Delineated water features are shown in Figure 3-2 in Section 3.6, and wetlands are discussed in Section 3.12.

The Ash Pond 2 peninsula is surrounded by the Tennessee River (Kentucky Reservoir) (NWI 2019) and is located on its eastern shore at Tennessee River Mile (TRM) 100. The river’s character has been altered by Kentucky Dam, 76 river miles downstream, and Pickwick Dam, 107 river miles upstream.

TVA has monitored the ecological conditions of its reservoirs since 1990, focusing on water quality, aquatic organisms, hydrological characteristics, and sediment quality (Wu et al. 2022). Benthic macroinvertebrates are included in monitoring due to their importance in the food chain and limited movement (EPA 2025e). Sampling and data analysis are based on seven parameters, including species diversity, presence of selected taxa that are indicative of good water quality, occurrence of long-lived organisms, and abundance.

The closest benthic monitoring location is approximately TRM 85, which was sampled numerous times between 2001 and 2019. TRM 85 received an “excellent” status from 2001-2017; however, it dropped to “good” in 2019. At the inflow site, TRM 200, the status has ranged from “poor” to “excellent” throughout the years but is at “good” as of 2019. TRM 23, the forebay, has consistently either been “good” or “excellent” and is categorized as “good”, as of 2019 (TVA 2018, 2022b).

Reservoir Benthic Index data collected upstream and downstream of JOF in the years 2001-2019 are shown in Table 3-11.

**Table 3-11. Benthic Community Ratings**

Station	Site	2001	2003	2005	2007	2009	2011	2013	2015	2017	2019
Inflow	TRM 200	F	G	E	F	P	E	F	G	G	G
Transition	TRM 85	E	E	E	E	E	E	E	E	E	G
Forebay	TRM 23	E	E	G	G	G	E	G	E	G	G

Key: P=Poor, F=Fair, G=Good, E=Excellent, TRM=Tennessee River Mile; Note: Ratings identified based on the Ecological Health Monitoring Program (formerly Vital Signs) Data in Kentucky Reservoir at TRM 23, 85 & 200 (2001-2019); Source: TVA 2018, TVA 2022a

TVA also evaluates fish communities using the Reservoir Fish Assemblage Index. Electrofishing and gill netting sampling stations correspond to those described for benthic macroinvertebrate sampling (TVA 2011). Fishes are included in aquatic monitoring programs because they are important to the aquatic food chain and because they have a relatively long life cycle, which allows them to reflect conditions over time. Fishes are also important to the public for aesthetic, recreational, and commercial reasons. Monitoring results for each sampling station are analyzed to arrive at an Ecological Health rating, which is based primarily on fish community structure and function. Also considered in the rating is the percentage of the sample represented by omnivores and insectivores, overall number of fish collected, and the occurrence of fish with anomalies such as diseases, lesions, parasites, deformities, etc. (McDonough and Hickman 1999).

The Reservoir Ecological Health fish community monitoring results are shown in Table 3-12. Overall results indicate that the Kentucky Reservoir fish assemblage has been consistently “good” from 2001 to 2019 (TVA 2018, 2022a). A total of 60 different species were observed

reservoir-wide in previous years (TVA 2017), including American eel (*Anguilla rostrata*), rainbow darter (*Etheostoma caeruleum*), river darter (*Percina shumardi*), and silver chub (*Macrhybopsis storeriana*). Common sportfish include largemouth bass (*Micropterus salmoides*), crappie (*Micropterus salmoides*), and catfish (*Siluriformes*).

**Table 3-12. Kentucky Reservoir Fish Assemblage Index Ratings**

Station	Site	2001	2003	2005	2007	2009	2010	2011	2013	2015	2017	2019
Inflow	TRM 206	G	G	G	G	G	-	E	G	G	G	G
Upstream of JOF	TRM 105	G	G	G	G	-	G	-	-	G	G	-
Downstream of JOF	TRM 97	G	G	G	G	-	G	-	-	G	G	-
Transition	TRM 85	G	G	G	G	G	-	G	G	G	G	-
Forebay	TRM 23	G	G	G	G	F	-	G	G	G	G	G

Key: P=Poor, F=Fair, G=Good, E=Excellent, TRM=Tennessee River Mile

Note: Index ratings, based on Reservoir Ecological Health Monitoring Program (formerly Vital Signs) Data at TRM 206, 105, 97, 85 & 23 (TVA 2018, 2022a).

### 3.10.2 Environmental Consequences

#### 3.10.2.1 Alternative A – No Action Alternative

Under the No Action Alternative, TVA would not close Ash Pond 2 and it would continue to operate under the NPDES permit (Permit number TN0005444). All process flows would continue to be routed to the non-CCR PWB or the IFM system and meet NPDES permit requirements protective of water quality and aquatic life in the reservoir. Consequently, there would be no change to aquatic resources and no project-related effects to aquatic ecology.

#### 3.10.2.2 Alternative B – Closure-in-Place of Ash Pond 2

##### Surface Impoundment Closure-in-Place

Ash ponds are considered treatment systems and not aquatic habitat. Therefore, closure activities would limit direct impacts on aquatic ecosystems, with minor alterations in flow and water quality. If Cap Option 1 is used, the site would be graded and vegetated with non-invasive seed mixes for surface water management and wildlife habitat. Other capping options would also meet federal and state stormwater and NPDES requirements. BMPs and stormwater management would minimize impacts on aquatic resources, making overall impacts negligible. Construction activities would adhere to permit limits and BMPs, stabilizing and vegetating disturbed areas. Post-construction, BMPs would minimize indirect impacts on aquatic communities.

##### Transport of Borrow Material

Borrow material transport would use existing roadways, avoiding direct disturbance to aquatic habitats. Fugitive dust may impact nearby streams, but BMPs like covered loads and watering

unpaved roads would minimize these impacts, making them minor, intermittent, and temporary.

### **3.10.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

The closure-by-removal of the Ash Pond 2 would have minor impacts on aquatic ecology, similar to Alternative B, but with greater magnitude due to the removal of CCR material and a longer closure period (10 to 13 years). Effective stormwater management and BMPs, as described under Alternative B, would minimize these impacts. Therefore, impacts to aquatic resources would be minor and temporary.

#### Transport of CCR

Transporting CCR to the offsite landfill would not directly disturb aquatic habitats, as existing highways would be used as haul routes. Fugitive dust could impact nearby streams, but BMPs like covered loads would minimize these impacts, making them minor and temporary.

#### 3.10.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Impacts from transportation of borrow material are expected to be minor and similar to those described under Alternative B. Restoration and grading activities could impact aquatic habitat from potential fugitive dust deposition and sedimentation entering water resources. However, the effective use of BMPs is expected to minimize these impacts, and impacts are anticipated to be minor and temporary.

#### 3.10.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Potential impacts to aquatic ecology could occur due to the proposed dike breach. However, dike breach design and specifications would include implementation of BMPs and other measures to prevent scour and other impacts to water quality and aquatic species, such as turbidity curtains and silt fencing. Slopes around the breach would be covered in riprap to protect them from erosion. Because all CCR and underlying soil materials would be removed from the impoundment and the remaining dike would remain in place, releases of CCR, leachate, or contaminated runoff to adjacent surface waters is not expected.

A minor amount of boulder and riprap materials would be transported from an existing, permitted quarry. Impacts to aquatic resources from potential fugitive dust deposition during transport would be negligible. Boulder placement in the breach, for the purposes of deterring boat traffic, would not impede water flow and would therefore have minimal impact on aquatic resources.

Post-closure dike breach would create additional aquatic habitat that may be suitable for aquatic species and for species that rely on aquatic areas for foraging (e.g., bald eagle, osprey, little blue herons, piping plovers, and whooping cranes). Therefore, adverse impacts from Sub-Alternative C2 would be temporary and minor but would be beneficial in the long term.

### 3.10.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility

#### Surface Impoundment Closure-by-Removal

Impacts to aquatic ecology due to surface impoundment closure-by-removal would be minor and similar to those described in Alternative C.

#### Transport of CCR

Impacts on aquatic ecology from transporting CCR to an onsite or offsite beneficiation processing facility would be similar to those in Alternative C. However, if an onsite facility is chosen, the impacts would be less due to fewer vehicle miles traveled. Unusable CCR and soil would be transported to an offsite landfill, resulting in similar but smaller impacts than Alternative C. Effective use of BMPs would minimize these impacts; making them minor and temporary.

#### 3.10.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.10.3 Summary of Impacts to Aquatic Ecology

As summarized in Table 3-13, TVA has determined that impacts to the surrounding aquatic ecology as it relates to the proposed actions for the surface impoundment closure of Ash Pond 2 are minor.

**Table 3-13. Summary of Impacts to Aquatic Ecology**

Alternative	Action	Impact	Severity
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Potential for flow and water quality alteration. Impacts are restricted to the closure period (6-years). Effective use of BMPs and the use of a stormwater management system coupled with TVA's adherence to NPDES permit limits would minimize impacts to aquatic resources within receiving jurisdictional waters.	Temporary and Minor. Effective use of BMPs would minimize impacts.
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Potential for flow and water quality alteration. Impacts are restricted to the closure period (up to 13 years). Effective use of BMPs and the use of a stormwater management system coupled with TVA's adherence to NPDES permit limits would minimize impacts to aquatic resources within receiving jurisdictional waters.	Temporary and minor. Similar to but greater than Alternative B due to longer closure duration.

Alternative	Action	Impact	Severity
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Potential indirect impacts due to deposition of fugitive dust on aquatic habitat. Minimized with the use of BMPs including covered loads and transport on existing roads.	Temporary and minor impacts
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Potential indirect impacts due to deposition of fugitive dust on aquatic habitat. Minimized with the use of BMPs including covered loads and transport on existing roads.	Temporary and minor impacts. If onsite facility is chosen, impacts are restricted to Johnsonville Reservation and would be less than Alternative C.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Potential indirect impacts due to deposition of fugitive dust on aquatic habitat. Minimized with the use of BMPs including covered loads and transport on existing roads.	Temporary and minor impacts.
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Potential indirect impacts due to sedimentation and deposition of fugitive dust on aquatic habitat.	Temporary and minor
Sub-Alternatives C2/D2	Dike breach	Potential indirect impacts due to sedimentation into aquatic habitat. Potential creation of new aquatic habitat.	Temporary and minor Beneficial in the long term

BMPs= Best Management Practices, CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant, NPDES= National Pollutant Discharge Elimination System, TVA=Tennessee Valley Authority

### 3.11 THREATENED AND ENDANGERED SPECIES

#### 3.11.1 Affected Environment

ESA (16 United States Code [USC] §§ 1531–1543) was passed to conserve the ecosystems upon which endangered and threatened species depend, and to conserve and recover those species. An endangered species is defined by the ESA as any species in danger of extinction throughout all or a significant portion of its range. A threatened species is likely to become endangered within the foreseeable future throughout all or a significant part of its range. Critical habitats, essential to the conservation of listed species, also can be designated under the ESA. The ESA establishes programs to conserve and recover endangered and threatened species and makes their conservation a priority for federal agencies. Section 7 of the ESA requires federal agencies to consult with the USFWS when their proposed actions may affect endangered or threatened species and their critical habitats.

The state of Tennessee provides protection for species considered threatened, endangered or deemed in need of management within the state other than those federally listed under the

ESA. Plant species are protected in Tennessee through the Rare Plant Protection and Conservation Act of 1985. The listing of species is managed by TDEC, which considers listing recommendations from Tennessee Wildlife Resources Agency (TWRA). Additionally, the TDEC Natural Heritage Program and TVA both maintain databases of species that are considered threatened, endangered, special concern, or are otherwise tracked in Tennessee.

The project area contains heavily disturbed habitat types, and few are vegetated. Mowed herbaceous areas offer little suitable habitat for rare wildlife species but can be used by many common species. Forest fragments on the peninsula are thin strips of deciduous secondary growth trees, and narrow bands of upland forests are found on the peninsula along the river's margin. It is also possible that shorebirds use the ash ponds as stopover grounds during migration events.

A review of the TVA Regional Heritage database on May 30, 2025, resulted in records for five state-listed species (little blue heron, osprey, little brown bat, northern pine snake, and western pygmy rattlesnake), three federally listed species (piping plover, longsolid, and fluted kidneyshell), and two species proposed for federal listing (alligator snapping turtle and tricolored bat) within 3 miles of the project area. Additionally, the federally endangered gray bat, proposed endangered eastern hellbender, and federally protected bald eagle are known from Humphreys County, Tennessee. Four federally endangered mollusks (pink mucket, ring pink, orange-foot pimpleback, and rough pigtoe) and one state-listed fish (slenderheaded darter) are known from within the 12-digit Hydrologic Unit Code (HUC) 060400050402 boundary of the project area. The USFWS also has determined that a candidate for federal listing (monarch butterfly) and the federally protected whooping crane have the potential to occur in Humphreys County, Tennessee, though no records are known to date (Table 3-14). There are no critical habitats for federally listed species in the project area (USFWS 2025a).

### **3.11.1.1 Terrestrial Species**

#### **3.11.1.1.1 Amphibians**

Eastern hellbenders favor clear, rocky creeks and rivers with water temperatures that are ideally less than or equal to 20°C, where there are large shelter rocks. Eggs are laid in nests in late summer or fall beneath these large, flat shelter rocks or submerged logs. This subspecies is federally proposed as endangered. Four records exist within Humphreys County, and the nearest is approximately 10.3 miles away. Suitable habitat for this species is not present in the project area.

**Table 3-14. Federally Listed Species located within Humphreys County, Tennessee and Other Species of Conservation Concern with Potential to Occur in the Project Area**

Common Name	Scientific Name	Status	
		Federal <sup>1</sup>	State <sup>1</sup> (Rank <sup>2</sup> )
<b>Amphibians</b>			
Eastern hellbender <sup>3</sup>	<i>Cryptobranchus alleganiensis alleganiensis</i>	PE	--
<b>Birds</b>			
Piping plover	<i>Charadrius melodus</i>	T	--
Little blue heron	<i>Egretta caerulea</i>	--	D(S2B, S3N)
Whooping crane <sup>4</sup>	<i>Grus americana</i>	EXPN	--(SX)
Bald eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	DL	--
Osprey	<i>Pandion haliaetus</i>	--	--(S3B)
<b>Fish</b>			
Slenderheaded darter <sup>5</sup>	<i>Percina phoxocephala</i>	--	D(S3)
<b>Insects</b>			
Monarch butterfly <sup>4</sup>	<i>Danaus plexippus</i>	PT	-(S4)
<b>Mammals</b>			
Gray bat <sup>3</sup>	<i>Myotis grisescens</i>	E	E(S2)
Little brown bat	<i>Myotis lucifugus</i>	UR	T(S3)
Tricolored bat	<i>Perimyotis subflavus</i>	PE	T(S2S3)
<b>Mollusks</b>			
Longsolid	<i>Fusconaia subrotunda</i>	T	--
Pink mucket <sup>5</sup>	<i>Lampsilis abrupta</i>	E	E(S2)
Ring pink <sup>5</sup>	<i>Obovaria retusa</i>	E, XN	E(S1)
Orange-foot pimpleback <sup>5</sup>	<i>Plethobasus cooperianus</i>	E, XN	E(S1)
Rough pigtoe <sup>5</sup>	<i>Pleurobema plenum</i>	E, XN	E(S1)
Fluted kidneyshell	<i>Ptychobranhus subtentus</i>	E	--
<b>Reptiles</b>			
Alligator snapping turtle	<i>Macrochelys temminckii</i>	PT	T(S2S3)
Northern pine snake	<i>Pituophis melanoleucus melanoleucus</i>	--	T(S3)
Western pygmy rattlesnake	<i>Sistrurus miliarius streckeri</i>	--	T(S2S3)

Source: Tennessee Valley Authority (TVA) Regional Natural Heritage Database extracted 5/30/2025; USFWS Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>), accessed 10/17/2025.

<sup>1</sup> Status Codes: D = Deemed in need of management; DL = Delisted; E = Endangered; EXPN = Experimental Population; PE = Proposed Endangered; PT = Proposed Threatened; T = Threatened; UR = Under Review.

<sup>2</sup> State Ranks: S#B = Breeding rank; S#N = Non-breeding rank; SX = Presumed Extirpated; S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure.

<sup>3</sup> Federally listed or protected species known from Humphreys County, Tennessee but not from within 3 miles of the project area.

<sup>4</sup> Federally listed species whose range includes Humphreys County, Tennessee, though no records are known from this county.

<sup>5</sup> Federally listed or protected species known from within the 12-digit Hydrologic Unit Code (HUC) 060400050402 boundary of the project area.

### 3.11.1.1.2 Birds

Piping plovers are federally listed as threatened. They forage in exposed sand flats, mudflats, sandy beaches, stream shorelines, and ephemeral ponds (USFWS 2003). The populations of piping plovers in the Tennessee Valley Region are federally threatened and are rare fall and spring migrants (Robinson 1990; Henry 2012). The closest record of piping plover occurs approximately 0.4 miles from the project area. Suitable foraging habitat for piping plover may occur at the water's edge of the ponds and lakeshores of the Ash Pond 2 peninsula. These areas may be used temporarily as stopover locations by small numbers of this species during migration. Birds foraging around coal ash ponds may be exposed to elevated levels of elements including arsenic, cadmium, and selenium (Bryan et al. 2012).

Little blue herons are a rare nesting species in Tennessee, though migrants can sometimes be found throughout the state during summer months. They are state listed as in need of management (critically imperiled). They can be found in colonies with other herons in western Tennessee. Little blue herons are slow, methodical feeders in freshwater ponds, lakes, marshes, and coastal wetlands (National Geographic 2002). They feed on small fish, amphibians, and aquatic invertebrates. The closest record of a little blue heron is approximately 2 miles from the project area. Suitable foraging and nesting habitats exist in trees along shorelines around the peninsula.

Whooping cranes are large birds that once occurred throughout North America but have declined to three populations that breed in Canada and winter in coastal Texas. In the eastern United States, a small captive-raised population breeds in Wisconsin and overwinters in Florida. Migration habitat includes marshes, shallow lakes, lagoons, and grain fields. Suitable migration habitat may exist in ash ponds. The whooping crane is federally listed as endangered in the Southwest (USFWS Region 2). Outside of this region, the whooping crane is categorized as a non-essential experimental population. For the purposes of consultation, non-essential experimental populations are treated as threatened species on National Wildlife Refuge and National Park land (require consultation under Section 7[a][2] of the ESA) and as proposed species on private land. Proposed species have no Section 7(a)(2) requirements, but federal agencies must not jeopardize their existence (Section 7[a][4]). Whooping cranes have not been recorded in Humphreys County, but the USFWS has determined that this species may occur in the project area.

Bald eagles are protected under the Bald and Golden Eagle Protection Act (16 USC 668-668d). This species is associated with large mature trees capable of supporting their massive nests. These are usually found near larger waterways where the eagles forage (Turcotte and Watts 1999). The nearest extant bald eagle nesting record is approximately 3.4 miles from the project area. Foraging bald eagles were present, but no nests were observed within 660 feet of the project area during a field review performed on June 13, 2024. Bald eagle foraging habitat exists in the Kentucky Reservoir, adjacent to the project area.

Ospreys are protected by the Migratory Bird Treaty Act (MBTA). Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs federal agencies to take

certain actions to conserve migratory birds. The MBTA prohibits the “take” of migratory birds. Ospreys occupy riparian habitats alongside bodies of water such as rivers, lakes and reservoirs. They build nests of sticks on a variety of man-made structures (e.g., transmission line structures and lighting towers) near water (Bierregaard et al. 2020). Twenty osprey nests have been recorded within 3 miles of the project area. Three active nests were documented within 660 feet of the proposed actions during field surveys on June 13, 2024, and one inactive nest was observed on a nesting platform within the project area.

#### 3.11.1.1.3 Insects

Monarch butterflies are proposed for listing as federally threatened by the USFWS (USFWS 2025a). Monarch butterflies are a highly migratory species, with eastern U.S. populations overwintering in Mexico. Summer breeding habitat in the U.S. requires milkweed plant species, on which adults exclusively lay eggs for larvae to develop and feed on. Adults drink nectar from other blooming wildflowers when milkweeds are not in bloom. This species has not been tracked historically by Natural Heritage programs, but the USFWS has determined that this species could occur within the project area. No monarchs or suitable habitat were identified during TVA field surveys on June 13, 2024.

#### 3.11.1.1.4 Mammals

The gray bat was federally listed as endangered in 1976, and it is listed as endangered by the state of Tennessee. Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (Brady et al. 1982; Tuttle 1976a). Bats disperse over bodies of water at dusk where they forage for insects emerging from the surface of the water (Tuttle 1976b). The closest known record of a gray bat is a capture approximately 7.2 miles from the project area. No known cave records exist within 3 miles of the project area, and none are present in the project area. Drinking water and foraging habitat for gray bat exists over wetlands and open water in the project area and the Kentucky Reservoir adjacent to the project area. Marginal foraging habitat exists over flooded areas of Ash Pond 2.

Little brown bats are under review federally and are state threatened (TDEC 2025). This species utilizes a wide range of habitats and often uses human-made structures, caves, and hollow trees for resting and maternity sites. Foraging occurs over water, along the margins of lakes and streams, or in woodlands near water. Little brown bats hibernate in caves and mines. Maternity colonies are commonly found in warm sites in buildings and other structures and infrequently in hollow trees. Microclimate conditions suitable for raising young are relatively narrow, and availability of suitable maternity sites may limit the species' abundance and distribution (Campbell 2015). The closest record of a little brown bat is approximately 2.5 miles from the project area. Foraging habitat for little brown bats exists in wooded areas and over flooded areas of Ash Pond 2. These bats may also forage over the Kentucky Reservoir. Observations from the field review on June 13, 2024, indicate that some trees on the margins of the peninsula possess characteristics that make them suitable roosting habitat for little brown bats.

The tricolored bat is currently state listed as threatened in the state of Tennessee and proposed for listing as federally endangered (USFWS 2025a; TDEC 2025). Tricolored bats hibernate in

caves and mines, tree cavities, or man-made structures such as culverts and abandoned wells. During summer, tricolored bats roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. Tricolored bats have also been observed roosting among pine needles, eastern red cedar, and within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and culverts, but rarely within caves during summer months (Veilleux et al. 2003). This species emerges early in the evening to forage at treetop level or above but may also forage closer to the ground later in the evening. They are known to forage most commonly over open water and wetlands (Thames 2020). Although the USFWS has determined that the species could occur within the project area, there are no known records of tricolored bat within Humphreys County, Tennessee.

#### 3.11.1.1.5 Reptiles

The northern pine snake is listed as threatened in the state of Tennessee (TDEC 2025). Northern pine snakes are found in flat, sandy, pine barrens, sandhills, and dry mountain ridges, most often in or near pine woods. They can also use scrub habitat and agricultural fields. Northern pine snakes are considered secretive because of the amount of time they spend underground in burrows (Powell et al. 2016). The closest record of a pine snake is approximately 2.8 miles from the project area. No suitable habitat for northern pine snake exists within the project area.

The western pygmy rattlesnake is state listed as threatened in Tennessee (TDEC 2025). This species occurs in a variety of habitats but is generally found where water is nearby, such as in river floodplains, swamps, marshes, and wet prairies. The species is less common in rocky upland habitats and pine forests. Their diet consists of amphibians, reptiles, and small mammals (Powell et al. 2016). The closest record is approximately 2.8 miles from the project area. Unlike many other rattlesnakes, pygmy rattlesnakes do not go into hibernation during the winter. Instead, they only cover themselves in debris or take refuge in burrows when the weather is cooler (Animal Diversity Web 2025). Suitable habitat for western pygmy rattlesnake exists along shorelines around the peninsula and within burrows that may be found on the project area.

The alligator snapping turtle is proposed for listing as federally threatened and is a state threatened species in Tennessee (TVA 2025f). Alligator snapping turtles are almost entirely aquatic. Only nesting females are known to leave the water to nest in sandy soils. Alligator snapping turtles use large, deep bodies of water such as lakes, rivers, and deep sloughs. They are often found among submerged logs and root snags in areas with muddy substrate (Behler and King 1979; Buhlman et al. 2008). The closest record of an alligator snapping turtle is approximately 1.5 miles away. Suitable habitat for alligator snapping turtle occurs in the wetlands, ponds, and non-riprapped areas around the peninsula.

#### 3.11.1.2 **Aquatic Species**

A review of the TVA Regional Heritage database in May of 2025 resulted in records for five federally and state-listed aquatic species that could occur within the project area that include: pink mucket (federally and state endangered), ring pink (federally and state endangered, experimental population), orange-foot pimpleback (federally and state endangered,

experimental population), rough pigtoe (federally and state endangered, experimental population), and slenderhead darter (in need of management by the state of Tennessee) (TVA 2025f).

A review of the USFWS IPaC in October of 2025 resulted in additional species that could occur within the proposed project area, including longsolid (federally threatened) and fluted kidneyshell (federally endangered) (USFWS 2025a).

#### 3.11.1.2.1 Mollusks

The federally and state-listed endangered pink mucket is typically a big river species found in both the Tennessee and Cumberland River systems (TDEC 2025). Pick mucket is associated with fast-flowing waters, although it has been able to survive and reproduce in impoundments with river-lake conditions, but never in standing pools of water. This species is found in waters with strong currents, rocky or boulder substrates, with depths to about 1 meter, but also is found in deeper waters with slower currents and sand and gravel substrates (NatureServe 2025a). There is a record from the TVA Natural Heritage database for pink mucket within the HUC boundary of the project area (TVA 2025f). However, potential habitat for this species only occurs within the Kentucky Reservoir adjacent to the project area.

The federally listed endangered (experimental population) and state listed as endangered ring pink and rough pigtoe have both been extirpated from the HUC boundary of the project area (TVA 2025f). Therefore, it is assumed that these species would not be present within the Kentucky Reservoir adjacent to the project area.

The federally listed endangered (experimental population) and state listed as endangered orange-foot pimpleback prefers large rivers with sand-gravel-cobble substrates in riffles and shoals in deep flowing water. It can be found in the Cumberland and Tennessee River systems (TDEC 2025). There is a historic record from the TVA Natural Heritage database for orange-foot pimpleback within the HUC boundary of the project area (TVA 2025f). However, there are no recent records of this species. Therefore, it is assumed that this species would not be present in the Kentucky Reservoir adjacent to the project area.

The federally listed threatened longsolid prefers small rivers but also may be found in large rivers in coarse gravel or cobble (TDEC 2025). This species has potential to occur within the Kentucky Reservoir adjacent to the project area. However, the TVA Natural Heritage database did not indicate any records of longsolid within the HUC boundary of the project area (TVA 2025f). Therefore, this species is not expected to occur within the project area.

The federally listed fluted kidneyshell is restricted to the Cumberland and Tennessee River drainages. The species occurs in medium-sized creeks to large rivers, inhabiting sand and gravel substrates in relatively shallow riffles and shoals with moderate to swift current (USFWS 2022). This species has potential to occur within the Kentucky Reservoir adjacent to the project area. However, the TVA Natural Heritage database did not indicate any records of fluted kidneyshell

within the HUC boundary of the project area (TVA 2025f). Therefore, this species is not expected to occur within the project area.

#### **3.11.1.2.2 Fish**

Slenderhead darters are deemed in need of management by the state of Tennessee (TDEC 2025). This species inhabits small to large rivers with moderate gradient in shoal areas with moderate-swift currents within portions of the Tennessee and Cumberland River watersheds (TDEC 2025). There is a record from the TVA Natural Heritage database for slenderhead darter within the HUC boundary of the project area (TVA 2025f). However, potential habitat for this species only occurs within the Kentucky Reservoir adjacent to the project area.

#### **3.11.1.3 Plants**

The TVA Regional Natural Heritage Database indicated there are seven records of state-listed plant species known to occur within 5 miles of JOF (TVA 2025f). Of these species, three are listed as species of special concern and include river bulrush, Walter’s barnyard grass, and hairy umbrella-sedge. Three species are state listed as endangered and include Harper’s fimbristylis (federally under-review), lamance iris, and Fraser’s yellow loosestrife. The smaller mud-plantain is a state threatened species.

Preferred habitat for each plant species and the potential for suitable habitat within the project area are summarized in Table 3-15. Herbaceous vegetated communities within the project area are previously disturbed and generally of low quality. The project area has potentially suitable habitat for all listed plant species except river bullrush.

### **3.11.2 Environmental Consequences**

#### **3.11.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no work would be conducted that would result in loss or disturbance of habitat beyond existing conditions. Therefore, no project-related environmental impacts with respect to threatened or endangered species or species of conservation concern, or any suitable habitat, would occur under this alternative.

#### **3.11.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

The project area is located within a highly fragmented and disturbed industrial landscape that offers minimal habitat for threatened and endangered species. Up to 7.9 acres of fragmented and disturbed forested habitat, including approximately 0.6 acres of forested wetland, would potentially be cleared under this alternative.

#### **Amphibians**

There is no suitable habitat for the eastern hellbender within the project area. Therefore, no impacts to this species are anticipated.

**Table 3-15. Plant Species of Conservation Concern with Potential to Occur in the Project Area**

Common Name	Scientific Name	Federal Status <sup>1</sup>	State Status <sup>1</sup> (Rank <sup>2</sup> )	Preferred Habitat <sup>3</sup>
River bulrush	<i>Bolboschoenus fluviatilis</i>	--	S (S1)	Marshes.
Walter's barnyard grass	<i>Echinochloa walteri</i>	--	S (S1)	Bottomlands and marshes.
Harper's fimbristylis	<i>Fimbristylis perpusilla</i>	UR	E (S1)	Ponds and rivers that are exposed, but not desiccated, during seasonal low-water periods.
Hairy umbrella-sedge	<i>Fuirena squarrosa</i>	--	S (S1)	Pine savannas, seepages stream head pocosins, ditches, bogs, rocky river bars, calcareous fens, and other wet habitats.
Smaller mud-plantain	<i>Heteranthera limosa</i>	--	T (S1S2)	Mud flats.
Lamance iris	<i>Iris brevicaulis</i>	--	E (S1)	Bottomlands.
Fraser's yellow loosestrife	<i>Lysimachia fraseri</i>	--	E (S2)	Disturbed areas periodically flooded or burned.

Source: Tennessee Valley Authority (TVA) Regional Natural Heritage Database extracted 5/30/2025; USFWS Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>), accessed 10/17/2025.

<sup>1</sup> Status Codes: C = Candidate for listing; D= Deemed in need of management; DL = Delisted; E = Endangered; EXPN = Experimental Population; PE = Proposed Endangered; PT = Proposed Threatened; T = Threatened; UR = Under Review.

<sup>2</sup>State Ranks: S#B = Breeding rank; S#N = Non-breeding rank; SX = Presumed Extirpated; S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure.

<sup>3</sup>Sources: TDEC 2025, NatureServe 2025b, c, and North Carolina Botanical Garden 2025

**Birds**

Bald eagles are not known to nest in the project area and no nests were present during the June 2024 field survey. While foraging does occur in the project area, BMPs would be implemented to minimize impacts on water quality. Given the absence of known nesting in the project area and the abundance of both nesting and foraging habitats nearby, the impoundment closure activities are not expected to impact the bald eagle. The proposed actions comply with the Bald and Golden Eagle Protection Act and the National Bald Eagle Management Guidelines (USFWS 2007). Ospreys, which forage and nest within the project area and on adjacent infrastructure, are likely accustomed to human activities. However, if nests are active during construction, coordination with USDA Wildlife Services would be necessary.

No little blue heron colonies have been observed in the project area, and piping plovers and whooping cranes breed elsewhere. The closure of Ash Pond 2 would remove a foraging site for these species but prey from these areas may contain high levels of contaminants (Bryan et al. 2012) and higher quality habitat is available nearby. Closure of contaminated ponds may benefit these species. BMPs would be implemented during project actions to minimize impacts on water quality.

### Insects

Monarch butterflies have the potential to occur in open areas of the project area; however, preferred habitat for this species (milkweed) was not observed during the June 2024 field survey. The closure of Ash Pond 2 would not jeopardize populations of this species. The proposed Cap Option 1 cover system may increase the amount of available habitat for monarch butterflies relative to current conditions, as monarchs may utilize newly created early-successional habitat. Cap Option 2 would provide only minimal habitat in areas along dikes and access roads. Therefore, impacts on monarchs due to surface impoundment activities would be minor.

### Mammals

Little brown bats and tricolored bats roost in trees during summer months and maternity colonies may be directly impacted by removal of up to 7.9 acres of deciduous forest and wetland fragments if actions occur during May, June, or July. These species hibernate in caves during winter months. Gray bats roost in caves year-round. No caves are present in the project area, and none are known within 3 miles.

Marginal foraging habitat for gray bats, little brown bats, and tricolored bats may be present adjacent to Ash Pond 2 and would be removed under this alternative. However, an abundance of higher quality foraging habitats is available in surrounding areas, and capping of Ash Pond 2 could create potential foraging habitat for bat species. Activities associated with this project were addressed in TVA's programmatic consultation with the USFWS on routine actions and federally listed bats in accordance with ESA Section 7(a)(2), originally completed in April 2018 and updated in May 2023 and November 2024 (TVA 2024d). For those activities with potential to affect bats, TVA committed to implementing specific conservation measures when impacts to federally listed bat species are expected. Relevant conservation measures to this project are identified in the TVA Bat Strategy Project Screening Form and would be reviewed and implemented as part of the approved project. With the use of identified conservation measures and BMPs, and the abundance of available habitat in the vicinity of the project, proposed actions would not significantly impact gray bats or little brown bats or jeopardize the continued existence of the tricolored bat. Therefore, impacts are anticipated to be minor.

### Reptiles

There is no suitable habitat for the northern pine snake within the project area. Therefore, there are no anticipated impacts to this species.

Western pygmy rattlesnakes may be present in river floodplains and forested wetlands on the margins of the project area. Individuals or nests may be directly impacted during closure activities. However, it is anticipated that this species may disperse to other suitable habitats within the vicinity of the project area due to noise and vibration from construction equipment. Following surface impoundment activities, it is anticipated that this species would return to suitable habitat within the project area. Therefore, impacts to western pygmy rattlesnakes are considered minor and temporary.

Alligator snapping turtles come ashore for nesting and rarely for basking. Nests within the project area could be impacted during closure activities; however, impacts to single nests would not jeopardize alligator snapping turtle populations. Therefore, impacts to alligator snapping turtles are considered minor and temporary.

### Plants

Impacts to sensitive plant species may occur due to earthmoving activities. However, the project area is highly fragmented and disturbed, offering marginal quality habitat for non-invasive sensitive plant species. There is a small potential for these sensitive species to be found in the project area, particularly Fraser's yellow loosestrife, which prefers disturbed areas. If present, its habitat would be removed during surface impoundment activities. However, this potential loss would be very localized and likely involve a small number of individuals (if any). Additionally, after capping mechanisms are complete, there may be potential for plant species to recolonize areas of Ash Pond 2. Therefore, impacts to sensitive plant species are anticipated to be minor.

There may also be a risk that invasive species may be introduced or could spread during earthmoving activities. However, the use of BMPs such as preventing the introduction of such species, detecting and responding rapidly to control populations, monitoring invasive species populations accurately and reliably, and providing restoration with use of non-invasive species, minimizes potential impacts to sensitive plant species (TVA 2022b).

### Aquatic Species

Aquatic habitats within the project area are unlikely to support threatened and endangered aquatic species. Therefore, no direct impacts to sensitive aquatic species are anticipated. Potential indirect impacts to aquatic habitat adjacent to the project area (Kentucky Reservoir) could occur due to the risk of sedimentation and erosion from earth moving activities. However, TVA has committed to BMPs including a site-specific SWPPP and erosion controls outlined in TDEC 2026 and TVA 2022b. Impacts to aquatic species are considered to be negligible due to the lack of aquatic habitat within the project area and the effective use of BMPs.

### Transport of Borrow Material

Potential impacts to threatened and endangered species may occur during the transport of borrow material due to increased noise levels and possible collision with equipment used to transport borrow. However, risks would be minimized by dispersal of species from noise and implementation of standard BMPs such as ensuring proper maintenance of vehicles. Therefore, impacts to sensitive species associated with the transportation of borrow material are considered minor.

### **3.11.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Impacts to threatened and endangered species within the project area would be similar to those described in Alternative B. However, the closure period is of longer duration (up to 13 years), which would increase the amount of time that sensitive species could be affected. Therefore, impacts to sensitive species due to surface impoundment closure-by-removal are anticipated to be minor but potentially greater than those under Alternative B.

#### Transport of CCR

Impacts to threatened and endangered species due to the transportation of CCR would be similar to those described for transport of borrow under Alternative B and would be minor.

#### 3.11.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Impacts from transportation of borrow material are expected to be minor and similar to those described under Alternative B. Restoration and grading activities would result in similar impacts to sensitive species as described under Alternative B. However, this alternative would allow for revegetation with a diverse collection of non-invasive species including a mixture of grasses and flowering plants that could provide habitat for sensitive species including monarch butterflies. Therefore, adverse impacts under Sub-Alternative C1 would be temporary and minor, but there would be beneficial impacts in the long term.

#### 3.11.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Dike breach and stabilization activities would result in similar impacts to sensitive species as described under Alternative B in areas that remain above normal lake level. Shoreline areas may be suitable for migrating shorebirds during lower lake levels. Other habitats may become available for species that use wetland or upland habitats depending on habitat restoration vegetation management plans. Post-closure dike breach would create additional aquatic habitat that may be suitable for aquatic species and for species that rely on aquatic areas for foraging (e.g., bald eagle, osprey, little blue herons, piping plovers, and whooping cranes). Therefore, adverse impacts under Sub-Alternative C2 would be temporary and minor, but there would be beneficial impacts in the long term.

### **3.11.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Impacts to threatened and endangered species due to surface impoundment closure-by-removal would be similar to those described in Alternative C.

#### Transport of CCR

Impacts from transportation of CCR material to an offsite beneficiation processing facility would be similar to those described in Alternative C. However, if an onsite facility is chosen, these impacts would mostly be restricted to the Johnsonville Reservation during the closure period

(up to 13 years) and would be similar to impacts described in Alternative B. Unusable CCR material and soil to be transported to an offsite landfill would have similar impacts on sensitive species as those described in Alternative B; however, the volume of this material would be less than that of Alternative B. Therefore, the potential for impacts to sensitive species from transport of CCR could be less than Alternative C, but greater than Alternative B.

**3.11.2.4.1 Sub-Alternatives D1 and D2**

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

**3.11.3 Summary of Impacts to Threatened and Endangered Species**

Activities associated with this project were addressed in TVA’s programmatic consultation with the USFWS on routine actions and federally listed bats in accordance with ESA Section 7(a)(2), originally completed in April 2018 and updated in May 2023 and November 2024 (TVA 2024d). For those activities with potential to affect bats, TVA committed to implementing specific conservation measures when impacts to federally listed bat species are expected. Relevant conservation measures to this project are identified in the TVA Bat Strategy Project Screening Form and would be reviewed and implemented as part of the approved project. With the use of identified conservation measures and BMPs, and the abundance of available habitat in the vicinity of the project, proposed actions would not significantly impact gray bats or little brown bats or jeopardize the continued existence of the tricolored bat.

As summarized in Table 3-16, TVA has determined that impacts to threatened and endangered species related to the primary action and associated component actions for the proposed closure of Ash Pond 2 at JOF would be minor and temporary.

**Table 3-16. Summary of Impacts to Threatened and Endangered Species**

Alternative	Action	Impact	Severity
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Loss of potential summer roosting and foraging habitat for tricolored and little brown bat and loss of potential summer foraging habitat for gray bat. Potential onsite impacts to sensitive species from dispersal due to noise, collision with construction equipment and vehicles, sedimentation of aquatic habitats adjacent to the project area, and risk of spread of invasive species.	For those activities with potential to affect bats, TVA committed to implementing specific conservation measures under TVA’s Bat Strategy Programmatic Section 7 ESA consultation. With the use of BMPs and minimal forest habitat within the project area, actions are not expected to significantly impact tricolored bat, gray bat, and little brown bat. Impacts to bat species are anticipated to be minor. Minor and temporary impacts to other sensitive species.

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Similar to but greater than Alternative B due to longer closure period.	For those activities with potential to affect bats, TVA committed to implementing specific conservation measures under TVA’s Bat Strategy Programmatic Section 7 ESA consultation. With the use of BMPs and minimal forest habitat within the project area, actions are not expected to significantly impact tricolored bat, gray bat, and little brown bat. Impacts to bat species are considered to be minor. Minor impacts to other sensitive species.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Impacts associated with dispersal of sensitive species due to noise, potential collision with vehicles, and risk of spread of invasive species during transportation of CCR materials along haul routes.	Minor and temporary
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Impacts associated with dispersal of sensitive species due to noise, potential collision with vehicles, and risk of spread of invasive species during transportation of CCR materials along haul routes.	Minor and temporary
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Impacts associated with dispersal of sensitive species due to noise, potential collision with vehicles, and risk of spread of invasive species during transportation of materials along haul routes.	Minor and temporary
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Impacts associated with dispersal of sensitive species due to noise, potential collision with vehicles, sedimentation of aquatic habitats adjacent to the project area, and risk of spread of invasive species.	Minor and temporary Potential long-term beneficial impacts due to restoration and opportunity for sensitive species habitat. Beneficial impacts to terrestrial species would be greater than those under Sub-Alternatives C2/D2.
Sub-Alternatives C2/D2	Dike breach	Same as Sub-Alternatives C1/D1.	Minor and temporary Potential long-term beneficial impacts due to restoration and opportunity for sensitive species habitat. Beneficial impacts to aquatic species would be greater than those under Sub-Alternatives C1/D1.

BMPs= Best Management Practices, CCR= Coal Combustion Residuals, ESA= Endangered Species Act, JOF= Johnsonville Fossil Plant, TVA=Tennessee Valley Authority

### **3.12 WETLANDS**

#### **3.12.1 Affected Environment**

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

As defined in 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. Types of wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands and wetland fringe areas also can 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 [33 CFR 328.39(b)].

CWA Section 401 mandates state water quality certification for projects requiring USACE approval. In Tennessee, TDEC certifies CWA Section 404 permits and impacts to intrastate wetland resources through a general or individual ARAP. This permit is required for any alteration to the physical, chemical, or biological properties of any waters of the state, including wetlands, pursuant to the Tennessee Water Quality Control Act (§69-3-108, 0400-40-07). TDEC's permit process ensures compliance with Tennessee's anti-degradation policy as well (§ 69-3-108, 0400-40-04).

The project area is located along the eastern bank of the Tennessee River (Kentucky Reservoir) and includes Ash Pond 2, which is located on a man-made peninsula that extends into the reservoir, and three TUAs on the former coal plant site. The project area is within the HUC-12 060400050101 (TVA 2024b) and within the Western Highland Rim subregion of the greater Interior Plateau ecoregion (Griffith et al. 1998). Wetlands in this region are typically associated with low-lying, poorly drained areas, floodplains and riparian zones of streams and rivers, groundwater seepage areas, and marginal areas associated with ponds and reservoirs. Within the 5-mile vicinity, the predominant wetland types include open water (11,402 acres), forested (3,019 acres), and emergent (1,010 acres) (Table 3-17) (NWI 2019).

The majority of the project area has been modified from natural conditions due to a history of industrial land use and soil disturbances. Ash Pond 2 is considered an artificial treatment system and is not a jurisdictional open water feature regulated under either Section 401 or 404 of the CWA.

Potentially jurisdictional wetlands and waters of the U.S. and state were identified within the peninsula portion of the project area during a May 2024 wetland delineation (TVA 2024b). Potentially jurisdictional wetlands were evaluated in accordance with the Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE 2012).

A single fringe of potentially jurisdictional palustrine forested (PFO) wetland was identified along the banks of the Kentucky Reservoir, within the south-southeast corner of the peninsula (See Figure 3-2 in Section 3.6). This 0.6-acre wetland exhibits surface water in the form of large puddles approximately 2-3 inches deep, with saturated soil extending to the surface and a water table four inches below the surface (TVA 2024b). The wetland was assessed as low quality.

The TUAs within the project area are on highly disturbed portions of the former coal plant site and were evaluated for wetland presence for previously prepared NEPA documents (TVA 2018, 2019, 2022a). A desktop review of the proposed project area did not document any wetlands within the TUAs. A TVA wetland biologist confirmed that no wetlands are present within these areas.

**Table 3-17. Area of Delineated Wetland Features within the Project Area and National Wetlands Inventory Wetlands in the Vicinity**

<b>Feature Type</b>	<b>Ash Pond 2 Area (Field Delineated)</b>	<b>NWI Wetlands within 5-mile Vicinity</b>
Emergent Wetlands	0.0	1,010
Forested Wetlands	0.6	3,019
Open Water	0.0	11,402
Scrub/Shrub	0.0	729
<b>Total</b>	<b>0.6</b>	<b>16,161</b>

NWI = National Wetlands Inventory; Source: NWI 2019; TVA 2024b;

### **3.12.2 Environmental Consequences**

#### **3.12.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no new work would be conducted that would potentially fill wetlands within the project area. Therefore, there would be no impacts to wetland resources under the No Action Alternative.

#### **3.12.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

As discussed above, the open water areas of Ash Pond 2 are not regulated under USACE jurisdiction for wetlands. In addition, there are no wetlands within the TUAs within the project area.

Alternative B would include tree clearing of up to 0.6 acres within the potentially jurisdictional forested wetland on the southeastern corner of the Ash Pond 2 peninsula, causing the potential conversion of a forested wetland to an emergent wetland. TVA would coordinate with the USACE and TDEC to determine jurisdictional status of any wetlands that cannot be avoided. Unavoidable impacts to jurisdictional wetlands would not occur unless authorized by the USACE through the CWA Section 404 permitting process and/or TDEC ARAP process. Required mitigation measures are not anticipated but would be incorporated into the final design of the project, if required. Conversion of this forested wetland represents approximately 0.01 percent

of available forested wetlands within the 5-mile vicinity (Table 3-17). Therefore, impacts to wetlands within the project area would be considered minor.

Potential impacts to wetlands that are adjacent to the project area could include sedimentation from stormwater runoff through the surface drainage features during the closure-in-place process. To minimize these potential impacts, BMPs would include those described in TVA 2022b and TDEC 2026, and those outlined in the site-specific SWPPP. The effective use of BMPs would minimize impacts to adjacent wetland resources and impacts would be restricted to the closure period (6 years). Therefore, impacts to wetlands adjacent to the project area would be minor and temporary.

#### Transport of Borrow

Because borrow would be obtained from a previously permitted borrow site or from the previously approved areas within the borrow site on TVA-owned property, TVA's action under this alternative is limited to the transport of borrow material. Transport of borrow by covered truck on the existing roadway network would not impact wetlands under this component action.

### **3.12.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Impacts from closure-by removal activities would be similar to those described in Alternative B and would include tree clearing of up to 0.6 acres within the potentially jurisdictional forested wetland on the southeastern corner of the Ash Pond 2 peninsula. TVA would coordinate with the USACE and TDEC to determine jurisdictional status of any wetlands that cannot be avoided. Unavoidable impacts to jurisdictional wetlands would not occur unless authorized by the USACE through the CWA Section 404 permitting process and/or TDEC ARAP process. Potentially required mitigation measures are not anticipated, but they would be incorporated into the final design of the project, if required.

Impacts would be minimized through implementation of BMPs, as described under Alternative B and impacts are expected to be minor. However, the closure period would be of moderate duration (13 years), which would increase the amount of time that wetland resources adjacent to the project area could be impacted in comparison to Alternative B. Due to an abundance of forested wetland resources in the vicinity of the project area, impacts to wetlands would be considered minor.

#### Transport of CCR

Under Alternative C, CCR excavated from Ash Pond 2 would be transported to an offsite landfill. A specific landfill has not been selected; however, the chosen facility would be permitted and in compliance with NPDES and water quality standards. Transport of CCR material to an offsite landfill would not involve direct disturbance to wetland habitat as existing interstate highways and arterial facilities would be used as haul routes. Because transport of CCR would be by

covered truck using existing paved roadways, no impacts to wetlands would occur with this component action.

#### 3.12.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Impacts to wetlands within and adjacent to the project area could be associated with fugitive dust deposition and erosion/sedimentation from site restoration grading activities. These potential impacts would be minimized with the effective use of BMPs, as described under Alternative B. Therefore, indirect impacts to wetlands would be considered minor and temporary.

#### 3.12.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Indirect impacts to wetland hydrology could occur due to potential change in erosion patterns under this sub-alternative. However, the dike would likely be breached in only one or two locations and not near the potentially jurisdictional forested wetland on the southeastern corner of the peninsula; thus, impacts are not expected. Unavoidable impacts to jurisdictional wetlands would not occur unless authorized by the USACE through the CWA Section 404 permitting process and/or TDEC ARAP process.

#### **3.12.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

##### Surface Impoundment Closure-by-Removal

Impacts to wetlands from closure-by-removal activities would be similar to those described in Alternative C.

##### Transport of CCR

Under Alternative D, CCR excavated from Ash Pond 2 would be transported to a beneficiation processing facility. CCR that is not suitable for beneficial reuse would be transported via covered truck to an existing offsite, permitted landfill for disposal. Because transport of CCR would be by covered truck using existing paved roadways, no impacts to wetlands would occur with this component action.

#### 3.12.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### **3.12.3 Summary of Impacts to Wetlands**

As summarized in Table 3-18, TVA determined that all impacts to wetlands related to the primary action and associated component actions for the proposed closure of Ash Pond 2 relate to temporary or minor effects from impoundment closure activities. Any unavoidable direct impacts to wetlands would be mitigated as required by both state and federal agencies in accordance with Section 404 of the CWA.

**Table 3-18. Summary of Impacts to Wetlands**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Minor impacts from the conversion of 0.6 acres of forested wetlands. Minor and temporary indirect impacts from closure activities.	Minor and permitted under CWA Section 404 and/or TDEC ARAP process, coupled with use of BMPs to minimize indirect onsite impacts.
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Minor impacts from the conversion of 0.6 acres of forested wetlands. Minor and temporary indirect impacts from earth closure activities.	Minor and permitted under CWA Section 404 and/or TDEC ARAP process, coupled with use of BMPs to minimize indirect onsite impacts.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	No impact.	No impact.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	No impact.	No impact.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Potential indirect impacts to wetland hydrology.	Minor and temporary.
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Potential indirect impacts to wetland hydrology	Minor and temporary
Sub-Alternatives C2/D2	Dike breach	No impact	No impact is anticipated due to compliance with applicable permits under CWA Section 404 and/or the TDEC ARAP process along with use of BMPs to minimize indirect onsite impacts.

ARAP = Aquatic Resources Alteration Permit, BMPs = Best Management Practices, CCR = Coal Combustion Residuals, CWA = Clean Water Act, JOF = Johnsonville Fossil Plant, TDEC = Tennessee Department of Environment and Conservation

### 3.13 SOLID AND HAZARDOUS WASTE

#### 3.13.1 Affected Environment

##### 3.13.1.1 Solid Waste

In Tennessee, requirements for management of solid wastes are focused on solid waste processing and disposal under Rule 0400-11-.01. Solid wastes are defined in the rule as garbage, trash, refuse, abandoned material, spent material, byproducts, scrap, ash, sludge and all discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial and agricultural operations, and from community activities

(TDEC 2021b). Solid wastes generated at the Johnsonville Reservation are managed in accordance with federal and state requirements, including the Tennessee Solid Waste Disposal Act.

The primary solid wastes generated at the reservation were byproducts produced from burning coal, collectively referred to as CCR. CCR was sluiced to Ash Pond 2 from 1970 to 2017, when TVA ceased coal-fired power generation at JOF. Tennessee Code Annotated (T.C.A.) § 68-211-103 defines CCR as solid waste and states that CCR disposal units such as landfills and surface impoundments are regulated under Tennessee’s Solid Waste Disposal Act. This provides the legal basis for the TDEC Order referenced previously and associated CARA process. Tennessee may seek authorization from the EPA for an approved CCR permit program in accordance with the Water Infrastructure Improvements for the Nation Act of 2016 (Public Law 114-322). Ash Pond 2 is also subject to the EPA’s CCR Rule, which mandates management and closure standards and requirements for CCR facilities.

Coal contains trace amounts of naturally occurring radioactive material (NORM) that is retained in the combustion process that produces CCR. NORM has been defined as “materials which may contain any of the primordial radionuclides or radioactive elements as they occur in nature, such as radium, uranium, thorium, potassium, and their radioactive decay products, such as radium and radon, that are undistributed as a result of human activities” (EPA 2025f). The radionuclide constituents radium-226 and radium-228 are routinely monitored via soil and water sampling at JOF, in accordance with the CCR Rule. The CARA Plan includes a risk assessment that evaluates these radionuclides, which remain below target thresholds and are considered acceptable (TVA 2026).

Currently, there are approximately 4,500,000 yd<sup>3</sup> of CCR stored in Ash Pond 2. In Tennessee, CCR is regulated as special waste that requires special waste approval for it to be disposed of at a landfill specifically permitted to receive that type of waste (Class I or II disposal facility).

### **3.13.1.2 Hazardous Waste**

Hazardous materials are regulated under a variety of federal laws including OSHA standards, Emergency Planning and Community Right-to-Know Act (EPCRA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and the Toxic Substances Control Act.

Regulations implementing the requirements of EPCRA are codified in 40 CFR 355, 40 CFR 370 and 40 CFR 372. Under 40 CFR 355, facilities that have any extremely hazardous substances present in quantities above the threshold planning quantity are required to provide reporting information to the State Emergency Response Commission, Local Emergency Planning Committees, and local fire departments. Inventory reporting to emergency response parties is required for facilities with greater than the threshold planning quantity of any extremely hazardous substances or greater than 10,000 pounds of any OSHA regulated hazardous material. EPCRA also requires inventory reporting for all releases and discharges of certain toxic chemicals. TVA applies these requirements as a matter of policy.

RCRA regulations define what constitutes a hazardous waste and establishes a “cradle to grave” system for management and disposal of hazardous wastes. Subtitle C of RCRA includes separate, less stringent regulations for certain potentially hazardous wastes. Used oil, for example, is regulated as hazardous waste if it is disposed of, but it is separately regulated if it is recycled. Specific requirements are provided under RCRA for generators, transporters, processors and burners of used oil that are recycled (EPA 2025g). Universal wastes are a subset of hazardous wastes that are widely generated. Universal wastes include batteries, lamps and high intensity lights and mercury thermostats. Universal wastes may be managed in accordance with the RCRA requirements for hazardous wastes or by special, less stringent provisions (EPA 2025h).

Although JOF is closed, the adjacent JCT within the Johnsonville Reservation produces small quantities of non-CCR solid and hazardous wastes during normal operation and complies with measures identified in TVA’s Spill Prevention and Response Procedures to prevent and contain accidental spills of any material and to ensure that inadvertent spills of fuels, lubricants, coolants, or solvents are contained, cleaned up, and disposed of in an appropriate manner.

### **3.13.2 Environmental Consequences**

#### **3.13.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no closure activities would occur, and there would be no generation of non-CCR solid or hazardous wastes related to proposed closure activities, offsite transport of CCR materials, or onsite transport of borrow materials. Therefore, no impacts to solid and hazardous waste generation are anticipated.

#### **3.13.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

As identified in the CCR PEIS (TVA 2016), most waste streams resulting from closure activities would be non-CCR solid nonhazardous waste. However, some non-CCR nonhazardous liquid waste would also be generated. During construction, the primary solid nonhazardous wastes generated would be refuse from the contractor personnel, a small volume of construction debris (removed piping, rubble, packing materials, etc.) and soils, as briefly summarized below:

- Construction debris consisting of removed piping, miscellaneous construction rubble, demolished structures and other wastes from removed components, packing material from cover materials, and empty nonhazardous chemical containers during closure activities
- Land clearing wastes would result from grading operations
- Soils would result from land clearing, grading, and excavation
- Waste oil filters, nonhazardous solvents, and sanitary waste from vehicle maintenance, cleaning, and portable toilets.

In addition to these larger nonhazardous waste streams, limited quantities of nonhazardous solvents, spill absorbent, oil and solvent contaminated rags, and empty containers may be generated.

Hazardous wastes, such as fuels, lubricating oils, solvents, compressed gases, and other hazardous materials may also be produced during construction. Oily wastes generated during servicing of heavy equipment would generally not be stored onsite but would be managed by offsite vendors who service onsite equipment using appropriate self-contained used oil reservoirs. Appropriate spill prevention, containment, and disposal requirements for hazardous wastes would be implemented to protect construction and plant workers, the public, and the environment.

In Tennessee, solid waste disposal facilities are categorized by the types of waste they are permitted to take and include Class I to Class IV. Class I disposal facilities can take nonhazardous municipal solid wastes such as household wastes, approved special wastes, and commercial wastes. Most of the solid and nonhazardous wastes produced from this Alternative fall within this category. Class II facilities take nonhazardous industrial wastes, commercial wastes, and fill. Class III facilities take Class IV wastes plus landscaping, land clearing, and farming wastes. Class IV facilities take construction/demolition wastes, shredded tires, and waste with similar characteristics. Hydrocarbons such as oils, lubricants, hydraulic oils, solvents, and fuels can be disposed of at permitted treatment, storage, and disposal facilities (TSDF).

TVA would manage all CCR and non-CCR solid and hazardous wastes generated from closure and construction activities in accordance with standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state, and local requirements and disposal facility waste acceptance criteria. OSHA requirements for workers engaged in these activities would also be applied. As such impacts on solid waste and hazardous waste generation would be minor.

#### Transport of Borrow

Non-CCR hazardous wastes would be generated by maintenance of vehicles used to transport borrow to the project site. These wastes include used lubricating oils, used hydraulic fluids, coolants, oily sorbents and rags, solvents, waste fuel, and batteries (EPA 1999). Solid wastes generated from these activities include packaging, empty containers, bulbs, tires, scraps generated from body work, and other debris. Wastes generated during maintenance of heavy equipment would generally not be stored onsite but would be managed by offsite vendors. All waste generated from the transport of borrow material would be handled in accordance with standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state and local requirements. Impacts from transport of borrow are therefore minor.

### **3.13.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Similar to Alternative B, closure-by-removal of Ash Pond 2 would result in the generation of some construction-related non-CCR solid and hazardous wastes such as sanitary waste from construction workers and wastes generated from construction-related equipment use onsite. With implementation of the standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state, and local requirements, only minor adverse effects related to solid or hazardous wastes are anticipated from closure activities.

#### Transport of CCR

Given that the excavated CCR material and soil would be transported to a permitted landfill that has the capacity to receive it, it is expected that disposition of these materials from JOF would have a negligible effect on the long-term ability to meet disposal needs of the region. TVA would ensure that landfill-specific requirements for receipt of waste are met. Transport and disposal of CCR would be managed under the requirements set forth under RCRA Subtitle D and in accordance with pertinent state and local requirements. If, upon excavation and testing, it is determined that the soils under the CCR in the impoundments contain constituents that could be classified as hazardous, TVA would manage this material in accordance with applicable federal, state and local requirements. As such, impacts to solid waste and hazardous waste generation would be minor.

The amount of non-CCR solid and hazardous wastes generated from maintenance of vehicles needed to transport CCR would increase under Alternative C, as compared to Alternative B. Hazardous wastes generated by vehicle maintenance (EPA 1999) would be like that described under Alternative B; however, under this alternative, the transport of CCR would occur over a much longer period of time. All waste generated from the transport of CCR would be handled in accordance with standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state and local requirements. Overall, the impacts related to solid or hazardous wastes resulting from Alternative C would be minor.

#### 3.13.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Upon removal of the CCR, Ash Pond 2 would be graded to drain stormwater and would be vegetated with non-invasive vegetation. The waste streams resulting from site restoration and borrow transport under this sub-alternative would be like those described under Alternative B. TVA would manage all solid waste and hazardous wastes generated from restoration activities in accordance with standard procedures for spill prevention and cleanup and waste management protocols in compliance with pertinent federal, state and local requirements, and impacts would be minor.

#### 3.13.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Upon removal of the CCR, the dikes surrounding Ash Pond 2 would be breached in one or more places and the interior of the unit would be inundated by Kentucky Reservoir. Dike breach would require construction equipment and personnel with similar waste streams to Alternative B; therefore, impacts of Sub-Alternative C2 related to solid or hazardous wastes would be like those described under Alternative B. However, this sub-alternative would have less transport-related impacts than Sub-Alternative C1 because no borrow is required and only a small amount of riprap and boulder materials would be transported to the project area.

#### **3.13.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

##### Surface Impoundment Closure-by-Removal

Under Alternative D, the non-CCR waste streams generated from construction and impoundment closure activities would be minor and like those described under Alternative C. However, under this alternative, most of the CCR at JOF would be beneficially re-used for concrete and other building materials and any unusable CCR would be transported to an existing, permitted landfill. This approach could transform up to 4.5 million yd<sup>3</sup> of usable CCR wastes into re-usable, beneficiated products. Therefore, Alternative D would provide a long-term moderate benefit by reducing solid waste, as the majority of CCR at JOF may be beneficially re-used.

##### Transport of CCR

Like Alternative C, it is expected that transport of CCR from JOF associated with Alternative D would have a negligible effect on the long-term ability to meet disposal needs of the region. CCR transport and disposal under this alternative would meet the requirements of the proposed landfill as well as federal, state, and local standards. Any hazardous materials would be managed in accordance with applicable federal, state, and local requirements. As such, impacts to solid waste and hazardous waste generation would be minor.

The amount of non-CCR solid and hazardous wastes generated from maintenance of vehicles needed to transport CCR would be like that of Alternative C and would be handled in accordance with standard procedures for spill prevention and cleanup and waste management protocols in accordance with pertinent federal, state and local requirements. Overall, the impacts related to solid or hazardous wastes resulting from Alternative D would be minor.

#### 3.13.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

#### **3.13.3 Summary of Impacts to Solid and Hazardous Waste**

Wastes generated by project activities would be managed in accordance with standard procedures for spill prevention and cleanup and waste management protocols in compliance

with pertinent federal, state and local requirements. Therefore, as summarized in Table 3-19, solid and hazardous waste impacts related to the closure of Ash Pond 2 at JOF would be minor.

**Table 3-19. Summary of Impacts Associated with Solid and Hazardous Waste**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Small volumes of non-CCR solid and hazardous wastes generated from site preparation and construction activities.	Minor and temporary
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Small volumes of non-CCR solid and hazardous wastes generated from site preparation and construction activities.	Minor and temporary
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposition to an offsite landfill	Non-CCR solid and hazardous wastes generated by maintenance of equipment used to transport CCR.	Minor and temporary
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Non-CCR solid and hazardous wastes generated by maintenance of equipment used to transport CCR.	Minor and temporary
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Non-CCR solid and hazardous waste generated by maintenance of equipment used to transport borrow to JOF.	Minor and temporary
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Small volumes of non-CCR solid and hazardous wastes generated from site preparation and construction activities.	Minor and temporary
Sub-Alternatives C2/D2	Dike breach	Small volumes of non-CCR solid and hazardous wastes generated from site preparation and construction activities.	Minor and temporary

CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

### 3.14 VISUAL RESOURCES

#### 3.14.1 Affected Environment

This assessment reviews and classifies the visual attributes of existing scenery and the anticipated changes from the proposed action. The classification criteria are adapted from a scenic management system developed by the U.S. Forest Service (USFS) and integrated with planning methods used by TVA (USFS 1995).

The visual landscape of an area is formed by physical, biological and man-made features that combine to influence both landscape identifiability and uniqueness. Scenic resources within a landscape are evaluated based on several factors that include scenic attractiveness, integrity, and visibility. Scenic attractiveness is a measure of scenic quality based on human perceptions of intrinsic beauty as expressed in the forms, colors, textures, and visual composition of each landscape. It can be scored into three categories: distinctive, common, or minimal. Scenic integrity is a measure of scenic importance based on the degree of visual unity and wholeness

of the natural landscape character. The scenic integrity of a site can be scored as high, moderate, low, or very low. The varied combinations of natural features and human alterations both shape landscape character and help define their scenic importance. The subjective perception of a landscape's aesthetic quality and sense of place is dependent on where and how it is viewed.

Views of the landscape are described in terms of what is seen in the foreground, middleground, and background distances. In the foreground, an area within 0.5 mile of the observer, details of objects are easily distinguished. In the middleground, from 0.5 miles to 4 miles from the observer, objects may be distinguishable, but their details are weak and tend to merge into larger patterns. In the distant part of the landscape, the background, details and colors of objects are not normally discernible unless they are especially large, standing alone, or have a substantial color contrast. In this assessment, the background is measured as 4 to 10 miles from the observer. Visual and aesthetic impacts associated with an action may occur because of the introduction of a feature that is not consistent with the existing viewshed. Consequently, the visual character of an existing site is an important factor in evaluating potential visual impacts.

The 221-acre project area includes previously disturbed land within the former coal plant and Johnsonville Reservation boundaries. It consists of Ash Pond 2 on a peninsula within Kentucky Reservoir and three TUAs on the former plant site. The proposed TVA-owned borrow site is located south of the project area in an area with some residential and light industrial development (Figure 2-2). The terrain includes industrial, commercial, residential developments, crop/agricultural lands, and forested areas. The existing industrial development contrasts sharply with the surrounding rural and natural landscape. The dominant visual components included the fossil plant powerhouse and emissions stack, which were demolished in 2017. Remaining components include CT units, storage buildings, switchyards, and transmission lines. Most of the project area is devoid of vegetation, with some grassy areas and trees along the peninsula.

The scenic attractiveness rating is minimal in the foreground due to the industrial setting. The scenic integrity is low in the foreground and middleground but not dominant in the background. The overall scenic class for the affected environment is considered fair.

Sensitive receptors include scenic vistas, highways, residential viewers, and public facilities within the project's viewshed. Foreground viewers are limited to employees, visitors, and recreational boaters. Visual receptors include commercial, industrial, and residential receptors, as well as recreational visitors to nearby parks and campgrounds. The closest commercial and industrial receptors would be utilizing Herbert Road located approximately 0.2 miles east of the Ash Pond 2 peninsula. The closest residential receptors are approximately 0.5 miles southeast of the Ash Pond 2 peninsula and approximately 0.3 miles south of TUA-3. The closest residential receptor along the haul route from the TVA-owned borrow site is located approximately 250 feet west of Industrial Park Road.

### 3.14.2 Environmental Consequences

The potential impacts to the visual environment from a given action are assessed by evaluating the potential for changes in the scenic value class ratings based upon landscape scenic attractiveness, integrity and visibility. Sensitivity of viewing points available to the general public, their viewing distances, and visibility of the proposed action are also considered during the analysis. These measures help identify changes in visual character based on commonly held perceptions of landscape beauty and the aesthetic sense of place. The extent and magnitude of visual changes that could result from the proposed project were evaluated based on the process and criteria outlined in the USFS scenic management system.

#### 3.14.2.1 Alternative A – No Action Alternative

Under the No Action Alternative, no closure activities would occur, resulting in no changes to the existing environment. The landscape character and integrity would remain in its current state; therefore, there would be no project-related impacts to aesthetics and visual resources. **Bookmark not defined.**

#### 3.14.2.2 Alternative B – Closure-in-Place of Ash Pond 2

##### Surface Impoundment Closure-in-Place

Under Alternative B, Ash Pond 2 would be closed in place and filled/graded and covered using borrow material from a previously permitted site. During the construction phase, the closest residential and roadway receptors would experience slight visual discord from the existing conditions due to an increase in personnel and equipment in the area. The closest residential receptors to the project area are approximately 0.5 miles southeast of the Ash Pond 2 peninsula and approximately 0.3 miles south of TUA-3. Direct views of the project area would be disrupted by existing roadways including U.S. Route 70 (US 70). The increase in visual discord would be temporary and only last until construction activities have been completed.

The 0.5-mile area foreground includes undeveloped forested lands, residences, the CT plant, the coal yard, and other industrial uses. In the foreground viewing distance, individual details of specific objects are important and easily distinguished, and details are the most significant within the immediate foreground up to 300 feet. In the middleground viewing distance (0.5 mile to 4 miles), details are weak as they tend to merge into larger patterns. Visibility of the proposed actions is expected to be limited to receptors within this viewing distance due to the screening effect of surrounding topography and vegetation. At the background distance (4 miles to 10 miles), the proposed actions are not expected to be discernible due to the screening effects of terrain, urban developments, semi-forested lands, agricultural lands, changes in elevation and overall distance, nor would they contrast with the overall landscape.

Permanent post construction impacts would include minor discernible alterations that would be viewed in the foreground of plant operations by the closest residential and roadway receptors. The proposed activity would have minimal public visibility and would primarily be seen by employees and visitors to the JOF facility. In the foreground, the ash impoundment closure would be covered with natural vegetation that may enhance the landscape character compared to the current condition. In more distant views, the closure of the ash impoundment

would likely merge with the overall industrial components of the facility and would become visually subordinate to the overall landscape character associated with JOF.

The cover system options would likely be more visibly appealing than the existing ash pond and may benefit the viewshed long term. The scenic class of the project site would remain fair. The visual impacts under Alternative B would be minor.

#### Transport of Borrow

If the TVA-owned borrow site south of JOF is used, there would be an increase of 800 truck trips per day hauling borrow along Industrial Park Road, which may be noticeable to residents nearby; however, this traffic would be temporary and intermittent, and impacts would be minor. If an offsite borrow site is used, there would be an increase in vehicular traffic along US 70, though visual impacts from truck traffic would be minor once trucks reach US 70, as they would assimilate into the existing highway traffic. The roads within the plant are predominately used by employees and industrial activity; therefore, impacts from additional vehicular traffic would be minor.

#### **3.14.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

The closest residential and roadway receptors would experience temporary visual discord during excavation and transport of CCR material to the approved landfill. The landfill would have existing infrastructure in place and would not require construction of additional roads or unloading facilities. During transport of material to an offsite landfill, trucks would assimilate into existing traffic upon reaching the highway. Construction activities associated with impoundment closure and the transport of CCR to an offsite landfill could temporarily and indirectly impact the landscape character along the haul routes.

Scenic attractiveness may be reduced to minimal in the foreground of the project area during excavation of CCR but would remain common in the middleground and background. Similarly, scenic integrity may be reduced to low in the foreground during excavation due to increased activity that would dominate the landscape. During this period, impacts to scenic integrity are anticipated to be greatest in the foreground for area residents and other passing motorists along local roads. In the middleground and background, impacts are not considered to be reduced as they are not expected to alter the overall landscape. Therefore, scenic integrity would not change. During construction activities, it is not expected that the existing scenic class would be reduced by two or more levels, which is the threshold of significance for impacts to the visual environment.

Alternative C has an estimated closure period of 10-13 years, and the duration of visual impacts associated with closure activities and transport of CCR would be greater compared to Alternative B, but impacts would be minor.

#### 3.14.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

In the foreground, the closed impoundment covered with natural vegetation may enhance the landscape character and may benefit the visual character in the long term. In more distant views, the closure of the impoundment would likely merge with the overall industrial components of the facility. Therefore, the closed impoundment would generally be absorbed by existing TVA plant components and would become visually subordinate to the overall landscape character associated with JOF.

Temporary visual impacts to residents and roadway receptors along haul routes would include transport of borrow material needed for site restoration. Transport of borrow may be concurrent with transport of CCR and would be of longer duration and much greater volume than transport of borrow under Alternative B. However, visual impacts associated with the transport of borrow are expected to be minor as the roads in the vicinity of JOF are already predominantly used for industrial activity, and the haul routes to the borrow site would utilize existing roadway networks. In summary, there would be a minor and temporary alteration of the local viewshed under Sub-Alternative C1.

#### 3.14.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Although a small number of boulders and riprap may be transported from an existing and permitted rock quarry, no transport of borrow material would be required for this sub-alternative. Inundation of Ash Pond 2 would convert it from industrial use into a part of Kentucky Reservoir. Therefore, the project area would likely become more visibly appealing and may benefit the viewshed long term. Visual impacts from this sub-alternative would be minor and consistent with the current viewshed.

#### **3.14.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Under Alternative D, TVA would close Ash Pond 2 by removal in the same manner as Alternative C. However, all of the usable excavated CCR would be loaded and transported in off-road, covered, heavy haul trucks to an onsite beneficiation processing facility or in covered, over-the-road dump trucks to an offsite facility up to 75 miles from JOF. Any unusable CCR and excavated soil material would be transported to an existing offsite permitted landfill within 75 miles of JOF, as described in Alternative C. Visual impacts associated with transport to an offsite landfill would be the same as discussed in Alternative C, but the duration of impacts associated with transport to an offsite landfill under Alternative D would be shorter.

Alternative D would include a temporary increase in truck and equipment activity within the viewshed during the transport of CCR. However, visual impacts would be minimal during offsite transport, as the covered trucks would blend into the existing highway traffic. For transport to an onsite beneficiation processing facility, the project area roadways are heavily associated with industrial use, therefore visual impacts would be minor and consistent with the current character of the viewshed.

### 3.14.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.14.3 Summary of Impacts to Visual Resources

As summarized in Table 3-20, TVA has determined that all visual resource impacts related to the proposed primary and component actions of the Ash Pond 2 closure are minor.

**Table 3-20. Summary of Impacts Associated with Visual Resources**

Alternative	Action	Impact	Severity
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Some foreground viewshed alterations for nearest receptors; visual discord due to increase in truck traffic from construction; cover and restoration may be more visually appealing.	Minor short-term impacts, beneficial in the long term
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Some foreground viewshed alterations for nearest receptors; visual discord due to increase in truck traffic from construction; closure-by-removal may be more visually appealing. Duration of closure activities greater than Alternative B.	Minor short-term impacts, beneficial in the long term
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Minor and temporary impacts to receptors related to increased traffic along haul routes.	Minor short-term impacts, Alternative C duration greater than Alternative D
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Minor and temporary impacts to receptors related to increased traffic along haul routes.	Minor short-term impacts, Alternative D duration greater than Alternative C
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Minor and temporary impacts to haul routes; duration of Sub-Alternatives C1/D1 impacts greater than Alternative B and Sub-Alternatives C2/D2.	Minor and temporary
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Minor impacts during restoration; site restoration may be more visually appealing.	Minor and temporary impacts, beneficial in the long term
Sub-Alternatives C2/D2	Dike breach	Minor and temporary impacts during dike breach; inundation may be visually appealing.	Minor and temporary impacts, beneficial in the long term

CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant

### **3.15 CULTURAL AND HISTORIC RESOURCES**

#### **3.15.1 Affected Environment**

##### **3.15.1.1 Regulatory Framework for Cultural Resources**

Cultural resources or historic properties include prehistoric and historic archaeological sites, districts, buildings, structures, and objects as well as locations of important historic events. Federal agencies, including TVA, are required by the National Historic Preservation Act (NHPA) (54 USC 300101 et seq.) and by NEPA to consider the possible effects of their undertakings on historic properties. “Undertaking” means any project, activity, or program, and any of its elements, that has the potential to affect a historic property and is under the direct or indirect jurisdiction of a federal agency or is licensed or assisted by a federal agency. An agency may fulfill its statutory obligations under NEPA by following the process outlined in the regulations implementing Section 106 of the NHPA. Additional cultural resource laws that protect historic resources include the Archaeological and Historic Preservation Act (54 USC 300101 et seq.), Archaeological Resources Protection Act (16 USC 470aa-470mm), and the Native American Graves Protection and Repatriation Act (25 USC 3001-3013).

Section 106 of the NHPA requires that federal agencies consider the potential effects of their actions on historic properties and to allow the Advisory Council on Historic Preservation an opportunity to comment on the action. Section 106 involves four steps: (1) initiate the process, (2) identify historic properties, (3) assess adverse effects, and (4) resolve adverse effects. This process is carried out in consultation with the State Historic Preservation Officer (SHPO) and other interested consulting parties, including federally recognized Indian tribes.

Cultural resources are considered historic properties if they are listed or eligible for listing in the National Register of Historic Places (NRHP). The NRHP eligibility of a resource is based on the Secretary of the Interior’s criteria for evaluation (36 CFR 60.4), which state that significant cultural resources possess integrity of location, design, setting, materials, workmanship, feeling, association and:

- Are associated with events that have made a significant contribution to the broad patterns of our history; or
- Are associated with the lives of persons significant in our past; or
- Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value; or
- Have yielded, or may yield, information (data) important in prehistory or history.

A project may have effects on a historic property that are not adverse, if those effects do not diminish the qualities of the property that identify it as eligible for listing on the NRHP. However, if the agency determines (in consultation with the SHPO), that the undertaking’s effect on a historic property within the area of potential effect (APE) would diminish any of the qualities that make the property eligible for the NRHP, the effect is said to be adverse. Examples of adverse effects would be ground disturbing activity in an archaeological site or erecting structures within the viewshed of a historic building in such a way as to diminish the structure’s integrity of feeling or setting.

### 3.15.1.2 Area of Potential Effects

The APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.

TVA determined that the APE for direct effects on historic properties consists of the Ash Pond 2 area. The TVA-owned borrow site south of JOF has been previously permitted and was evaluated in the *Final Coal Yard and Coal Yard Runoff Pond Closure, Construction of a Process Water Basin and Development of a Borrow Site on TVA-Owned Property on or near the Johnsonville Fossil Plant Environmental Assessment*, and no cultural resources were identified in this area (TVA 2019). TUAs within the project area have also been previously evaluated in the *Johnsonville Fossil Plant Decontamination and Deconstruction Final Environmental Assessment* and other NEPA reviews, and no archaeological sites were identified in these areas (TVA 2018). Transport of CCR and borrow material would utilize existing roadway corridors that have been previously disturbed during their construction and are, therefore, excluded from the APE.

### 3.15.1.3 Previous Studies

TVA's land acquisition maps for the Kentucky Dam Project, based on historic civil surveys conducted between 1935 and 1946, show the landforms that existed in this area prior to reservoir impoundment. The historic surveys showed a small creek meandering through the APE and the adjacent boat harbor that flowed into the main channel of the Tennessee River approximately 500 feet north of the north tip of the Ash Pond 2. However, these features were lost after impoundment activities. The land west of the stream consisted of the active river levee and alternating terraces and sloughs, while the land east of the stream appears to have been low and permeated with small depressions that likely filled with water during heavy rains or floods. The impoundment of Kentucky Dam in 1944 (TVA 1958) resulted in the inundation of these landforms under up to 20 feet of water. In 1970, TVA constructed Ash Pond 2 of clays and silty clay dredged from the lake bottom and placed hydraulically in the APE to raise the land and build an artificial peninsula (Stantec 2010). The perimeter dike was raised in 1978, resulting in the burying of some sluiced ash under clays and silt. Over time, the area inside the dike has been filled with sluiced ash moved to the APE as process flows from the ash hoppers.

The historic impoundment and subsequent ash pond construction has resulted in an APE with several feet of dredge spoils and wet CCR. Man-made deposits could not have intact archaeological deposits. However, intact archaeological sites could possibly be present in native soils and sediments that were inundated in 1944 and then buried by the construction of Ash Pond 2 in 1970 and its subsequent use for ash disposal.

Two precontact-age archaeological sites were previously recorded in the vicinity of Ash Pond 2. One of these sites was recorded in 1942 in advance of TVA's Kentucky Dam project, and the other was recorded in 1965 in advance of the construction of Ash Pond 2. Both sites were described as surficial artifact scatters containing a light density of lithic materials, with some shell noted at one site. Both sites are currently partially covered by Ash Pond 2 and partially inundated by Kentucky Lake. It is possible these two sites may remain intact within the native soils and sediments underneath the dredge spoils that line the base of Ash Pond 2.

TVA identified JOF as a historic architectural resource and performed an evaluation of its potential eligibility for inclusion in the NRHP as part of a cultural resources survey performed in connection with a proposed change to the nitrogen oxide emissions reduction system at JOF (Deter-Wolf 2006). TVA found that JOF is ineligible for the NRHP due to a loss of integrity resulting from previous additions, the construction of a smokestack, and the demolition of a series of original auxiliary buildings. The Tennessee SHPO agreed with that determination in 2006. TVA conducted a second historic architectural survey at JOF (Karpynec and Weaver 2015), in connection with a proposed heat recovery steam generator unit. This more recent evaluation upheld TVA's earlier determination and SHPO agreed. Based on these two prior surveys and evaluations, and the associated consultation, there are no above-ground historic properties in the APE for indirect effects.

TVA received a comment from the National Park Service (NPS) during the 2019 scoping period for this project that asked TVA to evaluate the undertaking's potential effects on a Trail of Tears route in the vicinity. The Trail of Tears refers to the routes taken by Native Americans in the 1830s after their land was ceded to the U.S. in the 1835 Treaty of New Echota. U.S. Army troops forced Cherokee to leave their homes in western North Carolina, eastern Tennessee, and north Georgia and Alabama and migrate west into Oklahoma. Approximately 17,000 Cherokee relocated between 1837 and 1839 (NPS 2025a). The population was moved in numerous groups of various sizes, by boat, rail, wagons, carriages, and on foot. Land routes followed trails, roads, and turnpikes. Many groups began the journey on foot or in wagons but stopped at holding centers before being loaded onto ferries or boats. These locations and the terrestrial routes are of archaeological interest due to the possibility of intact archaeological sites associated with the Trail of Tears.

TVA reviewed existing information on Trail of Tears routes and associated archaeological sites and activity areas. Much of this information has been compiled by the NPS (NPS 2025a, b); some independent studies have also been completed (e.g., Nance 2001; Thomason and Associates 2007). TVA consulted these sources to determine the project area's potential Trail of Tears associated archaeological sites. The Tennessee River was used as a water route. This route passes by Ash Pond 2, but TVA found no documentation of any holding centers of ferry terminals being used as part of the Trail of Tears in the project vicinity. A known land route crosses the area north of the JOF Reservation, ending at a ferry landing (Reynoldsburg Landing) located approximately 4.5 miles north of Ash Pond 2. Reynoldsburg Landing is no longer extant but is depicted on the 1936 edition of the USGS Johnsonville, TN 7.5-minute topographic quadrangle and was located between Scepter, Inc. and Hood Container Corporation. Based on existing documentation, TVA finds that there are no Trail of Tears archaeological resources or places associated with the Ash Pond 2 project area.

### **3.15.2 Environmental Consequences**

#### **3.15.2.1 Alternative A – No Action Alternative**

As Alternative A would not result in any ground disturbance or construction of any new visual elements, this alternative would not have the potential to affect historic properties or cultural resources. Therefore, there are no impacts to cultural or historic resources associated with Alternative A.

#### **3.15.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

If any intact archaeological sites are extant below the dredge spoils used to construct Ash Pond 2, actions taken as part of the closure-in-place of Ash Pond 2 would not affect those deposits. Such sites would, therefore, be outside the vertical extent of the APE. As there are no NRHP-eligible or –listed above-ground historic architectural properties in the APE, the undertaking would result in no effects on historic properties.

Additionally, utilization of TUAs would not have impacts due to the lack of cultural and historic resources in these areas (TVA 2018). TVA consulted with the Tennessee SHPO and federally recognized Indian tribes regarding this finding. The SHPO agreed by letter dated December 4, 2019; none of the consulted tribes objected or identified resources of concern in the APE. Demolition of existing facilities, structures, and utilities would not affect any historic architectural resources, as these structures and utilities are all part of JOF, which TVA and SHPO agreed in 2015 is ineligible for inclusion in the NRHP. Therefore, there are no impacts to cultural or historic resources associated with Ash Pond 2 closure-in-place activities.

##### Transport of Borrow

Borrow required for closure-in-place would be obtained from a previously permitted borrow site within 30 miles of JOF or from the previously approved areas within the borrow site on TVA-owned property approximately 1.8 miles south of JOF. There are no cultural or historic resources within the TVA-owned borrow site (TVA 2019). The transport of borrow would utilize existing roadways that have been previously disturbed; therefore, there would be no impact on cultural or historic resources due to the transport of borrow.

#### **3.15.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

##### Surface Impoundment Closure-by-Removal

Impacts on cultural resources due to surface impoundment closure-by-removal would have similar impacts to those described in Alternative B. If any intact archaeological sites are extant below the dredge spoils used to construct Ash Pond 2, actions taken as part of the project would not affect those deposits. Such sites would, therefore, be outside the vertical extent of the APE. Because there are no NRHP-eligible or –listed above-ground historic architectural properties in the APE, the undertaking would result in no effects on above-ground historic properties. Therefore, there are no impacts to cultural or historic resources associated with surface impoundment closure-by-removal activities. TVA consulted with the SHPO and federally

recognized Indian tribes regarding this finding; none of the consulted tribes objected or identified resources of concern in the APE. Therefore, there would be no impact on cultural or historic resources associated with Ash Pond 2 closure-by-removal activities.

#### Transport of CCR

Under Alternative C, CCR would be removed from JOF via covered trucks driven on existing paved roads. Use of these roads would not have the potential to affect archaeological sites. TVA considers disposal of CCR in an existing, permitted landfill to be a type of activity that does not have potential for effects on historic properties. Therefore, there would be no impact on cultural or historic resources due to the transport of CCR.

#### 3.15.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Impacts to cultural and historic resources would be similar to those described under Alternative B. The transport of borrow would utilize existing roadways that have been previously disturbed. Therefore, there would be no impact on cultural or historic resources due to post-closure site restoration.

#### 3.15.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Impacts to cultural and historic resources would be similar to those described under Alternative B. Therefore, there would be no impact on cultural or historic resources due to post-closure site restoration.

### **3.15.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### Surface Impoundment Closure-by-Removal

Impacts to cultural and historic resources would be similar to those described in Alternative C. Therefore, there are no impacts to cultural or historic resources associated with surface impoundment closure-by-removal activities.

#### Transport of CCR

Impacts to cultural and historic resources would be similar to those described in Alternative C. However, under Alternative D, CCR excavated from the impoundment would be transported to an offsite or onsite beneficiation processing facility. The construction and operation of the beneficiation processing facility would be assessed under separate NEPA review, and TVA would perform all necessary due diligence and consultation as required under Section 106 of the NHPA. Therefore, there would be no impact on cultural or historic resources due to the transport of CCR under Alternative D.

#### 3.15.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.15.3 Summary of Impacts to Cultural and Historic Resources

As summarized in Table 3-21, TVA has determined that closure of Ash Pond 2 would have no effect on cultural resources.

**Table 3-21. Summary of Impacts to Cultural and Historic Resources**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Closure activities do not have the potential for effects on above- or below-ground historic properties.	No impact
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Closure activities do not have the potential for effects on above- or below-ground historic properties.	No impact
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Offsite transport of CCR along existing roadways.	No impact
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Offsite transport of CCR along existing roadways.	No impact
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Transport of borrow material along existing roadways.	No impact
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Restoration activities do not have the potential for effects on above- or below-ground historic properties.	No impact
Sub-Alternatives C2/D2	Dike breach	Restoration activities do not have the potential for effects on above- or below-ground historic properties.	No impact

CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

## 3.16 TRANSPORTATION

### 3.16.1 Affected Environment

The transportation network surrounding the Johnsonville Reservation contains federal, state, and county roads and bridges, rail, and a barge facility located along a small channel off Kentucky Reservoir. JOF is served by the primary roadway US 70, also known locally as Broadway Avenue. The portion of US 70 in Humphreys County and just west in Benton County is classified as a rural minor arterial with a special use as a federal designed truck route (TDOT 2025a). The road transitions from two lanes to four lanes just west of the Kentucky Reservoir before crossing east over the bridge into Humphreys County. The segment of US 70 that provides access to the Johnsonville Reservation also has an additional center turn lane.

CSX Railroad operates a main line between Memphis and Nashville, Tennessee, that runs roughly parallel to US 70 south of the reservation (CSX 2025). JOF is no longer directly connected to the rail line (TVA 2018).

There are three points of access into the Johnsonville Reservation from US 70. The primary entrance is Steam Plant Road, which is accessed from US 70 via a loop ramp entrance on the south side of the highway that provides a grade-separated crossing over US 70 and the CSX rail line, then enters JOF from the south side of the site. North Street provides a secondary access route to JOF, approximately 0.8 miles east of the main entrance, at an unsignalized, at-grade intersection with US 70. The easternmost access is a loop ramp interchange to County Road 929 (DuPont Access Road), which primarily provides access to the adjacent Oxychem and Chemours manufacturing facilities but also provides access to the Johnsonville Reservation via a small road spur connecting to North Street. Access to the Johnsonville Reservation via North Street or County Road 929 (DuPont Access Road) requires crossing one or more rail lines at-grade.

An existing and permitted borrow site located approximately 1.8 miles south of JOF, on TVA property, is accessible from US 70 via Industrial Park Road. Figure 3-4 shows the major roadways in the project area and vicinity.

Within the Johnsonville Reservation, Ash Pond 2 is connected to the mainland by a 1,000-foot asphalt causeway. Additionally, to the south and east of Ash Pond 2 are two dredged channels for coal unloading and barge mooring; this area is referred to as the boat harbor channel. Current activities that generate traffic at JOF and in the surrounding areas include the operation of the remaining CT units and continued operation of surrounding industrial facilities, including Oxychem and Chemours to the north and the Herbert Sand and Gravel Company to the west. As such, existing traffic generated at JOF and surrounding facilities is composed of a mix of cars and light duty trucks, as well as medium duty (larger delivery trucks) to heavy duty trucks (semi-tractor trailers) (TVA 2022a).

Average Annual Daily Traffic (AADT), as reported by Tennessee Department of Transportation, provides traffic volumes based on a 24-hour, two-directional count at a given location (TDOT 2025b). The 2024 AADT for key roadways in proximity to JOF are presented in Table 3-22.

**Table 3-22. Average Daily Traffic Volume on Roadways in Proximity to JOF**

Roadway	Year	AADT	Number of Lanes
US Route 70 West of JOF (Benton County)	2024	5,688	4
	2023	5,736	
	2022	5,353	
	2021	5,419	
US Route 70 East of JOF (Humphreys County)	2024	8,156	4
	2023	8,014	
	2022	7,631	
	2021	8,019	
Industrial Park Road	*NA	*NA	2
North Long Street	2024	3,797	2
	2023	3,748	
	2022	3,714	
	2021	3,707	

\*Not Available; AADT = Average Daily Traffic Volume, US= United States; Source: TDOT 2025c

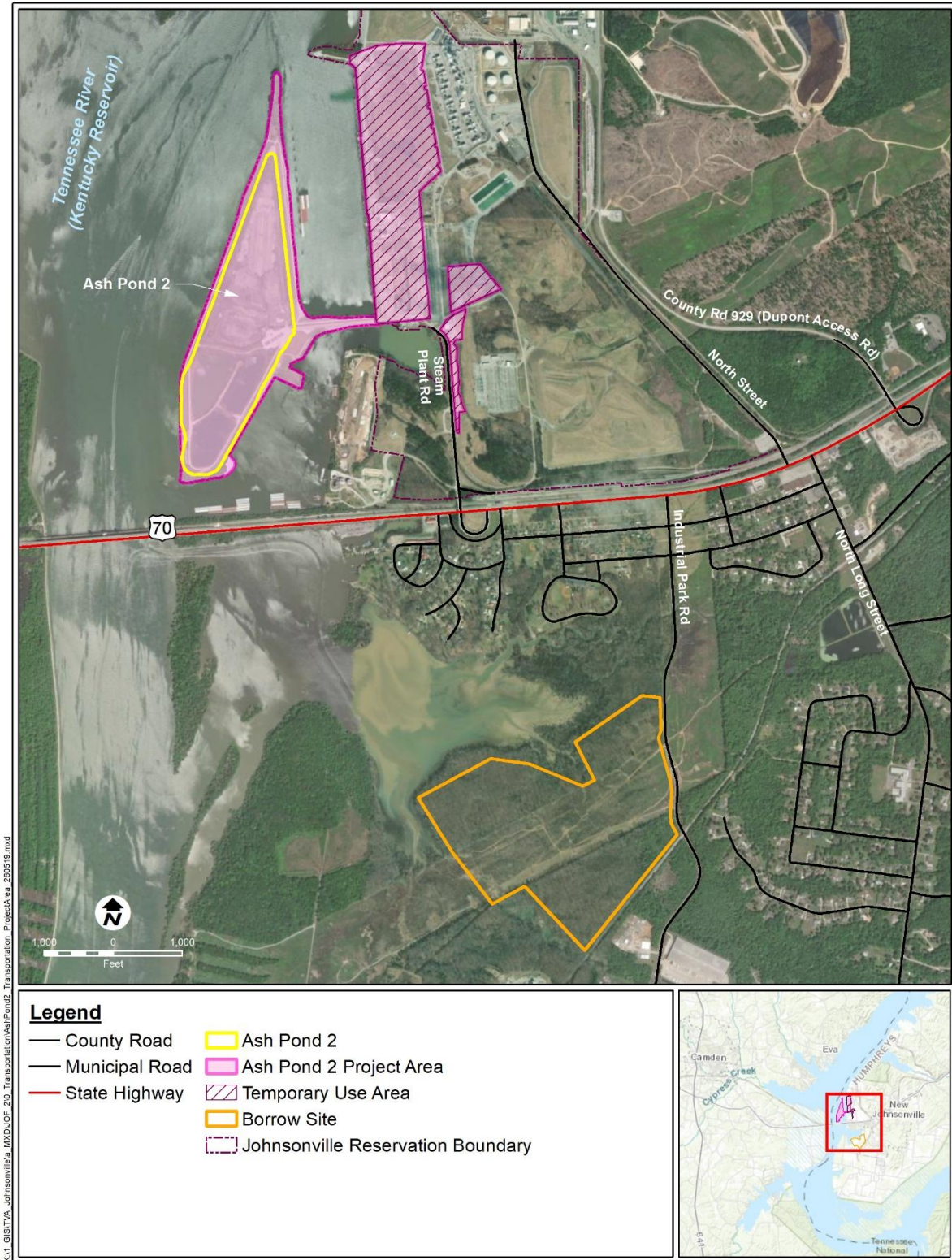


Figure 3-4. Major Roadways in the Project Area and Vicinity

In general, traffic has remained relatively consistent on surrounding roadways since 2021, with AADT counts diminishing as drivers travel west of the reservation on US 70. AADT values are not available for Industrial Park Road, indicating traffic counts are relatively low. For the purposes of the following analysis, North Long Street is assumed to be representative of the baseline traffic volumes on Industrial Park Road, as both are minor collector roads in the vicinity of JOF that provide access to US 70 from the south (Figure 3-4).

### **3.16.2 Environmental Consequences**

Assumptions regarding the number and distribution of vehicle trips used in the following impact analyses are summarized in Table 3-23 and include:

- Closure-in-place would require 50 workers. Assuming one person per commuting vehicle, there would be a daily morning inbound traffic volume of 50 vehicles per day and a daily outbound traffic volume of 50 vehicles per day for a total of 100 vehicle trips per day.
- Closure-by-removal would require 170 workers, split between a day shift (100 workers) and night shift (70 workers), for a total of 340 vehicle trips per day.
- Borrow required for closure-in-place and post-closure site restoration alternatives would be transported via covered truck from either the TVA-owned land located 1.8 miles south of JOF or another existing and permitted offsite borrow source located within 30 miles of JOF. Up to 400 truckloads (800 truck trips) of borrow would be transported per day, as needed.
- CCR transported to an offsite landfill identified in Appendices D and E of this EIS and/or an offsite beneficiation processing facility within approximately 75 miles of JOF would be transported via covered truck at rates of up to 400 truckloads (800 truck trips) per day.
- Borrow and CCR hauling would occur over two 9-hour shifts (18 hours total) but would likely pause during shift changes when workforce vehicles are inbound or outbound.

Impacts to roadway traffic associated with the proposed action alternatives were quantified based on the percentage increase in through traffic on impacted roadways. In addition, as all project-related traffic would typically utilize the primary entrance to JOF (Steam Plant Road via US 70), a LOS analysis was completed for this intersection. LOS estimates the average amount of delay that traffic experiences, ranging from “A” to “F”, and can be expressed on a per-movement basis (i.e., northbound left, northbound through, northbound right, etc.) at impacted intersections. LOS E or F is considered undesirable, indicating traffic operations with excessive delays that are at or over capacity. LOS D typically represents adequate traffic operation but may need review. In general, LOS C or better represents satisfactory operations.

**Table 3-23. Number of Vehicle Trips by Alternative**

<b>Alternative</b>	<b>Workforce (vehicle trips/day)</b>	<b>Borrow Transport (vehicle trips/day)</b>	<b>CCR Transport (vehicle trips/day)</b>	<b>Total (vehicle trips/day)</b>
Alternative B – Closure-in-Place	100	800	–	<b>900</b>
Alternative C1 – Closure-by-Removal, Transport CCR to an Offsite Landfill (Post-Closure Site Restoration)	200 (day shift) + 140 (night shift)	800	800	<b>1,940</b>
Alternative C2 – Closure-by-Removal, Transport of CCR to an Offsite Landfill (Post-Closure Dike Breach)	200 (day shift) + 140 (night shift)	–	800	<b>1,140</b>
Alternative D1 – Closure-by-Removal, Transport of CCR to a Beneficiation Processing Facility (Post-Closure Site Restoration)	200 (day shift) + 140 (night shift)	800	800 (Offsite Facility only)	<b>1,940</b> (Offsite Facility) <b>1,140</b> (Onsite Facility)
Alternative D2 – Closure-by-Removal, Transport of CCR to a Beneficiation Processing Facility (Post-Closure Dike Breach)	200 (day shift) + 140 (night shift)	–	800 (Offsite Facility only)	<b>1,140</b> (Offsite Facility) <b>340</b> (Onsite Facility)

LOS modeling was completed for the peak AM and PM traffic hours using Synchro 11 Software and Highway Capacity Software. Turning movements at the Steam Plant Road/US 70 intersection include westbound left turn and eastbound right turn (from US 70 onto the loop ramp), and northbound right turn and northbound left turn (from the ramp onto US 70). Based on the modeling results for the most impactful alternative scenario (Sub-Alternatives C1 and D1), all turning movements remain LOS A or B, with less than 15 seconds of delay and no notable queueing, with the exception of the northbound left turning movement.

The northbound left turn is the most difficult turning movement at this intersection, as drivers must find a gap in both eastbound and westbound traffic on US 70. Under existing peak hour conditions, the northbound left turn movement operates at LOS C, with a delay of 16 seconds. Under the most impactful alternative scenario (Sub-Alternatives C1 and D1), the LOS is degraded to E, with the delay increasing to 49 seconds and a maximum queue of two vehicles.

### 3.16.2.1 Alternative A – No Action Alternative

Under the No Action Alternative, TVA would not close Ash Pond 2, and no closure activities (i.e., cover system construction or removal of CCR) would occur. TVA would continue safety inspections of dikes to maintain stability and provide continued care and maintenance activities. There would be no direct impact to transportation under Alternative A.

### 3.16.2.2 Alternative B – Closure-in-Place of Ash Pond 2

Under Alternative B, aggregate effects of the additional traffic from the workforce (100 trips per day) and the transport of borrow (800 truck trips per day) on roads in the vicinity is summarized in Table 3-24, which illustrates the maximum potential increase in AADT for each roadway segment analyzed.

**Table 3-24. Impacts to AADT from Alternative B**

Roadway	2024 AADT	Additional Vehicle Trips under Alternative B	AADT under Alternative B	Increase in Traffic
US Route 70 East of JOF	8156	900	9056	11%
US Route 70 West of JOF	5688	900	6588	16%
Industrial Park Road <sup>1,2</sup>	3797	800	4597	21%

<sup>1</sup>As Industrial Park Road does not have reported AADT, for the purposes of this analysis it is assumed to have AADT similar to North Long Street.

<sup>2</sup> Borrow analyzed on Industrial Park Road would only be under the scenario in which borrow is obtained from the TVA-owned Borrow Site south of JOF.

As US 70 is a national highway that is currently operating well below capacity in the vicinity of JOF, the increase in traffic associated with Alternative B would have a minor impact on through traffic on this roadway. Once on US 70, workforce vehicles would disperse and integrate into existing traffic patterns. As discussed in Section 3.16.2, a LOS analysis for the Steam Plant Road/US 70 intersection did not identify any notable LOS impacts for turning movements from US 70 onto the Steam Plant Road loop ramp. Potential queuing and delays of less than one minute during the peak traffic hour would be limited to traffic turning left from the Steam Plant Road loop ramp onto US 70. As traffic on this road is comprised almost exclusively of workers and visitors to the Johnsonville Reservation, impacts of project-related traffic at the JOF entrance would be minor.

Impacts associated with borrow transport from the TVA-owned borrow site (1.8 miles south of JOF) would increase traffic on Industrial Park Road by approximately 21 percent; though as borrow truck traffic would be intermittent and spread over two 9-hour shifts (18 hours total), for an average of 22 truckloads per hour, no notable congestion or delays are anticipated. If borrow is obtained from another existing and permitted offsite borrow source within 30 miles of JOF, truck traffic would similarly be distributed across an 18-hour day. Although specific haul route(s) have not been identified, it is assumed that an existing, permitted borrow site would be accessible via roadways suitable for heavy haul traffic and an increase in traffic of approximately 22 truckloads per hour would not cause notable congestion or delays. Therefore, traffic impacts associated with Alternative B would be minor.

Increased heavy vehicle traffic has the potential to deteriorate the roadways and impact driver safety. This is especially a risk on less improved local roads. The pavement design of local neighborhood roads used for transport of borrow may not have factored in a high percentage of heavy loads. Therefore, the truck traffic could potentially result in minor to moderate wear and tear of the pavement, pavement rutting, formation of potholes and destruction of soft (grass or loose gravel) shoulders.

### 3.16.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill

#### 3.16.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

The maximum potential impact of workforce commuters (340 vehicle trips), transport of CCR material (800 truck trips), and transport of borrow material (800 truck trips) under Sub-Alternative C1 on each roadway segment is detailed in Table 3-25. As all of the identified landfill locations (Appendices D and E) are located west of JOF, it is not anticipated that trucks carrying CCR would travel east along US 70. Additionally, this analysis conservatively assumes concurrent transport of CCR material and borrow material, as these activities would overlap during a portion of the closure period.

**Table 3-25. Impacts to AADT from Sub-Alternative C1**

Roadway	2024 AADT	Additional Vehicle Trips under Alternative C1	AAADT under Alternative C1	Increase in Traffic
US Route 70 East of JOF	8156	1140	9296	14%
US Route 70 West of JOF	5688	1940	7628	34%
Industrial Park Road <sup>1,2</sup>	3797	800	4597	21%

<sup>1</sup>As Industrial Park Road does not have reported AADT, for the purposes of this analysis it is assumed to have AADT similar to North Long Street.

<sup>2</sup> Borrow analyzed on Industrial Park Road would only be under the scenario in which borrow is obtained from the TVA-owned borrow site south of JOF.

While Sub-Alternative C1 introduces up to 1,800 additional vehicles daily onto US 70, the highway has sufficient capacity to absorb this traffic, which would be largely dispersed over the course of the day (peaking at shift changes). As discussed in Section 3.16.2, a LOS analysis for the Steam Plant Road/US 70 intersection identified the left turn from the Steam Plant Road loop ramp onto US 70 as the only turning movement with notable impacts to LOS during the peak traffic hour, with a delay of 49 seconds and a maximum queue of two vehicles. As traffic on Steam Plant Road is comprised almost exclusively of workers and visitors to the Johnsonville Reservation, and has sufficient space for queuing, impacts of project-related traffic at the JOF entrance would be minor.

Borrow transport under Alternative C1 would be the same as that described under Alternative B. However, if borrow is obtained from an existing and permitted offsite borrow source which has yet to be identified, there is the potential for the borrow haul route to overlap with haul route of CCR to an existing landfill. Where borrow and CCR are hauled concurrently, this would result in up to 800 truckloads (1,600 truck trips) per day, distributed over 18 hours. If concurrent hauling of borrow and CCR occurs on low-volume roadways, or roadways that are already near capacity, periodic congestion and delays could occur, especially around intersections. However, these impacts would be intermittent and temporary. Thus, traffic impacts associated with Alternative C1 would be minor to moderate.

Potential roadway deterioration associated with increased heavy vehicle traffic would be similar to that described under Alternative B but would also apply to roadways along the haul route to the offsite landfill.

### 3.16.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Under this sub-alternative, a small number of boulders and riprap may be transported from an existing permitted offsite rock quarry, but no transport of borrow would be required. Therefore, there would be no impacts to the transportation network associated with the transport of borrow under Alternative C2 and there would be no potential for overlap with CCR hauling to an offsite landfill. Overall impacts to the traffic network would be minor and less than Alternative C1.

Additionally, under Sub-Alternative C2, large boulders could be placed in the breached areas to block any boat traffic from entering the flooded ash pond footprint. Also, the unit is situated away from the main channel, allowing adequate space to conduct the proposed work without affecting channel integrity. No restrictions on boat traffic are anticipated during the breaching activity, and navigation conditions would remain unchanged. Therefore, this sub-alternative would have no impacts on navigation in the Kentucky Reservoir.

### 3.16.2.4 **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

#### 3.16.2.4.1 Sub-Alternative D1 – Post-Closure Site Restoration

The maximum potential impact of workforce commuters (340 vehicle trips), transport of CCR material (800 truck trips), and transport of borrow material (800 truck trips) under Sub-Alternative D1 on each roadway segment is detailed in Table 3-26. Similar to Sub-Alternative C1, this analysis conservatively assumes concurrent transport of CCR material and borrow material, as these activities would overlap during a portion of the closure period. It also conservatively assumes transport of CCR to an offsite beneficiation facility.

**Table 3-26. Impacts to AADT from Alternative D1 (Offsite Beneficiation Facility)**

Roadway	2024 AADT	Additional Vehicle Trips under Alternative D1	AAADT under Alternative D1	Increase in Traffic
US Route 70 East of JOF	8156	1940	10,096	24%
US Route 70 West of JOF	5688	1940	7628	34%
Industrial Park Road <sup>1,2</sup>	3797	800	4597	21%

<sup>1</sup>As Industrial Park Road does not have reported AADT, for the purposes of this analysis it is assumed to have AADT similar to North Long Street.

<sup>2</sup>Borrow analyzed on Industrial Park Road would only be under the scenario in which borrow is obtained from the TVA-owned borrow site south of JOF.

Impacts under Sub-Alternative D1, with transport of CCR to an offsite beneficiation facility, would be similar to those described under Alternative C1. Traffic impacts would generally be minor, with the exception of concurrent hauling of CCR and borrow on low-volume roadways, or roadways that are already near capacity, which could be moderate, though intermittent and temporary.

Traffic impacts associated with an onsite beneficiation facility would be smaller and similar to Alternative B. Potential roadway deterioration associated with increased heavy vehicle traffic would be similar to that described under Alternative C1.

3.16.2.4.2 Sub-Alternative D2 – Post-Closure Dike Breach

Impacts would be the same as those described for Sub-Alternative C2.

**3.16.3 Summary of Impacts to Transportation**

As summarized in Table 3-27, TVA has determined that all impacts to transportation-related to the primary action and associated component actions for the proposed ash impoundment closure at JOF are minor to moderate.

**Table 3-27. Summary of Impacts to Transportation**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Minor and temporary impacts associated with workforce traffic.	Minor and temporary
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Minor and temporary impacts associated with workforce traffic.	Minor and temporary, impacts greater than Alternative B
<b>Transport of CCR to an Offsite Landfill</b>			
Alternative C	Transport and disposal of CCR to an offsite landfill	Minor and temporary impacts to regional transportation network. Potential moderate impacts to low-volume roadways, or roadways that are already near capacity, if CCR and borrow hauling overlap, greater duration compared to Alternative B.	Minor to moderate and temporary
Alternative D	Transport and disposal of CCR to an offsite landfill	Minor and temporary impacts to regional transportation network.	Minor and temporary
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport of CCR to an onsite or offsite beneficiation processing facility	Offsite: Minor and temporary impacts to regional transportation network. Potential moderate impacts to low-volume roadways, or roadways that are already near capacity if CCR and borrow hauling overlap.  Onsite: No impacts to transportation for onsite facility.	Minor to moderate and temporary impacts, similar to Alternative C (Offsite only)
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Minor and temporary impacts to regional transportation network. Potential moderate impacts to low-volume roadways, or roadways that are already near capacity, if CCR and borrow hauling overlap.	Minor under Alternative B, minor to moderate under Alternatives C1/D1, intermittent
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	No impacts to transportation network from onsite restoration activities.	No impacts
Sub-Alternatives C2/D2	Dike breach	No impacts to transportation network from dike breach activities.	No impacts

CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

### **3.17 NOISE**

#### **3.17.1 Affected Environment**

Noise is unwanted or unwelcome sound usually caused by human activity and added to the natural acoustic setting of a locale. It is further defined as sound that disrupts normal activities and diminishes the quality of the environment. Community response to noise is dependent on the intensity of the sound source, its duration, the proximity of noise-sensitive land uses, and the time of day the noise occurs. For instance, higher sensitivities to noise would be expected during the quieter overnight periods at noise sensitive receptors such as residences. Other noise sensitive receptors might include developed sites where frequent human use occurs such as churches and schools.

Sound is measured in logarithmic units called decibels (dB). Given that the human ear cannot perceive all pitches or frequencies of sound, noise measurements are typically weighted to correspond to the limits of human hearing. This adjusted unit of measure is known as the A-weighted decibel (dBA), which filters out sound in frequencies above and below human hearing. A noise level change of 3 dBA or less is barely perceptible to average human hearing. However, a 5 dBA change in noise level is clearly noticeable. The noise level associated with a 10 dBA change is perceived as being twice as loud, whereas the noise level associated with a 20 dBA change is considered to be four times as loud and would, therefore, represent a “dramatic change” in loudness.

To account for sound fluctuations, environmental noise is commonly described in terms of the equivalent sound level. The equivalent sound level is the constant noise level that conveys the same noise energy as the actual varying instantaneous sounds over a given period. Fluctuating levels of continuous, background, and/or intermittent noise heard over a specific period are averaged as if they had been a steady sound. The day-night sound level (Ldn), expressed in dBA, is the 24-hour average noise level with a 10-dBA correction penalty for the hours between 10 p.m. and 7 a.m. to account for the increased sensitivity of people to noises that occur at night. Typical background day-night noise levels for rural areas are anticipated to range between an Ldn of 35 and 50 dBA, whereas higher-density residential and urban areas’ background noise levels range from 43 dBA to 72 dBA (EPA 1974). There are no federal, state, or locally established quantitative noise-level regulations specifying environmental noise limits for the Johnsonville Reservation or the surrounding area. However, the EPA noise guideline recommends outdoor noise levels do not exceed Ldn of 55 dBA, which is sufficient to protect the public from the effect of broadband environmental noise in typical outdoor and residential areas. These levels are not regulatory goals but are “intentionally conservative to protect the most sensitive portion of the American population” with “an additional margin of safety” (EPA 1974). The U.S. Department of Housing and Urban Development considers an Ldn of 65 dBA or less to be compatible with residential areas (HUD 1985).

##### **3.17.1.1 Sources of Noise**

The JOF Ash Pond 2 is located along the south bank of the Kentucky Reservoir in an industrial area. Primary sources of noise in the vicinity of the Johnsonville Reservation include periodic

barge operations on Kentucky Reservoir, railroad operations, and routine vehicle operations and maintenance at the project site and the adjacent Chemours industrial facility. In addition, the existing CT units at the JCT generate localized noise through operation of turbines, generators, and other ancillary equipment. Coal unloading and operation of the coal-fired fossil plant units that were historically dominant noise-generating activities at the Johnsonville Reservation have ceased following the fossil plant retirement and demolition.

### **3.17.1.2 Sensitive Receptors**

Sensitive noise receptors include residences or other developed sites where frequent human use occurs, such as churches, parks, and schools. Sensitive noise receptors in the vicinity of the project area include residences and recreational areas. The nearest residence is located approximately 1,600 feet south of the project area. C.L. Edwards Memorial Park is located approximately 1,700 feet southeast of the project area, and Camden State Wildlife Management Area is located approximately 2,000 feet west of the project area, across the Tennessee River (see Figure 3-5 in Section 3.18). The closest sensitive receptors to the proposed borrow haul route along Industrial Park Road are homes within 250 feet.

In addition to those sensitive noise receptors located in the vicinity of the project area, U.S. Census Bureau (USCB) designated urban areas located along the potential haul routes determined in the bounding analyses for the transport of CCR to offsite candidate landfills were identified (see Appendices D and E). It is assumed that sensitive noise receptors would occur in greatest numbers within these urban areas. Based upon the bounding or worst-case scenario for CCR transport to an offsite landfill, up to 58.8 miles of the haul route would pass through or adjacent to USCB designated urban areas.

### **3.17.2 Environmental Consequences**

The expected level of construction noise is dependent upon the nature and duration of the project. Construction activities for most large-scale projects would be expected to result in increased noise levels as a result of the operation of construction equipment onsite and the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the surrounding roadways. Noise levels associated with construction activities would increase ambient noise levels adjacent to the construction site and along roadways used by construction-related vehicles. Construction noise is generally temporary and intermittent in nature.

#### **3.17.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, no closure activities would occur and there would be no additional construction activities or offsite transport of borrow or CCR materials. Therefore, there would be no impacts resulting from the proposed action to noise receptors under this alternative. Ambient noise levels would remain similar to current conditions.

#### **3.17.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

Noise impacts under this alternative would be associated with onsite closure activities, transport of borrow material, and construction-related traffic (construction workforce and the

shipment of goods and equipment) to and from the closure site. Transportation noise primarily includes noise from truck traffic. Three primary factors influence highway noise generation: traffic volume, traffic speed, and vehicle type. Generally, heavier traffic volumes, higher speeds, and greater numbers of trucks increase the sound level of highway traffic noise. Other factors that affect the sound level of traffic noise include a change in engine speed and power, such as at traffic lights, hills, and intersecting roads and pavement type. Highway traffic noise is not usually a serious problem for people who live more than 500 feet from heavily traveled freeways or more than 100 to 200 feet from lightly traveled roads (FHWA 2011). Due to the nature of the decibel scale and the attenuating effects of noise with distance, a doubling of traffic would result in a 3 dBA increase in noise levels, which in and of itself would not normally be a perceivable noise increase.

#### Surface Impoundment Closure-in-Place

Noise from closure activities at Ash Pond 2 would be the result of construction equipment, which would typically consist of loaders, dozers, excavators, telescopic handlers, compactors, and dump/haul trucks. Typical noise levels from construction equipment are expected to be 85 dBA or less at a distance of 50 feet from the construction site. Based on straight line noise attenuation, it is estimated that noise levels from these sources would attenuate to approximately 55 dBA at the boundary of the nearest residence (the nearest noise sensitive land use). This level is consistent with the EPA noise guideline for Ldn of 55 dBA. Consequently, no direct noise impacts associated with onsite closure activities at Ash Pond 2 are anticipated.

#### Transport of Borrow Material

There is potential for noise impacts from increased traffic due to the transport of borrow material to JOF. If the borrow is sourced from the TVA-owned property south of JOF, Industrial Park Road would be used for hauling. Some homes on the west side of Industrial Park Road are within 500 feet of the road, with the closest being about 250 feet away. Up to 400 truckloads of borrow would be transported per day, as needed, resulting in up to 800 trips per day on Industrial Park Road. As described in Section 3.16.2.2, this would not result in a doubling of traffic on Industrial Park Road; therefore, the increase in noise levels is generally expected to be less than 3 dBA, which is not perceptible. Additionally, the demand for borrow would vary, making the noise impact intermittent and minor.

Borrow may be obtained from another offsite source within 30 miles of JOF, for which a haul route has not yet been identified. It is assumed that an existing, permitted borrow site would be accessible via roadways suitable for heavy haul traffic where the additional truck traffic would not notably increase from background traffic noise. In addition, because traffic is dispersed over the course of the day, noise impacts would be intermittent. Given this, the noise impacts associated with the hauling of borrow to JOF are expected to be minor.

#### **3.17.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

Under Alternative C, onsite construction noise would use equipment similar to closure-in-place and would be the same as that described in Alternative B, but for a longer closure duration.

#### 3.17.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Under Alternative C1, CCR transport to an offsite landfill would utilize routes designed to handle relatively high volumes of traffic. The increase in traffic would therefore not result in a doubling of traffic volume nor a perceptible increase in traffic noise.

Noise impacts resulting from the transport of borrow material would be the same as described in Alternative B. However, depending on the location of the borrow site, there is a potential for overlap of CCR and borrow transport, resulting in up to 800 truckloads (1,600 truck trips) along the haul route. On some lower volume roads, this could result in moderate, but intermittent and temporary noise impacts.

#### 3.17.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Under Sub-Alternative C2, closure activities would include a post-closure dike breach. Although a small number of boulders and riprap may be transported from a local rock quarry, no transport of borrow material would be required for this sub-alternative. Noise impacts during dike breach activities would be similar to those under Sub-Alternative C1 for CCR transport, but would not include those associated with large-scale borrow transport, and would be minor.

#### **3.17.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Under Alternative D, onsite construction noise would be the same as that described in Alternative C.

##### 3.17.2.4.1 Sub-Alternative D1 – Post-Closure Site Restoration

Noise associated with transport of CCR to an offsite beneficiation facility would be similar to that described for an offsite landfill in Alternative C, though specific haul routes have not been identified. Similar to Alternative C, temporary, moderate noise impacts are possible on lower volume roadways utilized for CCR transport, especially if there is concurrent CCR and borrow hauling.

Noise impacts associated with transport to an onsite beneficiation facility would be considered an onsite activity and therefore, minor, as the Johnsonville Reservation roadways are heavily associated with industrial use and are not located near sensitive receptors.

##### 3.17.2.4.2 Sub-Alternative D2 – Post-Closure Dike Breach

Impacts would be the same as those described for Sub-Alternative C2.

#### **3.17.3 Summary of Impacts to Noise**

As summarized in Table 3-28, TVA has determined that noise impacts associated with the proposed actions for the surface impoundment closure of Ash Pond 2 at JOF are minor to moderate and temporary.

**Table 3-28. Summary of Impacts Associated with Noise**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	No direct impacts. Indirect noise impacts from construction workforce vehicle traffic.	Minor and temporary (6-year closure period).
Alternatives C, D	Closure-by-Removal of Ash Pond 2	No direct impacts. Indirect noise impacts from construction workforce vehicle traffic.	Minor and temporary (13-year closure period).
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Increased traffic noise for sensitive receptors along the haul route from trucks transporting CCR.	Minor and temporary.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficial reuse processing facility	Increased traffic noise for sensitive receptors along the haul route from trucks transporting CCR.	Minor to moderate and temporary.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Increased traffic noise for sensitive receptors along the haul routes from trucks transporting borrow to JOF.	Minor to moderate, intermittent and temporary.
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Temporary and minor impacts due to noise emissions from equipment used for grading activities.	Minor and temporary.
Sub-Alternatives C2/D2	Dike breach	Temporary and minor impacts due to noise emissions from equipment used for stabilization activities.	Minor and temporary.

CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant, US= United States

### **3.18 NATURAL AREAS, PARKS, AND RECREATION**

#### **3.18.1 Affected Environment**

Natural areas include managed areas, such as Wildlife Management Areas (WMAs), National Wildlife Refuges, Habitat Protection Areas, ecological significant sites, and Nationwide Rivers Inventory streams. Parks and recreation facilities include open areas, boat ramps, community centers, swimming pools, and other public places. There are 12 managed and natural areas, parks, and recreational facilities that are immediately adjacent to (within 0.5 miles) or within the region (within a 5-mile radius) of the project area (Figure 3-5 and Table 3-29). A review of the TVA Natural Heritage database indicates that no natural areas are present within the proposed project area.



**Table 3-29. Managed and Natural Areas, Parks, and Recreational Facilities within 5 Miles of the Project Area**

<b>Natural Areas, Parks, or Recreational Facilities</b>	<b>Approximate Distance from the Project Area at its Closest Location</b>
Camden State WMA	0.4 mile southwest
New Johnsonville Harbor Campground and Marina	0.4 mile south
New Johnsonville Boat Ramp	0.4 mile south
C.L. Edwards Memorial Park	0.5 mile southeast
Johnsonville State Historic Area	1.2 miles east
Johnsonville State Historic Park	1.2 miles northeast
Eva Park	1.5 miles northwest
Beaver Dam Resort	2.2 miles northwest
The Land Trust for Tennessee Conservation Easement	2.2 miles east
Pebble Isle Marina	2.3 miles northeast
Tennessee National Wildlife Refuge	2.9 miles south
Kentucky Reservoir Mussel Management Study Area	3.0 miles south
Tribble Woods TVA Habitat Protection Area	3.1 miles south
Nathan Bedford Forest State Historical Area/Park/WMA	3.2 miles north
Duck River Bottoms State Wildlife Conservation Area	3.7 miles southeast
Pilot Knob Potential National Natural Landmark	3.9 miles northeast
Camp Mack Morris Boy Scout Camp	4.9 miles southwest

Source: USGS 2024; Note: All mile values have been rounded to the nearest tenth; TVA= Tennessee Valley Authority, WMA= Wildlife Management Area

### 3.18.1.1 Natural Areas

Natural areas within 3 miles of the project area are described in more detail below as these areas are likely to be accessed via US 70 and are therefore potentially affected by transportation-related project activities.

**Camden State WMA:** The Camden State WMA is located along the western shore of Kentucky Reservoir on the Tennessee River in Benton County, TN. This area is managed by TWRA in cooperation with TVA, who oversees the yearly drawdown and flooding of the area (TWRA 2025). Cropland and bottomland hardwood forest habitats are intertwined within the 3,682-acre area, and it provides hunting opportunities for deer, quail, wild turkey, and waterfowl. River front access with boat ramps provides views of expanses of water.

**The Land Trust for Tennessee Conservation Easement:** This 19-acre site is private property under a conservation easement by The Land Trust for Tennessee. The Land Trust for Tennessee is dedicated to protecting the unique characteristics of Tennessee’s natural and historic landscapes (The Land Trust for Tennessee 2024).

**Tennessee National Wildlife Refuge:** This National Refuge was established in 1945 and provides a main wintering area for migrating waterfowl. The refuge is located in and around

Kentucky Reservoir and stretches for approximately 65 miles along the Tennessee River. It is made up of three units – Big Sandy, Duck River, and Busseltown (USFWS 2025b).

### 3.18.1.2 Parks and Recreational Facilities

Due to the project area’s proximity to the Kentucky Reservoir, most of the recreation areas in the vicinity of the project include water-based or water-oriented recreation services and facilities, such as boat launching ramps, marinas, and shoreline camping and picnic facilities. Parks and recreational facilities within 3 miles of the project area are described below.

**Kentucky Reservoir / Kentucky Reservoir Mussel Management Study Area:** Kentucky Reservoir on the Tennessee River is a major focal point for outdoor recreation and is used for water-based recreation activities, generally including boating, fishing, and swimming (TWRA 2024). The Kentucky Lake Mussel Management Study Area is located south of the project area along the southern portion of Kentucky Reservoir within the boundaries of the Tennessee National Wildlife Refuge.

**Johnsonville State Historic Park / Johnsonville State Historic Area:** This 1,075-acre State Park is a day-use park in Humphreys County and is managed by Tennessee State Parks. It commemorates the site of the Johnsonville Depot, the Battle of Johnsonville, and the historic town site of Johnsonville that existed from 1864-1944 prior to the formation of Kentucky Reservoir on the Tennessee River (Tennessee State Parks 2025). The Johnsonville State Historic Area is a small, separate portion of the Johnsonville State Historic Park (Figure 3-5). This site consists of the park visitor center, museum, and park office. It is adjacent to The Land Trust for Tennessee conservation easement described above.

**C.L. Edwards Memorial Park:** C.L. Edwards Memorial Park is located about 0.2 miles south of the project area. This is a small community park that offers ball fields, walking paths, and pavilions.

**New Johnsonville Harbor Campground and Marina:** The privately owned New Johnsonville Harbor Campground offers RV and tent camping and a marina with access to the Reservoir.

**Other recreational facilities:** Other recreational facilities within 3 miles of the project area include Eva Beach Park (1.6 miles northwest), Pebble Island Marina (2.3 miles northwest), the Beaver Dam Resort (2.2 miles northwest), and the New Johnsonville Boat Ramp (0.4 miles southwest) (Figure 3-5).

### 3.18.2 Environmental Consequences

#### 3.18.2.1 Alternative A – No Action Alternative

Under the No Action Alternative, no closure activities would occur and there would be no additional construction activities or offsite transport of borrow of CCR materials. Therefore, there would be no impact on managed, natural, or recreational resources with this alternative.

### **3.18.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

#### Surface Impoundment Closure-in-Place

Under this alternative, there would be no direct impact on natural areas because there are no natural areas, parks, or public recreational facilities within the Johnsonville Reservation. As discussed in Section 3.6, Ash Pond 2 would be decanted, and a cover system would be installed to minimize the risk of CCR leaching into Kentucky Reservoir. Fugitive dust and noise from closure activities may potentially impact individuals utilizing Kentucky Reservoir; however, impacts would be intermittent, localized, and temporary (i.e., limited to the closure period of 6 years); therefore, these impacts would be minor.

#### Transport of Borrow Material

Under Alternative B, fugitive dust, noise, and traffic generated from the transportation of borrow material may have an indirect impact on users of the natural areas, parks, and recreational areas located adjacent to haul routes. BMPs such as using covered trucks to haul borrow material would be used to reduce fugitive dust. Impacts associated with increases in traffic, noise, and dust would be intermittent and temporary; limited to the duration of closure activities (i.e., 6 years) and ceasing upon closure completion. Impacts from increased truck traffic are primarily isolated to resources near US 70, which currently supports truck traffic; therefore, impacts would be minor and would not permanently impair use or enjoyment of these resources.

### **3.18.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Like Alternative B, there would be no direct impact on natural areas from closure activities as there are no natural areas, parks, or public recreational facilities within the Johnsonville Reservation. Additionally, impacts from fugitive dust and noise associated with closure activities would be like those from Alternative B; however, impacts under this alternative would occur over a longer closure period (i.e., up to 13 years). Therefore, impacts to natural areas, parks, and recreational resources under this alternative would be minor, localized and temporary, but slightly greater than Alternative B as they would occur over a longer time period.

#### Transport of CCR

As discussed in Section 2.4 and in Appendices D and E, the maximum length of a trucking haul route to landfills through or adjacent to parks or recreational facilities is 8.1 miles. All proposed routes begin by heading west on US 70, which abuts the Camden State Wildlife Management Area and provides access to the New Johnsonville Boat Ramp and Harbor Campground. Transporting CCR by truck could indirectly affect natural areas, parks, and recreational resources due to noise, fugitive dust emissions, and minor impacts to ease of access from increased truck traffic. Haul routes would utilize existing arterial and interstate roadways as much as possible to enhance safety and efficiency. Once on the arterial or interstate roadway, additional truck traffic would assimilate into the existing traffic patterns leading to reduced impacts on these resources. BMPs such as covering trucks would minimize fugitive dust.

Overall, impacts to natural areas, parks, and recreational resources would be minor due to implemented BMPs and practices.

#### 3.18.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

##### Restoration Activities

Following closure, Ash Pond 2 would be graded and vegetated to reduce erosion and sedimentation in nearby waterbodies. BMPs would minimize impacts to surface waters like the Kentucky Reservoir, protecting water quality and recreation. Vegetation would enhance the visual landscape, benefiting recreational areas like the Kentucky Reservoir and Camden State Wildlife Management Area. Overall, Sub-Alternative C1 would have long-term benefits for natural areas, parks, and recreational resources.

##### Transport of Borrow Material

Transport of borrow material to the project site would not directly disturb natural areas, parks, and recreational resources. However, increased traffic, fugitive dust, and noise could indirectly impact these resources along haul routes. This sub-alternative involves larger quantities of material (up to 3 million yd<sup>3</sup>) over a longer closure period (13 years), but the maximum estimated trucking frequency remains at 800 truck trips per day. Impacts would be similar to Alternative B but would occur over a longer period. BMPs would be used to reduce fugitive dust and minimize traffic impacts. These impacts would be intermittent and temporary, limited to the closure period, and would cease upon completion. Overall, impacts would be minor but incrementally greater than Alternative B.

#### 3.18.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Construction equipment used for breaching Ash Pond 2 dikes and placing stabilization materials can produce fugitive dust, noise, and chemical pollutants. Nearby recreational areas like New Johnsonville Harbor Campground, New Johnsonville Boat Ramp, Camden State Wildlife Management Area, and Kentucky Reservoir may experience minor, localized, and temporary impacts. BMPs would minimize stormwater contamination, protecting water quality and recreation. Boulder placement within the breached areas would block boat traffic and therefore would not affect recreational use of Kentucky Reservoir. Vegetation established on areas not inundated would prevent erosion and enhance the landscape. No borrow material is needed, eliminating transport impacts. Overall, impacts would be minor and temporary, with long-term benefits.

#### **3.18.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

##### Surface Impoundment Closure-by-Removal

Impacts to natural areas, parks, and recreational resources under this alternative would be similar to Alternative C and would be minor.

##### Transport of CCR

Impacts associated with the transport of CCR under this alternative are dependent on whether the beneficiation processing facility is located offsite or onsite. As stated in Section 2.3.4, no

specific provider or location of the beneficiation services has been selected at this time; however, if an onsite facility is chosen, transportation of CCR would have no direct or indirect impacts to natural areas, parks, or recreational resources since there are none located within the Johnsonville Reservation.

As stated in Section 2.4, this EIS assumes there would be direct access to a beneficiation processing facility from a collector road or major highway that would support truck traffic without noticeable effects to LOS. Therefore, transportation impacts due to transport of CCR to offsite beneficiation facilities would be minor. Like the impacts associated with the transport of CCR to offsite landfills associated with Alternative C, transport of CCR to offsite beneficiation facilities may result in increased noise or dust to natural areas, parks, and recreational resources adjacent to potential haul routes. BMPs such as covered trucks may be used to reduce dust along haul routes in addition to traffic management. Ultimately, with the implementation of BMPs, impacts to natural areas, parks, and recreational resources associated with transporting CCR to an offsite beneficiation facility would be temporary, minor, and similar to Alternative C.

#### 3.18.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.18.3 Summary of Impacts to Natural Areas, Parks, and Recreation

As summarized in Table 3-30, TVA has determined that impacts to the surrounding managed, natural, and recreational areas would be minor and temporary. The use of BMPs would ensure that impacts are minimized.

**Table 3-30. Summary of Impacts to Natural Areas, Parks, and Recreation**

Alternative	Action	Impact	Severity
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place, of Ash Pond 2	Indirect, intermittent, localized, and temporary reduction in enjoyment or use from fugitive dust and noise	Minor; BMPs would minimize impact to resources.
Alternative C, D	Closure-by-Removal of Ash Pond 2	Indirect, intermittent, localized, and temporary reduction in enjoyment or use from fugitive dust and noise	Minor; BMPs would minimize impact to resources.
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Indirect reduction in enjoyment, use, or access from noise, fugitive dust, and increased traffic volumes on haul routes adjacent to natural resources.	Minor; BMPs would minimize impact to resources.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Indirect reduction in enjoyment, use, or access from noise, fugitive dust, and increased traffic volumes on haul routes adjacent to natural resources.	Minor; BMPs would minimize impact to resources.

Alternative	Action	Impact	Severity
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Transport of borrow material to JOF	Indirect reduction in enjoyment, use, or access from noise, fugitive dust, and increased traffic volumes on haul routes adjacent to natural resources.	Minor; BMPs would minimize impact to resources.
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Short-term erosion, sedimentation, and contamination of stormwater runoff. Long-term improvements to erosion, sedimentation, and the visual landscape due to increased vegetation.	Minor short-term adverse impacts, minimized using BMPs. Long-term beneficial impacts.
Sub-Alternatives C2/D2	Dike breach	Indirect, localized, and temporary reduction in enjoyment or use due to fugitive dust, noise, and chemical pollutants from construction-related equipment. Reduction in erosion and sedimentation as well as increase in visual landscape due to increased vegetation where exposed.	Minor short-term adverse impacts, minimized using BMPs. Long-term beneficial impacts.

BMPs= Best Management Practices, CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

### 3.19 SOCIOECONOMICS

#### 3.19.1 Affected Environment

The study area for socioeconomic analysis is defined as any census block group that falls within a 5-mile radius of JOF Ash Pond 2 and includes portions of Humphreys and Benton counties in western Tennessee. Both counties and the state of Tennessee are included as appropriate secondary geographic areas of reference. Comparisons at multiple spatial scales provide a more detailed characterization of populations that may be affected by the proposed actions, including any minority and low-income populations. Demographic and economic characteristics of populations within the study area were assessed using the most recent USCB data available, including 2020 Decennial Census counts (USCB 2020) for total population and racial characteristics, and 2018-2022 American Community Survey 5-year estimates (USCB 2022a) for the remaining datasets.

##### 3.19.1.1 Demographic and Economic Conditions

Demographic and economic characteristics of the study area and of the secondary reference geographies are summarized in Table 3-31. The block groups that make up the study area have a combined resident population of 9,731, which accounts for less than 0.2 percent of Tennessee's total population. The study area is a mixture of rural and suburban development, with the primary population center being the city of New Johnsonville (resident population of 1,804), which contains the TVA Johnsonville Reservation. Since 2010, the study area population has declined by approximately 3 percent. During the same period, the population of Benton County declined by approximately 4 percent, while Humphreys County population grew by approximately 2 percent. Population trends in the counties around the project site are in notable contrast to the growth rate of almost 9 percent experienced at the state level.

**Table 3-31. Demographic and Socioeconomic Characteristics of the Project Area and Secondary Reference Geographies**

	Study Area (Block Groups within a 5- Mile Radius)	Humphreys County, Tennessee	Benton County, Tennessee	State of Tennessee
<b>Population<sup>1,2,3</sup></b>				
Population, 2020	9,731	18,990	15,864	6,910,840
Population, 2010	9,987	18,538	16,489	6,346,105
Percent Change 2010-2020	-2.6%	2.4%	-3.8%	8.9%
Persons under 18 years, 2022	22.8%	22.2%	19.5%	22.0%
Persons 65 years and over, 2022	22.5%	20.2%	23.6%	16.7%
<b>Racial Characteristics<sup>1</sup></b>				
Not Hispanic or Latino				
White alone, 2020 <sup>(a)</sup>	91.6%	90.1%	90.6%	70.9%
Black or African American, 2020 <sup>(a)</sup>	1.6%	2.6%	2.0%	15.7%
American Indian and Alaska Native, 2020 <sup>(a)</sup>	0.2%	0.2%	0.3%	0.2%
Asian, 2020 <sup>(a)</sup>	0.5%	0.3%	0.7%	1.9%
Native Hawaiian and Other Pacific Islander, 2020 <sup>(a)</sup>	0.0%	0.0%	0.0%	0.1%
Some Other Race alone, 2020 <sup>(a)</sup>	0.3%	0.4%	0.2%	0.3%
Two or More Races, 2020	3.9%	4.1%	3.8%	3.9%
Hispanic or Latino, 2020	1.9%	2.4%	2.4%	6.9%
<b>Income and Employment<sup>3</sup></b>				
Median household income, 2022	\$51,725	\$54,185	\$47,737	\$64,035
Persons below poverty level, 2022	18.2%	12.0%	18.0%	14.0%
Persons below low-income threshold, 2022 <sup>(b)</sup>	41.0%	36.0%	39.9%	32.6%
Civilian Labor Force, 2022	3,856	8,678	6,491	3,430,845
Percent Employed, 2022	87.7%	89.8%	93.5%	95.0%
Percent Unemployed, 2022	12.3%	10.2%	6.5%	5.0%

Source: 1. United States Census Bureau (USCB) 2010, 2. USCB 2020, 3. USCB 2022a

(a) Includes persons reporting only one race.

(b) Low-income threshold is defined as two times the poverty level

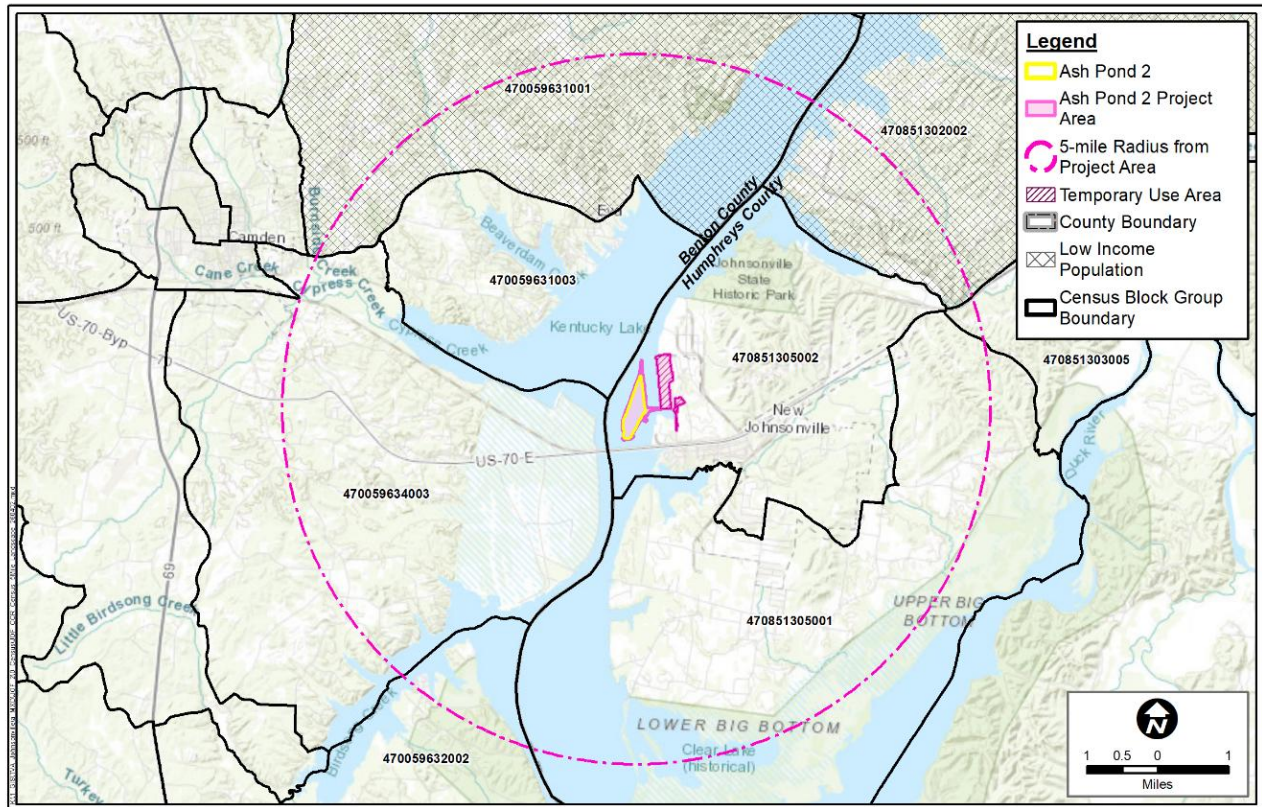
The total civilian labor force within the block groups that make up the study area is 3,856, with an unemployment rate of 12.3 percent. This unemployment rate is higher than those of Humphries and Benton Counties and the state (Table 3-31).

Approximately 92 percent of the population within the study area is white. The largest single minority or ethnic groups in the study area are Hispanic or Latino, and Black or African American, each representing approximately 2 percent of the population, while persons who identified as two or more races represent approximately 4 percent of the population. There are also small numbers who are Asian, American Indian and Alaska Native, or who identify as some other race. Minority percentages in the study area are generally comparable to those of the surrounding counties and somewhat lower than those of the state of Tennessee (Table 3-31). Total minority populations (i.e., all non-white and Hispanic or Latino racial groups combined) comprise approximately 29 percent of the population of Tennessee but only 9 to 10 percent of the population in Humphreys and Benton counties. The study area has a total minority percentage of 8.4 percent, with percentages for individual block groups ranging from 5.5 to 10.6 percent of the population. None of the block groups within the study area have minority populations that either exceed 50 percent of the total population or are meaningfully greater (greater than or equal to 20 percentage points) than the minority percentage of the general population (i.e. that of the county or state)

The nationwide poverty level is determined annually by the USCB and varies by the size of family and number of related children under 18 years of age. The 2022 USCB Poverty Threshold for an individual under the age of 65 is an annual income of \$15,225, and for a family of four with two children, it is an annual income of \$29,678 (USCB 2022b). The average median household income in the block groups that make up the study area is \$51,725, which is higher than the median household income reported for Benton County (\$47,737) but lower than that of Humphreys County (\$54,185) and the state of Tennessee (\$64,035) (Table 3-31). The percentage of the study area population falling below the poverty level (18 percent) is consistent with that of Benton County and is higher than that of Humphreys County (12 percent) and the state (14 percent).

For the purposes of this assessment, low-income individuals are those whose annual household income is less than two times the poverty level. More encompassing than the base poverty level, this low-income threshold is a reasonable measure for consideration because current poverty thresholds are often too low to adequately capture the populations adversely affected by low levels of income, especially in high-cost areas (EPA 2024b). According to the EPA, the effects of income on baseline health and other aspects of susceptibility are not limited to those below the poverty thresholds. For example, populations having an income level from one to two times the poverty level also have worse health overall than those with higher incomes (Centers for Disease Control and Prevention 2011). The percentage of the population of Tennessee living below the low-income threshold is approximately 33 percent. The percentage of low-income residents in Humphreys and Benton counties are somewhat higher than that of the state, at approximately 36 percent and 40 percent of the population, respectively. Approximately 39 percent of people living within the study area are considered low-income,

with percentages for individual block groups ranging from 20.3 to 66.9 percent of the population. As shown in Figure 3-6, two block groups in the study area have a low-income population that either exceeds 50 percent of the total population and/or is meaningfully greater than the low-income percentage of the general population.



**Figure 3-6. Low-Income Populations within the Study Area**

In addition to low-income populations located within the 5-mile study area, census block groups meeting the specified criteria as minority or low-income populations along the potential haul routes to candidate landfills determined in the bounding analysis were identified (see Appendices D and E). Based upon the bounding scenario for CCR transport to an offsite landfill, up to 12.5 miles of the approximately 84-mile haul route would pass through or immediately adjacent to block groups with minority and/or low-income populations.

### 3.19.1.2 Community Facilities and Services

Community facilities and services include public or publicly funded facilities, such as police protection and other emergency services (ambulance/fire protection), schools, hospitals and other health care facilities, libraries, day care centers, churches, and community centers. To identify facilities and emergency services that could be potentially impacted by proposed project activities, the study area is identified as the service area of various providers, where applicable, or the area within a 5-mile radius of Ash Pond 2 as noted above.

Based on a review of aerial imagery and online information, including the USGS Geographic Names Information System database, community facilities and services available within the study area include nine churches, two post offices, and an elementary school. The study area is also served by the New Johnsonville Police and Fire Departments. The closest community facilities, which include the New Johnsonville Post Office, Fire Department, and New Johnsonville Church of Christ, are located approximately one mile east-southeast of the project area. No community facilities are located adjacent to (i.e., within a 0.5-mile radius) the project area.

### **3.19.2 Environmental Consequences**

#### **3.19.2.1 Alternative A – No Action Alternative**

Under Alternative A, TVA would not close Ash Pond 2 and there would be no additional construction activities or offsite transport of borrow or CCR materials. Therefore, there would be no change in local demographics, economic conditions, or community services.

#### **3.19.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

Closure-in-place of Ash Pond 2 would require an estimated 6-year closure period and a workforce of up to approximately 50 people. Workers could be drawn from the labor force that currently resides within the surrounding counties, and specialty workers and laborers not available within the area would be expected to temporarily relocate or commute to the project area for the duration of the closure period. Given that the maximum number of workers needed would equate to less than four percent of the unemployed civilian workforce in Humphreys and Benton counties, it is likely that most of the workers could be drawn from the existing labor force and that impacts to local demographics and employment would be minor.

Closure activities would entail a temporary increase in employment and associated payrolls, as noted above, as well as the purchases of materials and supplies and procurement of additional contract services. Capital costs associated with the proposed actions would, therefore, have direct economic benefits to the local area and surrounding community during the 6-year closure period. Revenue generated by sales tax collected from purchases by construction workers would benefit the local economy. Additionally, temporary beneficial secondary impacts would result from expenditure of the wages earned by the workforce involved in impoundment closure activities. For example, the hospitality and service industries would benefit from the demands brought by the influx of the workforce.

Direct impacts to community facilities occur when a community facility is displaced or access to the facility is altered. Indirect impacts occur when a proposed action or project results in a population increase that would generate greater demands for services and/or affect the delivery of such services. As all impoundment closure activities would occur within the JOF property boundary, they would not result in the displacement of, or impede access to, any community facilities. Additionally, as the workforce would not have substantial impacts on local demographics, increased demands for services such as schools, churches, and emergency services are not anticipated. Additionally, while access to any community facilities located proximate to the haul route utilized for borrow transport would be maintained, there may be

some impact to ease of access to these facilities during closure activities due to increased truck traffic. However, as the up to 400 truckloads per day of borrow material would be dispersed over two 9-hour shifts, for an average of 22 truckloads per hour, the additional traffic along the haul route would not impede access to adjacent community facilities, and indirect impacts would be minor.

Onsite closure activities would occur within the Johnsonville Reservation, outside the immediate vicinity of residential properties. Thus, there would be minimal impacts to the surrounding local communities outside of traffic-related impacts associated with workforce commuting and borrow transport. Traffic-related impacts on nearby residents are detailed in Sections 3.2 (Air Quality), 3.14 (Visual Resources), 3.16 (Transportation), 3.17 (Noise), and 3.20 (Public Health and Safety). These traffic-related impacts on the surrounding communities, including low-income and minority communities, are anticipated to be minor and limited to the closure period of 6 years.

### **3.19.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

Closure-by-removal of Ash Pond 2 would require an approximately 10- to 13-year closure period and a workforce of approximately 170, split between a day shift (100 workers) and night shift (70 workers). As with Alternative B, workers could be drawn from the labor force that currently resides within the surrounding counties, and specialty workers and laborers not available within the area would be expected to temporarily relocate or commute to the project area for the duration of the closure period. Given that the number of workers needed would equate to 13 percent of the unemployed civilian workforce in Humphreys and Benton counties, it is likely that most of the workers could be drawn from the existing labor force and that impacts to local demographics and employment would be minor.

Economic benefits associated with increased employment and capital costs would be similar in nature to those described in Alternative B, but greater due to the higher cost and longer duration associated with closure-by-removal.

As with Alternative B, there would be no displacement of community facilities or meaningfully increased demand for services due to local demographic changes.

#### **3.19.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration**

Trucking under Sub-Alternative C1 would include up to 400 truckloads per day of borrow material to the site and up to 400 truckloads per day of CCR to an existing offsite landfill. Minor impacts to ease of access to any community facilities along the borrow haul route would be the same as described in Alternative B, with the addition of similar minor impacts to any facilities located along the CCR haul route to an offsite landfill.

Traffic-related impacts to nearby communities associated with workforce commuting, borrow transport, and CCR transport are detailed in Sections 3.2 (Air Quality), 3.14 (Visual Resources), 3.16 (Transportation), 3.17 (Noise), and 3.20 (Public Health and Safety). These traffic-related

impacts on the surrounding communities, including low-income and minority communities, are anticipated to be minor to moderate and limited to the closure period of 10 to 13 years.

#### 3.19.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Impacts to socioeconomics due to dike breach activities would be minor and similar to those described in Alternative B.

#### 3.19.2.4 **Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

Socioeconomic impact associated with Alternative D would be similar to those described in Alternative C, with potential additional economic benefits associated with the marketable product of CCR beneficiation.

##### 3.19.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.19.3 **Summary of Impacts to Socioeconomics**

As summarized in Table 3-32, TVA has determined that all impacts to socioeconomics related to the primary action and associated component actions for the proposed ash impoundment closure at JOF would be minor.

**Table 3-32. Summary of Impacts to Socioeconomics**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Short-term beneficial increases in employment, payroll, and tax payments during construction.	Short-term and beneficial
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Short-term beneficial increases in employment, payroll, and tax payments during construction.	Short-term and beneficial,
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an offsite landfill	Potential disruption in ease of access to community facilities along the haul route.	Temporary and minor
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Potential disruption in ease of access to community facilities along the haul route. No impacts if onsite beneficiation facility is used.	Temporary and minor
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Potential disruption in ease of access to community facilities along the haul route.	Temporary and minor

Alternative	Action	Impact	Severity
<b>Restoration Activities</b>			
Sub- Alternatives C1/D1	Restoration activities	Short-term beneficial increases in employment, payroll, and tax payments during construction.	Short-term and beneficial
Sub-Alternatives C2/D2	Dike breach	Short-term beneficial increases in employment, payroll, and tax payments during construction.	Short-term and beneficial

CCR= Coal Combustion Residuals, JOF= Johnsonville Fossil Plant

### 3.20 PUBLIC HEALTH AND SAFETY

#### 3.20.1 Affected Environment

The Johnsonville Reservation is located in New Johnsonville, in Humphreys County, Tennessee, which is a rural, sparsely populated area, located on the south side of US 70/State Highway 1.

Public emergency services in the area include urgent care clinics, hospitals, law enforcement services, and fire protection services. West Tennessee Healthcare Camden Hospital is the closest hospital located approximately 10 miles northwest of the project area in Camden, Tennessee. The closest urgent care is the Fast Pace Health Urgent Care located approximately 12 miles northwest of the project area in Camden, Tennessee. Police and fire protection services are provided by the city of New Johnsonville. The Tennessee Emergency Management Agency has the responsibility and authority to coordinate with state and local agencies in the event of hazardous materials release (TVA 2022a).

Workplace health and safety regulations are designed to eliminate personal injuries and illnesses from occurring in the workplace. These laws may include both federal and state statutes. OSHA, a division of the US Department of Labor, ensures safe and healthy working conditions by setting and enforcing standards and providing training, outreach, education, and assistance. The Occupational Safety and Health Act of 1970 is the main statute protecting workers from hazardous environments. The State of Tennessee has an OSHA-approved plan under the Tennessee OSHA, which covers employees in the private sector and state and local government. The Tennessee Emergency Management Agency is responsible for maintaining protection of the public through their regulations on hazardous wastes and materials.

TVA has a robust, safety-conscious culture that focuses on awareness and understanding of workplace hazards, prevention, intervention, and integration of BMPs to avoid or minimize hazards. To minimize hazards and ensure workplace safety; activities are performed in accordance with OSHA and state standards and requirements, as well as specific TVA guidance. Additionally, TVA has implemented a safety program to prevent worker injuries and accidents (TVA 2024e). Personnel at TVA facilities, including TVA authorized contractors, are diligent about health and safety, addressing and managing maintenance and operations activities to reduce or eliminate occupational hazards through implementation of safety practices, training, and control measures.

Mitigative measures are used to ensure protection of human health which includes the workplace, public and the environment. Applicable regulations and attending administrative codes that prescribe monitoring requirements may include those associated with emergency management, environmental health, drinking water, water and sewage, pollution discharge, air pollution, hazardous waste management and remedial action.

TVA continues to operate CT units at the JCT located within the Johnsonville Reservation boundary. All ten units of the coal-fired plant have been retired and were demolished in 2019. Since then, Ash Pond 2 no longer receives CCR materials. TVA conducts periodic safety inspections of dikes to maintain stability and provide continued care and maintenance activities. These inspections and maintenance activities reflect a safety-conscious culture, and activities are performed in accordance with OSHA and state standards and requirements, as well as specific TVA guidance.

### **3.20.2 Environmental Consequences**

#### **3.20.2.1 Alternative A – No Action Alternative**

Under the No Action Alternative, the operations and maintenance activities at Johnsonville Reservation would continue within the safety-conscious culture, and activities currently performed would be in accordance with applicable standards or specific TVA guidance. TVA's safety-conscious efforts would continue such that no changes to current public and health and safety are anticipated under this alternative. Therefore, Alternative A would not have an impact on public health and safety.

#### **3.20.2.2 Alternative B – Closure-in-Place of Ash Pond 2**

##### Surface Impoundment Closure-in-Place

Under Alternative B, workers on the project site would have an increased safety risk during construction. Customary industrial safety standards including OSHA requirements for workers engaged in closure activities would help reduce these risks. Also, the establishment of appropriate BMPs and job site safety plans would describe how job safety would be maintained during the project. These BMPs and site safety plans address the implementation of procedures to ensure that equipment guards, housekeeping, and personal protective equipment are in place; the establishment of programs and procedures for lockout, right-to-know, hearing conservation, heavy equipment operations, excavations, and other activities; the performance of employee safety orientations and regular safety inspections; and the development of a plan of action for the correction of any identified hazards. All of these measures would help ensure that job site safety risks are reduced.

TVA may decide to contract with outside vendors for construction and/or transportation services under Alternative B. It is TVA policy that all contractors have in place a site-specific health and safety plan prior to operation on TVA properties.

With implementation of the health and safety plans there would be minor, temporary potential for impacts during closure activities. In addition, maintenance of the closed impoundment (e.g.,

maintaining vegetation, monitoring, and reporting as necessary) would adhere to established health and safety practices.

#### Transport of Borrow

Potential public health and safety hazards could arise from increased traffic during the transport of borrow material. Borrow could be sourced from either a site within 30 miles of JOF or from TVA property 1.8 miles south of JOF. Using the TVA-owned borrow site would slightly reduce potential impacts on public health and safety due to fewer vehicle miles travelled. Traffic procedures would be established to address and minimize safety concerns, as outlined in the health and safety plans followed by TVA and any construction contractor(s). With the preparation and execution of safety plans and training, impacts to public health and safety would be minor. Impacts from transport would be less than those under Alternatives C and D due to a shorter closure period and less material transport.

### **3.20.2.3 Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill**

#### Surface Impoundment Closure-by-Removal

Closure-by-removal involves excavation and relocation of the CCR from the ash impoundment. As identified in the CCR PEIS (TVA 2016), deep excavations of CCR can result in increased risks to workforce health and safety. Customary industrial safety standards including OSHA requirements for workers (including outside vendors) engaged in excavation activities would help reduce these risks. Also, the establishment of appropriate BMPs and job site safety plans (identified under Alternative B) would describe how job safety would be maintained during the project. All of these measures would help ensure that job site safety risks are reduced.

By maintaining a high level of safety awareness and preparation during impoundment closure activities, and adhering to safety and security plans, the potentially large safety risks (such as excavation into Ash Pond 2) would be reduced to a minor impact.

#### Transport of CCR

CCR excavated from Ash Pond 2 would be transported in covered, over-the-road dump trucks to one or more landfills located within approximately 75 miles of JOF. According to the bounding (worst-case scenario) attributes for transport of CCR to an offsite landfill (shown in Table D-2 in Appendix D), the estimated number of transport-related injuries over the 10–13-year closure period would be 14.2, and the estimated number of transport-related fatalities would be 0.6. The establishment of appropriate BMPs and job site safety plans would address transportation by describing how job safety would be maintained during the project. In addition, traffic control measures would be installed in high-risk areas as needed to minimize congestion. With the preparation and execution of safety plans and training, overall impacts to public health and safety from transport of CCR to an offsite landfill would be minor, but greater than Alternative B due to longer duration and increased hauling, resulting in greater vehicle miles traveled.

### 3.20.2.3.1 Sub-Alternative C1 – Post-Closure Site Restoration

Under Sub-Alternative C1, Ash Pond 2 would be restored upon completion of the excavation activities to a soil and vegetated state. As discussed previously, standard BMPs for health and safety would be applied during restoration activities. Public health and safety impacts associated with the transport of borrow would be similar to those described under Alternative B, but slightly greater due to the extended period of closure.

### 3.20.2.3.2 Sub-Alternative C2 – Post-Closure Dike Breach

Under Sub-Alternative C2, after the excavation activities, the dikes surrounding Ash Pond 2 would be breached, and the pond would be inundated. This sub-alternative would not require the transport of borrow material. Standard BMPs for health and safety would be implemented during the closure and dike breach activities. The amount of boulders and riprap needed for dike breach activities would be minimal and sourced from an existing permitted rock quarry. Consequently, the impacts on public health and safety under Sub-Alternative C2 would be minor and less than those of Sub-Alternative C1.

Because large boulders would be placed in the breach to block any boat traffic from entering the flooded Ash Pond 2 footprint, there would be no impacts on boater safety.

## **3.20.2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficiation Processing Facility**

### Surface Impoundment Closure-by-Removal

Impacts would be similar to those of Alternative C. With adherence to safety and security plans and a continued emphasis on maintaining a high level of safety awareness, the impacts would be minor.

### Transport of CCR

CCR material from Ash Pond 2 would be transported by covered truck to an approved onsite or offsite beneficiation processing facility up to 75 miles away from the project site. Public health and safety impacts associated with transport of CCR to an offsite beneficiation facility would be the same as Alternative C and would be minor but greater than Alternative B.

Transport of CCR to an onsite beneficiation facility would not require the utilization of public roadways. This would reduce the possibility of traffic incidents and, as such, would lessen the potential for impacts on public health and safety. Worker safety during material transportation would be maintained through TVA's standard traffic management measures employed at all of TVA plant sites. Therefore, impacts on public health and safety from transport to an onsite beneficiation facility would be minor and less than those associated with transport to an offsite beneficiation facility or to a landfill.

### 3.20.2.4.1 Sub-Alternatives D1 and D2

Impacts under Sub-Alternatives D1 and D2 would be the same as those described for Sub-Alternatives C1 and C2, respectively.

### 3.20.3 Summary of Impacts to Public Health and Safety

As summarized in Table 3-33, TVA has determined that all impacts on public health and safety related to the primary action and associated component actions for the proposed Ash Pond 2 closure are minor.

**Table 3-33. Summary of Impacts on Public Health and Safety**

<b>Alternative</b>	<b>Action</b>	<b>Impact</b>	<b>Severity</b>
<b>Impoundment Closure</b>			
Alternative B	Closure-in-Place of Ash Pond 2	Temporary and minor impacts during closure activities	Minor
Alternatives C, D	Closure-by-Removal of Ash Pond 2	Similar to Alternative B. Incrementally greater risk associated with excavation of CCR materials compared to Alternative B, addressed through BMPs.	Minor
<b>Transport of CCR to an Offsite Landfill</b>			
Alternatives C, D	Transport and disposal to an existing offsite landfill.	Increased risk related to offsite transportation of CCR (crashes, and other transportation-related effects) and impact to worker safety during transportation of CCR.	Minor, minimized with the adherence to established health and safety plans and a traffic control plan as needed to minimize congestion.
<b>Transport of CCR to a Beneficiation Processing Facility</b>			
Alternative D	Transport to an onsite or offsite beneficiation processing facility	Increased risk related to offsite transportation of CCR (crashes, and other transportation-related effects) and impact to worker safety during transportation of CCR.	Minor, minimized with the installation of traffic control measures as needed to minimize congestion and adherence to established health and safety plans. The impact of transport to an onsite beneficiation facility would be less than those associated with offsite transport.
<b>Material Transport to JOF</b>			
Alternative B and Sub-Alternatives C1/D1	Truck transport of borrow material to JOF	Impacts to public health and safety related to transport on public roadways.	Minor. Minimized with use of established health and safety plans and implementation of traffic control measures, as needed, to address congestion. Impacts associated with the use of the TVA-owned borrow site would be slightly reduced due to fewer vehicle miles traveled. Impacts of Sub-Alternatives C1/D1 would be slightly greater due to extended period of closure.

Alternative	Action	Impact	Severity
<b>Restoration Activities</b>			
Sub-Alternatives C1/D1	Restoration activities	Temporary and minor impacts during restoration activities, addressed through BMPs.	Minor
Sub-Alternatives C2/D2	Dike breach	Temporary and minor impacts during dike breaching, addressed through BMPs.	Minor and less than Sub-Alternatives C1/D1

BMPs = Best Management Practices, CCR = Coal Combustion Residuals, JOF = Johnsonville Fossil Plant, TVA = Tennessee Valley Authority

### 3.21 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are the effects on natural and human resources that remain after mitigation measures or BMPs have been applied. These measures typically reduce potential impacts to below the threshold of significance. The proposed primary action and related component actions could cause unavoidable adverse effects to several natural and human environmental resources.

Under Alternatives B, C, and D, closing Ash Pond 2 at JOF could cause minor adverse effects to existing open water habitats within the impoundment. These areas are part of a man-made treatment system and do not provide high-quality habitat. Temporary impacts to water quality from runoff during closure activities could affect nearby water bodies, but BMPs would be implemented to minimize runoff, and water released would meet established TDEC permit limits.

Clearing up to 7.9 acres of forested areas and associated grading would result in long-term impacts to species composition and wildlife habitat. However, the project area is within an existing industrial use area and has been previously disturbed. Adverse impacts to wetlands, ponds, and streams or rivers within or adjacent to the project area would be mitigated through permit requirements and BMPs.

Onsite closure activities could result in dust, air emissions, and noise, potentially impacting onsite workers and residents along haul routes. Workers would use appropriate protection and adhere to safety standards. Noise emissions would be minimized through BMPs, including proper maintenance of construction equipment and vehicles.

Increase traffic from the construction workforce, transport of borrow material, and transport of CCR to an offsite landfill or beneficiation processing facility could compromise public safety and increase noise and dust. These impacts would be minimized through BMPs, and traffic volumes, noise levels, exhaust emissions and dust would return to baseline levels after closure activities.

Most unavoidable adverse effects would be minor with appropriate BMPs and permit adherence. However, the number of additional vehicle trips associated with the offsite CCR transport could cause minor to moderate impacts to the roadway network near JOF.

### **3.22 RELATIONSHIP OF SHORT-TERM USES TO LONG-TERM PRODUCTIVITY**

The NEPA requires an analysis of the relationship between short-term environmental uses and long-term productivity. This EIS examines the environmental impacts of various actions proposed for closure of and CCR disposition from Ash Pond 2 at JOF. Short-term uses include activities during the impoundment closure, while the long term begins after closure.

Closure activities may temporarily affect air quality, noise levels, and transportation resources. Wildlife may be displaced during construction, but BMPs and mitigation and conservation measures would address these impacts. The local economy may benefit from job creation and revenue during construction. Transporting borrow materials and CCR would have minimal impact on natural and physical resources, as existing roadways would be used. Impacts on local roads could be managed through a traffic plan.

Long-term effects of Alternatives B, C, and D include the permanent loss of forested land, wildlife habitat, and alteration of surface waters and wetlands. Although the closure of Ash Pond 2 would result in the alteration of a 0.6-acre forested wetland and loss of marginal waterfowl and wading bird habitat, other high-quality habitats are available nearby. In addition, site restoration would allow for revegetation with a diverse collection of non-invasive species including a mixture of grasses and flowering plants (Sub-Alternatives C1/D1) or additional aquatic habitat (Sub-Alternatives C2/D2). Closure would also reduce or eliminate potential groundwater discharges.

Landfills and/or beneficiation processing facilities that meet the criteria outlined in the bounding analyses described in Appendix D would be utilized for CCR disposal and/or reuse. Although disposal in a landfill may impact landfill capacity, the region has sufficient capacity to handle large volumes of solid waste.

### **3.23 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

Irreversible commitments of resources refer to environmental resources that cannot be restored to their original state after being altered by construction or operations activities. These commitments typically involve nonrenewable resources like minerals or cultural resources and renewable resources that take a long time to regenerate, such as soil productivity. Irretrievable commitments occur when resources are used or consumed and cannot be recovered until reclamation is successful. For example, building a road through a forest irretrievably commits the productivity of timber within the road's right-of-way as long as the road exists. Mining ore is an irreversible commitment since the ore cannot be restored once used.

The land within Ash Pond 2 is not irreversibly committed, as it can be repurposed after impoundment closure. However, the land used for Alternative B is irreversibly committed due to future use limitations after capping the surface impoundment. Resources like labor and fossil fuels used for impoundment closure activities are irretrievably lost. The limited use of fossil fuels for proposed action activities, including construction, CCR removal, fill placement, and transport, is unlikely to affect their overall future availability.

Transferring borrow material for Alternative B and restoration activities in Sub-Alternatives C1/D1 could be both an irreversible and irretrievable commitment of resources. The loss of soil is irreversible and irretrievable, but revegetating the impoundment area would return the site to a productive status. Thus, the loss of vegetation is irretrievable but not irreversible.

Using an offsite landfill for CCR disposal under Alternatives C and D would not change the committed materials and resources associated with landfill use, but landfill capacity would be irretrievably lost. This impact would be minor relative to the existing landfill capacity in the region.

## **Appendix A – Scoping**

## Summary of Public Scoping Feedback

During the 2019 scoping period (TVA 2020b), Tennessee Valley Authority (TVA) received five comments, including three from public agencies (Tennessee Department of Environment and Conservation [TDEC], U.S. Fish and Wildlife Service [USFWS], and the National Park Service [NPS]), one email submission, and one comment received at the public meeting.

During the 2024 scoping process, TVA received two comment letters. TDEC, Division of Water Resources (DWR) mentioned that the existing construction storm water permit (CGP) and Storm Water Pollution Prevention Plan might need modifications. Depending on discharge changes, the National Pollutant Discharge Elimination System (NPDES) permit might also need adjustments or a new permit. DWR noted that a hydrologic determination study should be completed to identify aquatic resources within the project limits of disturbance and to determine whether an Aquatic Resources Alteration Permit (ARAP) is necessary. DWR also expressed concerns about the heavy metal content if TVA opts for beneficial reuse of coal combustion residuals (CCR) materials.

The TDEC Division of Air Pollution Control raised concerns about air quality impacts, idling, and fugitive dust. They recommended evaluating potential impacts before any clearing, demolition, or construction, using trucks with up-to-date emission control technologies and proper maintenance, minimizing vehicle idling, and using wet suppression or other measures to control fugitive dust.

All comment submissions were reviewed to identify specific issues of concern and were grouped in general categories, including the following:

- 1) *Threatened and Endangered Species* – The USFWS noted previous consultation on likely adverse effects to the federally listed pink mucket (*Lampsilis abrupta*) as a result of temporary slope stabilization measures at Ash Pond 2.
- 2) *Historic Resources* – The NPS expressed concern regarding the effect of offsite transport of CCR on the historic or other resources of the Trail of Tears National Historic Trail.
- 3) *Cultural Resources* – TDEC noted that construction of a new onsite landfill has the potential to disturb cultural resources<sup>2</sup>.
- 4) *Air Resources* – TDEC identified the potential for fugitive dust emissions and emissions generated by gasoline and diesel fueled trucks and construction equipment during closure activities. In addition, TDEC also recommended the environmental impact statement (EIS) consider the use of truck wheel washing stations and wetting to minimize fugitive dust impacts on local roads and highways.

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<sup>2</sup> This addresses an issue that was raised during the initial scoping period in 2019. Construction of an onsite landfill is no longer being considered as part of the proposed action.

- 5) *Solid Waste* – TDEC recommended that any waste associated with the proposed action be managed in accordance with Solid Waste Rules and Regulations of the State of Tennessee.
- 6) *Permitting Requirements* – TDEC referenced a need to comply with appropriate permitting in conjunction with project alternatives including the potential modification of the existing NPDES storm water CGP and accompanying Stormwater Pollution Prevention Plan. The agency also identified the need for a hydrologic determination study by a certified hydrologic professional to identify the aquatic resources within the proposed landfill limits of disturbance to determine the impact to water resources, and the potential for an ARAP in conjunction with the construction of a new onsite landfill<sup>1</sup>.
- 7) *Future use* – TVA received one comment suggesting that once closed, the JOF Ash Pond 2 area be restored and used to site a solar power array.

Additional detail regarding comments received during the scoping process are included in the Scoping Report, which is available in this appendix and on TVA's website. TVA has considered these comments in the preparation of the Draft EIS.

**Document Type:** EIS – Administrative Record  
**Index Field:** Scoping  
**Project Name:** JOF Ash Impoundment Closure  
Project  
**Project Number:** 2018-23

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**JOHNSONVILLE FOSSIL PLANT  
ASH IMPOUNDMENT CLOSURE  
ENVIRONMENTAL IMPACT STATEMENT  
SCOPING REPORT**

EISX-455-00-000-1723542522

**Prepared by:**  
TENNESSEE VALLEY AUTHORITY  
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March 2025

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Appendix A	Federal Register Notice and Newspaper Advertisements
Appendix B	Comments Submitted During the Scoping Period (November 26 through December 30, 2024)

**Abbreviations and Acronyms**

ARAP	Aquatic Resources Alteration Permit
CCR	Coal Combustion Residuals
CGP	Construction Storm Water Permit
DWR	Division of Water Resources
EIS	Environmental Impact Statement
EO	Executive Order
JCT	Johnsonville Combustion Turbine
JOF	Johnsonville Fossil Plant
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NOI	Notice of Intent
PEIS	Programmatic Environmental Impact Statement
ROD	Record of Decision
TDEC	Tennessee Department of Environment and Conservation
TVA	Tennessee Valley Authority
USFWS	U.S. Fish and Wildlife Service
yd <sup>3</sup>	cubic yards

## 1.0 Introduction

The Tennessee Valley Authority (TVA) has reinitiated public scoping for the evaluation of the potential environmental effects associated with the future management of coal combustion residuals (CCR) material in Active Ash Disposal Area Number 2 (Ash Pond 2) at the Johnsonville Fossil Plant (JOF) located in Humphreys County, Tennessee. On November 26, 2024, TVA published a Notice of Intent (NOI) in the Federal Register to prepare an Environmental Impact Statement (EIS) to address the potential environmental effects associated with the closure of Ash Pond 2. Public comments were accepted through December 30, 2024, concerning both the scope of the review and environmental issues that should be addressed. The location of JOF, Ash Pond 2, and other project features are shown on Figure 1.

TVA previously published an NOI in the Federal Register for the JOF ash impoundment closure EIS in 2019. TVA also hosted a public information session on December 2, 2019, at the New Johnsonville City Hall in New Johnsonville, Tennessee. After consideration of comments received during the 2019 scoping period, TVA released a Scoping Report in 2020 that summarized the public and agency comments. The project was paused after completion of the 2019 scoping while TVA continued to refine the purpose and need, project proposal and alternatives.

TVA has identified four Ash Pond 2 closure alternatives for evaluation: (A) No Action; (B) Closure-in-Place with various capping options including a composite flexible membrane liner and cover soil, or a ClosureTurf® or equivalent system; (C) Closure-by-Removal to an Existing, Offsite Landfill; and (D) Closure-by-Removal, Transport of CCR to an Onsite or Offsite Beneficial Reuse Processing Facility. Additionally, Alternatives C and D have two sub-alternatives related to post-closure activities: Sub-Alternative C1 and Sub-Alternative D1 are for post-closure site restoration, while Sub-Alternative C2 and Sub-Alternative D2 are for post-closure dike breach.

This Scoping Report describes the internal and public scoping for relevant issues relating to these proposed actions and outreach conducted by TVA to notify the public. The Scoping Report also documents the input submitted to TVA by the public and intergovernmental entities during the public scoping periods.

## 1.1 Background

The 2020 Scoping Report outlines the history and background of the JOF site and the closure process. JOF, a coal-fired power plant in New Johnsonville, Tennessee, began operations in 1951 and was decommissioned in 2017. Originally, CCR was disposed of in Ash Disposal Area 1, but in 1970, Ash Pond 2 began to receive the CCR. This 125-acre pond is located on a peninsula within the Kentucky Reservoir, with surrounding infrastructure including a causeway and access road.

Following the development of a Programmatic Environmental Impact Statement (PEIS) in 2016, TVA issued a Record of Decision (ROD) under the National Environmental Policy Act (NEPA) to support its goal of eliminating wet CCR storage across its system. The PEIS considered two primary closure methods: "Closure-in-Place" and "Closure-by-Removal," assessing factors such as the volume of CCR, environmental impacts, health risks, and costs. The EIS for the closure of Ash Pond 2 will build on TVA's 2016 PEIS, applying site-specific details and analyses.

As part of the PEIS, TVA performed a screening analysis to determine the reasonableness of these two closure methods. This analysis evaluated a range of key issues and factors related to

closure of surface impoundments and the feasibility of undertaking closure activities. Screening factors included:

- Volume of CCR Materials
- Schedule/Duration of Closure Activities
- Stability
- Risk to Human Health and Safety Relating to Closure Activities
- Potential Effects to Water Resources
- Potential Effects to Wetlands
- Risk to Adjacent Environmental Resources
- Mode and Duration of Transport Activities
- Risk to Human Health and Safety Related to Transport of Borrow and CCR
- Cost

The EIS for closure of Ash Pond 2 at JOF will tier from TVA's 2016 PEIS, relying upon the overarching and bounding analyses performed in the PEIS, while integrating site-specific details and analyses.

## **1.2 TVA's Objectives**

TVA has retired all coal-fired units at JOF. Because CCR is no longer being produced at JOF TVA is proposing to permanently close Ash Pond 2, a CCR surface impoundment at JOF. The purpose of this Ash Impoundment Closure EIS is to address the closure of Ash Pond 2 in a manner that is protective of human health and the environment. TVA must make a decision regarding the method of closure of Ash Pond 2. Under the Closure-by-Removal closure alternatives, TVA must decide how to dispose of the CCR removed from the ash impoundment as well as how to restore the site post closure. In deciding on a closure option, TVA's decision will consider factors such as the environment, economic development options, the public's input, and TVA's long-term goals.

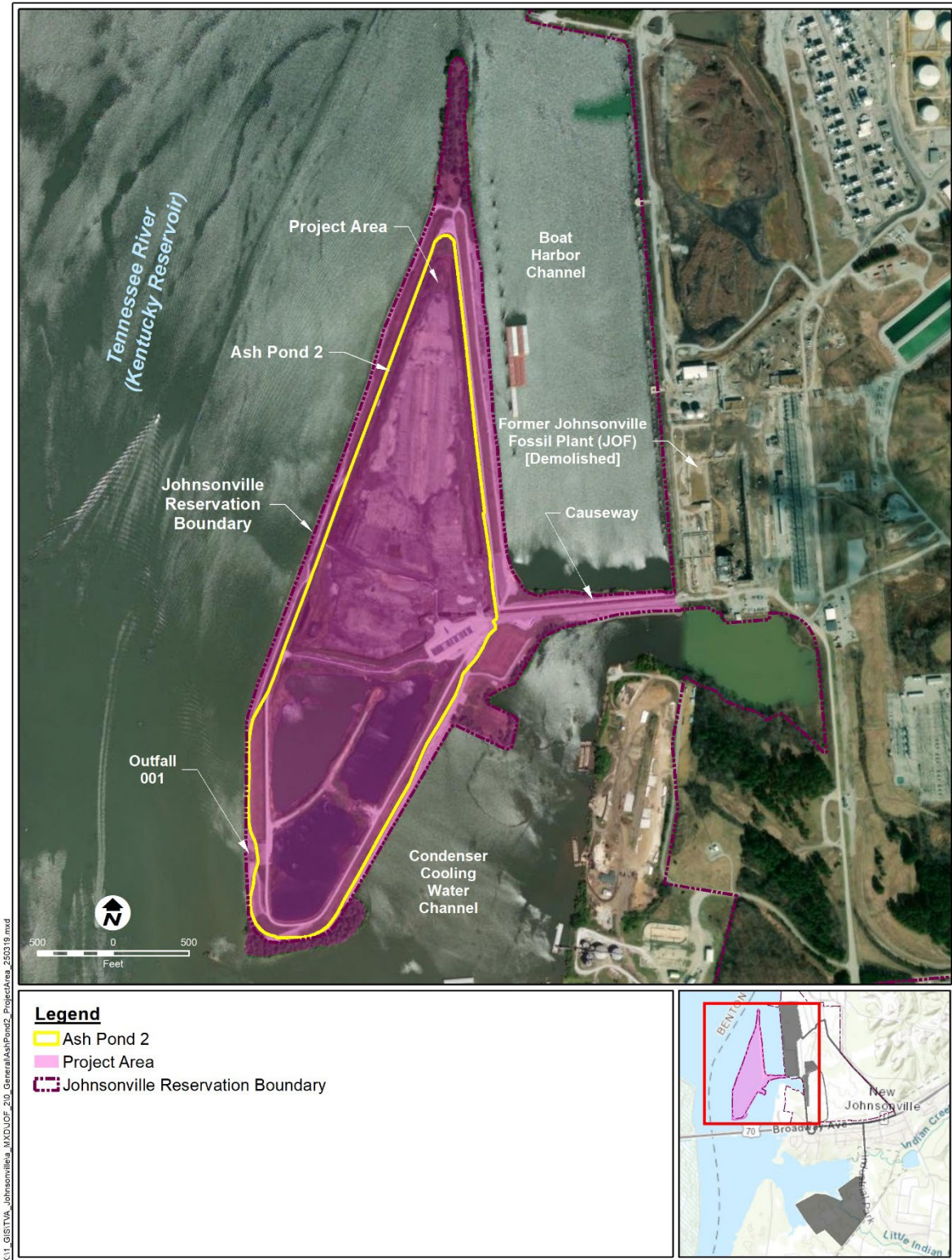


Figure 1. JOF Ash Pond 2

## 2.0 Proposed Alternatives

As a result of internal review and scoping comments, TVA has proposed the following alternatives to be evaluated in the EIS.

### 2.1 Alternative A – No Action Alternative

Under the No Action Alternative, TVA would not close Ash Pond 2, therefore no closure activities (i.e., cover system construction or removal of CCR) would occur. Ash Pond 2 would continue to operate under the administratively continued National Pollutant Discharge Elimination System (NPDES) permit (Permit number TN0005444). All process flows previously feeding into Ash Pond 2 were rerouted prior to April 2021. Process flows from the Johnsonville Combustion Turbine (JCT) facility have been rerouted to the non-CCR Process Water Basin. Other flows (including the JOF sumps, coal yard runoff pond, and Ash Pond 2) were rerouted to the Interim Flow Management system that discharges to the NPDES permitted Outfall 001. TVA would continue safety inspections of berms to maintain stability and provide continued care and maintenance activities. The No Action Alternative would not permanently close Ash Pond 2 in a manner that is protective of human health and the environment and would be inconsistent with current regulatory requirements; therefore, this alternative would not meet the Purpose and Need for the proposed action and is not considered reasonable. It does, however, provide a benchmark for comparing the environmental impacts of implementation of the Action Alternatives.

Under Alternative A, TVA would continue to collect groundwater samples from existing monitoring wells and review the analytical results as required by applicable regulatory requirements.

### 2.2 Alternative B – Closure-in-Place of Ash Pond 2

Under Alternative B, TVA would close Ash Pond 2 (Figure 1) in place by capping the area with one of two cover options: 1) a composite flexible membrane liner and 24 inches of cover soil, or 2) ClosureTurf®, or equivalent system. Each of the cover systems is described in more detail below. Ash Pond 2 would be closed starting from the north end and proceeding to the south end of the unit. The cover system would extend across the ash connecting to the dike on all sides. The common features of closure construction could include:

- Demolition of existing facilities, structures, and utilities including various sluice piping and foundations, spillway pipes and structures, carbon dioxide injection system components, and truck scales.
- Establishing a stormwater management system during construction to include a temporary stormwater management pond, diversion berms and swales, and pumps. This would include any water treatment system necessary to achieve water quality standards prior to discharging from NPDES Outfall 001. Any existing structures that support NPDES compliance would remain in place.
- Final pond elevation would be subject to final design but would remain above reservoir level. Grading could include movement and compaction of CCR to achieve positive drainage, sloping the final grades to new stormwater outfalls, and cutting down portions of the perimeter dike for use as soil cover.

- Construction of the final cover system, using one of the following options:
  - Cap Option 1 would include from bottom-to-top: a geomembrane liner, a geocomposite drainage layer, and placement of 24 inches of soil with the upper 6 inches capable of supporting vegetation.
  - Cap Option 2 would include a ClosureTurf® or equivalent system, which consists of an engineered turf and sand fill.
    - An alternative cap option that would meet federal and state requirements.
- Construction of a 16-foot-wide gravel access road around the perimeter of the closed Ash Pond 2.
- Long-term monitoring of previously installed groundwater monitoring wells.
- The boat ramp and causeway road providing access to the peninsula would remain in place and be maintained.

Closure-in-Place involves stabilizing the CCR and installing an engineered cover system. Under this alternative, Ash Pond 2 would be dewatered and the resulting CCR material would be stabilized in place. Following stabilization, the CCR would be regraded to promote drainage followed by installation of an approved cover system encompassing the CCR material footprint.

In addition, the transport of borrow material is a “component action” under this alternative. Closure-in-Place of Ash Pond 2 at JOF would entail the addition of borrow material to use as fill and achieve proposed finished grades. As part of this component action, Closure-in-Place of Ash Pond 2 is expected to require up to 200,000 cubic yards (yd<sup>3</sup>) of suitable borrow material. All borrow material would be obtained from the previously approved 44 acres within the TVA-owned 165-acre borrow site located 1.8 miles south of JOF or from another existing and permitted offsite borrow source within 30 miles of JOF. TVA estimates 400 to 800 truck trips (200 to 400 truckloads) of borrow material per day would be transported to JOF, as needed, throughout the estimated 5-year closure period under this alternative.

### **2.3 Alternative C – Closure-by-Removal to an Existing Landfill**

Under Alternative C, TVA would remove CCR from Ash Pond 2 via Closure-by-Removal. CCR from the ash pond would be transported in covered over-the-road dump trucks (capacity of 17 yd<sup>3</sup>) to one or more landfills located within approximately 75 miles of JOF.

Closure-by-Removal involves excavation and relocation of the CCR from the ash impoundment in accordance with federal and state requirements. TVA would stabilize residual ponded areas and then excavate the approximately 4.5 million yd<sup>3</sup> of CCR, approximately one foot of underlying soil (total of about 175,000 yd<sup>3</sup>), and support structures from the impoundment footprint. Closure activities would include:

- Excavation of ash using a tracked excavator.
- Mechanical moisture conditioning of the excavated ash by dumping, scooping, and windrowing the ash within the existing footprint of the impoundment or pond until it is sufficiently dried for hauling.
- After drying, ash would be loaded into trucks and hauled to an existing, offsite permitted landfill within approximately 75 miles of JOF.

- Over-excavation of soil within the CCR unit footprint.

While a specific landfill for disposal of CCR has not been determined, three potential landfills located within 75 miles have been identified at this time. TVA may use these, or any other potential landfill located within 75 miles of JOF. Potential locations of the offsite landfill and potential methods of transport will be studied and evaluated as a “component action” in the EIS.

TVA is considering two options for post-closure restoration of Ash Pond 2 under Alternative C: Post-closure Site Restoration and Post-closure Dike Breach.

### **2.3.1 Alternative C1 – Post-Closure Site Restoration**

Sub-Alternative C1 relates to post-closure activities. Under this option, the area of Ash Pond 2 would be restored upon completion of the excavation activities to a soil and vegetated state. Following excavation and reclamation, Ash Pond 2 would be graded as needed and vegetation would be established over the excavation areas.

The transport of borrow material is a “component action” under this sub-alternative. As part of this component action, Closure-by-Removal of Ash Pond 2 is expected to require approximately 2.2 to 3 million yd<sup>3</sup> of suitable borrow material. Soil utilized for closure and restoration of the site is proposed to be obtained from a previously evaluated borrow area on TVA-owned property located 1.8 miles south of JOF or from an existing and permitted offsite borrow source within 30 miles from JOF. Closure-by-Removal of Ash Pond 2 and post-closure site restoration would entail the addition of borrow material to achieve proposed finished grades and provide a suitable medium to support restoration of the former impoundment with approved, non-invasive seed mixes designed to quickly establish desirable vegetation. TVA estimates between 400 and 800 truck trips (200 to 400 truckloads) of borrow per day would be transported to JOF when needed throughout the estimated 12-year closure period.

### **2.3.2 Alternative C2 – Post-Closure Dike Breach**

Sub-Alternative C2 is another post-closure option. Upon completion of the excavation activities, the dikes surrounding Ash Pond 2 would be breached in one or more places and the interior of the unit would be allowed to be inundated by Kentucky Reservoir. Slopes around the breach would be covered in riprap or an approved alternative method to protect them from erosion. Large boulders would be placed in the breach to block any marine traffic from entering the flooded Ash Pond 2 footprint. Some areas may remain above the normal lake level and would be stabilized and vegetated. TVA would evaluate long-term stabilization and potential future use of this area. No borrow material would be required for this sub-alternative.

## **2.4 Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficial Reuse Processing Facility**

Under Alternative D, TVA would close Ash Pond 2 by removal in the same manner as Alternative C. However, the excavated CCR (up to approximately 4.5 million yd<sup>3</sup>) would be loaded into trucks and transported in off-road heavy haul trucks to an onsite beneficial reuse processing facility, or in covered over-the-road dump trucks (capacity of 17 yd<sup>3</sup>) to an offsite beneficial reuse processing facility, for use in concrete and other building materials. Any unusable CCR and excavated soil material would be transported to an existing offsite permitted landfill.

No specific provider of the beneficiation services, or the specific site at which a beneficial reuse processing facility would be constructed, has been determined at this time. TVA is programmatically evaluating the construction and operation of potential CCR beneficial reuse processing facilities in a separate NEPA review. This Ash Impoundment Closure EIS will only assess the potential transport of CCR to such a facility.

TVA is considering two options for restoration of Ash Pond 2 following Closure-by-Removal activities. These are the same as identified for Alternative C.

**2.4.1 Sub-Alternative D1 – Post-Closure Site Restoration**

Under Sub-Alternative D1, the area of Ash Pond 2 would be restored upon completion of the excavation activities to a soil and vegetated state as described for Sub-Alternative C1.

**2.4.2 Sub-Alternative D2 – Post-Closure Dike Breach**

Under Sub-Alternative D2, upon completion of the excavation activities, the dikes surrounding Ash Pond 2 would be breached in one or more places and the interior of the unit would be allowed to be inundated by the reservoir as described for Sub-Alternative C2.

### **3.0 Environmental Review Process**

The NEPA review process is intended to help federal agencies make decisions that are based on an understanding of the proposed action's potential impacts. NEPA regulations also encourage and in some instances require TVA provide opportunities for public involvement in the decision-making process.

As noted, TVA intends to prepare an EIS, the most intensive level of NEPA review, to consider options for management of CCR at JOF. During the development of the EIS, the public, stakeholders, resource and permitting agencies, and other interested parties will have two opportunities to provide input on the development of the environmental study. The first opportunity is the initial scoping process that follows the publication of the NOI. The second opportunity for public comment follows the publication of the Draft EIS, subsequent to the publication of the NOI.

In addition to agency and public input, the EIS will also address specific requirements associated with a number of federal laws such as National Historic Preservation Act of 1966, Endangered Species Act of 1973, Clean Water Act of 1972, and Clean Air Act, and would satisfy the requirements of applicable Executive Orders (EO), including 11988 (Floodplains Management), EO 11990 (Protection of Wetlands), and EO 13112 as amended by 13751 (Invasive Species).

After considering input received during the public scoping process, TVA will develop and publish a Draft EIS. The Draft EIS will be available to the public for review and comment for 45 days. During the public comment period on the Draft EIS, TVA will conduct a public meeting to receive further public input on the proposed project. Once the public stakeholders, resource and permitting agencies, and other interested parties have reviewed the document, TVA will consider all comments received, make revisions, if necessary, and publish a final EIS. After a period of at least 30 days, TVA will make a final decision that is summarized in a ROD.

During the most recent public scoping period, TVA estimated that the Draft EIS would be published in late 2025, the Final EIS would be released in spring of 2026, and a final decision could be made as early as summer of 2026. However, Ash Pond 2 is subject to the TDEC Commissioner's Order. Investigations at JOF under the TDEC Commissioner's Order are ongoing, and, as such, a decision on closure of this facility will depend in large part upon the requirements of the TDEC Commissioner's Order with associated potential schedule impacts.

#### **3.1 Public Outreach During the Scoping Period**

Public scoping was initiated with the publication of the NOI to prepare an EIS in the Federal Register on November 26, 2024 (Appendix A). The NOI initiated a 35-day public scoping period, which concluded on December 30, 2024. In addition to the NOI in the Federal Register, TVA published notices regarding this effort in newspapers that serve the Humphreys County area; issued a news release to media; and posted the news release on the TVA website to solicit public input. Additionally, notifications were issued to state and federal agencies and interested stakeholders.

During a previous scoping process for the project that was held from November 15, 2019, through December 20, 2019, TVA held a public scoping meeting on December 2, 2019, in New Johnsonville, Tennessee. Approximately 12 people attended the scoping meeting. Attendees included members of the general public, media representatives, and other special interest groups. After consideration of comments received during the 2019 scoping period, TVA developed a Scoping Report released on March 23, 2020, that summarizes the public and agency comments that were received.

TVA did not hold a public meeting for the 2024 public scoping period; however, TVA anticipates holding a community meeting near JOF after releasing the Draft EIS. The comments received during both scoping periods will be considered as the Draft EIS is developed. Additional opportunities for the public to comment on the proposed actions and environmental analysis will be provided during the public review period of the Draft EIS.

### 3.2 Summary of Scoping Feedback

TVA received two comments in conjunction with the 2024 scoping process (Appendix B). One comment was received via letter from the TDEC Division of Water Resources (DWR). DWR stated that “the facility has an existing construction storm water permit (CGP) and the accompanying Storm Water Pollution Prevention Plan that will likely need to be modified as the work for closure begins. Depending on the changes in discharges as the pond is dewatered, the NPDES permit might have to be modified, or a new permit issued. A new onsite landfill will require a CGP and a hydrologic determination study by a certified hydrologic professional to identify all of the aquatic resources within the project limits of disturbance to determine the impact to water resources. An Aquatic Resources Alteration Permit (ARAP) will most likely be necessary.”

DWR also expressed concerns with the closure project, depending on the alternative chosen. They stated that if TVA opts for beneficial reuse of the CCR materials, the heavy metal content of the materials will have to be considered.

The other comment was received via email from the TDEC, Division of Air Pollution Control. The Division of Air Pollution Control expressed concerns over air quality impacts, idling, and fugitive dust and recommended that TVA evaluate such potential impacts prior to any clearing, demolition, or construction. The Division also recommended the operation of trucks with up-to-date emission control technologies and proper maintenance to minimize vehicle and equipment emissions as well as the adoption of best practices to minimize vehicle idling to minimize the impact of mobile source emissions on ambient air quality. To minimize fugitive dust generated from construction activities, the Division of Air Pollution Control recommends the use of wet suppression or other measures.

As discussed in the 2020 Scoping Report, TVA received five comments during the previous scoping period that was held from November 15, 2019, through December 20, 2019 (TVA 2020). These comments included three comment letters from public agencies, including TDEC, the United States Fish and Wildlife Service (USFWS) and the National Park Service (NPS); one email submission; and one comment received at the public meeting by a member of the public. Comment submissions were reviewed to identify specific issues of concern by each commenter and were grouped in general categories for identification and review. Issues raised by commenters included the following:

- 1) *Threatened and Endangered Species* – The USFWS noted previous consultation on likely adverse effects to the federally listed pink mucket (*Lampsilis abrupta*) as a result of temporary slope stabilization measures at Ash Pond 2.
- 2) *Historic Resources* – The NPS expressed concern regarding the effect of offsite transport of CCR on the historic or other resources of the Trail of Tears National Historic Trail.

- 3) *Cultural Resources* – TDEC noted that construction of a new onsite landfill has the potential to disturb cultural resources<sup>1</sup>.
- 4) *Air Resources* – TDEC identified the potential for fugitive dust emissions and emissions generated by gasoline and diesel fueled trucks and construction equipment during closure activities. In addition, TDEC also recommended the EIS consider the use of truck wheel washing stations and wetting to minimize fugitive dust impacts on local roads and highways.
- 5) *Solid Waste* – TDEC recommended that any waste associated with the proposed action be managed in accordance with Solid Waste Rules and Regulations of the State of Tennessee.
- 6) *Permitting Requirements* – TDEC referenced a need to comply with appropriate permitting in conjunction with project alternatives including the potential modification of the existing NPDES storm water CGP and accompanying Stormwater Pollution Prevention Plan. The agency also identified the need for a hydrologic determination study by a certified hydrologic professional to identify all of the aquatic resources within the proposed landfill limits of disturbance to determine the impact to water resources, and the potential for an ARAP in conjunction with the construction of a new onsite landfill<sup>1</sup>.
- 7) *Future use* – TVA received one comment suggesting that once closed, the JOF Ash Pond 2 area be restored and used to site a solar power array.

### **3.3 Issues to be Addressed**

Based on TVA's internal scoping and input gathered from the public scoping process, TVA anticipates the major issues to be addressed in this EIS include:

- *Surface Water Resources* – TVA will describe the quality of surface water resources, including Kentucky Reservoir, and will analyze the extent to which each closure alternative would affect water quality directly or indirectly (i.e., through infiltration or runoff). TVA would seek and obtain all necessary permits required for the alternative selected.
- *Groundwater Resources* – TVA will use groundwater data obtained from studies historically conducted by TVA and additional studies conducted for the Environmental Investigation Plan under the current regulatory requirements to describe existing groundwater conditions in the vicinity and will analyze the extent to which each closure alternative would affect groundwater quality.
- *Biological Resources* (vegetation, wildlife, and aquatic life) – Community types within the project area will be described. Significant natural features, including rare species habitat, important wildlife habitat, or locally uncommon natural community types will be identified. TVA will evaluate the effect of each alternative on terrestrial and aquatic ecosystems.
- *Threatened and Endangered Species* – Federally or state-listed as threatened or endangered plants and animals known to exist in the vicinity of JOF or any of the proposed

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<sup>1</sup> This addresses an issue that was raised during the initial scoping period in 2019. Construction of an onsite landfill is no longer being considered as part of the proposed action.

project areas will be identified. The effects of each closure alternative on endangered, threatened, and rare species in need of management will be evaluated.

- *Floodplains and Wetlands* – Floodplains and wetlands within the proposed project area will be identified. The effects of each of the alternatives on jurisdictional waters and floodplains will be evaluated.
- *Geology and Soils* – Regional geology and soils at proposed project sites will be identified and any limitations related to construction and operation will be evaluated. Impacts to prime farmland soils will be quantified.
- *Land Use* – Land uses within the proposed project area and within the vicinity (5-mile radius) will be identified. The impacts to land use associated with each of the alternatives will be evaluated.
- *Transportation* – The existing roadway network in the vicinity of JOF, including physical road characteristics (number of lanes, shoulders, and posted speed limits) and existing traffic characteristics will be identified. The effect of borrow transport and transport of CCR to a beneficial reuse processing facility will be evaluated. Additionally, alternative modes of transportation will be considered for the transport of CCR offsite to an existing landfill, and potential effects of each option will be analyzed.
- *Recreational and Managed Areas* – Natural areas, parks, and other managed areas within the vicinity of the alternatives (3-mile radius) will be identified and potential impacts associated with the proposed alternatives will be addressed.
- *Visual Resources* – The aesthetic setting of each project site will be described and an analysis of changes to scenic attractiveness and scenic integrity associated with each of the alternatives will be completed.
- *Cultural Resources* – TVA will characterize archaeological and historic resources within the Area of Potential Effect. TVA also will discuss any known sites listed on the National Register of Historic Places. The potential effects of each alternative on historic and archaeological resources including the Trail of Tears National Historic Trail will be evaluated.
- *Noise* – Baseline noise conditions will be characterized and noise emissions associated with the construction phase equipment use and truck traffic during operations will be assessed to determine the potential noise impact of each alternative on sensitive receptors.
- *Air Quality and Climate Change* – Air quality considerations including attainment status and regional air quality information will be presented. Impacts to air quality from activities associated with each of the alternatives will be evaluated. The impact of emissions from each of the alternatives on climate change will be addressed.
- *Socioeconomics* – Demographic and community characteristics associated with the proposed project and along potential haul routes to a beneficial reuse processing facility will be evaluated. The evaluation will include the identification of potential low-income and minority populations to evaluate the potential for adverse impacts. Economic effects associated with the proposed alternatives will also be evaluated.

- *Solid and Hazardous Waste* – Current practices regarding hazardous materials/waste management at JOF will be identified. In addition, TVA will identify impacts from any wastes that would be generated during closure activities, including those uncovered during site preparation or generated during the construction process, that would be subject to solid and hazardous waste rules and regulations of the State of Tennessee. Operational measures (waste management practices) will be incorporated into the assessment of impacts.
- *Public Health and Safety* – Potential effects of each alternative on public health and safety will be evaluated. The evaluation will include potential effects of transportation of CCR and borrow along public roadways.

The potential direct and indirect impacts, including the impacts of reasonably foreseeable future actions on each resource will be assessed in the EIS. Mitigative measures designed to minimize impacts, as appropriate, will be identified.

## **4.0 References**

Tennessee Valley Authority (TVA). 2020. Johnsonville Fossil Plant Ash Impoundment Closure Environmental Impact Statement Scoping Report, March 2020.

## **Appendix A**

### **Federal Register Notice and Newspaper Advertisements**



93390

Federal Register / Vol. 89, No. 228 / Tuesday, November 26, 2024 / Notices

nationals when they complete and submit the Application for a U.S. Passport (form DS-11). Passport applicants can either download the DS-11 from the internet or obtain one from an acceptance facility/passport agency or U.S. embassy/consulate abroad. The form must be completed and executed at an acceptance facility, passport agency, or U.S. embassy/consulate (if abroad), and submitted with evidence of citizenship and identity.

**Amanda E Smith,**

*Managing Director for Passport Support Operations, Bureau of Consular Affairs, Passport Services, Department of State.*  
[FR Doc. 2024-27703 Filed 11-25-24; 8:45 am]  
BILLING CODE 4710-06-P

**DEPARTMENT OF STATE**

[Public Notice 12582]

**60-Day Notice of Proposed Information Collection: U.S. Passport Renewal Application for Eligible Individuals**

**ACTION:** Notice of request for public comment.

**SUMMARY:** The Department of State is seeking Office of Management and Budget (OMB) approval for the information collection described below. In accordance with the Paperwork Reduction Act of 1995, we are requesting comments on this collection from all interested individuals and organizations. The purpose of this notice is to allow 60 days for public comment preceding submission of the collection to OMB.

**DATES:** The Department of State will accept comments from the public up to January 27, 2025.

**ADDRESSES:** You may submit comments by any of the following methods:

- **Web:** Persons with access to the internet may comment on this notice by going to [www.Regulations.gov](http://www.Regulations.gov). You can search for the document by entering Docket Number: DOS-2024-0043 in the Search field. Then click the "Comment Now" button and complete the comment form. Email and regular mail options have been suspended to centralize receiving and addressing all comments in a timely manner.

*Email: [Passport-Form-Comments@State.gov](mailto:Passport-Form-Comments@State.gov).*

You must include the DS form number (if applicable), information collection title, and the OMB control number in the email subject line.

**SUPPLEMENTARY INFORMATION:**

- **Title of Information Collection:** U.S. Passport Renewal Application for Eligible Individuals.

- **OMB Control Number:** 1405-0020.
- **Type of Request:** Revision of a Currently Approved Collection.
- **Originating Office:** Bureau of Consular Affairs, Passport Services, Office of Program Management and Operational Support (CA/PPT/S/PMO).
- **Form Number:** DS-82.
- **Respondents:** Individuals or Households.
- **Estimated Number of Respondents:** 8,321,500.
- **Estimated Number of Responses:** 8,321,500.
- **Average Time per Response:** 40 minutes.
- **Total Estimated Burden Time:** 5,547,700 hours per year.
- **Frequency:** On occasion.
- **Obligation To Respond:** Required to Obtain a Benefit.

We are soliciting public comments to permit the Department to:

- Evaluate whether the proposed information collection is necessary for the proper functions of the Department.
- Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used.
- Enhance the quality, utility, and clarity of the information to be collected.
- Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Please note that comments submitted in response to this Notice are public record. Before including any detailed personal information, you should be aware that your comments as submitted, including your personal information, will be available for public review.

**Abstract of Proposed Collection**

The U.S. Passport Renewal Application for Eligible Individuals (form DS-82) is used by eligible citizens and non-citizen nationals of the United States who need to renew their current or recently expired U.S. passport.

**Methodology**

Passport Services collects information from U.S. nationals when they complete and submit the DS-82. The Department features an online application process called Online Passport Renewal (OPR). Using the online platform, eligible applicants can complete the required steps for passport renewal. Passport applicants can download the DS-82 from the internet or obtain the form from an acceptance facility/passport agency. The form must be completed, signed, and submitted by mail or in

person at an acceptance facility, passport agency, or U.S. embassy/consulate (if abroad).

**Amanda E Smith,**

*Managing Director for Passport Support Operations, Bureau of Consular Affairs, Passport Services, Department of State.*  
[FR Doc. 2024-27705 Filed 11-25-24; 8:45 am]  
BILLING CODE 4710-06-P

**TENNESSEE VALLEY AUTHORITY**

**Johnsonville Fossil Plant Ash Impoundment Closure**

**AGENCY:** Tennessee Valley Authority.  
**ACTION:** Notice of intent.

**SUMMARY:** The Tennessee Valley Authority (TVA) intends to prepare an environmental impact statement (EIS) to evaluate the potential environmental effects associated with the future management of coal combustion residuals (CCR) material in Ash Pond 2 at the Johnsonville Fossil Plant (JOF) located in Humphreys County, Tennessee. This EIS supports the implementation of the closure of Ash Pond 2, a CCR surface impoundment at JOF, in a manner that is protective of human health and the environment. TVA's intention to prepare an EIS to address CCR management at JOF Ash Pond 2 was previously noticed in November 2019. The project was paused after completion of scoping while TVA continued to refine the project proposal and alternatives. This current notice is to reinstate the EIS.

**DATES:** The public scoping period begins with the publication of this Notice of Intent in the **Federal Register**. To ensure consideration, comments must be postmarked, emailed, or submitted online no later than December 30, 2024.

**ADDRESSES:** Written comments should be sent to Brittany Kunkle, NEPA Compliance Specialist, 400 W Summit Hill Drive, WT 11B-K, Knoxville, TN 37902. Comments also may be submitted online at: <https://www.tva.gov/nepa> or by email to [nepa@tva.gov](mailto:nepa@tva.gov). To ensure your comment is correctly dispositioned, please specify the project when submitting comments. Please note that TVA encourages comments submitted electronically.  
**FOR FURTHER INFORMATION CONTACT:** Brittany Kunkle, 865-632-6470, [brkunkle@tva.gov](mailto:brkunkle@tva.gov), or by mail at the address above.

**SUPPLEMENTARY INFORMATION:** The EIS identification number is EISX-455-00-000-1723542522. This notice is provided in accordance with the National Environmental Policy Act

(NEPA) along with the Council on Environmental Quality (40 CFR parts 1500 to 1508) and associated TVA regulations and procedures (18 CFR part 1318), and Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR part 800).

#### Background

The Tennessee Valley Authority is the largest public power company in the United States providing electricity to 153 local power companies, 60 direct served customers, and serving roughly 10 million people across seven states. TVA is founded on a mission of service, providing low-cost, reliable power, environmental stewardship, and economic development. TVA is an industry leader in responsible coal ash management, pioneering new technologies to ensure our sites are safe, secure, and protective of human health and the environment.

JOF had ten coal-fired generating units that had a combined capacity of 1,254 megawatts. Units 5 through 10 ceased power generation in 2012 and were retired on December 31, 2015. Units 1 through 4 ceased operation and were retired on December 31, 2017. While in operation, JOF consumed approximately 3.5 million tons of coal per year and produced approximately 7,195 million kilowatt-hours of electricity a year. A portion of the CCR produced as a by-product of burning coal by the collective units was stored in Ash Pond 2. It is estimated that approximately 4.5 million cubic yards of CCR material remains in JOF Ash Pond 2.

In January 2019, TVA completed the *Final Johnsonville Fossil Plant Decontamination and Deconstruction Environmental Assessment and Finding of No Significant Impact (FONSI)* analyzing the potential demolition of the JOF generating units and facilities. As a result of the retirement of all coal-fired generating units at JOF, CCR is no longer being generated and Ash Disposal Area Number 2 (Ash Pond 2) is no longer receiving CCR materials.

In June 2016, TVA issued the Final Ash Impoundment Closure Programmatic Environmental Impact Statement (PEIS) that analyzed methods for closing CCR impoundments at TVA fossil plants and identified specific screening and evaluation factors to help frame its evaluation of closures at its other facilities. A Record of Decision was released in July 2016 that would allow future environmental reviews of qualifying CCR impoundment closures to tier from the PEIS. The PEIS can be found at <https://www.tva.com/nepa>.

This EIS is intended to tier from the 2016 PEIS to evaluate the closure alternatives for the JOF Ash Pond 2.

#### Preliminary Proposed Action and Alternatives

In addition to a No Action Alternative, this EIS will address reasonable alternatives that meet the purpose and need for the project. TVA plans to consider the following: (1) Closure-in-Place of Ash Pond 2, (2) Closure-by-Removal of Ash Pond 2 to an Existing Offsite permitted Landfill or (3) Closure-by-Removal to an Onsite or Offsite Beneficial Reuse Processing Facility, with unusable CCR and excavated soil material going to an existing offsite permitted landfill. If beneficial reuse is selected, subsequent environmental analyses would be conducted as appropriate.

TVA has not selected an offsite landfill for any potential disposal of CCR from JOF. Therefore, impacts of any potential offsite CCR disposal options would be based on “bounding” characteristics of, for example, CCR transport to suitable existing landfills, using conservative assumptions for defining the upper bound of potential effects. Public comments are invited concerning both the scope of the review and environmental issues that should be addressed.

TVA has not made any decisions about the final disposition of CCR storage at JOF. TVA is preparing this EIS to inform TVA decision makers, other agencies, and the public about the potential for environmental impacts associated with the final disposition of CCR at JOF Ash Pond 2. Final closure decisions may be subject to change depending on feedback from regulatory agencies.

#### Project Purpose and Need

The purpose of this project is to address the closure of Ash Pond 2, a CCR surface impoundment at JOF. As a result of the retirement of all coal-fired generating units at JOF, CCR is no longer being generated and Ash Disposal Area Number 2 (Ash Pond 2) is no longer receiving CCR materials and should be closed in a manner that is protective of the human health and the environment. This EIS will address the direct, indirect, and cumulative impacts of various alternatives for permanent closure of Ash Pond 2 on the environment.

#### Request for Identification of Potential Alternatives, Information, and Analyses Relevant to the Proposed Action

Public scoping is integral to the process for implementing NEPA and ensures that issues are identified early and properly studied, issues of little significance do not consume substantial time and effort, and the analysis of those issues is thorough and balanced. The final range of issues to be addressed in the environmental review will be determined, in part, from scoping comments received. TVA is particularly interested in public input on other reasonable alternatives that should be considered in the EIS. The preliminary identification of reasonable alternatives and environmental issues in this notice is not meant to be exhaustive or final.

#### Public Participation

TVA is committed to the meaningful involvement of our stakeholders and the affected communities in the decision-making process. The public is invited to submit comments on the scope of this EIS no later than the date identified in the **DATES** section of this notice. Federal, state, and local agencies and Native American Tribes are also invited to provide comments. Written requests by agencies or Indian tribes to participate as a cooperating agency or consulting party must also be received by this date. Any comments received, including names and addresses, will become part of the administrative record and will be available for public inspection.

After consideration of comments received during the scoping period, TVA will develop and distribute a scoping document that will summarize public and agency comments that were received and provide a schedule for completing the EIS process. Following analysis of the affected resources, TVA will prepare a Draft EIS for public review and comment. A final decision on proceeding with the management and final disposal of CCR and closure of the Ash Pond 2 surface impoundment will be based on a number of factors including public input, the conclusions of the EIS, the requirements of the CCR Rule, relevant legal requirements, engineering and risk evaluations, and financial considerations. TVA's intention to prepare an EIS to address CCR management in JOF Ash Pond 2 was previously noticed (84 FR 62562, November 15, 2019). The project was paused after completion of scoping while TVA continued to refine the project proposal and alternatives. Comments received during the previous

scoping period will also be considered during the development of the Draft EIS.

TVA expects to release the Draft EIS in late 2025. TVA anticipates holding a community meeting near JOF after releasing the Draft EIS. Meeting details will be posted on TVA's website and advertised in local media. TVA expects to release the Final EIS in Summer 2026.

**Michael McCall,**

*Vice President, Environment and Sustainability.*

[FR Doc. 2024-27844 Filed 11-22-24; 4:15 pm]  
BILLING CODE 8120-01-P

## DEPARTMENT OF TRANSPORTATION

### Federal Motor Carrier Safety Administration

[Docket No. FMCSA-2024-0028]

#### Qualification of Drivers; Exemption Applications; Epilepsy and Seizure Disorders

**AGENCY:** Federal Motor Carrier Safety Administration (FMCSA), Department of Transportation (DOT).

**ACTION:** Notice of applications for exemption; request for comments.

**SUMMARY:** FMCSA announces receipt of applications from 13 individuals for an exemption from the prohibition in the Federal Motor Carrier Safety Regulations (FMCSRs) against persons with a clinical diagnosis of epilepsy or any other condition that is likely to cause a loss of consciousness or any loss of ability to control a commercial motor vehicle (CMV) to drive in interstate commerce. If granted, the exemptions would enable these individuals who have had one or more seizures and are taking anti-seizure medication to operate CMVs in interstate commerce.

**DATES:** Comments must be received on or before December 26, 2024.

**ADDRESSES:** You may submit comments identified by the Federal Docket Management System Docket No. FMCSA-2024-0028 using any of the following methods:

- **Federal eRulemaking Portal:** Go to [www.regulations.gov/](https://www.regulations.gov/), insert the docket number (FMCSA-2024-0028) in the keyword box and click "Search." Next, choose the only notice listed, and click on the "Comment" button. Follow the online instructions for submitting comments.

- **Mail:** Dockets Operations; U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building Ground Floor, Washington, DC 20590-0001.

- **Hand Delivery:** West Building Ground Floor, 1200 New Jersey Avenue SE, Washington, DC, 20590-0001 between 9 a.m. and 5 p.m. ET Monday through Friday, except Federal Holidays.

- **Fax:** (202) 493-2251.

To avoid duplication, please use only one of these four methods. See the "Public Participation" portion of the SUPPLEMENTARY INFORMATION section for instructions on submitting comments.

**FOR FURTHER INFORMATION CONTACT:** Ms. Christine A. Hydock, Chief, Medical Programs Division, FMCSA, DOT, 1200 New Jersey Avenue SE, Washington, DC 20590-0001, (202) 366-4001, [fmcamedical@dot.gov](mailto:fmcamedical@dot.gov). Office hours are 8:30 a.m. to 5 p.m. ET Monday through Friday, except Federal holidays. If you have questions regarding viewing or submitting material to the docket, contact Dockets Operations, (202) 366-9826.

#### SUPPLEMENTARY INFORMATION:

##### I. Public Participation

###### A. Submitting Comments

If you submit a comment, please include the docket number for this notice (Docket No. FMCSA-2024-0028), indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation. You may submit your comments and material online or by fax, mail, or hand delivery, but please use only one of these means. FMCSA recommends that you include your name and a mailing address, an email address, or a phone number in the body of your document so that FMCSA can contact you if there are questions regarding your submission.

To submit your comment online, go to <https://www.regulations.gov/docket/FMCSA-2024-0028>. Next, choose the only notice listed, click the "Comment" button, and type your comment into the text box on the following screen. Choose whether you are submitting your comment as an individual or on behalf of a third party and then submit.

If you submit your comments by mail or hand delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and electronic filing. FMCSA will consider all comments and material received during the comment period.

###### B. Viewing Comments

To view comments go to [www.regulations.gov](https://www.regulations.gov/). Insert the docket number (FMCSA-2024-0028) in the keyword box and click "Search." Next, choose the only notice listed, and click

"Browse Comments." If you do not have access to the internet, you may view the docket online by visiting Dockets Operations on the ground floor of the DOT West Building, 1200 New Jersey Avenue SE, Washington, DC 20590-0001, between 9 a.m. and 5 p.m. ET Monday through Friday, except Federal holidays. To be sure someone is there to help you, please call (202) 366-9317 or (202) 366-9826 before visiting Dockets Operations.

###### C. Privacy Act

In accordance with 49 U.S.C. 31315(b)(6), DOT solicits comments from the public on the exemption request. DOT posts these comments, without edit, including any personal information the commenter provides, to [www.regulations.gov](https://www.regulations.gov). As described in the system of records notice DOT/ALL 14 (Federal Docket Management System), which can be reviewed at <https://www.transportation.gov/individuals/privacy/privacy-act-system-records-notices>, the comments are searchable by the name of the submitter.

##### II. Background

Under 49 U.S.C. 31136(e) and 31315(b), FMCSA may grant an exemption from the FMCSRs for no longer than a 5-year period if it finds such exemption would likely achieve a level of safety that is equivalent to, or greater than, the level that would be achieved absent such exemption. The statutes also allow the Agency to renew exemptions at the end of the 5-year period. FMCSA grants medical exemptions from the FMCSRs for a 2-year period to align with the maximum duration of a driver's medical certification.

The 13 individuals listed in this notice have requested an exemption from the epilepsy and seizure disorders prohibition in 49 CFR 391.41(b)(8). Accordingly, the Agency will evaluate the qualifications of each applicant to determine whether granting the exemption will achieve the required level of safety mandated by statute.

The physical qualification standard for drivers regarding epilepsy found in § 391.41(b)(8) states that a person is physically qualified to drive a CMV if that person has no established medical history or clinical diagnosis of epilepsy or any other condition which is likely to cause the loss of consciousness or any loss of ability to control a CMV.

In addition to the regulations, FMCSA has published advisory criteria<sup>1</sup> to

<sup>1</sup> These criteria may be found in APPENDIX A TO PART 391—MEDICAL ADVISORY CRITERIA, section H. *Epilepsy*: § 391.41(b)(8), paragraphs 3, 4.

Wednesday, November 27, 2024

5B | The News-Democrat

**REPORTS**

**PUBLIC NOTICES**

**SUBSTITUTE TRUSTEE'S NOTICE OF SALE**

Sale at public auction will be on December 19, 2024, at or about 10:00 AM, local time, at the Humphreys County Courthouse, 202 Court Square, Waverly, TN 37185, pursuant to the Deed of Trust executed by Roderic Gaines, unmarried man, to Rudy Title & Escrow, as Trustee for Mortgage Electronic Registration Systems, Inc., solely as nominee for Stockton Mortgage Corporation dated November 28, 2023, and recorded on November 29, 2023, in Book TD247, Page 1726, Instrument No. 23003174, in the Register's Office for Humphreys County, Tennessee ("Deed of Trust"), conducted by Padgett Law Group, having been appointed Substitute Trustee, all of record in the Humphreys County Register's Office. Default in the performance of the covenants, terms, and conditions of said Deed of Trust has been made; and the entire indebtedness has been declared due and payable.

Party entitled to enforce the debt: SERVIS ONE, INC DBA BSI FINANCIAL SERVICES  
Other interested parties: None  
The hereinafter described real property located in Humphreys County will be sold to the highest call bidder subject to all unpaid taxes, prior liens and encumbrances of record:  
Legal Description: Lying and being in Humphreys County, Tennessee, and being situated in the Town of Waverly, and being known as Lot No. 9-E of East Meade Development Project, a plat of which is of record in Plat Book 3, Page 2 (now Plat Cabinet A, Slide 38) in the Register's Office of Humphreys County, Tennessee, more particularly described as follows:

Beginning at a point in the West right-of-way of Murphree Avenue, the same being the Southeast corner of Lot 8-E; running thence with said right-of-way, South 2 degrees East 75 feet to a point at the Northeast corner of Lot 16-E; thence with the North boundary of Lot 16-E, South 80 degrees West 100 feet to a point at the Northwest corner of Lot 16-E; thence North 2 degrees West 75 feet to a point at the Southwest corner of Lot 8-E; thence with the South boundary of Lot 8-E, North 80 degrees East 100 feet to the point of beginning.  
Being the same property conveyed to the within named grantor(s) by Deed recorded simultaneously herewith in Book WD214, Page 2035 or Instrument No. \_\_\_\_\_, Register's Office for said County.  
Street Address: The street address of the property is believed to be 206 Murphree Avenue, Waverly, TN 37185, but such address is not part of the legal description of the property. In the event of any discrepancy, the legal description herein shall control.  
Map/Parcel Number: 064E-D-019.00-000  
Current owner(s) of Record: Roderic Gaines  
This sale is subject to all matters shown on any applicable recorded Plat or Plan; any unpaid taxes and assessments; any restrictive covenants, easements or setback lines that may be applicable; rights of redemption, equity, statutory or otherwise, not otherwise waived in the Deed of Trust, including rights of redemption of any government agency, state or federal; and any and all prior deeds of trust, liens, dues, assessments, encumbrances, defects, adverse claims and other matters that may take priority over the Deed of Trust upon which this foreclosure sale is conducted or are not extinguished by this Foreclosure Sale.

THE PROPERTY IS SOLD WITHOUT ANY REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, RELATING TO TITLE, MARKETABILITY OF TITLE, POSSESSION, QUIET ENJOYMENT OR THE LIKE AND FITNESS FOR A GENERAL OR PARTICULAR USE OR

**PURPOSE.** The title is believed to be good, but the undersigned will sell and convey only as Substitute Trustee.  
The right is reserved to adjourn the sale to another time certain or to another day, time, and place certain, without further publication upon announcement on the day, time, and place of sale set forth above or any subsequent adjourned day, time, and place of sale.  
If you purchase a property at the foreclosure sale, the entire purchase price is due and payable at the conclusion of the auction in the form of a certified check made payable to or endorsed to Padgett Law Group. No personal checks will be accepted. To this end, you must bring sufficient funds to outbid the lender and any other bidders. Insufficient funds will not be accepted. Amounts received in excess of the winning bid will be refunded to the successful purchaser at the time the foreclosure deed is delivered.  
This property is being sold with the express reservation that the sale is subject to confirmation by the lender or trustee. This sale may be rescinded by the Substitute Trustee at any time.

Padgett Law Group, Substitute Trustee  
6267 Old Water Oak Road, Suite 203  
Tallahassee, FL 32312  
(850) 422-2520  
(telephone)  
(850) 422-2567  
(facsimile)  
attorney@padgettlawgroup.com  
PLG# 24-011283-1  
Publication Dates: November 20 and 27, 2024, and December 4, 2024.

**NOTICE TO CREDITORS**  
**ESTATE OF MILDRED FAY MCCAIG (Deceased) 2024-PR-133**  
Notice is hereby given that on the 14<sup>th</sup> day of November, 2024 Letters of Co-Administration in respect to the Estate of MILDRED FAY MCCAIG, deceased, who died February 27, 2024, were issued to the Co-Administrators by the Chancery Court of Humphreys County, Tennessee.  
All persons, resident and non-resident, having claims, matured or unmatured, against the estate are required to file the same with the Clerk of the above named Court on or before the earlier of the dates prescribed in (1) or (2). Otherwise their claims will forever be barred:  
(1) (A) Four (4) months from the date of the first publication (or posting, as the case may be) of this Notice if the creditor received an actual copy of this Notice to Creditors at least sixty (60) days before date that is four (4) months from the date of the first publication (or posting); or  
(B) Sixty (60) days from the date of the creditor received an actual copy of the Notice to Creditors, if the creditor received a copy of the Notice less than sixty (60) days prior to the date that is four (4) months from the date of the first publication (or posting) as described in (1)(A); or  
(2) Twelve (12) months from the decedents date of death.  
This 14<sup>th</sup> day of November, 2024.

Nina Marie McCaig  
511 Lorna St.  
Charlotte, NC 28205  
Dustin Alan McCaig  
223 Cedar Ave  
Linden, TN 37906  
**P e r s o n a l**  
Representative(s)  
/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk  
Morgan Peyton, Deputy Clerk  
Stephanie Burney, Deputy Clerk  
T. Scott Daniel  
Daniel Law, PLLC  
129 N. Court Sq.  
Waverly, TN 37185  
Attorney for Personal Representative(s)  
Publication Dates: November 20 and 27, 2024.

**PUBLIC NOTICE**

There will be a Board of Zoning Appeals meeting on December 19th, 2024 at 6:00 p.m. at City of New Johnsonville. This meeting will be held for a variance on easements for 1254 Timberwood Dr., Map 091D, Group A, Parcel 001.00 and Parcel 12.  
Richie Blue  
Codes and Zoning Administrator  
Publication Dates: November 27, 2024.

**PUBLIC NOTICE**  
The City of McEwen beer board will meet on December 10th, 2024 @ 5:30 pm in the McEwen City Hall building, 9586 Highway 70, E, McEwen, TN. The beer board will consider and act upon any such lawful business that may come before the board, including but not limited to the renewal of the current beer permits in McEwen for the year of 2025. This board meets annually, the second Tuesday of December @ 5:30 pm at the McEwen City Hall building.  
Vickie Ethridge  
City Recorder  
Publication Date: November 27, 2024.

**PUBLIC NOTICE**

The Humphreys County Utility District Board of Commissioners will meet in regular session at the office of the Humphreys County Utility District, 1311 Highway 70 West, Waverly, TN at 12:00 PM on Monday, December 9, 2024. The public is invited to attend.  
Publication Date: November 27, 2024.

**PUBLIC NOTICE**

The Humphreys County Utility District Board of Commissioners will meet in regular session at the office of the Humphreys County Utility District, 1311 Highway 70 West, Waverly, TN at 12:00 PM on Monday, December 9, 2024. The public is invited to attend.  
Publication Date: November 27, 2024.

**MEETING NOTICE FOR BOARDS, COMMITTEES, AND COMMISSIONS OF THE CITY OF WAVERLY**

The public will take notice that in accordance with the requirements of Section 8-44-101 Tennessee Code Annotated, known as the "Sunshine Law," the regular meetings of Boards, Committees, or Commissions of the City of Waverly, Tennessee, during the calendar year 2025 are as follows:  
Mayor and Board of Alderman: Meets the second and fourth Monday of each month at 5:00 p.m. Meetings are held in the Waverly Municipal Board Room.  
Public Safety: Meets the first Tuesday of each month at 5:00 p.m. Meetings are held in the Waverly Police Department Training Room.  
Public Works: Meets the first Monday of each month at 10:00 a.m. Meetings are held in the Waverly City Hall Conference Room.  
Planning Commission: Meets the fourth Thursday of each month at 6:00 p.m. Meetings are held in the Waverly Municipal Board Room.  
Waverly Housing Authority Board of Commissioners: Meets the second Monday of each month at 12 p.m. Meetings are held in the Waverly City Hall Conference Room.  
The following Committees and Boards hold meetings as needed. Members determine the times, places, and dates:  
Board of Zoning Appeals: All meetings are open to the public and interested persons are encouraged to attend.  
By W.B. (Buddy) Frazier, Mayor  
Publication Date: November 27, 2024.

**HUMPHREYS COUNTY ARREST REPORT**

The Following is the Humphreys County Arrest Report Summary for the week of November 11 – November 17, 2024. The arrest report is a matter of public record at the Humphreys County Sheriff's Office. Individuals listed in the report are innocent until proven guilty in a court of law. This record reflects all county law enforcement agencies.  
-Haskins, Christopher: Driving without a Valid Drivers License, MANF/SELL/DELIVERY/POSSESS of Meth, Poss of Drug Paraphernalia, Simple Possession/Casual Exchange X2  
-Ralston, Jamichael Trevelle: Public Intoxication  
-Allen, Kristin Star: Criminal Trespass, Theft (From a Building)  
-Lyle, Timothy Warren: Disorderly Conduct  
-Tharp, Steven M: DORSL  
-Fritz, Stephen Kyle Jr.: VOP  
-Stumbo, Daniel Wayne: DORSL  
-Carter, Preston Dewayne: FTA, Incest, Rape of a Child  
-Ross, Roger Cleveland Jr.: Violation of Order of Protection/RESTRAI  
-Grimes, Sarah Acatha: VOP  
-Morris, Josh Michael: Aggravated Assault  
-Vick, William Scott: DUI, Violation of Implied Consent  
-Hunt, Shaun Anthony: FTA  
-Morris, Carla Diane: VOP  
-Williams, Charnay Lashell: Fugitive from Justice, Leaving the Scene of Accident Property  
-Putt, Angela Nicole: Simple Possession/Casual Exchange X2, Violation of Interlock Device  
-Warren, Thomas Joseph: Poss of Drug Paraphernalia, Simple Possession/Casual Exchange, Unlawful Carrying or Possession of A Weapon  
-Chaney, Brianne Nmn: Violation of Order of Protection/RESTRAI  
-Hopper, Terry Lee: Domestic Assault  
-Allen, David Randall: Simple Possession/Casual Exchange  
-Salazar Medina, Jose Manuel: DORSL, FTA, Speeding 21 MPH Over Limit  
-Scott, James William: VOP  
-Murphy, Eric Cole: VOP  
-Roque, Alejandra: Driving without a Valid Drivers License  
-Jackson, James Horace: DORSL  
-Sanders, Monique Rosemarie: Aggravated Assault  
-Tidwell, Danny Ray: FTA


**Subscribe Today!!**  
**296-2426**

**FISH DAY!**  
IT'S TIME TO STOCK YOUR POND!  
Delivery will be:  
**Tuesday, December 10**  
Camden 12:45-1:30 @ United Farm & Home Co-op  
Waverly 2:00-2:45 @ United Farm & Home Co-op  
Dickson 3:30-4:15 @ United Farm & Home Co-op  
**Friday, December 13**  
Erin 4:15-5:00 @ United Farm & Home Co-op  
"LIKE" us on Facebook!  
**FISH WAGON**  
To Place an Order Call 1-800-643-8439  
www.fishwagon.com

**Jennifer's Title Search**  
Gotavincalljen.com  
Cell: 615-779-3255  
Auction 12-14-2024  
10:00AM  
Vehicles to be auctioned below:  
JR's Towing  
204 E Commerce S  
06 Chevy  
2CNDL73F066112438  
15 Chevy  
2GNALBEK3F6291120

**Public Hearing for the City of New Johnsonville**  
A Public Hearing will be held at the Regular Council Meeting of the New Johnsonville City Council on Tuesday, December 3, 2024 at 6:00 p.m. in the Conference Room of City Hall, 323 Long Street, New Johnsonville, TN for any comments or questions regarding the passage of Ordinance 2024-05: Amending the Charter for the City of New Johnsonville, Tennessee relative to nepotism. All Citizens are always invited and encouraged to attend.  
**Mayor Wayne Woods**  
Brandy Vann, CMFO/City Recorder

**Thinking About Committing A Crime**  
or manufacturing, buying or selling drugs?

If the law enforcement agencies don't find out about you, Humphreys County Crime Stoppers probably will. Better think about the consequences before you act!  
**CRIME STOPPERS**  
**296-2414**  


**TVA Invites Public Input Related To Management Of Coal Ash At Retired Johnsonville Fossil Plant**

The Tennessee Valley Authority (TVA) is preparing to start an environmental review under the National Environmental Policy Act (NEPA) to consider options for permanently closing the former coal ash disposal area known as Ash Pond 2 at the retired Johnsonville Fossil Plant.  
**TVA invites the public to provide input** on the options for closure, which include no action, closing the coal ash site in place, or closing it by removing the ash to an offsite landfill, or removing the ash to an off-site or on-site beneficial reuse facility.

Comments may be submitted online, or by mail to the address below or via email to [nepa@tva.gov](mailto:nepa@tva.gov). To ensure your comments are correctly dispositioned, please specify the project ("Johnsonville Scoping Report") with your submission. Comments must be received or postmarked **no later than December 23, 2024**. Any comments received, including names and addresses, will become part of the administrative record and subject to public inspection. More information on this Notice of Intent (NOI) to initiate the environmental review process can be found at [www.tva.gov/nepa](http://www.tva.gov/nepa)

**Send Comments to:**  
Brittany Kunkle  
Tennessee Valley Authority  
400 West Summit Hill Drive, WF-11B-K  
Knoxville, TN 37902

**FOR SALE**  
**2018 GMC ACADIA SLT**  
98K Miles, Leather, 3rd Row Seating, 4 Door SUV, Fair Condition  
**\$14,000**  
**Johnsonville TVA Employees Credit Union**  
209 Hwy. 641 North, Camden, TN 38320  
1-800-338-4609 Ext. 228

Wednesday, December 4, 2024

3B | The News-Democrat

REPORTS

PUBLIC NOTICES

SUBSTITUTE TRUSTEE'S NOTICE OF SALE

Sale at public auction will be on December 19, 2024, at or about 10:00 AM, local time, at the Humphreys County Courthouse, 202 Court Square, Waverly, TN 37185, pursuant to the Deed of Trust executed by Roderic Gaines, unmarried man, to Rudy Title & Escrow, as Trustee for Mortgage Electronic Registration Systems, Inc., solely as nominee for Stockton Mortgage Corporation dated November 28, 2023, and recorded on November 29, 2023, in Book TD247, Page 1726, Instrument No. 23003174, in the Register's Office for Humphreys County, Tennessee ("Deed of Trust"), conducted by Padgett Law Group, having been appointed Substitute Trustee, all of record in the Humphreys County Register's Office. Default in the performance of the covenants, terms, and conditions of said Deed of Trust has been made; and the entire indebtedness has been declared due and payable.

Party entitled to enforce the debt: SERVIS ONE, INC DBA BSI FINANCIAL SERVICES

Other interested parties: None

The hereinafter described real property located in Humphreys County will be sold to the highest call bidder subject to all unpaid taxes, prior liens and encumbrances of record:

Legal Description: Lying and being in Humphreys County, Tennessee, and being situated in the Town of Waverly, and being known as Lot No. 9-E of East Meade Development Project, a plat of which is of record in Plat Book 3, Page 2 (now Plat Cabinet A, Slide 38) in the Register's Office of Humphreys County, Tennessee, more particularly described as follows:

Beginning at a point in the West right-of-way of Murphree Avenue, the same being the Southeast corner of Lot 8-E; running thence with said right-of-way, South 2 degrees East 75 feet to a point at the Northeast corner of Lot 16-E; thence with the North boundary of Lot 16-E, South 80 degrees West 100 feet to a point at the Northwest corner of Lot 16-E; thence North 2 degrees West 75 feet to a point at the Southwest corner of Lot 8-E; thence with the South boundary of Lot 8-E, North 80 degrees East 100 feet to the point of beginning.

Being the same property conveyed to the within named grantor(s) by Deed recorded simultaneously herewith in Book WD214, Page 2035 or Instrument No. \_\_\_\_\_, in the Register's Office for said County.

Street Address: The street address of the property is believed to be 206 Murphree Avenue, Waverly, TN 37185, but such address is not part of the legal description of the property. In the event of any discrepancy, the legal description herein shall control.

Map/Parcel Number: 064E-D-019.00-000

Current owner(s) of Record: Roderic Gaines

This sale is subject to all matters shown on any applicable recorded Plat or Plan; any unpaid taxes and assessments; any restrictive covenants, easements or setback lines that may be applicable; rights of redemption, equity, statutory or otherwise, not otherwise waived in the Deed of Trust, including rights of redemption of any government agency, state or federal; and any and all prior deeds of trust, liens, dues, assessments, encumbrances, defects, adverse claims and other matters that may take priority over the Deed of Trust upon which this foreclosure sale is conducted or are not extinguished by this Foreclosure Sale.

THE PROPERTY IS SOLD WITHOUT ANY REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, RELATING TO TITLE, MARKETABILITY OF TITLE, POSSESSION, QUIET ENJOYMENT OR THE LIKE AND FITNESS FOR A GENERAL OR PARTICULAR USE OR

PURPOSE. The title is believed to be good, but the undersigned will sell and convey only as Substitute Trustee.

The right is reserved to adjourn the sale to another time certain or to another day, time, and place certain, without further publication upon announcement on the day, time, and place of sale set forth above or any subsequent adjourned day, time, and place of sale.

If you purchase a property at the foreclosure sale, the entire purchase price is due and payable at the conclusion of the auction in the form of a certified check made payable to or endorsed to Padgett Law Group. No personal checks will be accepted. To this end, you must bring sufficient funds to outbid the lender and any other bidders. Insufficient funds will not be accepted. Amounts received in excess of the winning bid will be refunded to the successful purchaser at the time the foreclosure deed is delivered.

This property is being sold with the express reservation that the sale is subject to confirmation by the lender or trustee. This sale may be rescinded by the Substitute Trustee at any time.

Padgett Law Group, Substitute Trustee  
6267 Old Water Oak Road, Suite 203  
Tallahassee, FL 32312  
(850) 422-2520  
(850) 422-2567  
(facsimile)  
attorney@padgettlawgroup.com  
PLG# 24-011283-1

Publication Dates: November 20 and 27, 2024, and December 4, 2024.

NOTICE TO CREDITORS

ESTATE OF TERESA DAWN GULLEDGE (Deceased) 2024-PR-135

Notice is hereby given that on the 22<sup>nd</sup> day of November, 2024 Letters of Administration in respect to the Estate of TERESA DAWN GULLEDGE, deceased, who died July 20, 2024, were issued to the undersigned by the Chancery Court of Humphreys County, Tennessee.

All persons, resident and non-resident, having claims, matured or un-matured, against the estate are required to file the same with the Clerk of the above named Court on or before the earlier of the dates prescribed in (1) or (2). Otherwise their claims will forever be barred:

(1) (A) Four (4) months from the date of the first publication (or posting, as the case may be) of this Notice if the creditor received an actual copy of this Notice to Creditors at least sixty (60) days before date that is four (4) months from the date of the first publication (or posting); or

(B) Sixty (60) days from the date of the creditor received an actual copy of the Notice to Creditors, if the creditor received a copy of the Notice less than sixty (60) days prior to the date that is four (4) months from the date of the first publication (or posting) as described in (1) (A); or

(2) Twelve (12) months from the decedents date of death.

This 18<sup>th</sup> day of November, 2024.

Helen F. Sharpe, Administratrix  
Estate of Teresa Dawn Gullede, deceased

/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk

Tracy L Harrell, Esq.  
102 South Court Square  
Waverly, TN 37185  
Attorney for Administratrix

Publication Dates: December 4 and 11, 2024.

NOTICE TO CREDITORS

ESTATE OF CLARENCE EZRA DUNCAN (Deceased) 2024-PR-136

Notice is hereby given that on the 22<sup>nd</sup> day of November, 2024 Letters Testamentary in respect to

the Estate of CLARENCE EZRA DUNCAN, deceased, who died September 3, 2024, were issued to the undersigned by the Chancery Court of Humphreys County, Tennessee.

All persons, resident and non-resident, having claims, matured or un-matured, against the estate are required to file the same with the Clerk of the above named Court on or before the earlier of the dates prescribed in (1) or (2). Otherwise their claims will forever be barred:

(1) (A) Four (4) months from the date of the first publication (or posting, as the case may be) of this Notice if the creditor received an actual copy of this Notice to Creditors at least sixty (60) days before date that is four (4) months from the date of the first publication (or posting); or

(B) Sixty (60) days from the date of the creditor received an actual copy of the Notice to Creditors, if the creditor received a copy of the Notice less than sixty (60) days prior to the date that is four (4) months from the date of the first publication (or posting) as described in (1) (A); or

(2) Twelve (12) months from the decedents date of death.

This 22<sup>nd</sup> day of November, 2024.

Mary Jane Duncan Dickey, Executor  
Estate of Clarence Ezra Duncan

/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk

James Carl Duncan, BPR #9421  
Attorney for Petitioner  
1022 Upper Brush Creek Road  
Linden, TN 37096  
(931) 589-5603

Publication Dates: December 4 and 11, 2024.

NOTICE TO CREDITORS

ESTATE OF ODESSIA FAY HOOOPER (Deceased) 2024-PR-134

Notice is hereby given that on the 22<sup>nd</sup> day of November, 2024 Letters Testamentary in respect to the Estate of ODESSIA FAY HOOOPER, deceased, who died October 22, 2024, were issued to the Executrix by the Chancery Court of Humphreys County, Tennessee.

All persons, resident and non-resident, having claims, matured or un-matured, against the estate are required to file the same with the Clerk of the above named Court on or before the earlier of the dates prescribed in (1) or (2). Otherwise their claims will forever be barred:

(1) (A) Four (4) months from the date of the first publication (or posting, as the case may be) of this Notice if the creditor received an actual copy of this Notice to Creditors at least sixty (60) days before date that is four (4) months from the date of the first publication (or posting); or

(B) Sixty (60) days from the date of the creditor received an actual copy of the Notice to Creditors, if the creditor received a copy of the Notice less than sixty (60) days prior to the date that is four (4) months from the date of the first publication (or posting) as described in (1) (A); or

(2) Twelve (12) months from the decedents date of death.

This 22<sup>nd</sup> day of November, 2024.

Melissa Garton  
4407 Erin Road  
McEwen, TN 37101  
P e r s o n a l Representative(s)

/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk  
Morgan Peyton, Deputy Clerk  
Stephanie Burney, Deputy Clerk

T. Scott Daniel  
Daniel Law, PLLC  
129 N. Court Sq.  
Waverly, TN 37185  
Attorney for Personal Representatives

Publication Dates: December 4 and 11, 2024.

HUMPHREYS COUNTY ARREST REPORT

The Following is the Humphreys County Arrest Report Summary for the week of November 18 – November 24, 2024. The arrest report is a matter of public record at the Humphreys County Sheriff's Office. Individuals listed in the report are innocent until proven guilty in a court of law. This record reflects all county law enforcement agencies.

- Sis Felipe, Rony Alberto: Poss of Drug Paraphernalia, Simple Possession/Casual Exchange
- Camacho, Francisco Santiago: DORSL, Open Container
- Whitfield, Dayton Thomas: VOP
- Deberry, Javien Davon: Simple Possession/Casual Exchange
- Scarborough, Tabitha Jayne: FTA
- Shaw, Jeremiah Wade: FTA
- Lynn, Jerimey Jack: MANF/SELL/DELIVERY/POSSESS of Meth, Poss of Drug Paraphernalia, Possession of a Firearm, Simple Possession/Casual Exchange X3, Unlawful Carrying or Possession of a Weapon
- Holdorff, Trace Rylan: Tampering/Fabricating with Evidence, Theft of Property
- Arnold, Kim David: VOP
- Thomas, Alia Rena: VOP
- Putt, Angela Nicole: Simple Possession/Casual Exchange X3, VOP
- Lynn, David Curtis: VOP
- Hunley, Justin Turner: Stalking, Violation of Bond Conditions, Violation of Order of Protection/RESTRAI X2
- Burnette, Kyle Lee: Contraband in Penal Institution, VOP X2
- Prator, David Mark Jr.: DORSL
- Hodges, Rocky Josey: Domestic Assault, Violation of Bond Conditions
- Ayres, Michael Scott: VOP
- Hess, Scott Montgomery: DUI
- Noel, Gordon Raymond: Violation of Order of Protection/RESTRAI
- Members, Lonnell Nmn: Violation of Community Supervision, Violation of Sex Offender Registry Adre
- Brooks, Richard N: DORSL
- Kee, Billy Wayne Jr.: FTA, Removal of Registration Decal or Plate X2
- Smothers, Julie Rae: FTA, Poss of Drug Paraphernalia, Simple Possession/Casual Exchange
- Moss, Mason Andrew: DUI, Driving Without a Valid Drivers License, Financial Responsibility Law, Liquor/Alcohol Offenses, MANF/SELL/POSS of Controlled Substance, Open Container
- Hams, Brandon Dale: VOP
- Winstead, Steven Michael: DORSL

TVA Invites Public Input Related To Management Of Coal Ash At Retired Johnsonville Fossil Plant

The Tennessee Valley Authority (TVA) is preparing to start an environmental review under the National Environmental Policy Act (NEPA) to consider options for permanently closing the former coal ash disposal area known as Ash Pond 2 at the retired Johnsonville Fossil Plant.

TVA invites the public to provide input on the options for closure, which include no action, closing the coal ash site in place, or closing it by removing the ash to an offsite landfill, or removing the ash to an off-site or on-site beneficial reuse facility.

Comments may be submitted online, or by mail to the address below or via email to [nepa@tva.gov](mailto:nepa@tva.gov). To ensure your comments are correctly dispositioned, please specify the project ("Johnsonville Scoping Report") with your submission. Comments must be received or postmarked no later than December 23, 2024. Any comments received, including names and addresses, will become part of the administrative record and subject to public inspection. More information on this Notice of Intent (NOI) to initiate the environmental review process can be found at [www.tva.gov/nepa](http://www.tva.gov/nepa)

Send Comments to:

Brittany Kunkle  
Tennessee Valley Authority  
400 West Summit Hill Drive, WT-11B-K  
Knoxville, TN 37902



JOIN US Apply by Dec. 13, 2024

WE'RE HIRING!

Journey Lineworker

Meriwether Lewis Electric Cooperative is seeking a qualified individual for our Perry County, Tennessee office.

Responsibilities:

- Construct, maintain, and repair electrical distribution system, both overhead and underground.
- Respond to outages and emergencies, restoring power as quickly, efficiently and safely as possible.

Education, Experience & Requirements:

- Must possess a minimum of four years experience in the electric utility business as a lineworker.
- Must have experience and knowledge of climbing poles, operating digger and bucket trucks, line construction and maintenance, and system feeders.
- Completion of a certified apprenticeship program.
- A Class A CDL is required or must be obtained within six months of hire.
- A high school diploma or equivalent.

Residency Requirements:

- Must reside in or be willing to relocate to the Perry County service area or within the Meriwether Lewis service area and 30 minutes of the Linden office.

Apply at [www.mlec.com/mlec-careers](http://www.mlec.com/mlec-careers)



MLEC/MC is a member of the Tennessee Drug Free Workplace and pre-employment & random drug testing and background investigations are required. Applications accepted online.

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, age, national origin, disability or veteran status.

Wednesday, December 18, 2024

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# REPORTS

## PUBLIC NOTICES

### NOTICE OF TRUSTEE'S SALE

WHEREAS, default has occurred in the performance of the covenants, terms, and conditions of a Deed of Trust Note dated December 21, 2010, and the Deed of Trust of even date securing the same, recorded December 28, 2010, in Book No. TD211, at Page 461, in Office of the Register of Deeds for Humphreys County, Tennessee, executed by Rory B Mckee and Amy Mckee, conveying certain property therein described to Robert M. Wilson as Trustee for Mortgage Electronic Registration Systems, Inc., as beneficiary, as nominee for Bank of America, N.A., its successors and assigns; and the undersigned, Wilson & Associates, P.L.L.C., having been appointed Successor Trustee by Nationstar Mortgage, LLC.

NOW, THEREFORE, notice is hereby given that the entire indebtedness has been declared due and payable; and that an agent of Wilson & Associates, P.L.L.C., as Successor Trustee, by virtue of the power, duty, and authority vested in and imposed upon said Successor Trustee, by Nationstar Mortgage, LLC, will, on January 7, 2025 on or about 11:00 AM, at the At the Humphreys County Courthouse 202 Court Square, Waverly, TN 37185, offer for sale certain property hereinafter described to the highest bidder FOR certified funds paid at the conclusion of the sale, or credit bid from a bank or other lending entity pre-approved by the successor trustee. The sale is free from all exemptions, which are expressly waived in the Deed of Trust, said property being real estate situated in Humphreys County, Tennessee, and being more particularly described as follows:

Lying and being situated in the Third Civil District of Humphreys County, Tennessee, described as follows: BEGINNING at an iron pin in the west margin of Buckhorn Road, said point being North 19° 29' East 30.0 feet from the southeast corner of the Brian J. Coffey property of record in Book 135-A, page 152, Register's Office of Humphreys County, Tennessee; thence with a new line parallel to said Coffey's south line North 88° 00' West 175.0 feet to an iron pin, being 30 feet north of said south line; thence North 19° 29' East 125.0 feet to an iron pin; thence South 88° 00' East 175.0 feet to an iron pin in the west margin of Buckhorn Road; thence with said margin South 19° 29' West 125.0 feet to the point of beginning, containing 0.5 acres, more or less. This conveyance is made subject to a right-of-way easement, over a larger tract of which the above described tract is a part, to Meriwether Lewis Electric Cooperative, dated August 24, 1971 and recorded in Deed Book 116, page 558, Deed Book 116, page 559, and Deed Book 116, page 561, Register's Office of Humphreys County, Tennessee.

ALSO KNOWN AS: 2061 Little Hurricane Creek Road, McEwen, TN 37101

This sale is subject to all matters shown on any applicable recorded plat; any unpaid taxes; any restrictive covenants, easements, or setback lines that may be applicable; any statutory rights of redemption of any governmental agency, state or federal; any prior liens or encumbrances as well as any priority created by a fixture filing; and to any matter that an accurate survey of the premises might disclose. In addition, the following parties may claim an interest in the above-referenced property:

RORY B MCKEE AMY MCKEE AMY JO MCKEE TENANTS OF

The sale held pursuant to this Notice may be rescinded at the Successor Trustee's option at any time. The right is reserved to adjourn the day of the sale to another day, time, and place certain without further publication, upon announcement at the time and place for the sale set forth above. In the event of inclement weather, the trustee hereby announces

that the sale will be postponed and that notices of said postponement will be mailed to interested parties of record. W&A No. 359364

DATED November 25, 2024

WILSON & ASSOCIATES, P.L.L.C., Successor Trustee

Publication Dates: December 4, 11, and 18, 2024.

### NOTICE OF PUBLIC HEARING FOR THE CITY OF NEW JOHNSONVILLE

A Public Hearing will be held at the Regular Council Meeting of the New Johnsonville City Council on Monday, January 7, 2025 at 6:00 p.m. in the Conference Room of City Hall, 323 Long Street, New Johnsonville, TN for any comments or questions regarding the passage of Ordinance 2024-06: An Ordinance amending the official zoning map of New Johnsonville, Tennessee to rezone the herein described property at 550 Broadway from C-1 (Commercial) to R-2 (Residential) & Ordinance 2024-07: An Ordinance amending the New Johnsonville Municipal Code Title 9 Business, Peddlers, Solicitors, etc. by adding Chapter 7 Mobile food vending. All Citizens are always invited and encouraged to attend.

Mayor Wayne Woods  
Brandy Vann, CMFO/City Recorder

Publication Dates: December 11 and 18, 2024.

### NOTICE OF PUBLIC HEARING

The City of Waverly, Board of Mayor and Alderman will hold a public hearing on January 13, 2025 @ 5:00 p.m. in the City of Waverly, Municipal Court Room, 103 East Main Street, Waverly TN. In reference to a request for annexation into the city limits of Waverly and a plan of services for the following 3 parcels of property.

Legal Descriptions  
Map: 072 Parcel: 012.00  
Map: 065 Parcel: 088.00  
Map: 072 Parcel: 110.98  
Building & Zoning Department

Publication Dates: December 18 and 25, 2024.



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### NOTICE TO CREDITORS

#### ESTATE OF DONALD R. TOMLINSON (Deceased) 2024-PR-128

Notice is hereby given that on the 12<sup>th</sup> day of December, 2024 Letters of Administration in respect to the Estate of DONALD R. TOMLINSON, deceased, who died December 31, 2023, were issued to the Administrator by the Chancery Court of Humphreys County, Tennessee.

All persons, resident and non-resident, having claims, matured or un-matured, against the estate are required to file the same with the Clerk of the above named Court on or before the earlier of the dates prescribed in (1) or (2). Otherwise their claims will forever be barred:

(1) (A) Four (4) months from the date of the first publication (or posting, as the case may be) of this Notice if the creditor received an actual copy of this Notice to Creditors at least sixty (60) days before date that is four (4) months from the date of the first publication (or posting); or

(B) Sixty (60) days from the date of the creditor received an actual copy of the Notice to Creditors, if the creditor received a copy of the Notice less than sixty (60) days prior to the date that is four (4) months from the date of the first publication (or posting) as described in (1)(A); or

(2) Twelve (12) months from the decedents date of death.

This 12<sup>th</sup> day of December, 2024.

Mark Odle  
Attorney at Law  
314 East College St.  
Dickson, TN 37055  
Personal Representative(s)

/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk  
Morgan Peyton, Deputy Clerk  
Stephanie Burney, Deputy Clerk

Katie A. Moss  
Wiseman Ashworth Trauger  
511 Union Street, Suite 800  
Nashville, TN 37219  
Attorney for Personal Representatives

Publication Dates: December 18 and 25, 2024.

Mark Odle  
Attorney at Law  
314 East College St.  
Dickson, TN 37055  
Personal Representative(s)

/s/ Michael S. Bullion, Clerk & Master  
By: Abby Hurt, Chief Deputy Clerk  
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Stephanie Burney, Deputy Clerk

Katie A. Moss  
Wiseman Ashworth Trauger  
511 Union Street, Suite 800  
Nashville, TN 37219  
Attorney for Personal Representatives

Publication Dates: December 18 and 25, 2024.

NOTICE TO FURNISHERS OF LABOR AND MATERIALS TO: Eubank Asphalt Paving & Sealing, LLC  
PROJECT NO.: 43S013-M3-006  
CONTRACT NO.: CNY065  
COUNTY: Humphreys  
The Tennessee Department of Transportation is about to make final settlement with the contractor for construction of the above numbered project. All persons wishing to file claims pursuant to Section 54-5-122, T.C.A. must file same with the Director of Construction, Tennessee Department of Transportation, Suite 700 James K. Polk Bldg., Nashville, Tennessee 37243-0326, on or before 1/27/2025.

## HUMPHREYS COUNTY ARREST REPORT

The Following is the Humphreys County Arrest Report Summary for the week of December 2 – December 8, 2024. The arrest report is a matter of public record at the Humphreys County Sheriff's Office. Individuals listed in the report are innocent until proven guilty in a court of law. This record reflects all county law enforcement agencies.

- Walker, Brandon McKee: Accessory After the Fact, MANF/SELL/DELIVERY/POSSESS of Meth, Poss of Drug Paraphernalia, Resisting Arrest, Simple Possession/Casual Exchange
- Travis, Tanya Lynette: MANF/SELL/DELIVERY/POSSESS of Meth, Poss of Drug Paraphernalia, Simple Possession/Casual Exchange X2
- Keller, Jade Lynn: DUI, MANF/SELL/POSS of Controlled Substance, Poss of Drug Paraphernalia, Possession of a Firearm, Possession of a Handgun while Under the Influence
- Barnes, Jacob Zacharias: DORSL
- Newsom, Jeremiah: Simple Possession/Casual Exchange
- Hosaflook, Caz Lee: Aggravated Child Abuse and Neglect, Aggravated Rape of a Child, Child Abuse or Neglect (If Violent) X3, Coercion of Witness (Threat), Continuous Sexual Abuse of a Child
- Hosaflook, Robert Glenn: Aggravated Child Abuse and Neglect, Aggravated Rape of a Child, Child Abuse or Neglect (Non-Violent), Child Abuse or Neglect (If Violent) X2, Coercion of Witness (Threat), Continuous Sexual Abuse of a Child
- Mount, Shawnee Katlyn: DORSL
- Kee, Daniel Wesley: Contempt of Court/GAPIAS
- Archer, Bryce Dalton: Criminal Simulation, Theft of Property
- Martin, Alissa Chantel: Aggravated Child Abuse and Neglect, Aggravated Rape of a Child, Child Abuse or Neglect (If Violent) X3, Coercion of Witness (Threat), Continuous Sexual Abuse of a Child
- Frazier, Anthony Shawn: FTA
- Gillihan, James Franklin: DORSL, Poss of Drug Paraphernalia, Simple Possession/Casual Exchange
- Hasting, Andrew Todd: FTA
- Mathews, Eric Omar: VOP
- Divine, Eugene Christopher: DORSL
- Simpson, Jonathan Dean: VOP
- Woods, Ty'Rik Tandaryus: VOP
- Matlock, Tarah Amanda: DORSL
- Porter, Jennifer Jeanette: DORSL
- Stout, Ricky Joe Mitche: DORSL
- Northcutt, Tyler Chad: Contraband in Penal Institution, Disorderly Conduct, Resisting Arrest, VOP
- Burkhalter, William Cole: Poss of Drug Paraphernalia
- Hamby, Gabriel Noah: Public Intoxication
- Rivers, Shawn Michael: DORSL
- Gunter, Richard James: DORSL
- Kercheville, Timothy David: FTA
- Burgess, Richard Wyatt: Simple Possession/Casual Exchange
- Lasher, Matthew Brett Sr.: DORSL

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### MEETING NOTICE FOR AGENCIES OF HUMPHREYS COUNTY, TENNESSEE

The public will take notice that in accordance with the requirements of TCA §8-44-101, known as the "Sunshine Law", the regular meetings of public bodies or agencies of Humphreys County, Tennessee are as follows, unless otherwise published:

- COUNTY COMMISSION:** Meets the 2nd Monday of each month at 6:00 pm in the Board Room of the Rawlings Building.
- ADMINISTRATIVE COMMITTEE:** Meets the 1st Monday of each month at 6:00 pm in the Board Room of the Rawlings Building. Exception: September meeting will be Tuesday, September 2nd.
- SCHOOL BOARD:** Meets the 2nd Thursday of each month at 6:00 pm at the Humphreys County Board of Education. Exception: October meeting will be on October 17th.
- LIBRARY BOARD:** Meets the 3rd Wednesday of each quarter at 2:30 pm at the library.
- PLANNING COMMISSION:** Meets the 4th Monday of each month, January-November, at 6:00 pm at the Rawlings Building. Exception: May meeting will be on Tuesday, May 27th.
- JAIL OVERSIGHT COMMITTEE:** Meets the 1st Monday of each month at 4:30 pm at the Rawlings Building. Exception: September meeting will be Tuesday, September 2nd.
- E-911 BOARD:** Meets the 2nd Tuesday of every other month (Feb, Apr, June, Aug, Oct, Dec) at 4:00 pm at the Waverly Municipal Building.
- JOINT ECONOMIC AND COMMUNITY DEVELOPMENT BOARD:** Meets the 4th Wednesday of every month at 9:00 am at the Rawlings Building.
- AUDIT COMMITTEE:** The Audit Committee will meet January 13, 2025 at 5:00 pm at the Rawlings Building.

### NOTICE OF PUBLIC AUCTION

December 20th, 2024  
at 4:00 P.M.

Johnsonville TVA  
Employees Credit Union  
209 Hwy. 641 North,  
Camden, TN 38320  
1-800-338-4609

2020 Nissan  
Murano S  
V6, 4D, SUV, 110K Miles,  
Good Condition

2018 Nissan Rogue  
SL Sport  
4D, SUV, 56K Miles,  
Fair Condition,  
Some Body Damage

2023 CFMoto UForce  
1000 XL UTV  
5 Seater, Side-x-Side,  
1084 Miles,  
Good to Fair Condition,  
(This unit not on site.  
Call for details.)

2015 GMC  
Terrain SLE2  
4D, SUV, FWD, 106K miles,  
Needs Motor.  
(This unit not on site.  
Call for details.)

2015 Hyundai  
Genesis  
3.8L, V6, 4D Sedan, 250K  
Miles, Needs Motor.  
(This unit not on site.  
Call for details.)

\*Photos of units  
available at  
all credit union  
branches

## TVA Invites Public Input Related To Management Of Coal Ash At Retired Johnsonville Fossil Plant

The Tennessee Valley Authority (TVA) is preparing to start an environmental review under the National Environmental Policy Act (NEPA) to consider options for permanently closing the former coal ash disposal area known as Ash Pond 2 at the retired Johnsonville Fossil Plant.

TVA invites the public to provide input on the options for closure, which include no action, closing the coal ash site in place, or closing it by removing the ash to an offsite landfill, or removing the ash to an off-site or on-site beneficial reuse facility.

Comments may be submitted online, or by mail to the address below or via email to [nepa@tva.gov](mailto:nepa@tva.gov). To ensure your comments are correctly dispositioned, please specify the project ("Johnsonville Scoping Report") with your submission. Comments must be received or postmarked **no later than December 30, 2024**. Any comments received, including names and addresses, will become part of the administrative record and subject to public inspection. More information on this Notice of Intent (NOI) to initiate the environmental review process can be found at [www.tva.gov/nepa](http://www.tva.gov/nepa)

Send Comments to:  
Brittany Kunkle  
Tennessee Valley Authority  
400 West Summit Hill Drive, WT-11B-K  
Knoxville, TN 37902




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## **Appendix B**

### **Comments Submitted During the Scoping Period**

**(November 26 through December 30, 2024)**



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**DIVISION OF WATER RESOURCES**  
Davy Crockett Tower  
500 James Robertson Parkway, 9<sup>th</sup> Floor  
Nashville, Tennessee 37243

December 12, 2024

Ms. Brittany Kunkle  
Tennessee Valley Authority  
400 West Summit Drive  
Knoxville, TN 37902-1499

re: TVA Johnsonville Plant Pond Closure Project  
Humphreys County, TN

*Sent via email to: brkunkle@tva.gov*

Dear Ms. Kunkle:

Division staff have reviewed the scoping report for the closure of the ash impoundment at the Johnsonville Fossil Plant in Humphreys County. The information available is very limited such that the DWR response has to be limited as well. The facility has an existing construction storm water permit (CGP) and the accompanying Storm Water Pollution Prevention Plan that will likely need to be modified as the work for closure begins. Depending on the changes in discharges as the pond is de-watered, the NPDES permit might have to be modified or a new permit issued. A new on-site landfill will require a CGP and a hydrologic determination study by a certified hydrologic professional to identify all of the aquatic resources within the project limits of disturbance to determine the impact to water resources. An Aquatic Resources Alteration Permit (ARAP) will most likely be necessary.

There are additional concerns with the closure project, depending on the alternative chosen. If TVA opts for beneficial re-use of the CCR materials, the heavy metal content of the materials will have to be considered. If you have any further questions, I will be glad to try to assist you. You may reach me at (615) 917-4135 or [tom.moss@tn.gov](mailto:tom.moss@tn.gov).

Sincerely,

Tom Moss  
Environmental Review Coordinator  
Compliance and Enforcement Unit

cc: Tim Jennette, Nashville DWR EFO Manager

**From:** [Travis Blake](#)  
**To:** [nepa](#)  
**Subject:** Scoping Comments for TVA Johnsonville Ash Pond Closure  
**Date:** Tuesday, December 31, 2024 8:13:30 AM  
**Attachments:** [image001.png](#)

You don't often get email from [travis.blake@tn.gov](mailto:travis.blake@tn.gov). [Learn why this is important](#)

This is an **EXTERNAL EMAIL** from outside TVA. **THINK BEFORE** you **CLICK links** or **OPEN attachments**. If suspicious, please click the **"Report Phishing"** button located on the Outlook **Toolbar at the top of your screen**.

The Tennessee Department of Environment and Conservation, Division of Air Pollution Control, received your Notice of Intent, which states that TVA intends to prepare an Environmental Impact Statement to evaluate the future management of coal combustion residuals (CCR) material in Ash Pond 2 at the Johnsonville Fossil Plant. The Division has reviewed the scope of the proposed project and offers the following comments for your consideration:

**Air Quality Impacts:** Several actions could negatively impact air quality on a short-term basis. The Division of Air Pollution Control recommends that TVA evaluate such potential impacts prior to any clearing, demolition, or construction. Such impacts may include, but are not limited to, air pollution from construction equipment, open burning associated with land clearing activities, and fugitive dust. Local air quality conditions are available online at <https://www.airnow.gov/>.

**Idling:** Truck traffic associated with construction projects generate emissions of PM, CO, NO<sub>2</sub>, SO<sub>2</sub>, VOC, and CO<sub>2</sub>, and the Division of Air Pollution Control recommends the operation of trucks with up-to-date emission control technologies and proper maintenance to minimize vehicle and equipment emissions. The Division also recommends the adoption of best practices to minimize vehicle idling to minimize the impact of mobile source emissions on ambient air quality.

**Fugitive Dust:** If fugitive dust will be generated from construction activities, the Division of Air Pollution Control recommends the use of wet suppression or other measures to minimize the generation of fugitive dust.



**Travis J. Blake** | Environmental Fellow  
Division of Air Pollution Control  
Davy Crockett Tower, 7<sup>th</sup> Floor  
500 James Robertson Parkway, Nashville, TN 37243  
**I have a new number:** (615) 306-1990  
[travis.blake@tn.gov](mailto:travis.blake@tn.gov)  
[tn.gov/environment](http://tn.gov/environment)

We value your opinion. Please take a few minutes to complete our [customer satisfaction survey](#).

## **Appendix B – Coordination**



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

December 4, 2019

Mr. Clinton E. Jones  
Tennessee Valley Authority  
Biological and Cultural Compliance  
400 West Summit Hill Drive  
Knoxville, TN 37902

RE: TVA / Tennessee Valley Authority, Johnsonville Fossil Plant, Ash Pond 2 Closure, Humphreys County, TN

Dear Mr. Jones:

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

After considering the documentation we concur that there are no National Register of Historic Places listed or eligible properties affected by this undertaking. We have made this determination because either: no National Register listed or eligible Historic Properties exist within the undertaking's area of potential effects, the specific location, size, scope and/or nature of the undertaking and its area of potential effects precluded affects to Historic Properties, the undertaking will not alter any characteristics of an identified eligible or listed Historic Property that qualify the property for listing in the National Register, or it will not alter an eligible Historic Property's location, setting or use. We have no objections to your proceeding with your undertaking.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. If you are applying for federal funds, license or permit, you should submit this letter as evidence of consultation under Section 106 to the appropriate federal agency, which, in turn, should contact us as required by 36 CFR 800. If you represent a federal agency, you should submit a formal determination of eligibility and effect to us for comment. You may direct questions or comments to Jennifer M. Barnett (615) 687-4780. This office appreciates your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.  
Executive Director and  
State Historic Preservation Officer

EPM/jmb

**Appendix C – Tiering from the Ash Impoundment Closure  
Programmatic Environmental Impact Statement**

## **Appendix C – Tiering from the Ash Impoundment Closure Programmatic Environmental Impact Statement**

On July 28, 2016, Tennessee Valley Authority (TVA) issued a Record of Decision for a programmatic National Environmental Policy Act (NEPA) review entitled *Ash Impoundment Closure Environmental Impact Statement* (CCR PEIS) that analyzed methods for closing impoundments that contain coal combustion residuals (CCR) materials at TVA fossil plants. The Johnsonville Fossil Plant (JOF) Ash Impoundment Closure Environmental Impact Statement (EIS) assesses the potential environmental impacts associated with closure of Ash Pond 2 at JOF (proposed action), which tiers from TVA's 2016 CCR PEIS. The CCR PEIS identified specific screening and evaluation factors to help frame the assessment of future closure actions at TVA facilities.

The CCR PEIS programmatically considered all TVA ash impoundment closures and the environmental effects of two primary ash impoundment closure methods:

1. *Closure-in-Place* involves stabilizing the CCR in place and installing an approved cover system that eliminates rainfall from entering the pond.
2. *Closure-by-Removal* involves excavating and relocating the CCR from the ash impoundment in accordance with federal and state requirements to an approved onsite or offsite disposal facility. The CCR may also be beneficially used in products or structural fills.

Screening analyses to determine the reasonability of these two closure methods were performed by evaluating a range of key issues and factors related to closure of CCR surface impoundments and the feasibility of undertaking closure activities. Screening factors included:

- Volume of CCR Materials
- Schedule/Duration of Closure Activities
- Stability
- Risk to Human Health and Safety Relating to Closure Activities
- Potential Effects to Water Resources
- Potential Effects to Wetlands
- Risk to Adjacent Environmental Resources
- Mode and Duration of Transport Activities
- Risk to Human Health and Safety Related to Transport of Borrow and CCR
- Cost

At the programmatic level, TVA concluded that both closure options can be equally protective of human health and the environment, provided they are implemented properly. In most situations, Closure-in-Place would more likely be environmentally beneficial and less costly than Closure-by-Removal, especially when the amount of CCR material that must be moved from the

site exceeds 600,000 yd<sup>3</sup> and the amount of borrow that needs to be delivered to the site exceeds 200,000 yd<sup>3</sup>.

For Closure-in-Place, TVA's analyses also confirmed the U.S. Environmental Protection Agency's (EPA's) determination that decanting and closing impoundments using an approved cover system would reduce groundwater contamination and structural stability risks because the hydraulic head (water pressure) would be reduced. However, the CCR PEIS stated Closure-by-Removal would reduce groundwater impact risks more than Closure-in-Place over the long term when CCR intersects with groundwater because CCR material would be excavated and moved to a permitted landfill.

Compared to Closure-by-Removal, Closure-in-Place would have significantly less risk to workforce health and safety than those related to offsite transportation of CCR (crashes, derailments, road damage). The PEIS found that Closure-by-Removal would result in notably greater transportation-related effects to local communities, including traffic impacts, air quality and greenhouse gas emissions, and noise, and it would not require development or expansion of offsite disposal facilities.

TVA determined future environmental reviews of CCR impoundment closures at TVA facilities could tier from the CCR PEIS if the impoundments fit into the framework established in the CCR PEIS.

### **C.1 Tiering from Ash Impoundment Closure PEIS**

This appendix considers the applicability and appropriateness of closure of Ash Pond 2 at JOF for second-tier NEPA analysis under the CCR PEIS. As such, this analysis considers both the characteristics of the impoundment being considered for closure, and the nature of activities proposed under the closure action. Substantial deviations in either impoundment characteristics or the type and extent of proposed actions to conduct closure may either negate the applicability of tiering or necessitate additional specialized site-specific analyses.

Applicability of closure options under consideration at JOF to the characteristics of impoundment closures considered in the CCR PEIS is demonstrated in Table C-1.

**Table C-1. Factors Evaluated to Determine Reasonability of Closure Activities in the CCR PEIS and Related Attributes of the Ash Pond 2 at JOF**

Screening Factor	Programmatic Attribute	JOF Characteristics
Volume of CCR Materials	The size of an ash impoundment and volume of CCR affect closure activities, potential environmental impacts and cost. CCR volume within ash impoundments considered in the PEIS ranged from 10,000 to 25 million yd <sup>3</sup> .	Volume of CCR in Ash Pond 2 is estimated to be approximately 4.5 million yd <sup>3</sup> .
Schedule/Duration of Closure Activities	<p>Time necessary to complete closure activities at an ash impoundment affects the reasonability of closure alternatives.</p> <p>The range of closure durations determined in the PEIS were as follows:</p> <ul style="list-style-type: none"> <li>○ Closure-in-Place: Less than 5 years</li> <li>○ Closure-by-Removal: 2.7 years to 170 years</li> </ul>	<p>Based on the analyses in the EIS and the total volume of CCR in JOF Ash Pond 2, closure durations for construction are as follows:</p> <ul style="list-style-type: none"> <li>○ Closure-in-Place: Estimated to be up to 6 years</li> <li>○ Closure-by-Removal: Estimated to be approximately 10-13 years.</li> </ul> <p>This schedule does not include permitting and design.</p>
Risk to Human Health and Safety Relating to Closure Activities	Closure activities entail a range of construction activities that represent a potential risk to the health and safety of the workforce and the public. Excavations associated with the Closure-by-Removal alternative are particularly dangerous as noted by reports of accidents leading to injury or death in the industry. Sites having large volumes of CCR that are considered for Closure-by-Removal would also result in extensive trucking operations that would increase transportation safety risks	TVA considered worker safety in the evaluation of closure options for Ash Pond 2. Closure-in-Place minimized impacts associated with onsite worker safety by avoiding excavations and public safety related to the transport of large volumes of CCR on public roadways that would increase the risk of injuries and fatalities associated with truck movements.
Surface Water Resources	Consistent with EPA’s determination in the CCR Rule and the results of the Electric Power Research Institute model, TVA anticipates that either closure method would have positive effects on surface water, if conducted properly. However, under Closure-by-Removal, any ongoing surface water impacts would be reduced more slowly because precipitation events would continue to influence flows from the CCR facility until the end of the closure process.	<p>All JOF process flows previously feeding into Ash Pond 2 have been rerouted. Under both Closure-in-Place and Closure-by-Removal, Ash Pond 2 would be dewatered.</p> <p>Under Closure-in-Place, all remaining CCR material would be consolidated, compacted, and covered with an approved cover system. Under Closure-by-Removal, all remaining CCR material would be removed. Any ongoing surface water impacts would be reduced more slowly because precipitation events would continue to influence flows from the pond until the end of the closure process.</p> <p>On August 6, 2015, TDEC issued Commissioner’s Order No. OGC15-0177 (TDEC Order) to TVA to establish a process for investigating, assessing, and remediating unacceptable risks from the management of CCR at TVA coal-fired plants in the state of Tennessee. TVA</p>

Screening Factor	Programmatic Attribute	JOF Characteristics
		<p>prepared an Environmental Investigation Plan for JOF to obtain and provide information requested by TDEC in accordance with the TDEC Order. Between 2019 and 2021, TVA conducted environmental investigations for JOF CCR management units. The results of the investigations are presented in the Environmental Assessment Report completed in January 2025 (TVA 2025c).</p> <p>The Environmental Assessment Report includes an evaluation of the extent of soil, surface water, and groundwater contamination by CCR materials.</p>
Groundwater Resources	Both Closure-in-Place and Closure-by-Removal reduce groundwater contamination. Benefits to groundwater quality are substantial under the Closure-by-Removal alternative over the long term when CCR intersects groundwater. However, Closure-in-Place still reduces contamination in such situations. EPA considers both closure options equally protective of human health and the environment.	In accordance with the Environmental Investigation Plan, groundwater sampling was conducted at monitoring wells throughout the JOF site and indicated minimal exceedances of maximum contaminant levels resulting from CCR. In addition to any federal requirements that may apply to the impoundments at JOF after closure is completed, TVA would implement supplemental mitigative measures as agreed upon by TDEC, as well as its approved closure plan, which could include additional monitoring, assessment or corrective action programs. However, as noted in the PEIS, TVA expects any groundwater impacts to be notably reduced following impoundment closure.
Wetlands	Analyses presented in the PEIS determined that for both Closure-in-Place and Closure-by-Removal alternatives, proposed actions would not cause or contribute to significant degradation of wetlands because laydown areas would be minimized. Although Ash Pond 2 may provide wetland habitat, it is considered an artificial treatment system and is not a jurisdictional open water feature regulated under either Section 401 or 404 of the CWA. Additionally, appropriate measures could be taken to avoid and minimize or compensate for impacts to wetlands and ensure no net loss of wetlands.	No jurisdictional wetlands are in the footprint of Ash Pond 2 or any associated temporary use areas. There is one wetland on the southern edge of the peninsula, adjacent to Ash Pond 2 and within the project area. The EIS evaluates potential impacts to all environmental resources within the project area, including streams and wetlands.

Screening Factor	Programmatic Attribute	JOF Characteristics
Risk to Other Adjacent Environmental Resources	The analyses performed as part of the PEIS determined that risk of potential release and degradation of environmental resources (cultural resources, ecological receptors, and factors related to the human environment) was generally low for both Closure-in-Place and Closure-by-Removal alternatives. However, potential air and noise emissions were expected to be markedly greater for the Closure-by-Removal alternative due to offsite transport.	Ash Pond 2 is located on a peninsula, and potential areas of ground disturbance associated with the closure of Ash Pond 2 would be largely confined to previously disturbed lands within the peninsula. Additionally, no adjacent sensitive receptors for air or noise are located proximate to Ash Pond 2. Three active nests were documented within 660 feet of the impoundment. Avoidance and minimization measures to reduce impacts to these and any other sensitive species would be implemented as required. The EIS evaluates potential impacts to all adjacent environmental resources.
Mode and Duration of Transport Activities – Trucking	For those sites with CCR volumes exceeding 600,000 yd <sup>3</sup> , TVA determined that insufficient time would be available within the construction schedule to effectively remove the CCR materials by truck or rail and achieve closure of impoundments within the 5-year period for closure under the CCR Rule.	Approximately 4.5 million yd <sup>3</sup> of CCR is present in JOF Ash Pond 2. In addition to the removal of the ash, approximately one foot of soil would be over-excavated and removed from the footprint of the unit (total of about 175,000 yd <sup>3</sup> ). Based upon analyses in the PEIS and the total volume of CCR, Ash Pond 2 could be closed in place within six years, whereas Closure-by-Removal would require approximately 10-13 years.  TVA plans to meet CCR Rule requirements for CCR transport (i.e., removal by 2036; 10-year duration for CCR transport), but to account for potential circumstances beyond TVA’s control, this EIS evaluates impacts of CCR transport for up to 13 years.
Excessive Cost	Excessive closure costs may affect the reasonableness of an alternative. Costs for Closure-by-Removal by truck were demonstrated to be 168 to 2,390 percent greater than Closure-in-Place at the sites evaluated in the PEIS.	Estimated costs for alternatives for closure of JOF Ash Pond 2: <ul style="list-style-type: none"> <li>• Closure-in-Place – \$65,600,000</li> <li>• Closure-by-Removal – \$961,000,000 <ul style="list-style-type: none"> <li>○ Restoration options – Additional \$139,000,000</li> </ul> </li> </ul> Costs of Closure-by-Removal are estimated to be approximately 1,577 percent higher than the cost of Closure-in-Place.

CCR= Coal Combustion Residuals, EIS= Environmental Impact Statement, EPA= United States Environmental Protection Agency, JOF= Johnsonville Fossil Plant, PEIS=Programmatic Environmental Impact Statement, TDEC= Tennessee Department of Environment and Conservation, TVA= Tennessee Valley Authority, yd<sup>3</sup>= cubic yards

## C.2 Deviations from the CCR PEIS

As illustrated in Table C-1, the volume of CCR in Ash Pond 2 exceeds a threshold condition established in the CCR PEIS to determine if it would be reasonable to consider Closure-by-Removal. In the CCR PEIS (TVA 2016), TVA determined that for sites with CCR volumes exceeding 600,000 yd<sup>3</sup>, insufficient time would be available within the construction schedule to effectively remove the CCR materials by truck or rail and achieve closure of the impoundments within a 5-year period for closure under EPA's CCR Rule. However, the CCR Rule permits extensions to the 5-year closure period under certain circumstances. Also, Closure-by-Removal may be considered a viable option under the TDEC Commissioner's Order No. OGC15-0177.

In addition, in the PEIS TVA determined that loading operations are highly dependent on the rate at which CCR can be safely excavated, dried, and moved to truck loading facilities. TVA considered these factors and determined the rate of truck loading to be 100 truckloads per day, with a capacity of approximately 10 yd<sup>3</sup> of CCR each, for 150 working days per year. This would result in approximately 200 truck trips per day along the haul route over a typical nine-hour workday throughout the estimated closure period. Based upon previous hauling operations at JOF, in this EIS TVA is evaluating Closure-by-Removal with a newer option to transport CCR in larger trucks with a 17 yd<sup>3</sup> capacity instead of the 10 yd<sup>3</sup> capacity evaluated in the CCR PEIS. This use of larger trucks provides TVA the ability to accommodate two 9-hour shifts per workday throughout the closure period. Therefore, the parameter established in the CCR PEIS related to trucking and duration of closure, which assumed smaller trucks, is not applicable to the evaluation of this closure option at JOF. Specifically, at JOF TVA can use a larger number of trucks with a greater capacity and at a higher frequency, resulting in up to 365 working days per year and a decreased duration of closure than would be expected using the broader set of conservative assumptions identified in the programmatic analysis.

Primary actions common to all impoundment closures under Closure-in-Place and Closure-by-Removal were identified in the CCR PEIS. Table C-2 summarizes these actions and demonstrates the consistency and applicability of the closure alternatives for Ash Pond 2 with the constraints of the analyses performed as part of the CCR PEIS. As such, because the characteristics and proposed actions associated with the closure of Ash Pond 2 at JOF are sufficiently bounded by the conditions and environmental effects described in the CCR PEIS, closure of Ash Pond 2 can tier off the analysis in the CCR PEIS. The impact of the decreased duration of closure is evaluated in the analysis of resources that could potentially be impacted due to this change, specifically, air quality, transportation, noise, solid waste, and socioeconomic impacts.

**Table C-2. Actions Associated with Closure of JOF Ash Pond 2**

Closure Activity	Programmatic Impoundment Closure Activity	Proposed JOF Impoundment Closure Activity
Consider opportunities for beneficial use of ash	Beneficial reuse is considered by TVA as part of all ash management activities. Such reuse may include incorporation of ash from CCR impoundments as part of a low permeability approved cover system.	TVA is considering beneficial reuse of CCR removed from Ash Pond 2 at JOF under one of the proposed closure alternatives. The main beneficial uses of CCR are in the manufacture of wallboard, roofing, concrete and other products.
Lower ash impoundment water level	Dewatering, which could include decanting and drawdown (which is the removal of free or ponded liquid from an impoundment), must meet current permit limits and may include any of the activities evaluated in the CCR PEIS. These activities could require additional monitoring or meeting additional limits from state regulators.	Decanting of Ash Pond 2 would comply with applicable NPDES permit requirements.
Identify temporary laydown areas and borrow areas	TVA anticipates temporarily using approximately 5 to 10 acres of previously undisturbed lands per site for vehicle and equipment parking, materials storage, and construction administration. TVA would identify onsite or offsite borrow areas.	TVA would utilize existing previously disturbed areas on JOF property as temporary use areas during construction activities. Borrow would be obtained from an offsite existing and permitted borrow site located within 30 miles of JOF or from the existing and permitted borrow site approximately 1.8 miles south of JOF on TVA.
Grade to Consolidate CCR, Reduce Footprint and Promote Site Drainage	CCR is stabilized such that it is structurally suitable as a base layer. This stabilization could include pore dewatering, addition of amendments (e.g., Portland cement), and/or compaction. TVA would try to optimize the use of existing CCR material to achieve final grade. Fill/borrow material would be used to supplement CCR material and would be contoured to provide adequate storm water management.	Closure-in-Place of Ash Pond 2 includes grading and reconfiguring CCR to consolidate CCR and promote site drainage prior to cover system placement.

Closure Activity	Programmatic Impoundment Closure Activity	Proposed JOF Impoundment Closure Activity
Install Cover System	TVA would install a cover system which either meets or exceeds CCR Rule cover system performance standards ( $1 \times 10^{-5}$ permeability) or state cover system requirements. Storm water management infrastructure would maintain positive drainage. The cover system must control, minimize, or eliminate to the maximum extent practicable, post-closure infiltration of liquids into the CCR and releases of CCR, leachate, or contaminated run off to groundwater or surface waters.	Closure-in-Place of Ash Pond 2 would include the use of a protective cover system that meets or exceeds the CCR Rule performance standard. Additional detail regarding proposed cover and liner systems is provided below in the detailed description of closure of Ash Pond 2.
Identify facilities for CCR disposition	Identify onsite or offsite permitted management facilities for CCR disposal.	Under the Closure-by-Removal option TVA is considering disposal of CCR removed from Ash Pond 2 in an offsite permitted landfill, as well as beneficial reuse. CCR that is not usable by a beneficiation processing facility would be disposed of in the offsite landfill.
Install or expand groundwater monitoring system	A groundwater monitoring system would be installed to ensure that an adequately robust system is in place that meets or exceeds federal or state requirements. States may require groundwater monitoring, assessment, and if appropriate, corrective action.	An extensive groundwater monitoring program has been ongoing at JOF in conjunction with TDEC agreements and the Environmental Investigation Plan. In addition to any federal requirements that may apply to Ash Pond 2 at JOF after closure is completed, TVA would implement supplemental mitigative measures as agreed upon with TDEC, as well as its approved closure plan, which could include additional monitoring, assessment or corrective action programs.
Closure documentation	Prepare documentation to demonstrate that appropriate closure activities were successfully implemented.	Closure plans would be finalized upon successful completion of the NEPA review.

CCR= Coal Combustion Residuals, JOF=Johnsonville Fossil Plant, NEPA= National Environmental Protection Act, TDEC= Tennessee Department of Environment and Conservation, TVA=Tennessee Valley Authority

### C.3 Literature Cited

Literature cited in this appendix is included in Appendix H of the EIS.

**Appendix D – Bounding Analyses for Disposition of CCR Removed  
from Ash Pond 2**

## **Appendix D – Disposition of CCR Removed from Ash Pond 2**

This appendix contains a detailed discussion of the options for disposition of coal combustion residuals (CCR) removed from Ash Pond 2. Tennessee Valley Authority (TVA) is considering two options for disposition of the CCR: transport and disposal of CCR in an existing offsite permitted landfill (Alternative C) and transport of CCR to a beneficiation processing facility to be processed for use in concrete and other building materials (Alternative D). The transport and disposal of CCR to an existing offsite permitted landfill is described below, in Section D.1. Transport of CCR to a beneficiation processing facility is described in Section D.2.

### **D.1 Transport and Disposal of CCR to an Existing Offsite Permitted Landfill**

Transport of CCR to an offsite landfill is a “component action” under Alternative C. TVA determined that transport by truck would be the most feasible method of transporting CCR from JOF (see Section 2.3.5 of the environmental impact statement [EIS]). Existing commercial landfills within a 75-mile radius of Johnsonville Fossil Plant (JOF) could be utilized for long-term storage of CCR transported by truck, as this distance would provide a sufficient number of landfill options for consideration while also allowing for trucks to complete at least two round trips to the landfill per working day.

Because the selection of a particular receiving landfill is dependent upon TVA’s National Environmental Policy Act (NEPA) decision, contract arrangements, and other factors, identification of a receiving landfill is premature. Actual landfill selection would be determined during the project implementation phase. Therefore, TVA has developed a set of bounding attributes related to the transport of CCR from JOF to an offsite landfill via truck. The first step in the analysis was to identify suitable landfills.

#### **D.1.1 Landfill Screening Analysis**

In July 2024, WSP completed a landfill screening analysis for TVA to identify existing, permitted landfills that are suitable for disposal of CCR from JOF. The process used to identify landfills suitable for disposal of CCR from JOF is summarized below. The complete analysis is provided in Appendix E.

The first step in the analysis was to identify all landfills regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle D (solid waste) permitting requirements that may be located within an approximately 75-mile radius of JOF. A total of 11 RCRA Subtitle D landfills were identified within or near the search radius. Additional screening was conducted to eliminate those landfills that were not operated by large commercial carriers, as commercial carriers offer established management systems, reliability, and are assumed to comply with environmental practices consistent with TVA standards. Six of the 11 landfills originally identified are operated by large commercial carriers and were retained for additional analysis.

Additional data was collected to further characterize the remaining candidate landfills. This data was obtained from various sources including landfill operators, readily available information obtained from an internet search of commercial carrier websites, state and county waste management reports, and U.S. Environmental Protection Agency (EPA) data. Three of the

candidate landfill sites were eliminated from consideration as a result of these additional data collection efforts. The remaining three landfills met the following required criteria to be considered for disposal of CCR from JOF:

- Located within an approximate 75-mile radius of JOF
- Operated by a large commercial carrier
- Ability to accept CCR from JOF
- Existing or permitted capacity to provide a monofill or dedicated cell to dispose of CCR from JOF

#### D.1.2 Results

Table D-1 provides a list of landfills that met all screening criteria and would be considered as part of the bounding transportation analysis for disposal of CCR from JOF.

**Table D-1. Landfills Suitable for Accepting CCR from JOF**

<b>Facility</b>	<b>Owner/Operator</b>	<b>City, State</b>	<b>Distance to JOF (point to point)</b>
West Camden Sanitary Landfill	Waste Management	Camden, Tennessee	9 miles
Jackson Madison County Landfill	Republic Services	Jackson, Tennessee	58 miles
Northwest Tennessee Landfill	Republic Services	Union City, Tennessee	70 miles

Figure D-1 depicts the location of each of the three landfills determined suitable for accepting CCR from JOF as well as proposed over-the-road haul routes. After completion of this EIS, if a site is identified for use that does not fall within the criteria of the bounding analysis, a supplemental NEPA review would be conducted.

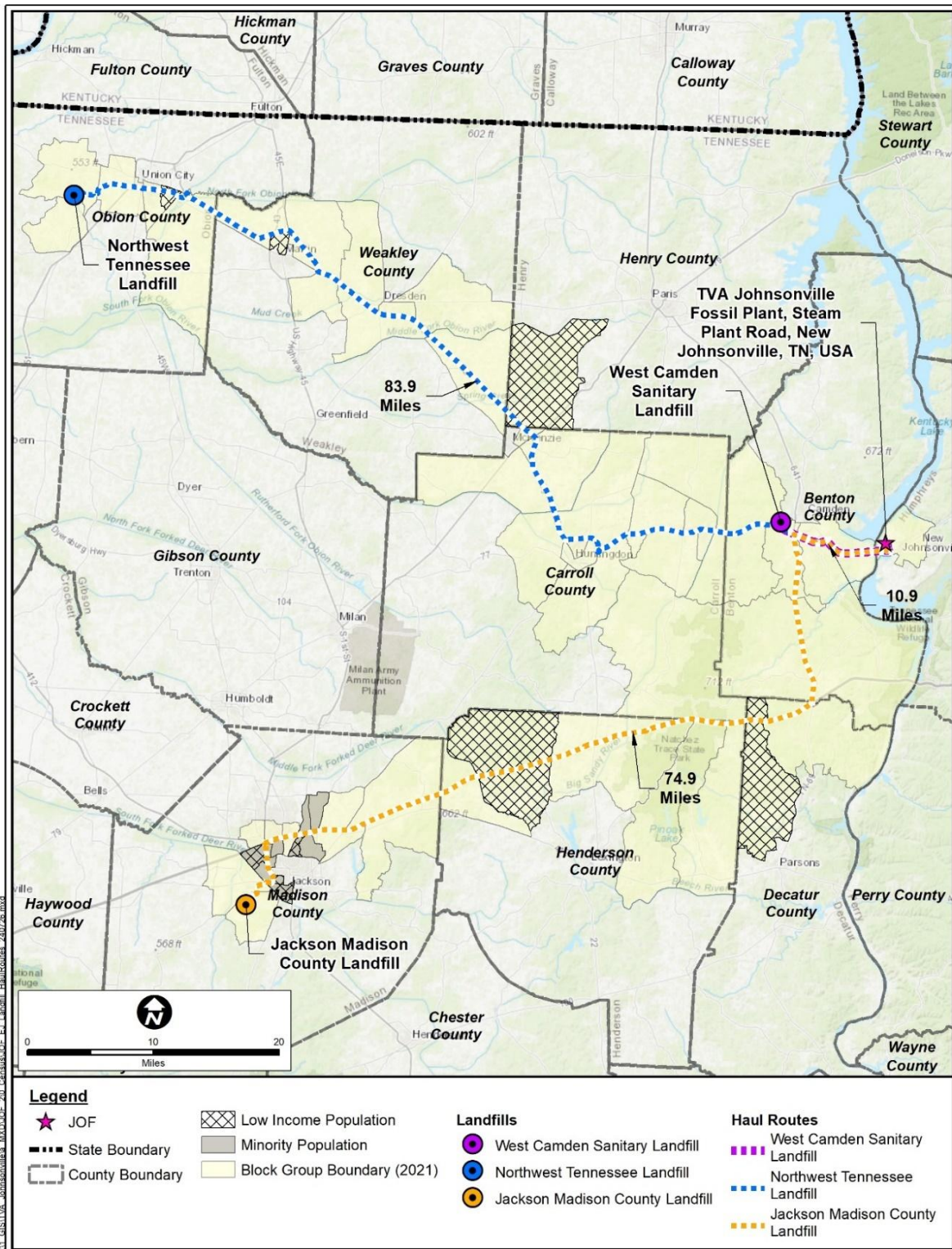


Figure D-1. Landfills Suitable for Accepting CCR from JOF

### **D.1.2.1 Bounding Analysis for Transport of CCR to a Landfill**

Each of the candidate landfill sites are permitted commercial landfills with the ability to accept CCR, with existing infrastructure in place such that construction of additional roads or unloading facilities outside of the existing landfill footprint would not be required. Additional impacts to the natural environment for disposal in these candidate sites are not anticipated. The analysis of potential environmental impacts associated with the disposal of CCR to an offsite landfill is limited to those associated with the effects of transport of CCR from JOF to the candidate facility. Therefore, resources having the potential to be impacted by the transport of CCR between JOF and a candidate landfill and that are considered in this analysis are limited to the following:

- Air Quality – Potential impact from fugitive dust and emissions from loading/unloading equipment and vehicles during transport of CCR to landfill
- Climate Change and Greenhouse Gas (GHG) – Transport operations of CCR contribute to emissions of GHG
- Noise – Potential impact from noise emissions from loading/unloading equipment and vehicles during transport of CCR to landfill
- Transportation – Offsite transport has potential to result in additional impacts to local traffic and increased maintenance needs associated with transportation infrastructure
- Public Health and Safety – Impacts from loading/unloading activities and high-volume transport on roadways result in increased risk of accidents, injuries and deaths
- Natural Areas, Parks, and Recreation – Potential disruptions to the use and enjoyment of natural areas and recreational activities associated with transport of CCR through or adjacent to natural areas, parks, or other recreational areas
- Socioeconomics – Potential impacts associated with the transport of and disposal of CCR (transportation-related noise, exposure to fugitive dust, and exhaust emissions) within identified potential low-income and minority communities

TVA examined the proposed transport routes and the environmental attributes of the existing conditions along each route to determine the most impactful or bounding characteristics of CCR transport to the candidate landfills via truck. As part of this analysis, TVA used such factors as haul route distance, length through established low-income and minority communities, and other factors to develop a set of bounding attributes that may be used in conjunction with impact analyses for each affected resource considered in the EIS as appropriate. The purpose of the bounding analysis was to identify a range of potential impacts and to provide a conservative estimate as to the magnitude of impacts that could result from the transport of CCR. The bounding analysis presents the scenario with the largest extent of potential impacts, but the ultimate haul route chosen may result in less severe impacts.

Truck loading operations are highly dependent on the rate at which CCR can be safely excavated, dried, and moved to truck loading facilities. Prior to leaving a site, all trucks would be required to pass through a truck washing station. Based on the estimated volumes of CCR within Ash Pond 2, and the use of covered, over-the-road dump trucks (capacity of 17 yd<sup>3</sup>), TVA

estimates up to 400 truckloads per day would be needed to transport CCR to the offsite landfill. This would result in a traffic count of up to 800 truck trips per day along the haul route for up to 365 working days per year throughout the closure period.

**D.1.2.2 Summary of Bounding Attributes**

Bounding attributes developed for use in impact analyses for the landfills that were identified as suitable for the potential transport of CCR via truck are summarized in Table D-2.

**Table D-2 Summary of Bounding Attributes Associated with the Transport of CCR to Offsite Landfill Via Truck**

Attribute	Bounding Value
Distance by Road to JOF (miles)	83.9
Estimated Transport-Related Injuries <sup>1</sup>	14.2
Estimated Transport-Related Fatalities <sup>2</sup>	0.6
Length Through Low-income or Minority Community (miles)	27.4
Is Landfill Located in Low-income or Minority Community?	Yes
Length Through Municipal City Limits (miles)	32.5
Length Through or Adjacent to Natural Areas or Parks (miles)	8.1
Air Quality Attainment Status of Landfill Location and Haul Route	In Attainment for All Criteria Pollutants

<sup>1</sup>Based on a rate of 32.953 per billion ton-miles for freight transport by truck (FHWA 2016)

<sup>2</sup>Based on a rate of 1.375 per billion ton-miles for freight transport by truck (FHWA 2016)

CCR=Coal Combustion Residuals, JOF=Johnsonville Fossil Plant

**D.2. Transport of CCR to a Beneficiation Processing Facility**

Alternative D would entail the transport of CCR by truck to an onsite or offsite beneficiation processing facility. Technology currently exists at commercially available levels to beneficially use coal ash stored in impoundments in Tennessee. CCR have technical properties that make them valuable resources in certain commercial manufacturing operations. Beneficiation is the treatment of raw material to improve the physical and chemical properties to make them suitable for subsequent use. For example, fly ash and gypsum produced at the Cumberland Fossil Plant is sold for beneficial reuse.

EPA (2025c) encourages the beneficial use of CCR in an appropriate and protective manner, because this practice can produce positive environmental, economic, and product benefits such as:

- reduced use of virgin resources,
- lower greenhouse gas emissions,
- reduced cost of coal ash disposition, and

- improved strength and durability of materials.

Encapsulated beneficial uses of CCR are those uses where the CCR is bound in a solid matrix that minimizes mobilization into the surrounding environment. Examples of encapsulated uses include aggregate in concrete or bricks and use as raw material in the manufacture of a product like wallboard. Unencapsulated beneficial uses are those where the material is used in a loose or unbound form and involves the direct placement of the material on land, for example use as structural fills (EPA 2016).

### **D.2.1. Bounding Analysis for Transport of CCR to a Beneficiation Processing Facility**

Based on the estimated volumes of CCR in Ash Pond 2 that could be processed at the beneficiation facility (approximately 4.5 million yd<sup>3</sup>) and the use of covered, over-the-road trucks (capacity of 17 yd<sup>3</sup>), up to 400 truckloads of CCR per day would be used to transport CCR to a beneficiation processing facility. This would result in a traffic count of up to 800 truck trips per day for up to 365 days per year along the haul road to the beneficiation facility throughout the closure period (estimated at 10 to 13 years).

As stated in Section 2.3.4 of the EIS, no specific provider or location of the beneficiation services has been selected at this time. TVA has programmatically evaluated the potential construction and operation of CCR beneficiation processing facilities under a separate NEPA review. The analysis of potential environmental impacts associated with the disposition of CCR to an onsite or offsite beneficiation processing facility is limited to those associated with the effects of transport of CCR from JOF to the facility. Therefore, resources having the potential to be impacted by the transport of CCR between JOF and a beneficiation processing facility are considered in this analysis and are limited to those described for transport of CCR to a landfill (see Section D.1.2.1 of this appendix), including air quality, climate change and GHG, noise, transportation, natural areas, parks, and recreation, and public health and safety.

However, this EIS assumes there would be direct access to a beneficiation processing facility from a collector road or major highway that would support truck traffic without noticeable effects to level of service. Therefore, transportation impacts due to potential transport of CCR through or adjacent to low-income and minority communities and/or natural areas, parks, and recreation areas, are considered to be minor. Following completion of this EIS, if a beneficiation processing facility site is identified that does not meet the conditions listed above, a supplemental NEPA review would be conducted.

### **D.3 Literature Cited**

Literature cited in this appendix is listed in Appendix H of the EIS.

## **Appendix E – Offsite Landfill Analysis**



**JOHNSONVILLE FOSSIL PLANT  
ASH IMPOUNDMENT CLOSURE EIS  
LANDFILL SCREENING AND TRANSPORTATION BOUNDING  
ATTRIBUTE ANALYSIS**

**Humphreys County, Tennessee**

**Prepared by:**  
WSP USA  
Ballwin, Missouri

**Prepared for:**  
TENNESSEE VALLEY AUTHORITY  
Chattanooga, Tennessee

July 2024



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### **List of Acronyms and Abbreviations**

ALF	Allen Fossil Plant
CCR	coal combustion residuals
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
JOF	Johnsonville Fossil Plant
NEPA	National Environmental Policy Act
PEIS	Programmatic Environmental Impact Statement
RCRA	Resource Conservation and Recovery Act
TVA	Tennessee Valley Authority
yd <sup>3</sup>	cubic yards



## 1.0 INTRODUCTION

### 1.1 Project Background

Tennessee Valley Authority's (TVA) Johnsonville Fossil Plant (JOF) is located on approximately 720 acres of land along the east bank of the Tennessee River (Kentucky Reservoir) in New Johnsonville, Tennessee. Construction of the plant began in 1949, and the plant started operating in 1952. JOF originally had ten coal-fired generating units with an operating capacity of 1,254 megawatts. In 2012, TVA began to gradually retire all ten units, with the final four units being retired on December 31, 2017. When it was shut down, JOF was the oldest operating fossil plant in the TVA system.

Ash Pond 2 (Figure 1-1) began receiving CCR around 1970. Ash Pond 2 is situated on approximately 123 acres of land bordered by Kentucky Reservoir to the north and west and two dredged channels for coal unloading/barge mooring (boat harbor channel) and a condenser cooling water intake to the east and south, respectively. Material dredged from the lake bottom was used to construct the original dike for Ash Pond 2, with additional soil material later added to raise the perimeter dike elevation. The disposal area is connected to the mainland by a 1,000-foot causeway that supports an asphalt access road.

Ash Pond 2 has a surface area of approximately 90 acres and is enclosed by a dike approximately 10,000 feet in length. The southern portion of the unit consists of a three-pond complex separated by internal dikes. The northern portion of the pond contains a sluice channel, a temporary ash stacking area, and several temporary dredge cells. Currently there is approximately 4,600,000 cubic yards (yd<sup>3</sup>) of CCR stored in Ash Pond 2. The location of Ash Pond 2 is shown on Figure 1-1.

As TVA has retired all coal-fired units at JOF and CCR is no longer being produced, TVA is proposing to permanently close Ash Pond 2. To support the implementation of TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across the TVA system, and to assist TVA in complying with the U.S. Environmental Protection Agency's (EPA) CCR Rule, TVA is evaluating the following alternatives to address the closure of Ash Pond 2.

- Alternative A – No Action Alternative
- Alternative B – Closure-in-Place of Ash Pond 2
- Alternative C – Closure-by-Removal of Ash Pond 2, Transport and Disposal of CCR to an Existing Offsite Landfill
  - Alternative C1 – Post Closure Site Restoration
  - Alternative C2 – Post Closure Dike Breach
- Alternative D – Closure-by-Removal of Ash Pond 2, Transport of CCR to an Onsite or Offsite Beneficial Reuse Processing Facility
  - Alternative D1 – Post-Closure Site Restoration
  - Alternative D2 – Post-Closure Dike Breach

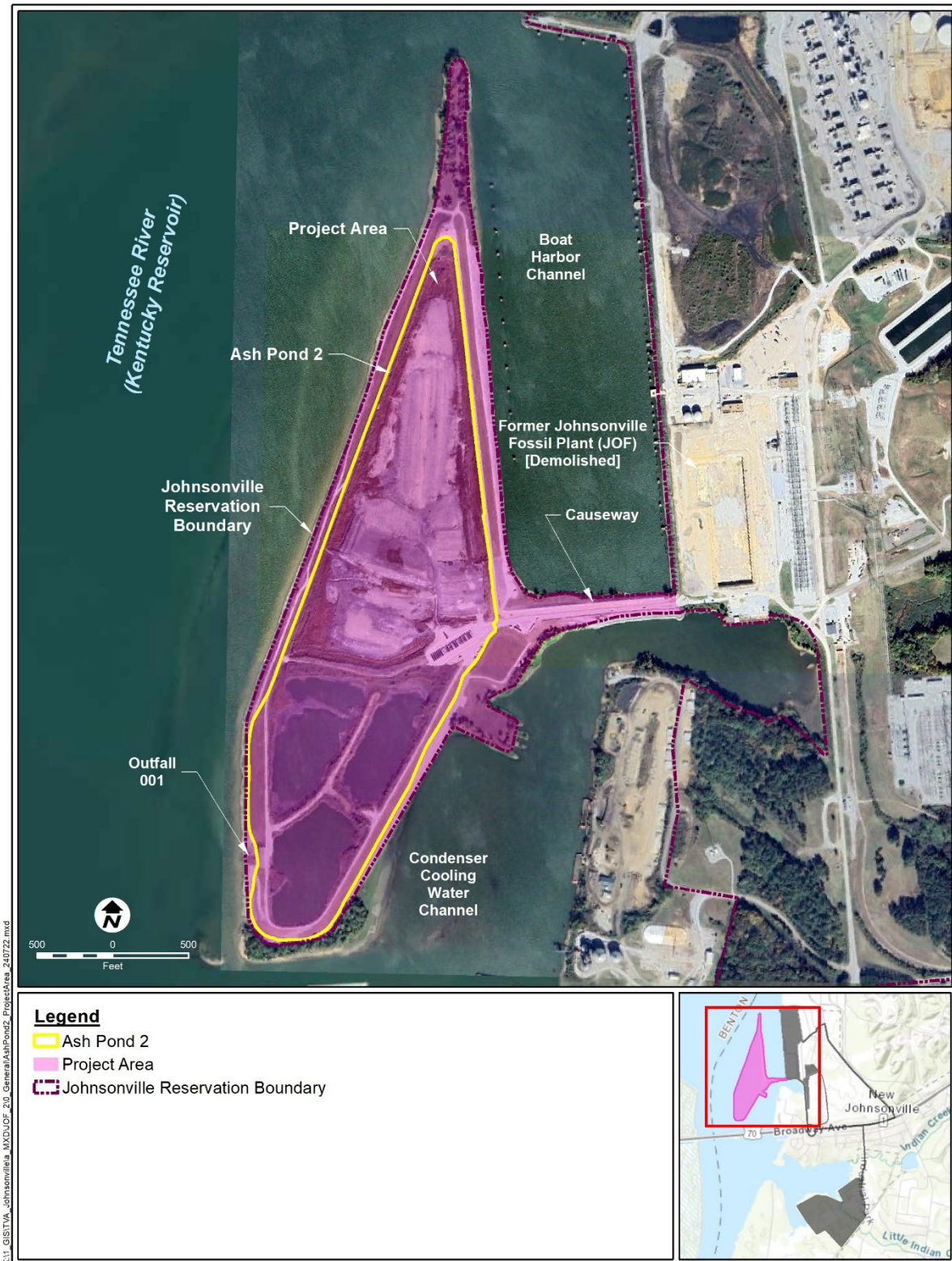


Figure 1-1. JOF Ash Pond 2 Proposed Project Areas



In accordance with TVA policy and the provisions of the National Environmental Policy Act of 1969 (NEPA), TVA intends to prepare an environmental impact statement (EIS) to address the closure of Ash Pond 2 at JOF. The purpose of this report is to identify suitable offsite landfills that TVA could use for the disposal of CCR from JOF. Findings are intended to assist TVA with the decision-making process regarding closure of Ash Pond 2 at JOF.

On July 28, 2016, TVA issued a Record of Decision for a programmatic NEPA review entitled Ash Impoundment Closure Environmental Impact Statement (CCR Programmatic Environmental Impact Statement [CCR PEIS]) (TVA 2016). The purpose of the programmatic NEPA review was to support TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across TVA's system and to assist TVA in complying with the EPA's CCR Rule issued on April 17, 2015 (80 Federal Register 21302). The EIS for closure of Ash Pond 2 at JOF will tier from TVA's 2016 CCR PEIS.

In Part I of the CCR PEIS, TVA considered several modes of transport of CCR materials offsite, including truck, rail, and barge transport. TVA concluded that while many of TVA's coal-fired plants have barge facilities, these facilities are configured and designed only to off-load coal from barges. TVA concluded that the process to develop new infrastructure to load CCR would likely exceed the five-year closure period considered in the PEIS. Given the infrastructure considerations and the uncertainty related to environmental permitting of these facilities, TVA eliminated barge transport from consideration as infeasible. Rail was also considered as an option for transport; however, loading infrastructure including rail spurs to impoundment areas would be necessary at most sites, making the rail option infeasible at many facilities.

TVA conducted a Landfill Screening Analysis (Wood 2019) in support of the Allen Fossil Plant Ash Impoundment Closure Environmental Impact Statement (TVA 2020) to evaluate alternatives for disposal of CCR from TVA's Allen Fossil Plant (ALF) at landfills within a 600-mile radius of ALF. This study eliminated barge as a feasible option for transport due to logistical factors including the inability to locate an offsite landfill with barge unloading capacities. As JOF is located approximately 140 miles northeast of ALF, the 600-mile radius studied in the ALF Landfill Screening Analysis also covered a large area near JOF. Thus, the lack of landfills with barge unloading capabilities, as well as the lack of barge loading capabilities at JOF, would be problematic for barge transport of CCR from JOF. In addition, all rail facilities at JOF have been removed making rail transport infeasible even if an offsite landfill has rail unloading capabilities.

Considering the analysis presented in the CCR PEIS and the ALF Landfill Screening Analysis (Appendix B of the ALF Ash Impoundment Closure EIS), and considering reasonable durations of closure, TVA determined that transport by truck would be the most feasible method of transporting CCR from JOF. TVA determined that a landfill within an approximately 75-mile radius of JOF could be utilized for long-term storage of CCR transported by truck, as this distance would provide a sufficient number of landfill options for consideration while also allowing for trucks to complete at least two round trips to the landfill per working day.

## **2.0 PURPOSE**

Depending on the alternative selected for the ash pond closure, TVA could require the use of an offsite landfill. TVA has not selected a landfill for disposal of CCR from Ash Pond 2 at JOF at this time. The analysis of potential environmental impacts associated with the disposal of CCR to an offsite, previously developed and/or permitted landfill is limited to those impacts associated with the effects of transport of CCR to the facility. Therefore, the purpose of this



analysis is to develop a set of bounding attributes related to the transport of CCR from JOF to one of the landfills under consideration. The first step in this analysis is to identify suitable landfills. The most impactful or “bounding” characteristics of CCR transport to each of these suitable landfills will be incorporated into a set of bounding attributes associated with transport of CCR from JOF via truck. The results of the analysis will be used to support the evaluation of impacts developed for the EIS for the closure of Ash Pond 2 at JOF. Should a receiving landfill be selected following completion of the EIS that exceeds the listed threshold conditions, a supplemental NEPA document would be required.

### **3.0 IDENTIFICATION OF SUITABLE LANDFILLS**

#### **3.1 Methodology**

The following stepwise process was used to identify landfills that could be considered for disposal of CCR from JOF.

##### **3.1.1 Step 1 – Identification of Landfills Within a 75-Mile Radius of JOF**

An internet search was conducted to identify all active landfills regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle D (solid waste) permitting requirements that may be located within an approximately 75-mile radius of JOF. Landfills that are regulated under RCRA Subtitle D include Municipal Solid Waste Landfills and Non-hazardous Industrial Waste Landfills. These landfills must meet the minimum federal criteria for operation including design criteria, location restrictions, financial assurance, corrective action (cleanup), and closure requirements (EPA 2024).

Portions of the states of Tennessee, Kentucky, Mississippi, and Alabama are located within an approximate 75-mile radius of JOF. An internet search identified 115 RCRA Subtitle D landfills within these four states, 11 of which are located within or near the identified radius (Figure 3-1).

##### **3.1.2 Step 2 – Large Commercial Carriers**

Additional screening was conducted to eliminate those landfills that were not operated by large commercial carriers. Commercial carriers offer established management systems, reliability, and are presumed to comply with environmental practices consistent with TVA standards. The following large commercial carriers operate landfills within the designated trucking radius:

- Republic Services
- Waste Management
- Waste Industries
- WCA Waste

Six of the 11 landfills originally identified are operated by these large commercial carriers and were retained for additional analysis (Figure 3-1).

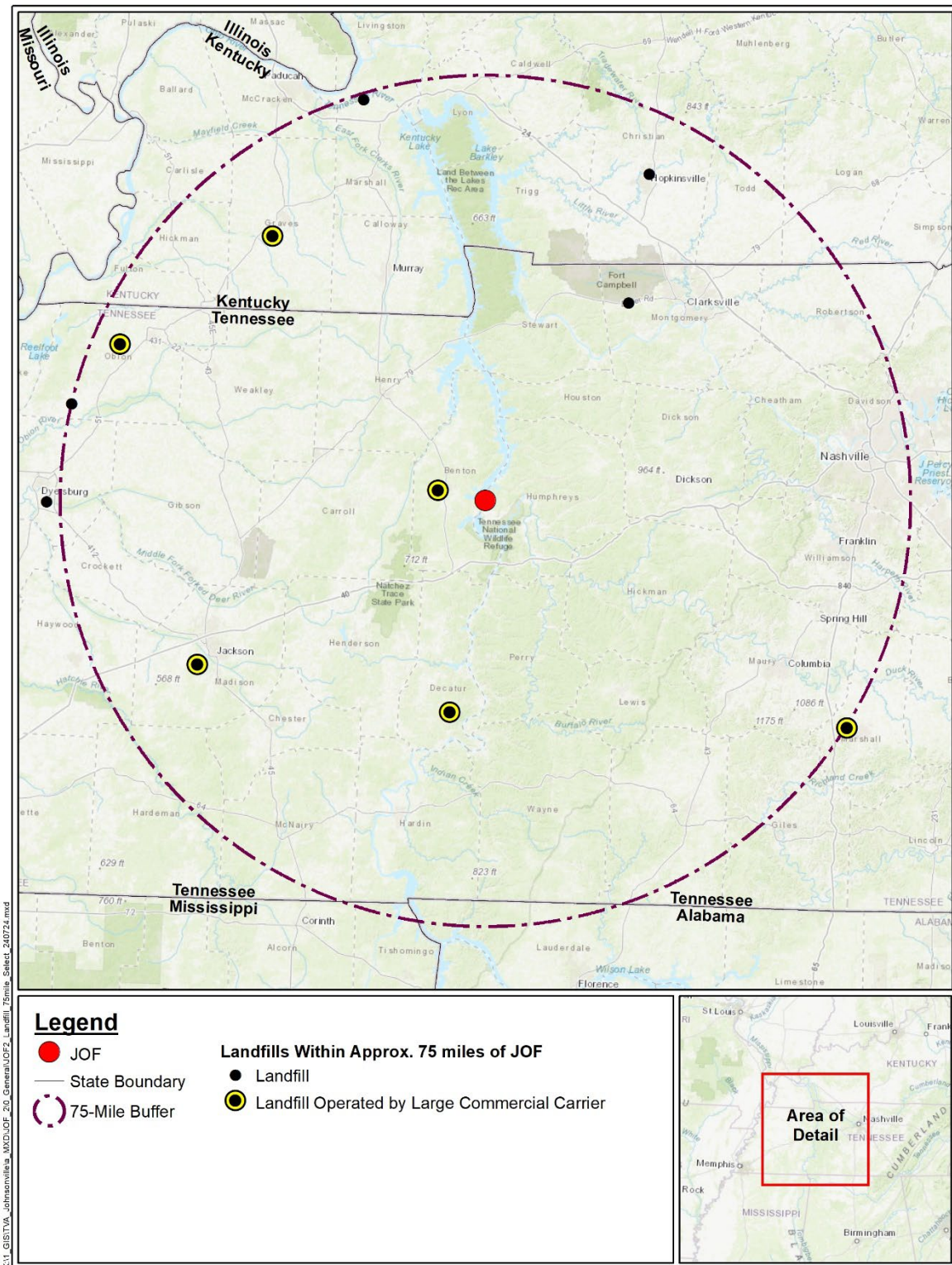


Figure 3-1. RCRA Subtitle D Landfills Located within Approximately 75 Miles of JOF



### **3.1.3 Step 3 – Internet Characterization of Landfill Attributes**

The six candidate landfills were screened for specific attributes using readily available information obtained from an internet search of commercial carrier websites, state and county waste management reports, and EPA data. Each landfill was characterized using the following attributes:

- Over the road trucking distance to JOF
- Remaining capacity
- Types of waste accepted
- Availability of a monofill or dedicated cell for waste from a single generator
- Geographic restrictions on waste origin
- Permit violations and non-compliance
- Presence within a census block group supporting communities subject to Environmental Justice (EJ) consideration

Landfills that only accept waste from within a specific geographic area (of which JOF is not included), that do not accept CCR or special waste, that could not provide a monofill or dedicated cell, or that reported insufficient capacity would not be considered suitable for long-term storage of CCR from JOF. It should be noted that not all attribute information was readily ascertainable for each landfill, and as such, a lack of information alone did not result in the elimination of a landfill.

Based on the internet characterization data, one landfill was determined to be unsuitable as it had recently ceased accepting special waste and out-of-county waste and was therefore eliminated. As a result, five candidate landfills were retained for further consideration in the development of the transportation bounding analysis.

### **3.1.4 Step 4 –Additional Data Collection**

Additional data was collected to validate the information obtained during the internet characterization screen and obtain information that was not readily available online. The Landfill Attribute Matrix provided in Appendix E1 includes information obtained during the internet characterization screen and additional data collection for each candidate landfill.

Three of the remaining five landfills meet all of the required criteria and are also either currently permitted to accept CCR or have the potential to obtain an additional permit to accept CCR.

## **3.2 Results**

Based on the results of analysis explained above, three landfills within an approximately 75-mile radius of JOF were determined to be potentially suitable for accepting CCR from Ash Pond 2 (Table 3-1). These include commercial landfills that were confirmed to accept CCR; have the ability to construct dedicated cells to accommodate a monofill for CCR from a single generator; have sufficient existing or permitted capacity to accept all CCR from JOF; and do not have geographic restrictions or service areas that exclude JOF.



**Table 3-1. Landfills Potentially Suitable for Accepting CCR from JOF**

<b>Facility</b>	<b>Owner/ Operator</b>	<b>City, State</b>	<b>Distance to JOF (point to point)</b>	<b>Distance to JOF (one-way by road)</b>
West Camden Sanitary Landfill	Waste Management	Camden, Tennessee	9 miles	10.9 miles
Jackson Madison County Landfill	Republic Services	Jackson, Tennessee	58 miles	74.9 miles
Northwest Tennessee Landfill	Republic Services	Union City, Tennessee	70 miles	83.9 miles

Figure 3-2 depicts the location of each of the three landfills listed in Table 3-1, as well as proposed over-the-road haul routes.

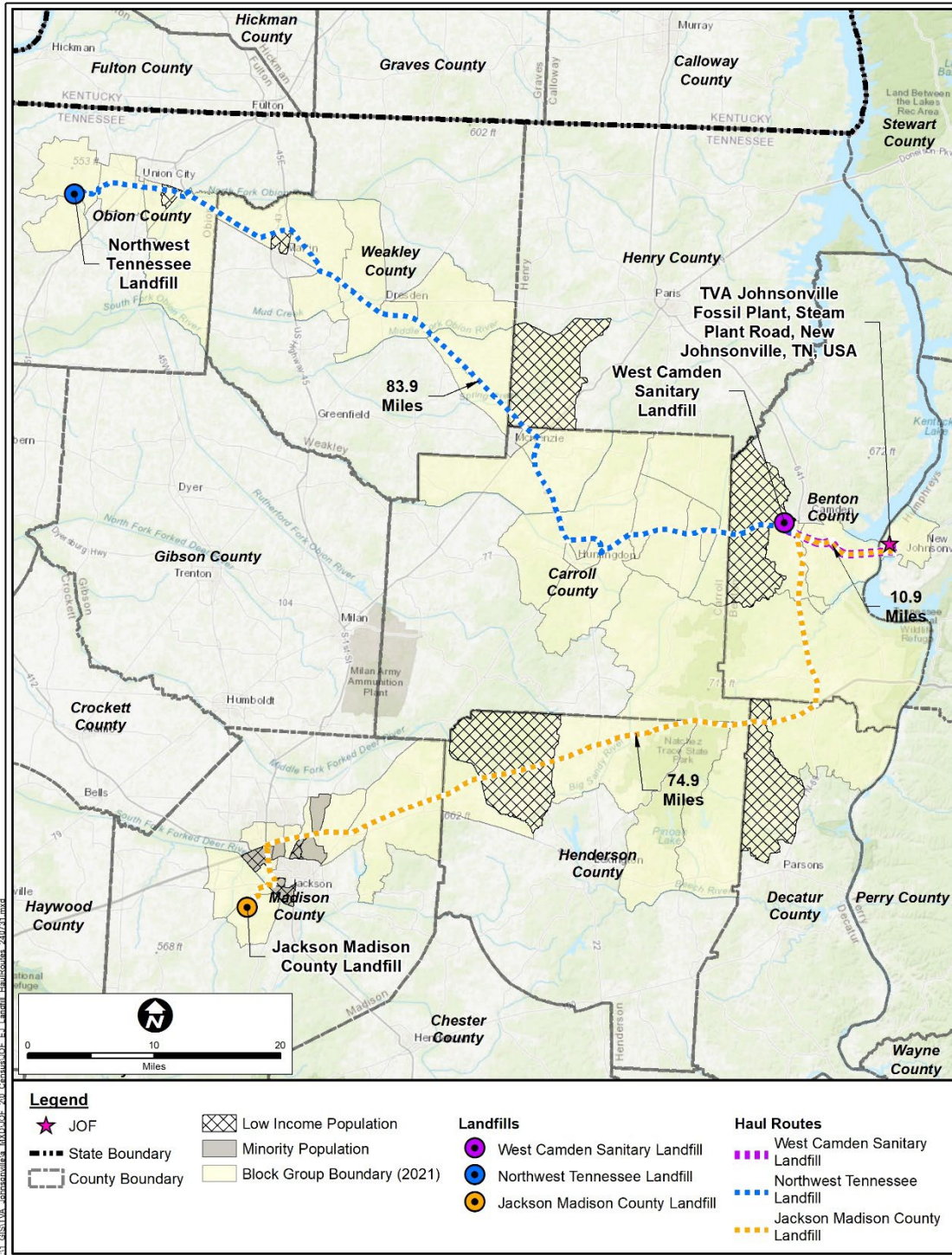


Figure 3-2. Landfills Potentially Suitable for Accepting CCR from JOF



#### 4.0 TRANSPORTATION BOUNDING ANALYSIS

Each of the candidate landfill sites are permitted commercial landfills with the ability to accept CCR, with existing infrastructure in place such that construction of additional roads or unloading facilities outside of the existing landfill footprint would not be required. Additional impacts to the natural environment for disposal in these candidate sites are not anticipated. The analysis of potential environmental impacts associated with the disposal of CCR to an offsite landfill is limited to those associated with the effects of transport of CCR from JOF to the candidate facility. Therefore, resources having the potential to be impacted by the transport of CCR between JOF and a candidate landfill and that are considered in this analysis are limited to the following:

- Air Quality—Potential impact from fugitive dust and emissions from loading/unloading equipment and vehicles during transport of CCR to landfill
- Climate Change and Greenhouse Gas—Transport of CCR contribute to emissions of greenhouse gas
- Noise—Potential impact from noise emissions from loading/unloading equipment and vehicles during transport of CCR to landfill
- Transportation—Offsite transport of CCR has potential to result in additional impacts to local traffic and increased maintenance needs associated with transportation infrastructure
- Public Health and Safety—Impacts from loading/unloading activities and high-volume transport on roadways result in increased risk of accidents, injuries, and deaths
- Natural Areas, Parks, and Recreation—Potential disruptions to the use and enjoyment of natural areas and recreational activities associated with transport of CCR through or adjacent to natural areas, parks or other recreational areas
- Environmental Justice— Potential impacts associated with the transport of and disposal of CCR (transportation-related noise, exposure to fugitive dust, and exhaust emissions) within identified EJ communities (United States Census Bureau 2020, 2022).

TVA examined the proposed transport routes and the environmental attributes of the existing conditions along each route to determine the most potentially impactful or “bounding” characteristics of CCR transport to a candidate landfill via truck. This analysis assumes that TVA could utilize multiple candidate landfills for the disposal of CCR from JOF over the course of the project; however, only one facility would be utilized at a time. As part of this analysis, TVA used a number of factors to develop a set of bounding attributes that may be used in conjunction with impact analyses for each potentially affected resource considered by NEPA, as appropriate. These factors included total haul route distance and length through or adjacent to established EJ communities and natural areas or parks. The length of the haul route through municipal city limits was used to quantify potential impacts to sensitive noise and air receptors, which would occur in greatest numbers within these populated areas. Results of analyses as presented in the following subsection will be used to support relevant resource impact analyses in the JOF Ash Impoundment Closure EIS.



#### 4.1 Transport to Landfill Via Truck

Attributes of the proposed haul routes were calculated for each of the three candidate landfills. For each individual attribute, the most impactful of the haul routes was selected to represent the bounding value. Use of these bounding values in the JOF Ash Impoundment Closure EIS will allow for the determination of the greatest potential impact to each resource affected by CCR transport. Thus, the impacts of hauling CCR to any of the candidate landfills would be equal to or less than those quantified using the bounding values.

Bounding attributes developed for use in impact analyses for transport of CCR to a landfill via truck are summarized in Table 4-1. Supporting calculations are provided in Appendix E2.

**Table 4-1. Summary of Bounding Attributes Associated with the Transport of CCR to Offsite Landfill Via Truck**

<b>Attribute</b>	<b>Bounding Value</b>
One-way Distance by Road to JOF (miles)	83.9
Estimated Transport-Related Injuries <sup>1</sup>	14.2
Estimated Transport-Related Fatalities <sup>2</sup>	0.6
Length Through EJ Population (miles)	12.5
Is Landfill Located in EJ Population?	Yes
Length Through Municipal City Limits (miles)	32.5
Length Through or Adjacent to Natural Areas or Parks (miles)	8.1
Air Quality Attainment Status of Landfill Location and Haul Route	In Attainment for All Criteria Pollutants

<sup>1</sup>Based on a rate of 32.953 per billion ton-miles for freight transport by truck (FHWA 2016)

<sup>2</sup>Based on a rate of 1.375 per billion ton-miles for freight transport by truck (FHWA 2016)



## 5.0 REFERENCES

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## **Appendix E1**

### **Landfill Attribute Matrix**

**Project Name:** JOF Ash Impoundment Closure EIS  
**Project Number:** 325218113  
**Subject:** Landfill Screening Analysis  
**Source Data:** Internet Screen and Landfill Suitability Questionnaire Results  
**Prepared by:** AMJ 7/22/2024  
**Checked by:** NMR 7/24/2024



Name	Company	Address	Distance from JOF (point to point)	Transport Details	Capacity Information (JOF: Approx 5 million CY total)	Accept CCR?	Monofill/Dedicated Cell Availability	Geographic Restrictions	EPA Facility Report Notes on Noncompliance (NC)	EJ Screen - Minority Population?	EJ Screen - Low Income Population?	Operating days/hours	Notes
West Camden Sanitary Landfill	WM	2410 US-70, Camden, TN 38320	8.6 mi	Approx. 12 miles driving distance (per Google maps)	12,655,820 CY remaining permitted capacity and 19 year remaining life per 2023 Annual engineering Report Class I Disposal Facilities	Not currently, but have ability to obtain necessary permit	Yes, up to approx. 5,000,000 CY	No	No violations of non-compliance for statute CAA and CWA as of 10/23/2023, 2 informal enforcement actions in 5 years	No	Yes	Mon - Fri: 6:30am-5pm Sat: 6:30am-12pm Sun: Closed	
Northwest Tennessee Landfill	Republic Services	518 Beech Chapel Rd, Union City, TN 38261	69.8 mi	Approx. 84 miles driving distance (per Google maps)	7,858,956 CY remaining permitted capacity and 32 year remaining life per 2023 Annual Engineering Report Class I Disposal Facilities	Yes, receiving CCR as of 2020 questionnaire response	Yes	No	No Violations of CAA statute as of 1/9/2024 and No Violations of CWA statutes as of 11/2/2023	No	No	Mon - Wed: 7:30am-4:30pm Thu - Fri: 7:30am-5pm Sat: 8am-12pm	
Jackson Madison County Landfill	Republic Services	550 Aaron Long Road, Jackson, TN 38301	58.3 mi	Approx. 76 miles driving distance (per Google maps)	11,181,061 CY remaining permitted capacity and 41 years of remaining life per 2023 Annual Engineering Report Class I Disposal Facilities	Not currently, but have ability to obtain necessary permit	Yes	No	In compliance for CAA statute as of 1/10/2024, 1 informal enforcement action in 5 years	No	No	Mon-Fri: 7am-4:45pm Sat: 7am-11:45pm	
Cedar Ridge Landfill	WM	2340 Mooresville Hwy, Lewisburg, TN 37091	75.5 mi	Approx. 115 miles driving distance (per Google maps)	5,708,475 CY remaining permitted capacity and 8 years, 10 months of remaining life per 2023 Annual Engineering Report Class I Disposal Facilities	Accepts special waste	Unknown	Unknown	Currently in compliance with CAA statute as of 4/19/2023, 1/12 quarters NC, 1 informal enforcement action in 5 years	No	No	Mon - Fri: 6am-4pm Sat: 6am-12pm Sun: Closed	Questionnaire not returned; operator stated "Our Cedar Ridge Landfill is currently unsuitable for these purposes"
West Kentucky Landfill	WCA	3426 State Route 45 South, Mayfield, KY 42066	60.0 mi	Approx. 77 miles driving distance (per Google maps)	Per 2021 Solid Waste Branch Annual Survey Report - 5,013,470 CY remaining.	Accepts special waste; did not respond to questionnaire	Unknown; did not respond to questionnaire	Unknown; did not respond to questionnaire	Currently in compliance with CAA and CWA statutes as of 9/26/2023 and 12/4/2019 (respectively); 12/12 quarters NC for CWA (in 2018), 10 with Significant Violation	No	No	Mon-Fri: 8am-3:30pm Sat-Sun: Closed	Unresponsive; questionnaire not returned
Decatur Landfill	Waste Industries	324 Landfill Ln, Bath Springs, TN 38311	37.9 mi	Approx. 49 miles driving distance (per Google maps)	0 remaining permitted capacity and NO LIFE REMIAING per 2023 Annual Engineering Report Class I Disposal Facilities	Previously accepted special waste; however, ongoing public controversy and 2019 lawsuit settlement resulted in cessation of accepting any special waste	Unknown	Per 2019 lawsuit settlement, can no longer accept out of county waste	In compliance with CAA and CWA statutes as of 4/18/2022 and 5/5/2017 (respectively), 2/12 quarters NC for CAA; 1 formal and 2 informal enforcement actions in 5 years	No	No	Closed in 2021	Ruled out during internet characterization; no questionnaire sent

	Unfavorable
	Neutral or Undetermined
	Favorable

## **Appendix E2**

### **Bounding Attribute Calculations**

**Project Name: JOF Ash Impoundment Closure EIS**

Subject: Landfill Bounding Analysis  
 Project Number: 325218113  
 Source: FHWA 2016 (+ see other tabs)  
 Prepared by: A. Johnston  
 Checked by: R. Porath  
 Date: 7/31/2024

**Determination of Bounding Attributes**

Facility name	Driving Distance to JOF (mi)	Billion ton-miles <sup>1</sup>	Potential Injuries <sup>2</sup>	Potential Fatalities <sup>2</sup>	Is Landfill Located Within an EJ Population?	Length of Haul Route Through EJ Population (mi)	Length Through Municipal City Limits (mi)	Length of Haul Route Through or Along Parklands (mi)	Length Through EPA NAAQS Non-Attainment Areas (mi)	Air Quality Attainment Status of Landfill Location
			* 32.953	* 1.375						
Jackson Madison County Landfill	74.9	0.385173250	12.69261411	0.529613219	No	12.5	15.8	8.1	0.0	Attainment
Northwest Tennessee Landfill	83.9	0.431455750	14.21776133	0.593251656	No	8.8	32.5	2.4	0.0	Attainment
West Camden Sanitary Landfill	10.9	0.05605325	1.847122747	0.077073219	Yes	0.4	1.9	2.2	0.0	Attainment

<sup>1</sup> Calculated using tonnage of 5.1425 million tons (4.675 million cy at a density of 1.1 tons/cy)

<sup>2</sup> Based on rates per billion ton-miles for freight transport by truck on highways (FHWA 2016)

 Bounding Value

**Project Name:** JOF Ash Impoundment Closure EIS  
**Subject:** Landfill Bounding Analysis - EJ Raw Data  
**Project Number:** 325218113  
**Source:** United States Census Bureau- 2020 Decennial Census, 2022  
**ACS 5-Year Estimates**  
**Prepared by:** A. Johnston  
**Checked by:** R. Porath  
**Date:** 7/16/2024



Highlighted cells indicate location of landfills

EJ Thresholds	
EJ Minority = 29.09% (State TN) + 20% = 49.09%	
EJ Low Income = 32.59% (State TN) + 20% = 52.59% (greater than 50% therefore threshold is 50%)	

### Environmental Justice - Demographic Data by Block Group

GEOGRAPHY	TOTAL POP	AGGREGATE MINORITY POP	MINORITY %	EJ MINORITY (49.09% or more)	TOTAL POP FOR WHICH LOW INCOME IS		EJ LOW INCOME (50% or more)
					DETERMINED	LOW-INCOME %	
Tennessee	6,910,840	2,010,594	29.09%		6,759,549	2,202,702	32.59%
Block Group 1, Census Tract 9630, Benton County, Tennessee	717	40	5.58%		555	73	13.15%
Block Group 2, Census Tract 9630, Benton County, Tennessee	640	50	7.81%		754	393	52.12% Low Income
Block Group 3, Census Tract 9630, Benton County, Tennessee	904	71	7.85%		1,025	584	56.98% Low Income
Block Group 4, Census Tract 9630, Benton County, Tennessee	933	61	6.54%		901	264	29.30%
Block Group 1, Census Tract 9631, Benton County, Tennessee	1,155	63	5.45%		940	629	66.91% Low Income
Block Group 2, Census Tract 9631, Benton County, Tennessee	1,068	128	11.99%		1,298	284	21.88%
Block Group 3, Census Tract 9631, Benton County, Tennessee	718	58	8.08%		876	247	28.20%
Block Group 1, Census Tract 9632, Benton County, Tennessee	932	73	7.83%		1,296	633	48.84%
Block Group 2, Census Tract 9632, Benton County, Tennessee	1,132	101	8.92%		724	264	36.46%
Block Group 1, Census Tract 9633, Benton County, Tennessee	1,023	124	12.12%		810	286	35.31%
Block Group 2, Census Tract 9633, Benton County, Tennessee	1,367	178	13.02%		1,520	839	55.20% Low Income
Block Group 3, Census Tract 9633, Benton County, Tennessee	1,432	213	14.87%		1,183	343	28.99%
Block Group 1, Census Tract 9634, Benton County, Tennessee	1,264	90	7.12%		1,157	719	62.14% Low Income
Block Group 2, Census Tract 9634, Benton County, Tennessee	1,160	91	7.84%		1,113	217	19.50%
Block Group 3, Census Tract 9634, Benton County, Tennessee	1,419	145	10.22%		1,631	530	32.50%
Block Group 1, Census Tract 9620, Carroll County, Tennessee	634	58	9.15%		536	214	39.93%
Block Group 2, Census Tract 9620, Carroll County, Tennessee	925	107	11.57%		792	258	32.58%
Block Group 3, Census Tract 9620, Carroll County, Tennessee	1,693	235	13.88%		1,527	605	39.62%
Block Group 4, Census Tract 9620, Carroll County, Tennessee	1,008	117	11.61%		1,170	349	29.83%
Block Group 1, Census Tract 9621.01, Carroll County, Tennessee	1,136	186	15.55%		686	138	20.12%
Block Group 2, Census Tract 9621.01, Carroll County, Tennessee	2,177	354	16.26%		2,017	694	34.41%
Block Group 1, Census Tract 9621.02, Carroll County, Tennessee	901	112	12.43%		611	175	28.64%
Block Group 2, Census Tract 9621.02, Carroll County, Tennessee	1,831	365	19.93%		1,518	452	29.78%
Block Group 3, Census Tract 9621.02, Carroll County, Tennessee	1,099	319	29.03%		1,322	578	43.72%
Block Group 1, Census Tract 9622.01, Carroll County, Tennessee	1,757	174	9.90%		2,128	822	38.63%
Block Group 2, Census Tract 9622.01, Carroll County, Tennessee	1,453	593	40.81%		1,179	780	66.16% Low Income
Block Group 1, Census Tract 9622.02, Carroll County, Tennessee	1,489	162	10.88%		1,412	249	17.63%
Block Group 2, Census Tract 9622.02, Carroll County, Tennessee	1,239	184	14.85%		1,362	487	35.76%
Block Group 3, Census Tract 9622.02, Carroll County, Tennessee	1,855	337	18.17%		1,347	225	16.70%
Block Group 1, Census Tract 9623, Carroll County, Tennessee	798	172	21.55%		562	145	25.80%
Block Group 2, Census Tract 9623, Carroll County, Tennessee	1,170	202	17.26%		1,378	649	46.99%
Block Group 3, Census Tract 9623, Carroll County, Tennessee	1,540	342	22.21%		1,889	718	38.01%
Block Group 4, Census Tract 9623, Carroll County, Tennessee	887	78	8.79%		650	118	18.18%
Block Group 1, Census Tract 9624, Carroll County, Tennessee	1,337	170	12.72%		1,869	856	45.80%
Block Group 2, Census Tract 9624, Carroll County, Tennessee	1,275	104	8.16%		814	326	40.05%
Block Group 1, Census Tract 9625, Carroll County, Tennessee	1,203	227	18.87%		1,123	554	49.33%
Block Group 2, Census Tract 9625, Carroll County, Tennessee	973	98	10.07%		1,479	644	43.54%
Block Group 1, Census Tract 9801, Carroll County, Tennessee	0	0	0.00%		0	0	0.00%
Block Group 1, Census Tract 9550.01, Decatur County, Tennessee	846	45	5.32%		882	555	62.93% Low Income
Block Group 2, Census Tract 9550.01, Decatur County, Tennessee	528	29	5.49%		639	189	29.58%
Block Group 3, Census Tract 9550.01, Decatur County, Tennessee	414	28	6.76%		303	110	36.30%
Block Group 1, Census Tract 9550.03, Decatur County, Tennessee	1,334	101	7.57%		1,204	484	40.20%
Block Group 2, Census Tract 9550.03, Decatur County, Tennessee	1,283	128	9.98%		1,298	360	27.73%
Block Group 3, Census Tract 9550.04, Decatur County, Tennessee	1,044	160	15.33%		1,020	411	40.29%
Block Group 2, Census Tract 9550.04, Decatur County, Tennessee	1,013	111	10.96%		1,061	809	76.25% Low Income
Block Group 1, Census Tract 9551.01, Decatur County, Tennessee	1,225	163	13.31%		1,161	571	49.18%
Block Group 2, Census Tract 9551.01, Decatur County, Tennessee	592	45	7.60%		646	216	33.44%
Block Group 1, Census Tract 9551.02, Decatur County, Tennessee	614	17	2.77%		797	271	34.00%
Block Group 2, Census Tract 9551.02, Decatur County, Tennessee	962	46	4.78%		1,029	520	50.53% Low Income
Block Group 3, Census Tract 9551.02, Decatur County, Tennessee	886	48	5.42%		719	266	37.00%
Block Group 4, Census Tract 9551.02, Decatur County, Tennessee	694	52	7.49%		508	154	30.31%
Block Group 1, Census Tract 9750, Henderson County, Tennessee	1,181	51	4.32%		1,425	147	10.32%
Block Group 2, Census Tract 9750, Henderson County, Tennessee	1,603	173	10.79%		1,890	740	39.15%
Block Group 1, Census Tract 9751, Henderson County, Tennessee	1,633	301	18.43%		1,584	627	39.58%
Block Group 2, Census Tract 9751, Henderson County, Tennessee	1,842	289	15.69%		2,178	1,390	63.82% Low Income
Block Group 1, Census Tract 9752, Henderson County, Tennessee	1,691	142	8.40%		1,014	595	58.68% Low Income
Block Group 2, Census Tract 9752, Henderson County, Tennessee	1,506	94	6.24%		1,362	397	29.15%
Block Group 3, Census Tract 9752, Henderson County, Tennessee	1,452	115	7.92%		1,310	445	33.97%
Block Group 4, Census Tract 9752, Henderson County, Tennessee	1,120	110	9.82%		1,052	107	10.17%
Block Group 1, Census Tract 9753.01, Henderson County, Tennessee	1,677	247	14.73%		1,675	284	16.96%
Block Group 2, Census Tract 9753.01, Henderson County, Tennessee	1,835	344	18.75%		1,411	511	36.22%
Block Group 1, Census Tract 9753.02, Henderson County, Tennessee	1,499	187	12.47%		1,406	293	20.84%
Block Group 2, Census Tract 9753.02, Henderson County, Tennessee	1,130	233	20.62%		1,286	889	69.13% Low Income
Block Group 3, Census Tract 9753.02, Henderson County, Tennessee	1,296	225	17.36%		1,519	859	56.55% Low Income
Block Group 1, Census Tract 9754, Henderson County, Tennessee	658	151	22.95%		154	68	44.16%
Block Group 2, Census Tract 9754, Henderson County, Tennessee	1,047	394	37.63%		851	605	71.09% Low Income
Block Group 3, Census Tract 9754, Henderson County, Tennessee	669	248	37.07%		625	323	51.68% Low Income
Block Group 4, Census Tract 9754, Henderson County, Tennessee	1,430	160	11.19%		1,295	326	25.17%
Block Group 5, Census Tract 9754, Henderson County, Tennessee	779	266	34.15%		1,273	615	48.31%
Block Group 1, Census Tract 9755, Henderson County, Tennessee	1,050	79	7.52%		1,604	558	34.79%
Block Group 2, Census Tract 9755, Henderson County, Tennessee	1,448	72	4.97%		1,228	653	52.18% Low Income
Block Group 3, Census Tract 9755, Henderson County, Tennessee	1,296	81	6.25%		1,168	309	26.46%
Block Group 1, Census Tract 9690.01, Henry County, Tennessee	1,137	86	7.56%		768	452	58.85% Low Income
Block Group 2, Census Tract 9690.01, Henry County, Tennessee	1,215	70	5.76%		1,216	126	10.36%
Block Group 1, Census Tract 9690.02, Henry County, Tennessee	1,218	76	6.24%		1,330	487	36.62%
Block Group 2, Census Tract 9690.02, Henry County, Tennessee	915	34	3.72%		815	146	17.91%
Block Group 1, Census Tract 9691, Henry County, Tennessee	1,057	77	7.28%		1,066	166	15.57%
Block Group 2, Census Tract 9691, Henry County, Tennessee	971	124	12.77%		1,008	487	48.31%
Block Group 3, Census Tract 9691, Henry County, Tennessee	789	49	6.21%		1,203	591	49.13%
Block Group 1, Census Tract 9692, Henry County, Tennessee	747	85	11.38%		920	539	58.59% Low Income
Block Group 2, Census Tract 9692, Henry County, Tennessee	942	83	8.81%		1,127	402	35.67%
Block Group 3, Census Tract 9693, Henry County, Tennessee	777	170	21.88%		544	123	22.51%
Block Group 4, Census Tract 9693, Henry County, Tennessee	995	481	48.34%		1,002	515	51.40% Low Income
Block Group 3, Census Tract 9693, Henry County, Tennessee	523	271	51.82% Minority		211	126	59.72% Low Income
Block Group 4, Census Tract 9693, Henry County, Tennessee	880	327	37.16%		931	531	57.04% Low Income
Block Group 1, Census Tract 9694, Henry County, Tennessee	1,284	228	17.76%		1,207	512	42.42%
Block Group 2, Census Tract 9694, Henry County, Tennessee	722	394	54.57% Minority		865	604	69.83% Low Income
Block Group 1, Census Tract 9695.01, Henry County, Tennessee	775	171	22.06%		615	151	24.55%
Block Group 2, Census Tract 9695.01, Henry County, Tennessee	1,185	112	9.45%		1,202	338	28.12%
Block Group 1, Census Tract 9695.02, Henry County, Tennessee	593	78	13.15%		900	206	22.89%
Block Group 2, Census Tract 9695.02, Henry County, Tennessee	1,285	270	21.01%		718	491	68.38% Low Income
Block Group 3, Census Tract 9695.02, Henry County, Tennessee	1,850	309	16.70%		1,909	1,058	55.42% Low Income
Block Group 1, Census Tract 9696.01, Henry County, Tennessee	1,198	230	19.20%		1,207	719	59.57% Low Income
Block Group 2, Census Tract 9696.01, Henry County, Tennessee	1,811	205	11.32%		1,613	247	15.31%
Block Group 3, Census Tract 9696.02, Henry County, Tennessee	1,276	205	16.06%		1,369	735	53.33%
Block Group 2, Census Tract 9696.02, Henry County, Tennessee	1,198	101	8.43%		1,873	558	29.79%
Block Group 3, Census Tract 9696.02, Henry County, Tennessee	1,128	131	11.61%		816	290	35.54%
Block Group 1, Census Tract 9697, Henry County, Tennessee	1,099	143	13.01%		1,089	308	28.28%
Block Group 2, Census Tract 9697, Henry County, Tennessee	449	23	5.12%		551	232	42.11%
Block Group 3, Census Tract 9697, Henry County, Tennessee	737	65	8.82%		587	193	32.88%
Block Group 1, Census Tract 9698, Henry County, Tennessee	1,156	131	11.33%		1,172	658	56.14% Low Income
Block Group 2, Census Tract 9698, Henry County, Tennessee	1,187	220	18.53%		1,279	630	49.26%
Block Group 1, Census Tract 1301, Humphreys County, Tennessee	1,714	151	8.81%		1,746	418	23.94%
Block Group 2, Census Tract 1301, Humphreys County, Tennessee	1,205	72	5.98%		1,459	450	30.84%
Block Group 3, Census Tract 1301, Humphreys County, Tennessee	1,183	84	7.10%		1,070	401	37.48%
Block Group 4, Census Tract 1301, Humphreys County, Tennessee	1,277	95	7.44%		1,342	659	49.11%
Block Group 1, Census Tract 1302, Humphreys County, Tennessee	852	79	9.26%		1,147	432	37.66%
Block Group 2, Census Tract 1302, Humphreys County, Tennessee	1,079	77	7.14%		1,168	774	66.73% Low Income
Block Group 1, Census Tract 1303, Humphreys County, Tennessee	1,102	230	20.87%		1,136	265	23.33%

Environmental Justice - Demographic Data by Block Group

GEOGRAPHY	AGGREGATE		EJ MINORITY (49.09% or more)	TOTAL POP FOR WHICH LOW INCOME IS DETERMINED		EJ_LOWINCOME (50% or more)
	TOTAL POP	MINORITY POP		MINORITY %	LOW-INCOME POP	
Block Group 2, Census Tract 1303, Humphreys County, Tennessee	1,724	157	9.11%	1,569	532	33.91%
Block Group 3, Census Tract 1303, Humphreys County, Tennessee	986	164	16.63%	816	162	19.85%
Block Group 5, Census Tract 1303, Humphreys County, Tennessee	770	114	14.81%	727	482	66.30% Low Income
Block Group 1, Census Tract 1304, Humphreys County, Tennessee	1,263	90	7.13%	1,089	460	42.24%
Block Group 2, Census Tract 1304, Humphreys County, Tennessee	1,166	93	7.98%	1,402	379	27.03%
Block Group 1, Census Tract 1305, Humphreys County, Tennessee	1,664	202	12.14%	1,077	393	36.49%
Block Group 2, Census Tract 1305, Humphreys County, Tennessee	1,506	126	8.37%	1,219	247	20.26%
Block Group 1, Census Tract 1, Madison County, Tennessee	1,459	154	10.56%	1,569	626	39.90%
Block Group 2, Census Tract 1, Madison County, Tennessee	1,304	635	48.70%	1,152	343	29.77%
Block Group 3, Census Tract 1, Madison County, Tennessee	1,320	888	67.27% Minority	1,487	899	60.46% Low Income
Block Group 1, Census Tract 2, Madison County, Tennessee	1,390	1,072	77.12% Minority	961	452	47.03%
Block Group 2, Census Tract 2, Madison County, Tennessee	2,932	1,889	64.43% Minority	3,595	1,275	35.47%
Block Group 3, Census Tract 2, Madison County, Tennessee	865	493	56.99% Minority	1,083	180	16.62%
Block Group 1, Census Tract 3, Madison County, Tennessee	2,479	2,162	87.21% Minority	2,006	1,417	70.64% Low Income
Block Group 2, Census Tract 3, Madison County, Tennessee	957	519	54.23% Minority	824	179	21.72%
Block Group 3, Census Tract 3, Madison County, Tennessee	624	271	43.43%	595	348	58.49% Low Income
Block Group 4, Census Tract 3, Madison County, Tennessee	858	284	33.10%	764	151	19.76%
Block Group 1, Census Tract 4, Madison County, Tennessee	1,699	799	47.03%	1,706	559	32.77%
Block Group 2, Census Tract 4, Madison County, Tennessee	1,632	1,168	71.57% Minority	1,108	484	43.68%
Block Group 3, Census Tract 4, Madison County, Tennessee	1,971	1,735	88.03% Minority	2,090	1,468	70.24% Low Income
Block Group 1, Census Tract 5, Madison County, Tennessee	751	721	96.01% Minority	594	505	85.02% Low Income
Block Group 2, Census Tract 5, Madison County, Tennessee	1,086	1,056	97.24% Minority	578	434	75.09% Low Income
Block Group 3, Census Tract 5, Madison County, Tennessee	1,998	1,790	89.59% Minority	2,047	1,836	89.69% Low Income
Block Group 1, Census Tract 6, Madison County, Tennessee	1,234	618	50.08% Minority	1,400	485	34.64%
Block Group 2, Census Tract 6, Madison County, Tennessee	599	482	80.47% Minority	428	266	62.15% Low Income
Block Group 3, Census Tract 6, Madison County, Tennessee	659	465	70.56% Minority	629	477	75.83% Low Income
Block Group 1, Census Tract 7, Madison County, Tennessee	938	532	56.72% Minority	1,535	357	23.26% Low Income
Block Group 2, Census Tract 7, Madison County, Tennessee	728	279	38.32%	583	314	53.86% Low Income
Block Group 3, Census Tract 7, Madison County, Tennessee	601	497	82.70% Minority	387	294	75.37% Low Income
Block Group 1, Census Tract 8, Madison County, Tennessee	1,861	1,186	63.84% Minority	1,665	266	15.98% Low Income
Block Group 2, Census Tract 8, Madison County, Tennessee	701	662	94.44% Minority	563	379	67.32% Low Income
Block Group 3, Census Tract 8, Madison County, Tennessee	924	897	97.08% Minority	967	824	85.21% Low Income
Block Group 1, Census Tract 9, Madison County, Tennessee	624	548	87.82% Minority	623	354	56.82% Low Income
Block Group 2, Census Tract 9, Madison County, Tennessee	513	487	94.93% Minority	637	361	56.67% Low Income
Block Group 3, Census Tract 9, Madison County, Tennessee	490	448	91.43% Minority	366	244	66.67% Low Income
Block Group 1, Census Tract 10, Madison County, Tennessee	871	780	89.55% Minority	1,060	722	68.11% Low Income
Block Group 2, Census Tract 10, Madison County, Tennessee	992	939	94.66% Minority	1,293	1,097	84.84% Low Income
Block Group 3, Census Tract 10, Madison County, Tennessee	1,624	332	20.44%	1,561	437	27.99%
Block Group 1, Census Tract 11, Madison County, Tennessee	2,199	503	22.87%	2,213	1,045	47.22%
Block Group 2, Census Tract 11, Madison County, Tennessee	2,116	695	32.84%	2,900	1,138	39.24% Low Income
Block Group 3, Census Tract 11, Madison County, Tennessee	861	306	35.54%	792	164	20.74%
Block Group 1, Census Tract 14.01, Madison County, Tennessee	1,145	497	43.41%	1,138	388	34.09%
Block Group 2, Census Tract 14.02, Madison County, Tennessee	805	243	30.19%	1,304	233	17.87%
Block Group 3, Census Tract 14.02, Madison County, Tennessee	1,395	472	33.84%	1,359	375	27.59%
Block Group 1, Census Tract 15.01, Madison County, Tennessee	1,674	798	47.67%	1,601	595	37.16%
Block Group 2, Census Tract 15.01, Madison County, Tennessee	1,342	792	59.02% Minority	2,275	804	35.34%
Block Group 3, Census Tract 15.01, Madison County, Tennessee	1,765	858	48.61%	1,665	397	23.84%
Block Group 1, Census Tract 15.02, Madison County, Tennessee	1,785	441	24.71%	1,644	581	35.34%
Block Group 2, Census Tract 15.02, Madison County, Tennessee	1,968	212	10.77%	1,895	316	16.68%
Block Group 3, Census Tract 15.02, Madison County, Tennessee	1,037	163	15.72%	989	40	4.04%
Block Group 4, Census Tract 15.02, Madison County, Tennessee	830	85	10.24%	999	276	27.63%
Block Group 1, Census Tract 16.03, Madison County, Tennessee	2,361	838	35.49%	2,696	813	30.16%
Block Group 2, Census Tract 16.04, Madison County, Tennessee	2,852	851	29.84%	2,444	582	23.81%
Block Group 3, Census Tract 16.05, Madison County, Tennessee	2,048	950	46.41%	2,086	912	43.72%
Block Group 1, Census Tract 16.07, Madison County, Tennessee	2,964	1,137	38.36%	2,417	588	24.33%
Block Group 2, Census Tract 16.07, Madison County, Tennessee	1,505	1,029	68.37% Minority	1,630	1,074	65.89% Low Income
Block Group 3, Census Tract 16.07, Madison County, Tennessee	1,529	557	36.43%	1,646	404	24.54%
Block Group 1, Census Tract 16.08, Madison County, Tennessee	2,464	551	22.36%	2,235	296	13.24%
Block Group 2, Census Tract 16.09, Madison County, Tennessee	1,883	362	19.22%	1,716	303	17.61%
Block Group 3, Census Tract 16.10, Madison County, Tennessee	3,145	494	15.71%	3,466	253	7.30%
Block Group 1, Census Tract 16.10, Madison County, Tennessee	3,871	890	22.99%	3,009	19	0.63%
Block Group 2, Census Tract 16.11, Madison County, Tennessee	2,834	1,163	41.04%	2,590	603	23.28%
Block Group 3, Census Tract 16.12, Madison County, Tennessee	1,167	530	45.42%	750	66	8.80%
Block Group 1, Census Tract 16.12, Madison County, Tennessee	1,815	1,007	55.48% Minority	1,416	935	66.03% Low Income
Block Group 2, Census Tract 16.12, Madison County, Tennessee	1,332	607	45.57%	1,278	112	8.76%
Block Group 3, Census Tract 16.12, Madison County, Tennessee	3,483	1,609	46.20%	3,352	955	28.49%
Block Group 1, Census Tract 17, Madison County, Tennessee	689	213	30.91%	688	83	9.56%
Block Group 2, Census Tract 17, Madison County, Tennessee	784	507	64.67% Minority	1,113	405	36.39%
Block Group 3, Census Tract 17, Madison County, Tennessee	1,658	520	31.36%	1,854	529	28.53%
Block Group 1, Census Tract 18, Madison County, Tennessee	1,336	520	38.92%	1,470	349	23.74%
Block Group 2, Census Tract 18, Madison County, Tennessee	999	125	12.51%	678	61	9.00%
Block Group 3, Census Tract 18, Madison County, Tennessee	1,261	154	12.21%	1,199	151	12.59%
Block Group 1, Census Tract 19, Madison County, Tennessee	615	79	12.85%	557	173	31.06%
Block Group 2, Census Tract 19, Madison County, Tennessee	1,081	233	21.55%	1,349	437	32.39%
Block Group 3, Census Tract 19, Madison County, Tennessee	1,546	200	12.94%	1,481	344	23.23%
Block Group 1, Census Tract 9650, Obion County, Tennessee	691	84	12.16%	437	204	46.68%
Block Group 2, Census Tract 9650, Obion County, Tennessee	1,054	247	23.43%	1,375	572	41.60%
Block Group 3, Census Tract 9650, Obion County, Tennessee	778	50	6.43%	897	218	24.30%
Block Group 1, Census Tract 9651, Obion County, Tennessee	1,342	184	13.71%	1,145	330	28.82%
Block Group 2, Census Tract 9651, Obion County, Tennessee	993	92	9.27%	1,274	213	16.92%
Block Group 3, Census Tract 9652, Obion County, Tennessee	873	50	5.73%	761	313	41.13%
Block Group 1, Census Tract 9652, Obion County, Tennessee	1,209	52	4.30%	1,147	280	24.41%
Block Group 2, Census Tract 9653, Obion County, Tennessee	1,193	41	3.44%	1,183	796	67.29% Low Income
Block Group 3, Census Tract 9653, Obion County, Tennessee	1,583	71	4.49%	1,484	606	40.84%
Block Group 1, Census Tract 9654, Obion County, Tennessee	737	29	3.93%	713	179	25.11%
Block Group 2, Census Tract 9654, Obion County, Tennessee	1,494	86	5.76%	1,313	535	40.75%
Block Group 3, Census Tract 9654, Obion County, Tennessee	920	59	6.41%	1,138	299	26.27%
Block Group 1, Census Tract 9654, Obion County, Tennessee	1,041	84	8.07%	972	453	46.60%
Block Group 2, Census Tract 9654, Obion County, Tennessee	749	81	10.81%	895	480	53.63% Low Income
Block Group 3, Census Tract 9655, Obion County, Tennessee	1,185	453	38.23%	912	471	51.64% Low Income
Block Group 1, Census Tract 9655, Obion County, Tennessee	1,653	424	25.65%	1,442	477	33.08%
Block Group 2, Census Tract 9655, Obion County, Tennessee	1,263	593	46.95%	1,204	506	42.03%
Block Group 3, Census Tract 9655, Obion County, Tennessee	932	547	58.69% Minority	841	397	47.21%
Block Group 1, Census Tract 9656, Obion County, Tennessee	1,139	652	57.24% Minority	1,369	874	63.84% Low Income
Block Group 2, Census Tract 9656, Obion County, Tennessee	811	347	42.79%	648	417	64.35% Low Income
Block Group 3, Census Tract 9657, Obion County, Tennessee	1,549	533	34.41%	1,892	873	46.14%
Block Group 1, Census Tract 9657, Obion County, Tennessee	1,739	296	17.02%	1,638	282	17.22%
Block Group 2, Census Tract 9657, Obion County, Tennessee	1,386	443	31.96%	1,035	640	61.84% Low Income
Block Group 3, Census Tract 9658, Obion County, Tennessee	891	118	13.24%	899	246	27.36%
Block Group 1, Census Tract 9658, Obion County, Tennessee	761	82	10.78%	638	211	33.07%
Block Group 2, Census Tract 9659, Obion County, Tennessee	549	49	8.93%	411	192	46.72%
Block Group 3, Census Tract 9659, Obion County, Tennessee	726	104	14.33%	951	497	52.26% Low Income
Block Group 1, Census Tract 9680, Weakley County, Tennessee	1,077	147	13.65%	1,033	518	50.15% Low Income
Block Group 2, Census Tract 9681.01, Weakley County, Tennessee	1,452	249	16.99%	1,891	337	17.82%
Block Group 3, Census Tract 9681.01, Weakley County, Tennessee	1,364	589	43.18%	1,200	743	61.92% Low Income
Block Group 1, Census Tract 9681.02, Weakley County, Tennessee	568	134	23.59%	512	121	23.63%
Block Group 2, Census Tract 9681.02, Weakley County, Tennessee	1,797	237	13.19%	1,805	651	36.07%
Block Group 3, Census Tract 9682.01, Weakley County, Tennessee	1,047	245	23.40%	905	322	35.58%
Block Group 1, Census Tract 9682.01, Weakley County, Tennessee	2,034	403	19.81%	1,618	983	60.75% Low Income
Block Group 2, Census Tract 9682.01, Weakley County, Tennessee	1,609	147	9.14%	1,509	204	13.52%
Block Group 3, Census Tract 9682.02, Weakley County, Tennessee	1,989	592	29.76%	345	329	95.36% Low Income
Block Group 1, Census Tract 9682.03, Weakley County, Tennessee	1,318	464	35.20%	1,539	780	50.68% Low Income
Block Group 2, Census Tract 9682.03, Weakley County, Tennessee	1,708	411	24.06%	1,360	754	55.44% Low Income
Block Group 3, Census Tract 9683, Weakley County, Tennessee	761	53	6.96%	790	222	28.10%
Block Group 1, Census Tract 9684, Weakley County, Tennessee	1,359	161	11.85%	1,633	698	42.74%
Block Group 2, Census Tract 9684, Weakley County, Tennessee	1,463	187	12.78%	1,602	327	20.41%
Block Group 3, Census Tract 9684, Weakley County, Tennessee	848	68	8.02%	1,097	618	56.34% Low Income
Block Group 1, Census Tract 9684, Weakley County, Tennessee	948	70	7.38%	425	158	37.18%

### Environmental Justice - Demographic Data by Block Group

GEOGRAPHY	AGGREGATE			EJ MINORITY (49.09% or more)	TOTAL POP FOR WHICH LOW INCOME IS DETERMINED		EJ_LOWINCOME (50% or more)	
	TOTAL POP	MINORITY POP	MINORITY %		LOW-INCOME POP	LOW-INCOME %		
Block Group 4, Census Tract 9684, Weakley County, Tennessee	1,235	80	6.48%	1,402	446	31.81%		
Block Group 5, Census Tract 9684, Weakley County, Tennessee	1,088	117	10.75%	455	214	47.03%		
Block Group 1, Census Tract 9685, Weakley County, Tennessee	1,804	111	6.15%	1,320	418	31.67%		
Block Group 2, Census Tract 9685, Weakley County, Tennessee	1,407	132	9.38%	1,511	919	60.82%	Low Income	
Block Group 3, Census Tract 9685, Weakley County, Tennessee	1,273	100	7.86%	1,547	594	38.40%		
Block Group 1, Census Tract 9686, Weakley County, Tennessee	1,228	113	9.20%	1,081	493	45.61%		
Block Group 2, Census Tract 9686, Weakley County, Tennessee	1,126	121	10.75%	1,494	932	62.38%	Low Income	
Block Group 3, Census Tract 9686, Weakley County, Tennessee	1,071	92	8.59%	1,127	266	23.60%		
Block Group 1, Census Tract 9687, Weakley County, Tennessee	705	46	6.52%	1,042	344	33.01%		
Block Group 2, Census Tract 9687, Weakley County, Tennessee	583	20	3.43%	410	55	13.41%		

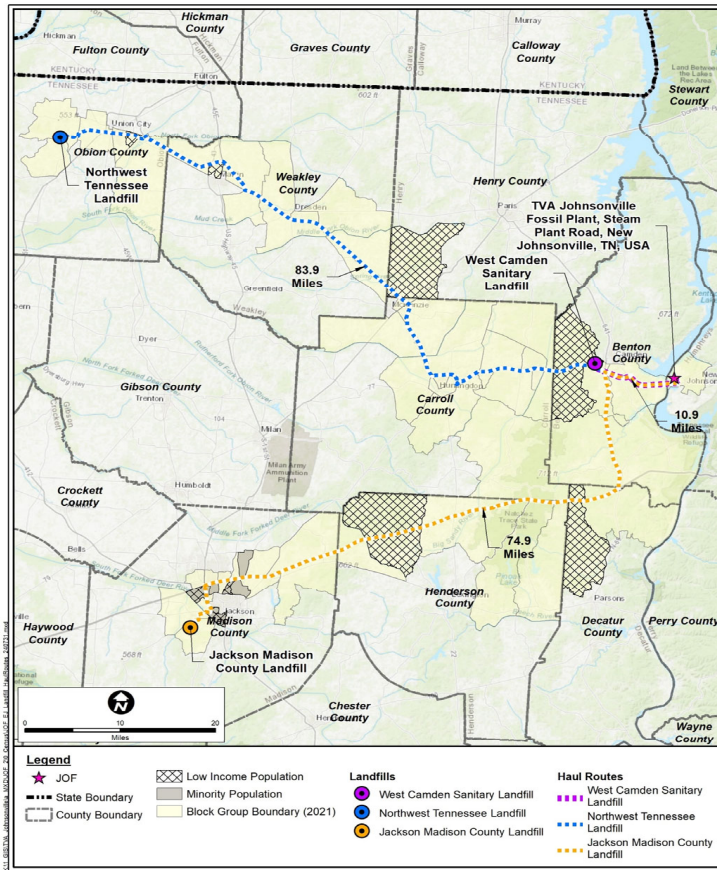
Project Name: JOF Ash Impoundment Closure EIS  
 Subject: Landfill Bounding Analysis - Haul Routes through EJ Block Groups  
 Project Number: 325217073  
 Source: 2022 Census, WSP  
 Prepared by: B. Mueller  
 Checked by: A. Johnston  
 Date: 7/31/2024

Highlighted cells indicate location of landfills

Haul Route	Cnty Name	Minority Status	LowIncome Status	Geography	Length of Haul Route through Block Group (mi)
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 1, Madison County, Tennessee	1.27
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 14.01, Madison County, Tennessee	1.43
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 14.02, Madison County, Tennessee	2.87
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 15.01, Madison County, Tennessee	0
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 16.04, Madison County, Tennessee	0.01
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 1, Census Tract 16.05, Madison County, Tennessee	0.22
Jackson Madison County Landfill	Madison	Minority	Not Low Income	Block Group 1, Census Tract 2, Madison County, Tennessee	1.13
Jackson Madison County Landfill	Madison	Minority	Low Income	Block Group 1, Census Tract 7, Madison County, Tennessee	0.17
Jackson Madison County Landfill	Decatur	Not Minority	Low Income	Block Group 1, Census Tract 9550.01, Decatur County, Tennessee	1.57
Jackson Madison County Landfill	Carroll	Not Minority	Not Low Income	Block Group 1, Census Tract 9625, Carroll County, Tennessee	1.72
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 1, Census Tract 9632, Benton County, Tennessee	8.35
Jackson Madison County Landfill	Henderson	Not Minority	Not Low Income	Block Group 1, Census Tract 9750, Henderson County, Tennessee	0.86
Jackson Madison County Landfill	Henderson	Not Minority	Not Low Income	Block Group 1, Census Tract 9751, Henderson County, Tennessee	11.23
Jackson Madison County Landfill	Madison	Minority	Low Income	Block Group 2, Census Tract 1, Madison County, Tennessee	0.53
Jackson Madison County Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.21
Jackson Madison County Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.15
Jackson Madison County Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	1.08
Jackson Madison County Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.45
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 2, Census Tract 14.01, Madison County, Tennessee	1.21
Jackson Madison County Landfill	Madison	Minority	Not Low Income	Block Group 2, Census Tract 15.01, Madison County, Tennessee	0.55
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 2, Census Tract 15.02, Madison County, Tennessee	0.26
Jackson Madison County Landfill	Madison	Minority	Not Low Income	Block Group 2, Census Tract 2, Madison County, Tennessee	0.34
Jackson Madison County Landfill	Decatur	Not Minority	Not Low Income	Block Group 2, Census Tract 9550.01, Decatur County, Tennessee	4.14
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	5.25
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.04
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.2
Jackson Madison County Landfill	Henderson	Not Minority	Not Low Income	Block Group 2, Census Tract 9750, Henderson County, Tennessee	2.23
Jackson Madison County Landfill	Henderson	Not Minority	Low Income	Block Group 2, Census Tract 9751, Henderson County, Tennessee	5.97
Jackson Madison County Landfill	Madison	Minority	Not Low Income	Block Group 3, Census Tract 1, Madison County, Tennessee	0.5
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 3, Census Tract 15.01, Madison County, Tennessee	0.83
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 3, Census Tract 15.02, Madison County, Tennessee	6.37
Jackson Madison County Landfill	Madison	Minority	Low Income	Block Group 3, Census Tract 2, Madison County, Tennessee	1.72
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	0.4
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	0.13
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	5.16
Jackson Madison County Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	1.08
Jackson Madison County Landfill	Madison	Not Minority	Not Low Income	Block Group 4, Census Tract 3, Madison County, Tennessee	1.97
Jackson Madison County Landfill	Henderson	Not Minority	Not Low Income	Block Group 4, Census Tract 9752, Henderson County, Tennessee	3.33
Jackson Madison County Landfill	Carroll	Not Minority	Not Low Income	Block Group 1, Census Tract 9620, Carroll County, Tennessee	0.9
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 1, Census Tract 9621.01, Carroll County, Tennessee	1.14
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 1, Census Tract 9621.02, Carroll County, Tennessee	1.5
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 1, Census Tract 9622.02, Carroll County, Tennessee	6.55
Northwest Tennessee Landfill	Benton	Not Minority	Low Income	Block Group 1, Census Tract 9634, Benton County, Tennessee	4.24
Northwest Tennessee Landfill	Obion	Not Minority	Not Low Income	Block Group 1, Census Tract 9654, Obion County, Tennessee	0.33
Northwest Tennessee Landfill	Obion	Not Minority	Not Low Income	Block Group 1, Census Tract 9657, Obion County, Tennessee	1.43
Northwest Tennessee Landfill	Obion	Not Minority	Not Low Income	Block Group 1, Census Tract 9658, Obion County, Tennessee	3.94
Northwest Tennessee Landfill	Weakley	Not Minority	Not Low Income	Block Group 1, Census Tract 9681.02, Weakley County, Tennessee	2.2
Northwest Tennessee Landfill	Weakley	Not Minority	Not Low Income	Block Group 1, Census Tract 9682.01, Weakley County, Tennessee	5.23
Northwest Tennessee Landfill	Weakley	Not Minority	Low Income	Block Group 1, Census Tract 9682.03, Weakley County, Tennessee	1.26
Northwest Tennessee Landfill	Weakley	Not Minority	Not Low Income	Block Group 1, Census Tract 9685, Weakley County, Tennessee	8.59
Northwest Tennessee Landfill	Henry	Not Minority	Low Income	Block Group 1, Census Tract 9698, Henry County, Tennessee	1.85
Northwest Tennessee Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.36
Northwest Tennessee Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	1.08
Northwest Tennessee Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.45
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 2, Census Tract 9620, Carroll County, Tennessee	2.9
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 2, Census Tract 9621.01, Carroll County, Tennessee	2.73
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 2, Census Tract 9621.02, Carroll County, Tennessee	1.84
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 2, Census Tract 9622.02, Carroll County, Tennessee	1.18
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	1.41
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.18
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.04
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.2
Northwest Tennessee Landfill	Obion	Not Minority	Not Low Income	Block Group 2, Census Tract 9652, Obion County, Tennessee	1.91
Northwest Tennessee Landfill	Obion	Not Minority	Not Low Income	Block Group 2, Census Tract 9655, Obion County, Tennessee	4.09
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 3, Census Tract 9620, Carroll County, Tennessee	1.39
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 3, Census Tract 9621.02, Carroll County, Tennessee	1.54
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	0.54
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	5.16
Northwest Tennessee Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	1.08
Northwest Tennessee Landfill	Obion	Not Minority	Low Income	Block Group 3, Census Tract 9657, Obion County, Tennessee	1.45
Northwest Tennessee Landfill	Weakley	Not Minority	Not Low Income	Block Group 3, Census Tract 9681.01, Weakley County, Tennessee	3.83
Northwest Tennessee Landfill	Carroll	Not Minority	Not Low Income	Block Group 4, Census Tract 9620, Carroll County, Tennessee	2.84
Northwest Tennessee Landfill	Weakley	Not Minority	Not Low Income	Block Group 5, Census Tract 9684, Weakley County, Tennessee	8.57
West Camden Sanitary Landfill	Benton	Not Minority	Low Income	Block Group 1, Census Tract 9634, Benton County, Tennessee	0.4
West Camden Sanitary Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	1.29
West Camden Sanitary Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.15
West Camden Sanitary Landfill	Humphreys	Not Minority	Not Low Income	Block Group 2, Census Tract 1305, Humphreys County, Tennessee	0.45
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	1.46
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.18
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 2, Census Tract 9634, Benton County, Tennessee	0.2
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	5.56
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	0.13
West Camden Sanitary Landfill	Benton	Not Minority	Not Low Income	Block Group 3, Census Tract 9634, Benton County, Tennessee	1.08

Row Labels	Sum of Miles
Jackson Madison County Landfill	74.93
Low Income	9.96
Minority	2.42
Not Minority	7.54
Not Low Income	64.97
Minority	2.52
Not Minority	62.45
Northwest Tennessee Landfill	83.93
Low Income	8.80
Minority	8.80
Not Low Income	75.13
Not Minority	75.13
West Camden Sanitary Landfill	10.90
Low Income	0.40
Not Minority	0.40
Not Low Income	10.50
Not Minority	10.50
Grand Total	169.76

Total Distance through EJ Miles  
 (all Low-Income regardless of minority determination + any Not Low-Income that are Minority)  
 Jackson Madison County 12.5  
 Northwest TN 8.8  
 West Camden 0.4

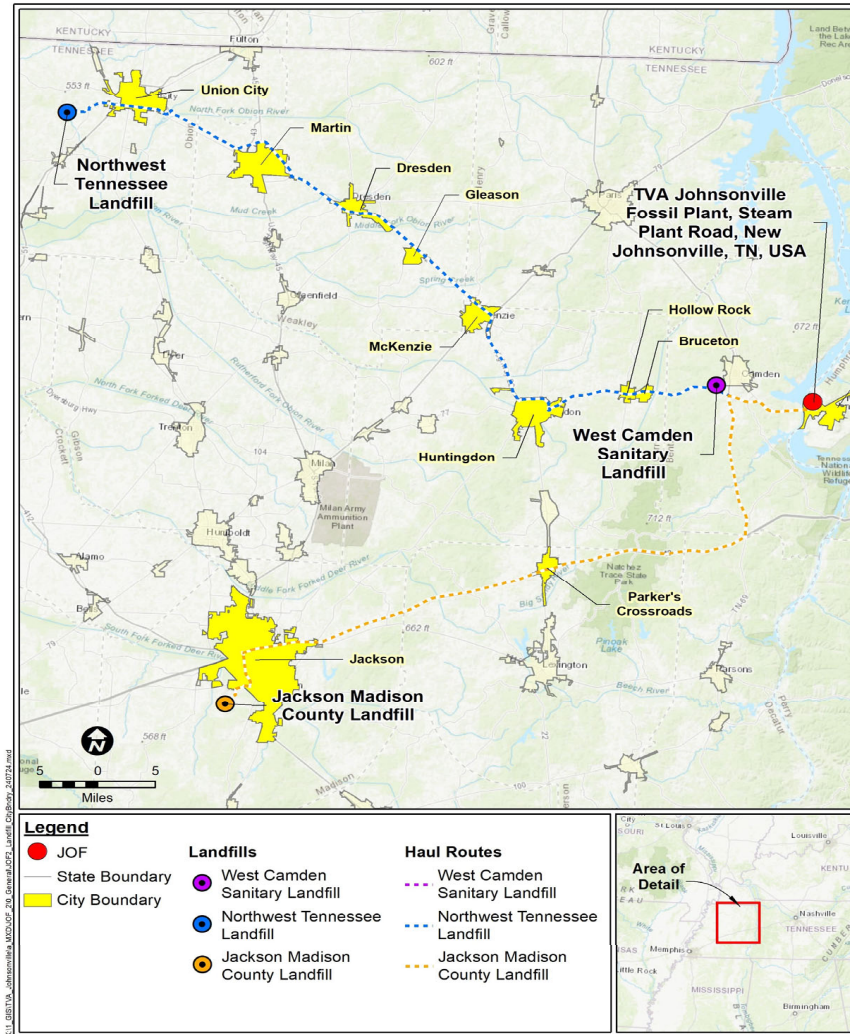


**Project Name:** JOF Ash Impoundment Closure EIS  
**Subject:** Landfill Bounding Analysis - Haul Routes through Municipal City Boundaries  
**Project Number:** 325218113  
**Source:** TN GIS Services - TNMap (<https://tnmap.tn.gov/>)  
**Prepared by:** B. Mueller  
**Checked by:** A. Johnston  
**Date:** 7/17/2024



## Haul Route Distance through Municipal City Limits

Row Labels	Sum of Miles
<b>Jackson Madison County Landfill</b>	<b>15.83</b>
Jackson	11.46
New Johnsonville	1.89
Parker's Crossroads	2.49
<b>Northwest Tennessee Landfill</b>	<b>32.46</b>
Bruceton	1.64
Dresden	7.13
Gleason	1.51
Hollow Rock	1.64
Huntingdon	5.99
Martin	2.92
McKenzie	4.65
New Johnsonville	1.89
Union City	5.10
<b>West Camden Sanitary Landfill</b>	<b>1.89</b>
New Johnsonville	1.89
<b>Grand Total</b>	<b>50.18</b>



**Project Name:** JOF Ash Impoundment Closure EIS  
**Subject:** Landfill Bounding Analysis - Haul Routes through Parks and Natural Areas  
**Project Number:** 325218113  
**Source:** TVA Natural Areas, Wood HUD  
**Prepared by:** B. Mueller  
**Checked by:** A. Johnston  
**Date:** 7/17/2024



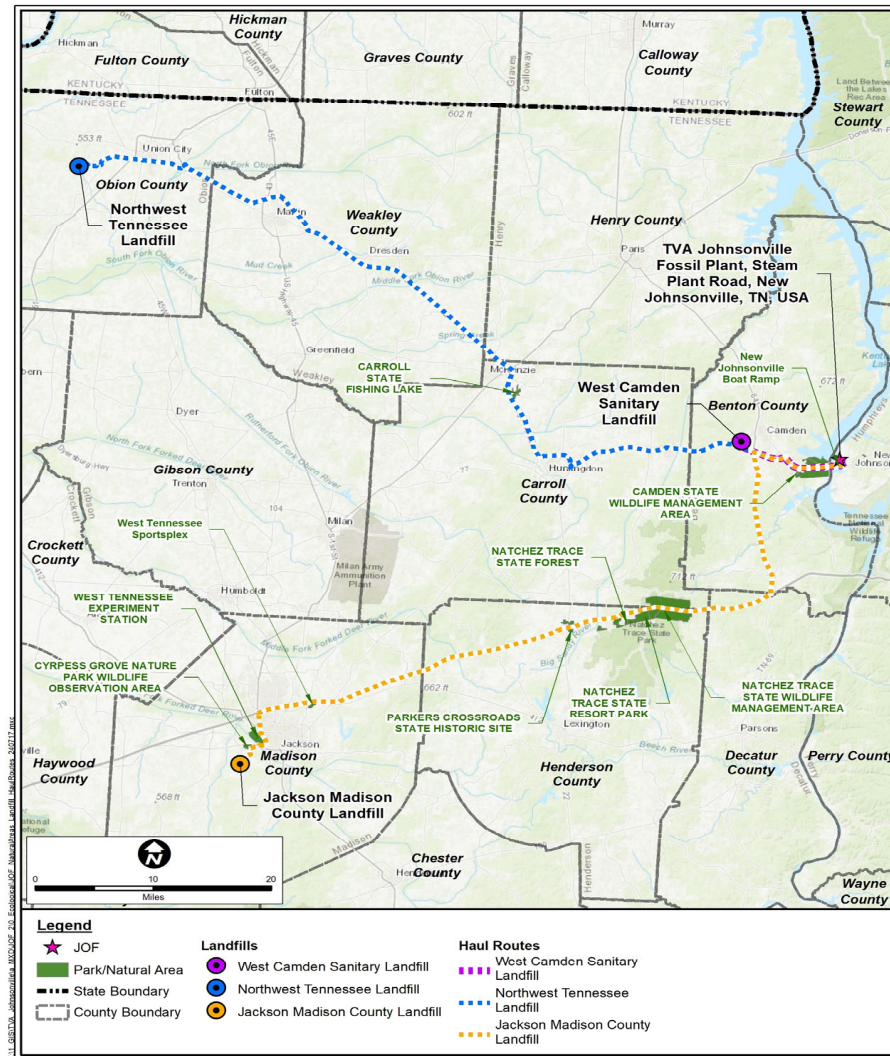
## Haul Route Distance through Parks and Natural Areas

Total distance through parks/natural areas:

Row Labels	Sum of Miles
<b>Jackson Madison County Landfill</b>	<b>74.93</b>
Nat Area/Park Impact	8.08
Not Nat Area/Park	66.85
<b>Northwest Tennessee Landfill</b>	<b>83.92</b>
Nat Area/Park Impact	2.42
Not Nat Area/Park	81.50
<b>West Camden Sanitary Landfill</b>	<b>10.90</b>
Nat Area/Park Impact	2.16
Not Nat Area/Park	8.75
<b>Grand Total</b>	<b>169.75</b>

Specific parks/natural areas (Includes overlapping polygons in Natchez Trace)

Row Labels	Sum of Miles
<b>Jackson Madison County Landfill</b>	<b>74.93</b>
	69.50
	66.85
NATCHEZ TRACE STATE WILDLIFE MANAGEMEN	2.66
	0.14
NATCHEZ TRACE STATE FOREST	2.51
CAMDEN STATE WILDLIFE MANAGEMENT AREA	2.01
	2.01
CYRPRESS GROVE NATURE PARK WILDLIFE OBSERV	0.07
	0.07
NATCHEZ TRACE STATE RESORT PARK	1.06
NATCHEZ TRACE STATE WILDLIFE MANAGEMEN	1.06
NATCHEZ TRACE STATE FOREST	1.06
New Johnsonville Boat Ramp	0.15
	0.15
PARKERS CROSSROADS STATE HISTORIC SITE	0.44
	0.44
WEST TENNESSEE EXPERIMENT STATION	1.33
	1.33
West Tennessee Sportsplex	0.36
	0.36
<b>Northwest Tennessee Landfill</b>	<b>83.92</b>
	81.50
	81.50
CAMDEN STATE WILDLIFE MANAGEMENT AREA	2.01
	2.01
CARROLL STATE FISHING LAKE	0.27
	0.27
New Johnsonville Boat Ramp	0.15
	0.15
<b>West Camden Sanitary Landfill</b>	<b>10.90</b>
	8.75
	8.75
CAMDEN STATE WILDLIFE MANAGEMENT AREA	2.01
	2.01
New Johnsonville Boat Ramp	0.15
	0.15
<b>Grand Total</b>	<b>169.75</b>

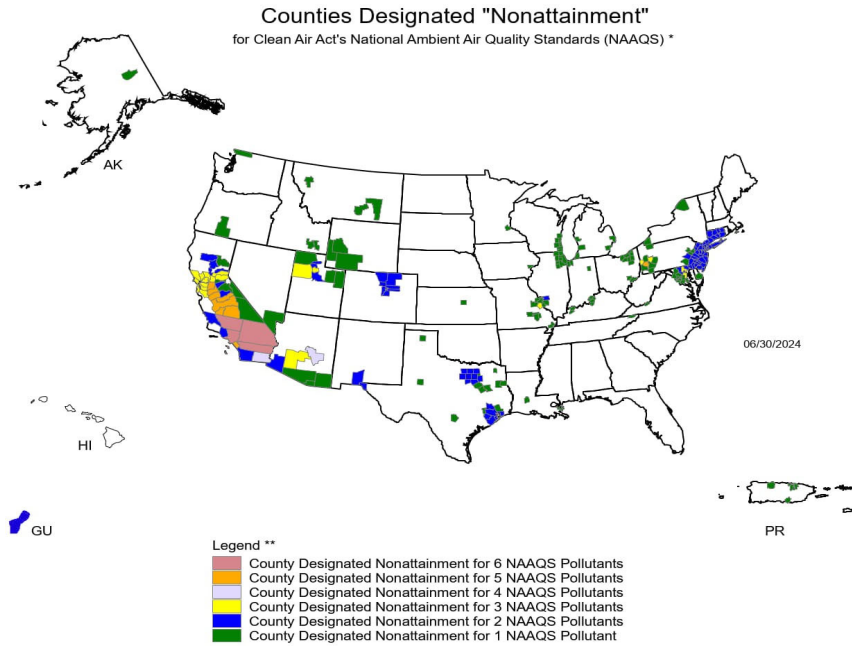


**Project Name:** JOF Ash Impoundment Closure EIS  
**Subject:** Landfill Bounding Analysis - NAAQS Non-Attainment Areas  
**Project Number:** 325218113  
**Source:** EPA Green Book Nonattainment Areas (<https://www3.epa.gov/airquality/greenbook/map/mapnpoll.pdf>)  
**Prepared by:** A. Johnston  
**Checked by:** R. Porath  
**Date:** 7/17/2024



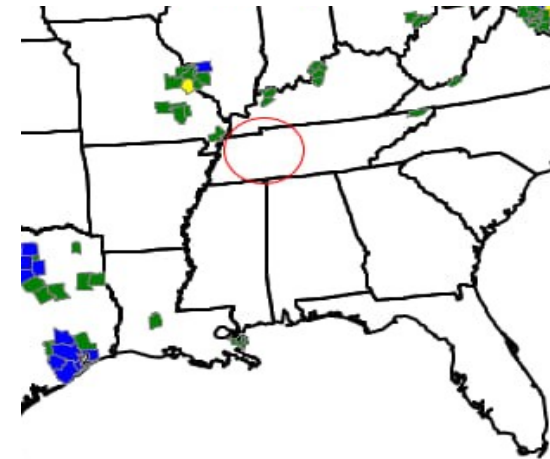
## NAAQS Non-Attainment Areas

Approx. 75 mi radius from JOF - no counties designated Nonattainment for NAAQS



\* The National Ambient Air Quality Standards (NAAQS) are health standards for Carbon Monoxide, Lead (1978 and 2008), Nitrogen Dioxide, 8-hour Ozone (2008), Particulate Matter (PM-10 and PM-2.5 (1997, 2006 and 2012), and Sulfur Dioxide.(1971 and 2010)

\*\* Included in the counts are counties designated for NAAQS and revised NAAQS pollutants. Revoked 1-hour (1979) and 8-hour Ozone (1997) are excluded. Partial counties, those with part of the county designated nonattainment and part attainment, are shown as full counties on the map.



## **Appendix F – Bat Strategy Project Assessment**

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

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

**Project Name:** JOF Ash Pond 2 Closure EIS **Date:** May 29, 2025  
**Contact(s):** Brittany Kunkle **CEC#:** **Project ID:** 33607  
**Project Location (City, County, State):** Johnsonville Fossil Plant, Humphreys County, TN

**Project Description:**

TVA is proposing to close Ash Pond 2 at the Johnsonville Fossil Plant. Alternatives available: (A) No Action; (B) Closure-in-Place with various capping options including a liner and cover soil, a compacted clay layer and cover soil, or a Closure Turf® or equivalent system; (C) Closure-by-Removal to an Existing, Offsite Landfill, (D) Closure-by-Removal to Onsite or Offsite Beneficial Reuse Processing Facility.

**SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES**

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

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

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

**TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.**

1. Loans and/or grant awards	8. Sale of TVA property	19. Site-specific enhancements in streams and reservoirs for aquatic animals
2. Purchase of property	9. Lease of TVA property	20. Nesting platforms
3. Purchase of equipment for industrial facilities	10. Deed modification associated with TVA rights or TVA property	41. Minor water-based structures (this does not include boat docks, boat slips or piers)
4. Environmental education	11. Abandonment of TVA retained rights	42. Internal renovation or internal expansion of an existing facility
5. Transfer of ROW easement and/or ROW equipment	12. Sufferance agreement	43. Replacement or removal of TL poles
6. Property and/or equipment transfer	13. Engineering or environmental planning or studies	44. Conductor and overhead ground wire installation and replacement
7. Easement on TVA property	14. Harbor limits delineation	49. Non-navigable houseboats

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

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

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

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

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

**YES (Go to Step 4)**

**NO (Go to Step 13)**

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

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

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	Oct 15 - Nov 14	Nov 15 - Mar 31	Apr 1 - May 31, Aug 1 - Oct 14	Jun 1 - Jul 31
VA	Sep 16 - Nov 15	Nov 16 - Apr 14	Apr 15 - May 31, Aug 1 - Sept 15	Jun 1 - Jul 31
AL	Oct 15 - Nov 14	Nov 15 - Mar 15	Mar 16 - May 31, Aug 1 - Oct 14	Jun 1 - Jul 31
NC	Oct 15 - Nov 14	Nov 15 - Apr 15	Apr 16 - May 31, Aug 1 - Oct 14	Jun 1 - Jul 31
MS	Oct 1 - Nov 14	Nov 15 - Apr 14	Apr 15 - May 31, Aug 1 - Sept 30	Jun 1 - Jul 31

- d) Will the project involve vegetation piling/burning?  NO (SSPC4/SHF7/SHF8 do not apply)  YES (SSPC4/SHF7/SHF8 applies, subject to review of bat records)
- e) If **tree removal (activity 33 or 34)**, estimated amount: 7.9  ac  trees  N/A

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

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

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

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

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

- YES  NO (Go to Step 13)

Info below completed by: **Heritage Reviewer** (name) \_\_\_\_\_ Date \_\_\_\_\_  
**OSAR Reviewer** (name) \_\_\_\_\_ Date \_\_\_\_\_  
 **Terrestrial Zoologist** (name) Maria Aguirre Date May 29, 2025

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

Bat Habitat Inspection Sheet completed?  NO  YES

Amount of **SUITABLE** habitat to be removed/burned (may differ from STEP 4e): 6.5  ac  trees\*  N/A

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

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

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

**STEP 7) Project will involve:**

Removal of suitable trees within 0.5 mile of P1-P2 Indiana bat hibernacula or 0.25 mile of P3-P4 Indiana bat hibernacula or any NLEB hibernacula.

Removal of suitable trees within 10 miles of documented Indiana bat (or within 5 miles of NLEB) hibernacula.

✕ Removal of suitable trees > 10 miles from documented Indiana bat (> 5 miles from NLEB) hibernacula.

Removal of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.

Removal of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.

✕ Removal of suitable trees > 2.5 miles from Indiana bat roost trees or > 5 miles from Indiana bat capture sites.

Removal of documented Indiana bat or NLEB roost tree, if still suitable.

N/A

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

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

**STEP 10) Project**  WILL  WILL NOT require use of Incidental Take in the amount of 6.5  acres or  trees proposed to be used during the  WINTER  VOLANT SEASON  NON-VOLANT SEASON  N/A

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

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
5 Operate, Maintain, Retire, Expand, Construct Power Plants				

**STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion:** \$ 0 OR  N/A

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

**SECTION 3: REQUIRED CONSERVATION MEASURES**

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

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

**NO** (Go to Step 14)

**YES** (STOP HERE; Submit for Terrestrial Zoology Review. Click File/Save As, name form as "ProjectLead\_BatForm\_CEC-or-ProjectIDNo\_Date", and submit with project information).

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

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

Manual Override





Name: Jesse Troxler

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

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

■	17, 22, 23, 32, 33, 34, 35, 36	<b>SHF8</b> - Brush piles will be burned a <b>minimum of 0.25 mile from documented, known, or obvious caves or cave entrances</b> and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.
■	17, 23, 34	<b>SHF9</b> - A <b>0.25 mile buffer of undisturbed forest</b> will be maintained around documented or known gray bat maternity and hibernation colony sites, documented or known Virginia big-eared bat maternity, bachelor, or winter colony sites, Indiana bat hibernation sites, and northern long-eared bat hibernation sites. Prohibited activities within this buffer include cutting of overstory vegetation, construction of roads, trails or wildlife openings, and prescribed burning. Exceptions may be made for maintenance of existing roads and existing ROW, or where it is determined that the activity is compatible with species conservation and recovery (e.g., removal of invasive species).
■	33, 34	<b>TR1*</b> - Removal of potentially suitable summer roosting habitat during time of potential occupancy has been quantified and minimized programmatically. TVA will track and document alignment of activities that include tree removal (i.e., hazard trees, mechanical vegetation removal) with the programmatic quantitative cumulative estimate of seasonal removal of potential summer roost trees for Indiana bat and northern long-eared bat. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	<b>TR2</b> - Removal of suitable summer roosting habitat <b>within 0.5 mile of Priority 1/Priority 2 Indiana bat hibernacula, or 0.25 mile of Priority 3/Priority 4 Indiana bat hibernacula or any northern long-eared bat hibernacula</b> will be prohibited, regardless of season, with very few exceptions (e.g., vegetation maintenance of TL ROW immediately adjacent to a known cave).
■	33, 34	<b>TR3*</b> - Removal of suitable summer roosting habitat within documented bat habitat (i.e., within 10 miles of documented Indiana bat hibernacula, within 5 miles of documented northern long-eared bat hibernacula, within 2.5 miles of documented Indiana bat summer roost trees, within 5 miles of Indiana bat capture sites, within 1 mile of documented northern long-eared bat summer roost trees, within 3 miles of northern long-eared bat capture sites) will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	<b>TR4*</b> - Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared bat will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
■	33, 34	<b>TR5</b> - Removal of any trees <b>within 150 feet of a documented Indiana bat or northern long-eared bat maternity summer roost tree</b> during non-winter season, range-wide pup season or swarming season (if site is within known swarming habitat), will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts), TVA will coordinate with the USFWS to determine how to minimize impacts to pups to the extent possible. May include establishment of artificial roosts before removal of roost tree(s).
■	33, 34	<b>TR6</b> - Removal of a documented Indiana bat or northern long-eared bat roost tree that is still suitable and that needs to occur during non-winter season, range-wide pup season, or swarming season (if site is within known swarming habitat) will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of adult females, or by visual assessment of trees following evening emergence counts), TVA will coordinate with USFWS to determine how to minimize impacts to pups to the extent possible. This may include establishment of artificial roosts before removal of roost tree(s).
■	33, 34	<b>TR7 (Existing Transmission ROW only) - Tree removal within 100 feet of existing transmission ROWs will be limited to hazard trees.</b> On or adjacent to TLs, a hazard tree is a tree that is tall enough to fall within an unsafe distance of TLs under maximum sag and blowout conditions and/or are also dead, diseased, dying, and/or leaning. Hazard tree removal includes removal of trees that 1) currently are tall enough to threaten the integrity of operation and maintenance of a TL or 2) have the ability in the future to threaten the integrity of operation and maintenance of a TL.
■	33, 34	<b>TR8 (TVA Reservoir Land only)</b> - Requests for removal of hazard trees on or adjacent to TVA reservoir land will be inspected by staff knowledgeable in identifying hazard trees per International Society of Arboriculture and TVA's checklist for hazard trees. Approval will be limited to trees with a defined target.
■	33, 34	<b>TR9</b> - If removal of suitable summer roosting habitat occurs when bats are present on the landscape, a funding contribution (based on amount of habitat removed) towards future conservation and recovery efforts for federally listed bats would be carried out. Project can consider seasonal bat presence/absence surveys (mist netting or emergence counts) that allow for positive detections without resulting in increased constraints in cost and project schedule. This will enable TVA to contribute to increased knowledge of bat presence on the landscape while carrying out TVA's broad mission and responsibilities.

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

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

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

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

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

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

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

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

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

**Hide All Unchecked Conservation Measures**

- HIDE
- UNHIDE

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

- HIDE
- UNHIDE

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

**STEP 14) Save completed form (Click File/Save As, name form as "ProjectLead\_BatForm\_CEC-or-ProjectIDNo\_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to [batstrategy@tva.gov](mailto:batstrategy@tva.gov)**  
**Submission of this form indicates that Project Lead/Applicant:**

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

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

***For Use by Terrestrial Zoologist Only***

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

For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take 6.5  ac  trees and that use of Take will require \$ 0 contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).

## **Appendix G – List of Preparers**

## Appendix G – List of Preparers

### NEPA Project Management

Name: **Brittany Kunkle**  
Education: B.S., Environmental and Soil Science  
Project Role: TVA Project Manager, TVA NEPA Coordinator, NEPA Compliance  
Experience: 7 years of professional experience in NEPA and environmental compliance

Name: **Carol Freeman, PG**  
Education: M.S., Geological Sciences and B.S., Geology  
Project Role: TVA NEPA Specialist  
Experience: 16 years managing projects and performing NEPA compliance

Name: **Jared Beasley**  
Education: B.S., Business Administration; M.Eng., Construction Engineering Management  
Project Role: Project Manager Civil Projects Execution  
Experience: 14 years of experience in project management across coal, gas, hydro, and nuclear modification, heavy civil construction, and new generation vertical build projects

Name: **Rebecca Porath**  
Education: M.S. and B.S., Wildlife and Fisheries Sciences  
Project Role: Project Manager  
Experience: 25 years of experience in environmental planning and NEPA analysis and documentation.

Name: **Natalie Reiss**  
Education: B.A., Biology  
Project Role: Deputy Project Manager  
Experience: 11 years of experience in NEPA analysis and documentation.

### Other Contributors

#### TENNESSEE VALLEY AUTHORITY

Name: **Steve Cole**  
Education: PhD, Anthropology; MA, Anthropology; and B.A., Anthropology  
Project Role: Cultural Resources  
Experience: 32 years in Archaeology and Cultural Resources Management

Name: **Sophia Jamaldin**  
Education: M.A. and B.S., Anthropology  
Project Role: Cultural Resources  
Experience: 12 years of experience in archaeology and cultural resources management

Name: **Fallon Parker Hutcheon**  
Education: M.S., Environmental Studies; B.S., Biology  
Project Role: Wetland Biologist  
Experience: 6 years in wetland assessment, impact analysis, and compliance

Name: **R. Ryan Gupton**  
Education: B.S., Environmental Science  
Project Role: Recreational Areas  
Experience: 1 year of experience in public lands management - recreation

Name: **David Nestor**  
Education: M.S., Botany; B.S., Aquaculture, Fisheries & Wildlife Biology  
Project Role: Threatened and Endangered Plants, Plant Ecology  
Experience: 25 years in plant ecology; 20 years in ESA and NEPA compliance

Name: **Jesse Troxler**  
Education: M.S. and B.S., Wildlife and Fisheries Science  
Project Role: Terrestrial Ecology (Wildlife), Threatened and Endangered Species (Wildlife)  
Experience: 19 years conducting field biology, 10 years technical writing, 8 years NEPA & ESA compliance

Name: **Chloe Sweda**  
Education: B.S., Earth and Environmental Science  
Project Role: Managed and Natural Areas  
Experience: 5 years of experience in natural resource management

Name: **Carrie C. Williamson, P.E. (TN), CFM**  
Position: Program Manager, Flood Risk  
Education: M.S., Civil Engineering; B.S., Civil Engineering  
Project Role: Floodplains and Flood Risk  
Experience: 12 years in floodplains and flood risk; 3 years in river forecasting; 11 years in compliance monitoring

**WSP**

Name: **Erin Alsop**

Education: B.S., Environmental Science  
Project Role: Air Quality, Climate Change and GHG, and Transportation  
Experience: 8 years of experience in NEPA analysis and documentation

Name: **Sarah Bailey**  
Education: M.F.A., B.A. English and Comparative Literature  
Project Role: Technical Editing  
Experience: 10 years editing experience, 5 years technical, scientific, and NEPA editing experience.

Name: **Grace Finocchiaro**  
Education: M.S., Environmental Studies  
Project Role: Geology and Soils, Groundwater, Surface Water, Visual, Transportation, Public Health and Safety  
Experience: 2 years of research experience

Name: **Whitney Fiore**  
Education: M.S., Natural Resource Management  
Project Role: Surface Water, Cultural and Historic Resources, and Reasonably Foreseeable Future Actions  
Experience: 26 years of experience in NEPA documentation and other environmental compliance

Name: **Bailey Hickey**  
Education: B.S., Environmental Engineering  
Project Role: Geology and Soils, Groundwater, Surface Water, Floodplains, Natural Areas, Parks, and Recreation, Solid and Hazardous Waste  
Experience: 6 years of experience in engineering consulting and environmental planning

Name: **Andrea Johnston**  
Education: B.S., Environmental Science  
Project Role: Air Quality, Climate Change and GHGs, Aquatic Ecology, Vegetation, Wildlife, Threatened and Endangered Species, Wetlands, Cultural and Historic Resources  
Experience: 3 years of experience in NEPA analysis and scientific studies

Name: **Brian Mueller**  
Education: B.S., Water Resources - Limnology  
Project Role: GIS Specialist  
Experience: 32 years of experience in GIS

Name: **Chelsey Nieman**

Education: Ph.D., Fisheries and Wildlife  
Project Role: Aquatic Ecology and Surface Water.  
Experience: 14 years of experience in freshwater ecology

Name: **Leah Stephens**  
Education: B.A., Environmental Studies  
Project Role: Scoping Report, Noise, Socioeconomics, Unavoidable Adverse Impacts, Relationship of Short-Term Uses to Long-Term Productivity, Irreversible and Irretrievable Commitments of Resources  
Experience: 5 years of experience in NEPA analysis and documentation

## **Appendix H – Literature Cited in the EIS**

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## **Appendix I – Symbols, Acronyms, and Abbreviations**

## Symbols, Acronyms, and Abbreviations

<b>AADT</b>	Annual Average Daily Traffic
<b>APE</b>	Area of potential effect
<b>ARAP</b>	Aquatic Resources Alteration Permit
<b>BMP</b>	Best Management Practices
<b>CAA</b>	Clean Air Act
<b>CARA</b>	Corrective Action/Risk Assessment
<b>CCR</b>	Coal Combustion Residuals
<b>CCW</b>	Condenser Cooling Water
<b>CFR</b>	Code of Federal Regulations
<b>CGP</b>	Construction General Permit
<b>CH<sub>4</sub></b>	Methane
<b>CO</b>	Carbon Monoxide
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CO<sub>2</sub>e</b>	Carbon Dioxide Equivalent
<b>CT</b>	Combustion Turbine
<b>CWA</b>	Clean Water Act
<b>dB</b>	Decibels
<b>dba</b>	A-weighted decibel
<b>EA</b>	Environmental Assessment
<b>EIS</b>	Environmental Impact Statement
<b>EO</b>	Executive Order
<b>EPA</b>	U.S. Environmental Protection Agency
<b>EPCRA</b>	Emergency Planning and Community Right-to-Know Act
<b>ESA</b>	Endangered Species Act of 1973
<b>FIRM</b>	Flood Insurance Rate Map
<b>FOS</b>	Factor of Safety
<b>FR</b>	Federal Register
<b>GHG</b>	Greenhouse Gases
<b>GWPS</b>	Groundwater Protection Standard
<b>HUC</b>	Hydrologic Unit Code
<b>IFM</b>	Interim Flow Management
<b>IPaC</b>	Information for Planning and Consultation
<b>JCT</b>	Johnsonville Combustion Turbine Facility
<b>JOF</b>	Johnsonville Fossil Plant
<b>Ldn</b>	Day-Night Sound Level
<b>LOS</b>	Level of Service
<b>MBTA</b>	Migratory Bird Treaty Act
<b>N<sub>2</sub>O</b>	Nitrous oxide
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NEPA</b>	National Environmental Policy Act
<b>NHPA</b>	National Historic Preservation Act
<b>NLCD</b>	National Land Cover Database
<b>NMSZ</b>	New Madrid Seismic Zone
<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>NO<sub>x</sub></b>	Nitrogen Oxide
<b>NOI</b>	Notice of Intent
<b>NORM</b>	Naturally Occurring Radioactive Material

<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NPS</b>	National Park Service
<b>NRCS</b>	Natural Resources Conservation Service
<b>NRHP</b>	National Register of Historic Places
<b>O<sub>3</sub></b>	Ozone
<b>OSHA</b>	Occupational Safety and Health Administration
<b>Pb</b>	Lead
<b>PEIS</b>	Programmatic Environmental Impact Statement
<b>PFO</b>	Palustrine Forested
<b>PM</b>	Particulate Matter
<b>PM<sub>2.5</sub></b>	Particulate Matter 2.5 micrometers or less
<b>PM<sub>10</sub></b>	Particulate Matter 10 micrometers or less
<b>PWB</b>	Process Water Basin
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SHPO</b>	State Historic Preservation Officer
<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>SO<sub>x</sub></b>	Sulfur Oxide
<b>SWPPP</b>	Storm Water Pollution Prevention Plan
<b>T.C.A.</b>	Tennessee Code Annotated
<b>TDEC</b>	Tennessee Department of Environment and Conservation
<b>TDOT</b>	Tennessee Department of Transportation
<b>TMSP</b>	Tennessee Storm Water Multi-Sector General Permit for Industrial Activities
<b>TSDF</b>	Treatment, Storage, and Disposal Facilities
<b>TUA</b>	Temporary Use Area
<b>TVA</b>	Tennessee Valley Authority
<b>TWRA</b>	Tennessee Wildlife Resources Agency
<b>US 70</b>	US Route 70
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USC</b>	United States Code
<b>USCB</b>	United States Census Bureau
<b>USDA</b>	U.S. Department of Agriculture
<b>USFS</b>	U.S. Forest Service
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>USGS</b>	U.S. Geological Survey
<b>WMA</b>	Wildlife Management Area
<b>yd<sup>3</sup></b>	Cubic Yard