

**Document Type:** EA-Administrative Record  
**Index Field:** Draft Environmental  
Assessment  
**Project Name:** Chattanooga Office Complex  
Renovation, Demolition,  
and/or Sale  
**Project Number:** 2023-17

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**CHATTANOOGA OFFICE COMPLEX RENOVATION,  
DEMOLITION, AND/OR SALE  
DRAFT ENVIRONMENTAL ASSESSMENT  
Hamilton County, Tennessee**

**Prepared by:**  
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March 2024

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## Symbols, Acronyms, and Abbreviations

<b>AADT</b>	Average Annual Daily Traffic
<b>APE</b>	Area of Potential Effects
<b>BMPs</b>	Best Management Practices
<b>CAA</b>	Clean Air Act
<b>CEQ</b>	Council on Environmental Quality
<b>CFR</b>	Code of Federal Regulations
<b>CO</b>	Carbon Monoxide
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>COC</b>	Chattanooga Office Complex
<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>	United States Environmental Protection Agency
<b>ESA</b>	Endangered Species Act of 1973
<b>FONSI</b>	Finding of No Significant Impact
<b>FTA</b>	Federal Transit Administration
<b>GSA</b>	General Services Administration
<b>GHG</b>	Greenhouse Gases
<b>IPaC</b>	Information for Planning and Consultation
<b>L<sub>max</sub></b>	Maximum Level of a Noise Source
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NEPA</b>	National Environmental Policy Act
<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NRHP</b>	National Register of Historic Places
<b>OSHA</b>	Occupational Safety and Health Administration
<b>O<sub>3</sub></b>	Ozone
<b>Pb</b>	Lead
<b>PM</b>	Particulate Matter
<b>PPV</b>	Peak Particle Velocity
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SHPO</b>	State Historic Preservation Officer
<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>SSSP</b>	Site-Specific Safety Plan
<b>SWPPP</b>	Stormwater Pollution Protection Plan
<b>TDEC</b>	Tennessee Department of Environment and Conservation
<b>TVA</b>	Tennessee Valley Authority
<b>USFWS</b>	United States Fish and Wildlife Service

## CHAPTER 1 – PURPOSE AND NEED FOR ACTION

### 1.1 Background

The Tennessee Valley Authority's (TVA) Chattanooga Office Complex (COC; Project Area) opened in 1985 and contains more than 1,480,000 gross square feet of office space historically housing more than 3,500 TVA employees. The COC campus consists of four buildings that are physically and operationally connected (Signal Place, Lookout Place, Blue Ridge, and Missionary Ridge), and a fifth, initially separate building (Monteagle Place) which now has several operational connections to other COC buildings (Figure 1). The COC occupies approximately 9.3 acres in the Chattanooga Central Business Zone.

Since the onset of the COVID pandemic in Spring 2020, a substantial percentage of TVA COC office employees have worked in a hybrid work environment. This has led to the COC (which was already underutilized before the pandemic) being significantly underutilized. Like many private companies and other government organizations, TVA is proactively evaluating the future of office occupancy. The successful hybrid work undertaken by TVA employees has created a unique opportunity to re-evaluate how and where TVA employees work, and enables TVA to consider whether the COC footprint can be put to a higher and better use for the Chattanooga region. TVA is committed to contributing to the vitality of downtown Chattanooga and TVA's future office space will be focused on delivering a modern, sustainable, and innovative workspace that meets the needs of its workforce.

As such, TVA is evaluating options for fully or partially renovating, demolishing, and/or the sale (including transfer) (collectively referred to herein as disposal) of the COC, which is too large for TVA's current or projected future needs. Consistent with its mission and strategic priorities, disposal of the COC and redevelopment could address TVA's changed business needs, improve efficiency, reduce expenses, improve employee recruitment and retention, and offer economic development opportunities. TVA anticipates that, following the potential disposal of the COC, any new office space, if required, would have a reduced footprint that meets TVA's current and future business needs.

The COC has also been recently selected by the General Services Administration (GSA) as one of the sites under consideration for a new Federal courthouse in downtown Chattanooga. Although a final selection has not yet been made, the proposed action includes alternatives that seek to meet GSA's construction schedule and needs, which currently call for a clean and construction-ready site in 2026 (Alternatives 2, 3 and 4). However, the alternatives being evaluated by TVA are not limited to the potential courthouse. Based on current zoning requirements, reasonable possibilities of how the site could be developed following disposal include, but are not limited to, Federal courthouse, hotel, rental apartments, condominiums, ground floor retail, convention center expansion, and/or office space.

In July 2023, TVA issued a request for proposal for replacement office space in the downtown Chattanooga area in the event TVA makes the decision to dispose of all or part of the COC. Any replacement office would be evaluated separately under applicable environmental laws and regulations and is outside the scope of this Environmental Assessment (EA).



## **1.2 Purpose and Need**

The purpose of the proposed action is to align TVA's downtown Chattanooga office footprint with its current and projected future space needs. The current COC no longer meets TVA's needs and, therefore, the need for action is to better align TVA's strategic priorities to support and benefit the communities that TVA serves and eliminate underutilized space and related unnecessary expenses.

## **1.3 Decision to be Made**

The primary decision to be made by TVA is to align TVA's downtown Chattanooga office footprint with its current and projected future space needs, with the following alternatives under consideration: (i) retaining ownership of and remaining at the COC (no action); (ii) demolishing the buildings and disposing of the land; (iii) disposing of the buildings and land as-is; or (iv) a combination of partial building retention and renovation.

This EA was prepared to inform TVA decision makers and the public about the environmental consequences of implementing the proposed action. TVA will use this EA to support the decision-making process and to determine whether an Environmental Impact Statement (EIS) should be prepared or whether a Finding of No Significant Impact (FONSI) may be issued.

## **1.4 Related Environmental Reviews**

TVA identified the following environmental reviews that are related to the proposed action. The contents of these related reviews help describe the Project Area and are incorporated by reference as appropriate.

Chattanooga Office Complex Environmental Assessment (TVA 1979). This EA describes the rationale for consolidating TVA office space from 21 buildings in Chattanooga into an energy-efficient and handicapped-accessible building.

Chattanooga Office Space Alternatives Environmental Assessment (TVA 2007). TVA's Chattanooga Office Space Alternatives EA describes the rationale for the lease or purchase of 600,000 square feet of office space in the Chattanooga, Tennessee, area.

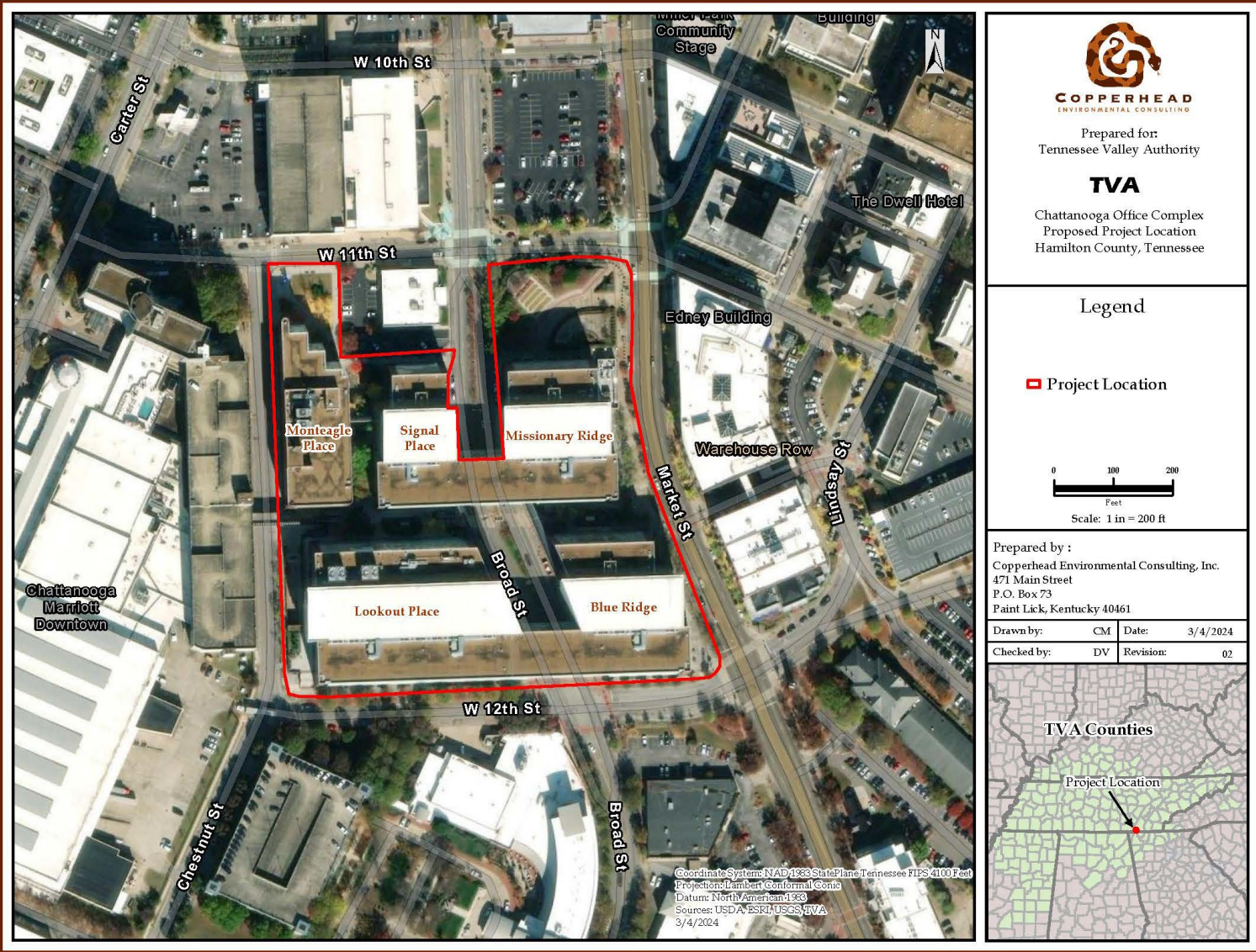


Figure 1. Project Location.

## **1.5 Scope of the Environmental Assessment**

TVA is considering how to better align its downtown Chattanooga office footprint with its current and projected future space needs. This EA analyzes several options for the current COC that address the purpose and need for action, including retention, renovation, demolition, disposal, and/or a mix thereof.

TVA prepared this EA to comply with NEPA, regulations of the Council on Environmental Quality (CEQ) at 40 Code of Federal Regulations (CFR) part 1500 (as amended in 2020 and 2022), and TVA's regulations for implementing NEPA at 18 CFR part 1318. TVA reviewed the proposed action and identified the following issues to be evaluated in detail in the EA:

- Air Quality
- Land Use
- Geology and Soils
- Greenhouse Gases and Climate Change
- Noise and Vibration
- Transportation
- Visual Resources
- Utilities and Service Systems
- Socioeconomics and Environmental Justice
- Public Health and Safety
- Wildlife
- Threatened and Endangered Species
- Cultural Resources
- Managed and Natural Areas
- Recreational Resources
- Solid and Hazardous Waste
- Surface Water Quality

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

- **Aquatic Ecology:** The COC is in an urban setting and no aquatic features are mapped within or near the COC. The alternatives are not expected to alter the hydrology, fluvial geomorphology, or aquatic biology and therefore impacts on aquatic ecology require no further evaluation. Impacts on surface water quality from stormwater runoff are discussed in Section 3.17.
- **Botany:** No natural vegetation occurs within or near the COC. There is no potential for rare plant species or their habitat and therefore impacts on botany require no further evaluation.
- **Floodplains:** The proposed alternatives would not directly or indirectly impact floodplains and their natural and beneficial values. TVA Flood Risk also reviewed the COC footprint in depth and determined that all alternatives would be consistent with Executive Order (EO) 13690, the Federal Flood Risk Management Standard. Therefore, impacts on floodplains require no further evaluation.
- **Groundwater:** Each building in the COC has a stormwater pump and a sewage pump, neither of which are connected to groundwater. The geothermal heat exchanger described in the 1979 EA (TVA 1979) was never constructed, so the COC is not hydrologically connected to groundwater. In addition, demolition and renovation would not require any additional subsurface excavation or disturbance beyond what was done during construction in the 1980s. Therefore, impacts on groundwater require no further evaluation.
- **Surface Water Features:** The COC is located within the Lower Tennessee River (Nickajack Reservoir) watershed (8-digit Hydrologic Unit Code: 06020001). A 2023 desktop review indicated no aquatic features nor National Wetland Inventory features mapped within or near the COC. Therefore, impacts on surface water features require no further evaluation.
- **Wetlands:** There are no National Wetland Inventory features mapped within or near the COC and there is no potential for hydric soil, wetland hydrology, or hydrophytic vegetation in combination in the project area. Therefore, impacts on wetlands require no further evaluation.

## **1.6 Public and Agency Involvement**

The draft EA was made available for a 30-day public review period, starting on March 12, 2024. The availability of the draft EA was announced in a media release and the draft EA was posted on TVA's website. TVA will also host an in-person open house from 5-7 p.m. on March 26, 2024, at Miller Plaza, 850 Market St, Chattanooga. TVA will carefully review any comments received on the draft EA and address them as appropriate in the final EA, which will also be made available to the public.

To address potential adverse effects to cultural resources, TVA consulted with the Tennessee Historical Commission and 13 federally recognized tribes in compliance with Section 106 of the National Historic Preservation Act. Additional detail is provided in Section 3.13.

Several activities associated with the action alternatives, including building demolition, were addressed in TVA's programmatic consultation with the United States Fish and Wildlife Service (USFWS) on routine actions and federally listed bats in accordance with the Endangered Species Act (ESA) Section 7(a)(2), which was completed in April 2018 and updated in May 2023. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures are identified in the TVA Bat Strategy Project Screening Form (Appendix B). For other federally listed species, TVA will consult with the USFWS in compliance with Section 7 of the ESA. See Section 3.12 for species-specific details.

## **1.7 Necessary Permits or Licenses**

The following permits or licenses would be obtained prior to demolition and/or renovation activities:

### **1.7.1 City of Chattanooga Building Permit**

The City of Chattanooga requires a separate building permit for each individual building or structure which is obtained from the Land Development Office. A building permit is required for any new, alteration, addition, or repair to any structure.

### **1.7.2 Demolition Permit**

A demolition permit is required prior to demolition or renovation activities. TVA, the subsequent owner, or its designee would be required to submit a notice of demolition to the Chattanooga-Hamilton County Air Pollution Control Bureau. This form would need to be submitted at least 10 business days prior to beginning work and would need to be approved by the coordinator. If any asbestos-containing material or facility components that contain asbestos need to be removed, an additional permit may be required. Prior to demolition, additional coordination with Hamilton County may be needed to address potential air quality concerns.

### **1.7.3 City of Chattanooga Department of Public Works**

Because the property is connected to a sewer line, TVA, the subsequent owner, or its designee would need to contact the City of Chattanooga Department of Public Works for a sewer line cap inspection should the line need to be capped.

### **1.7.4 City of Chattanooga Land Disturbing Permit**

The City of Chattanooga requires a land disturbing activity permit for all land disturbing activities and is issued by the City of Chattanooga Land Development Office. For this permit, any project that consists of total land disturbance equal to or greater than one acre requires erosion and sediment controls to be in place such that land disturbing activities manage erosion or sediment into the streets, storm drain systems, and streams. A stormwater management plan needs to be in place such that permanent stormwater runoff meets water quality performance standards specified in the City of Chattanooga Rainwater Management Guide.

### **1.7.5 TDEC National Pollutant Discharge Elimination System General Permit**

The Tennessee Department of Environment and Conservation (TDEC) requires a National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Associated with Construction Activities for sites involving clearing, grading, or excavation that result in an area of disturbance of one or more acres.

## CHAPTER 2 - ALTERNATIVES

This chapter describes the alternatives that TVA has considered for the COC Disposal Project. Some of the alternatives considered are not further analyzed in this EA because they do not meet the purpose and need of the project.

### 2.1 Description of Alternatives

During internal scoping, a total of seven alternatives were initially identified. Three alternatives are evaluated in detail in this EA along with the No Action Alternative. Each alternative, including those considered but dismissed from further analysis, is described below.

#### 2.1.1 Alternative 1 – The No Action Alternative

This alternative would involve TVA retaining ownership of and remaining at the COC. TVA would continue to maintain the facilities and utilize the 1.48 million square feet of space. This alternative does not meet the purpose and need of the proposed action but represents current conditions against which the proposed action alternatives will be evaluated.

#### 2.1.2 Alternative 2 – Demolish Buildings and Dispose of Land

This alternative would involve TVA demolishing the COC, either in stages or all at once, and disposing of the COC land. The method of demolition would be mechanical demolition with the exact means and methods to be determined by the demolition contractor. Demolition of the structures would require the strategic closure of one or more of the adjacent roadways (Chestnut Street, Market Street, Broad Street, and West 12th Street). The buildings would be demolished to the basement elevation, estimated to be between 20 to 25 feet below street elevation.

The demolition process is anticipated to last approximately 10 months (and require approximately 96 workers) total for all buildings. During the demolition phase, there would be approximately 19,500 truck trips to deliver demolition materials to a permitted waste management facility/landfill designated to receive demolition and construction waste. If demolition is done in stages, the timeline would not be consecutive, but the impacts would be substantially similar. Once the demolition is complete, TVA would dispose of the vacant land in accordance with TVA's disposal authorities, which could include a public auction or transfer to the GSA.

#### 2.1.3 Alternative 3 – Dispose of Buildings and Land

This alternative would involve TVA disposing of the COC land and buildings "as-is, where-is" by any means permissible within TVA's disposal authorities, which could include, but are not limited to, public auction or transfer to the GSA. Once disposed, it is possible that the new owner could demolish and construct new buildings, renovate the existing buildings, or use the existing buildings as-is.

#### 2.1.4 Alternative 4 – Partial Retention and Renovation

To support modern employee needs, this alternative would involve a mix of retention, renovation and modernization, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). There are four options considered under this alternative, which are described below. Depending on the option selected, demolition and renovation would take a total of 10 to 12 months and require approximately 128 to 174 workers. Demolitions and renovation may be

done in stages, in which case the timeline may not be consecutive, but the impacts would be substantially similar. The number of truck trips would also vary but would be lower than that needed for full demolition under Alternative 2. Because each option considers a mix of retention and disposal, TVA would need to separate and reconnect utilities where those systems are interconnected across buildings. Table 2-1 displays a summary of each option in Alternative 4.

**Table 2-1. Summary of Options in Alternative 4.**

<b>Building</b>	<b>Alternative 4a</b>	<b>Alternative 4b</b>	<b>Alternative 4c</b>	<b>Alternative 4d</b>
Signal Place	Dispose	Renovate and modernize	Renovate and modernize	Dispose (may include demolition)
Lookout Place	Dispose	Renovate and modernize	Dispose (may include demolition)	Renovate and modernize
Blue Ridge	Dispose	Dispose (may include demolition)	Dispose (may include demolition)	Dispose (may include demolition)
Missionary Ridge	Dispose	Dispose (may include demolition)	Dispose (may include demolition)	Dispose (may include demolition)
Monteagle Place	Renovate and modernize	Renovate and modernize	Renovate and modernize	Dispose (may include demolition)

#### **2.1.4.1 Alternative 4(a)**

TVA would dispose of Signal Place, Lookout Place, Blue Ridge, and Missionary Ridge through the means described in Alternative 3 and renovate and modernize Monteagle Place (approximately 150,000 gross square feet) for the purpose of consolidating and housing operational infrastructure and functions that are either already located in Monteagle Place or dispersed throughout the COC campus. See Figure 2 for an overview of Alternative 4a.

#### **2.1.4.2 Alternative 4(b)**

TVA would renovate and modernize Lookout Place, Monteagle Place, and Signal Place (approximately 863,000 gross square feet). Renovation would include construction of the necessary underlying infrastructure. If this option were exercised, TVA would dispose of the remaining buildings (Blue Ridge and Missionary Ridge) through the means described in Alternative 2 and/or 3. See Figure 3 for an overview of Alternative 4b.

#### **2.1.4.3 Alternative 4(c)**

TVA would renovate and modernize Monteagle Place and Signal Place (approximately 355,000 gross square feet). Renovation would include construction of the necessary underlying infrastructure. If this option were exercised, TVA would dispose of the remaining buildings (Blue Ridge, Lookout Place, and Missionary Ridge) through the means described in Alternative 2 and/or 3. See Figure 4 for an overview of Alternative 4c.

#### **2.1.4.4 Alternative 4(d)**

TVA would renovate and modernize Lookout Place (approximately 508,000 gross square feet). Renovation would include construction of the necessary underlying infrastructure. If this option were exercised, TVA would dispose of the remaining buildings (Blue Ridge,

Missionary Ridge, Monteagle Place, and Signal Place) through the means described in Alternative 2 and/or 3. See Figure 5 for an overview of Alternative 4d.



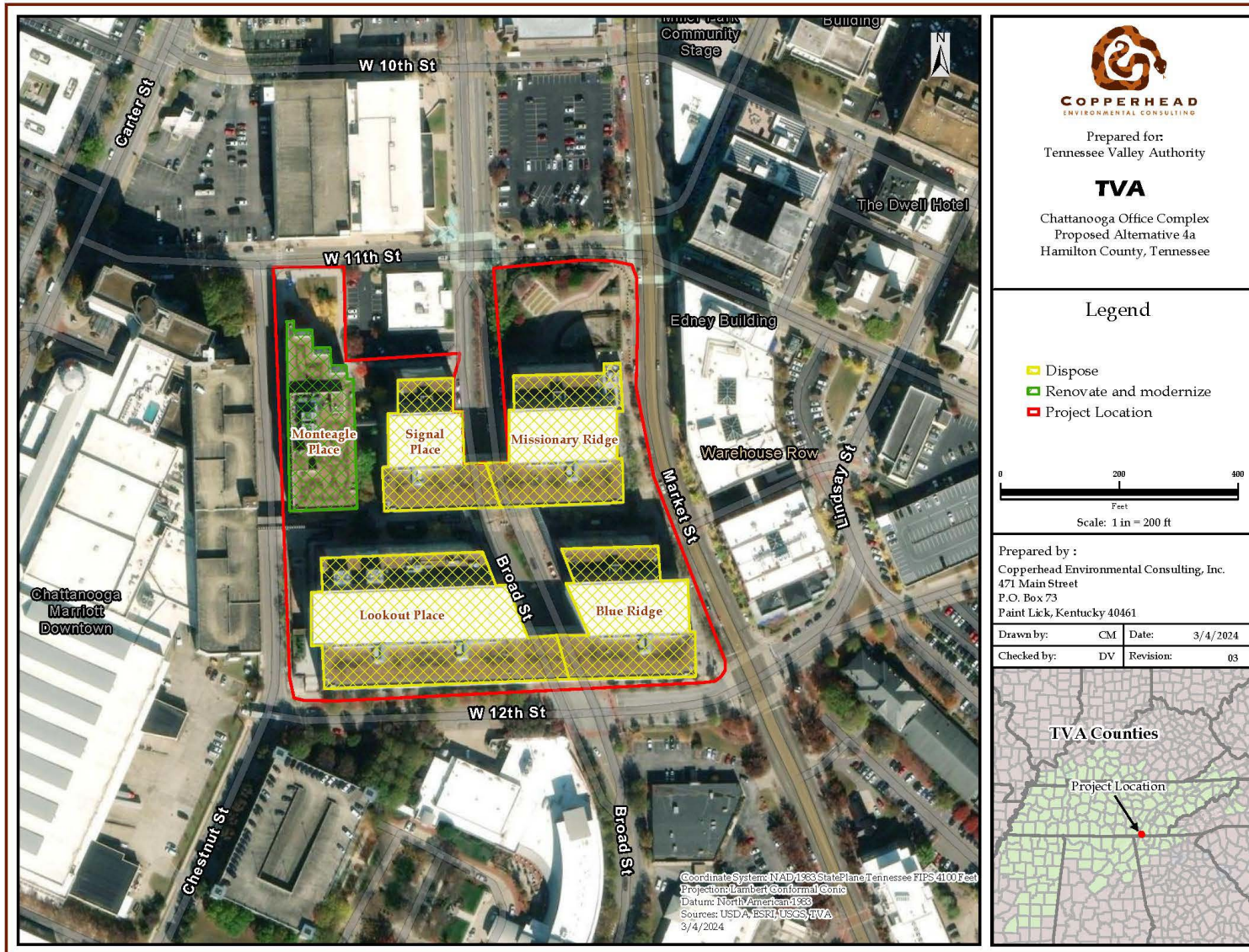


Figure 2. Alternative 4a.

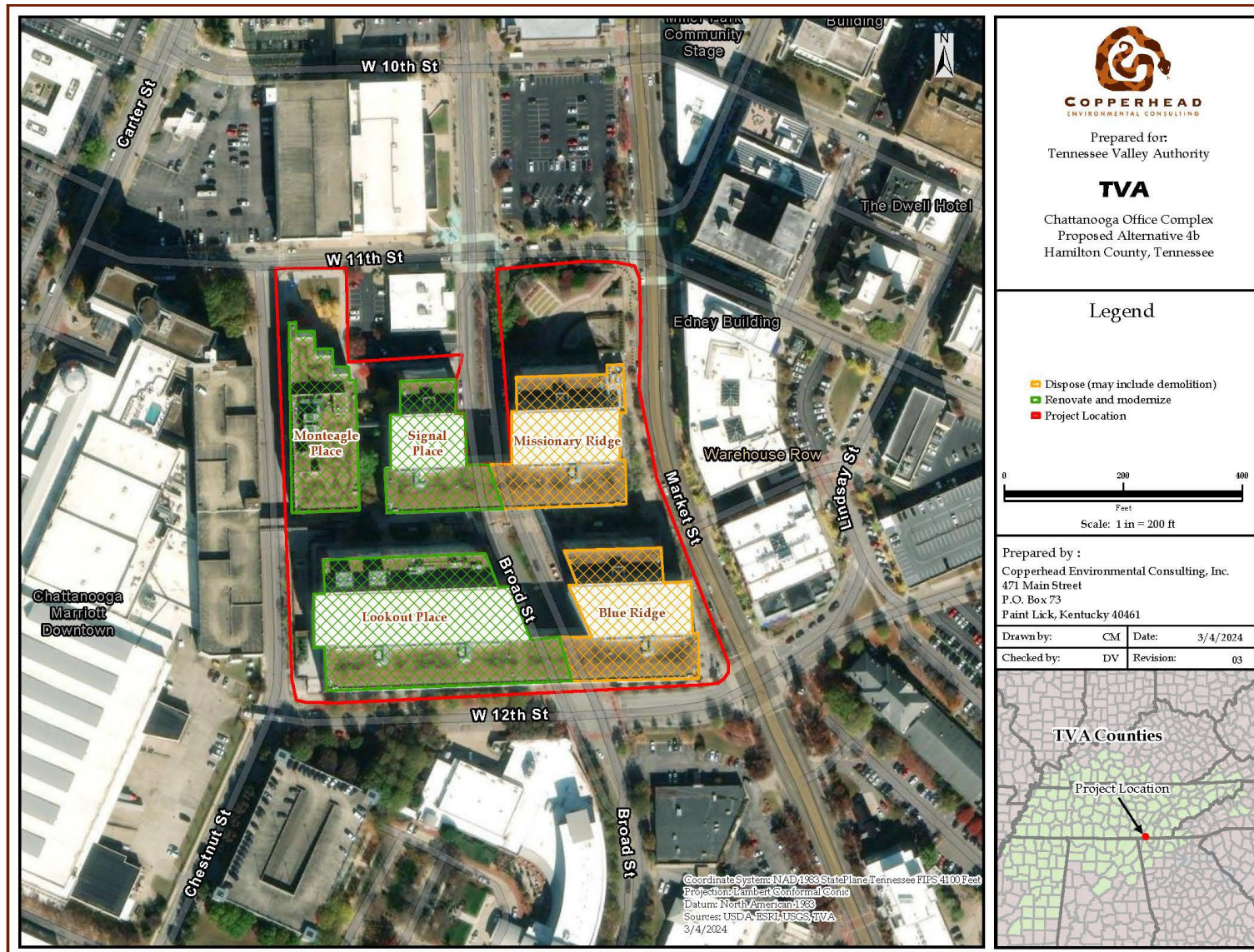


Figure 3. Alternative 4b.

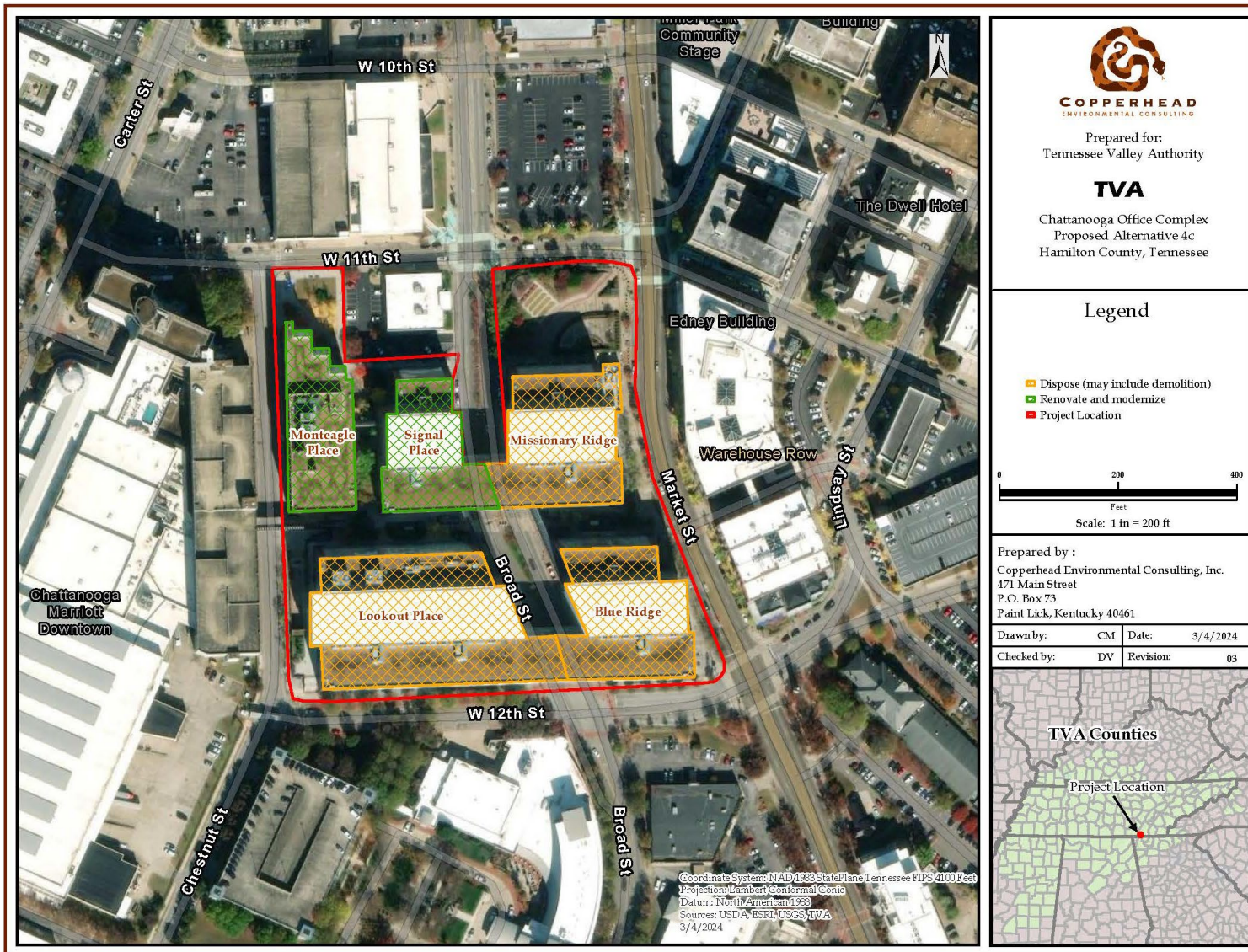


Figure 4. Alternative 4c.

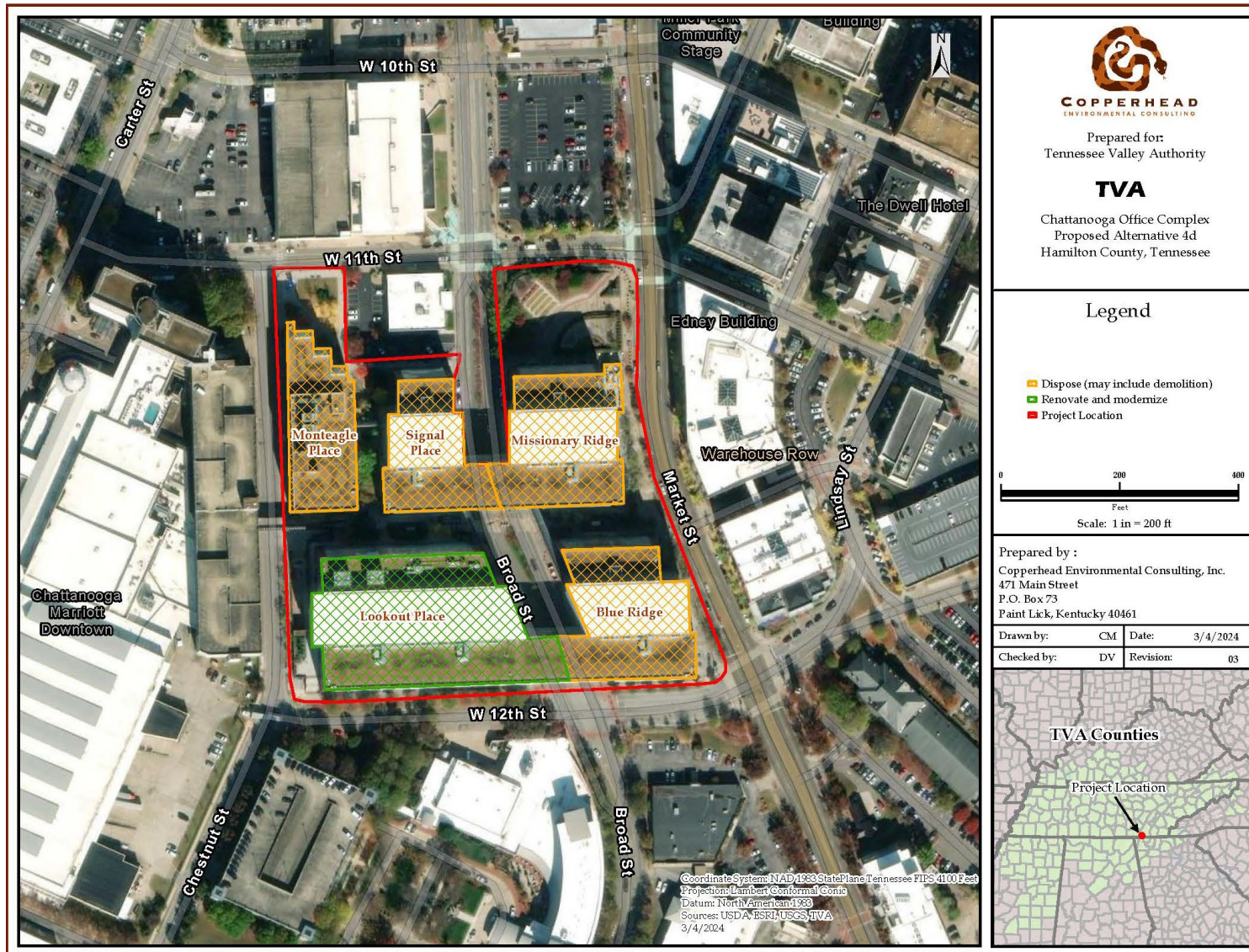


Figure 5. Alternative 4d.

### **2.1.5 Alternatives Considered but Eliminated from Further Discussion**

Three additional alternatives were considered but eliminated from detailed consideration:

- Alternative 5 would involve TVA moving out of the COC campus, demolishing the buildings as described in Alternative 2 and then constructing a new building somewhere on the site to meet its future needs.
- Under Alternative 6, TVA would dispose of the COC as described in Alternative 3 and lease back a portion of the existing complex after it has been fully renovated.
- Under Alternative 7, TVA would retain and renovate Missionary Ridge and Blue Ridge (617,000 gross square feet). The remaining buildings (Lookout Place, Monteagle Place, and Signal Place) would be disposed of through the means described in Alternatives 2 and/or 3.

These three alternatives were dismissed because they would leave TVA employees without access to usable collaboration space for a significant time during construction periods. Additionally, it was determined that Alternatives 6 and 7 were technically unfeasible due to severability issues with building utilities and systems. Thus, these alternatives were not retained for analysis.

## **2.2 Comparison of Alternatives**

Impacts evaluated may be beneficial or adverse and may apply to the full range of natural, aesthetic, historic, cultural, and socioeconomic resources within and around the Project Area. Because TVA cannot reasonably predict how the COC or land would be used after disposal, impacts associated with specific future land uses are not evaluated. Impact severity is dependent upon their relative magnitude, intensity, and resource sensitivity. In this document, four descriptors are used to characterize the level of impacts in a manner that is 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.
- Large – Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

A comparison of the environmental consequences associated with each alternative is presented in Table 2-2.

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

<b>Resource Area</b>	<b>No Action Alternative</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
Air Quality	No Impacts	Minor adverse impacts due to a temporary increase in airborne soil and dust and temporary increase in vehicle emissions associated with demolition activities	No impacts	Minor adverse impacts due to a temporary increase in airborne soil and dust and temporary increase in vehicle emissions associated with partial demolition or remodeling activities
Land Use	No Impacts	No impacts	No impacts	No Impacts
Geology and Soils	No Impacts	Minor adverse impacts with implementation of Soil Management Plan	No Impacts	Minor adverse impacts with implementation of Soil Management Plan
Greenhouse Gases and Climate Change	No Impacts on climate change; possible long-term increase in energy consumption for heating and cooling the COC	Minor adverse impacts due to increase in emissions associated with demolition	No Impacts	No impacts from disposal as-is; short-term minor adverse impacts during renovation
Noise and Vibration	No Impacts	Temporary minor to moderate adverse noise impacts during demolition associated with equipment operated between 7 a.m. and 8 p.m.; temporary minor adverse impacts from vibration	No Impacts	Temporary minor adverse noise and vibration impacts during partial demolition and remodeling which will be confined to the interior of buildings and likely use less equipment than full demolition under Alternative 2

Chattanooga Office Complex Renovation, Demolition, and/or Sale

Resource Area	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Transportation	No Impacts	Moderate adverse impacts during demolition due to increase in truck traffic and altered traffic patterns	No impacts because TVA employees would commute to a new office site, representing a continuation of current commuting traffic trends	Moderate adverse impacts during demolition due to increase in truck traffic and altered traffic patterns; minor adverse impacts from renovation
Visual Resources	No Impacts	Minor short-term adverse impacts during demolition	No impacts	No impacts from disposal; minor short-term adverse impacts during demolition
Utilities and Service Systems	No Impacts	No Impacts	No Impacts	Minor temporary impacts during separation and reconnection of utilities and services during partial demolition, renovation, and/or disposal
Socioeconomics and Environmental Justice	No impacts	Minor beneficial impacts from hiring construction workers; no disproportionate impacts on disadvantaged communities; benefits if COC site is more fully utilized	No disproportionate impacts on disadvantaged communities; benefits if COC site is more fully utilized	Minor beneficial impacts from hiring construction workers; no disproportionate impacts on disadvantaged communities; benefits if COC site is more fully utilized
Public Health and Safety	No Impacts	Minor, short-term adverse impacts associated with demolition; coordination with appropriate state and federal agencies would minimize impacts	No impacts	Minor, short-term adverse impacts associated with demolition and/or remodeling; coordination with appropriate state and federal agencies would minimize impacts
Wildlife	No Impacts	Minor, short-term direct adverse impacts during demolition	No Impacts	Minor, short-term direct adverse effects during demolition and remodeling

Resource Area	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Threatened and Endangered Species	No Impacts	May affect but would not likely adversely affect gray bat, Indiana bat, northern long-eared bat. Would not jeopardize the continued existence of the tricolored bat; no impacts on other species	No Impacts	May affect but would not likely adversely affect gray bat, Indiana bat, northern long-eared bat. Would not jeopardize the continued existence of the tricolored bat; no impacts on other species
Cultural Resources	No Effects	No Effects	No Effects	No Effects
Managed and Natural Areas	No Impacts	Minor, short-term adverse impacts associated with demolition activities and resulting dust, debris, and traffic	No Impacts	Minor, short-term adverse impacts associated with demolition and/or remodeling and resulting dust, debris, and traffic
Recreational Resources	No Impacts	Minor to moderate short-term adverse impacts associated with demolition activities and resulting dust, debris, and traffic	No Impacts	Minor to moderate short-term adverse impacts associated with demolition activities and resulting dust, debris, and traffic
Solid and Hazardous Waste	No Impacts	Minor, short-term adverse impacts associated with generation of construction and demolition debris	No Impacts	Minor, short-term adverse impacts associated with generation of construction and demolition debris
Surface Water Quality	No Impacts	Minor, temporary adverse impacts with implementation of BMPs	No Impacts	Minor, temporary adverse impacts with implementation of BMPs



### **2.3 Identification of Mitigation Measures**

The developer/owner, including TVA, or its designee would be required to do the following to comply with state, federal, and local regulations:

- Demolition, construction, and/or external renovation would only occur between the hours of 7 a.m. and 8 p.m. (seven days a week) in accordance with the City of Chattanooga's noise ordinance.
- A regulated materials assessment would be performed prior to renovation or demolition to determine the presence of asbestos-containing materials and other materials of potential concern. If found, they would be disposed of in accordance with state and federal regulations.
- TDEC Underground Storage Tank System Closure Assessment Guidelines would be followed for removal of underground storage tanks located on site.
- Demolition and renovation would comply with Occupational Safety and Health administration (OSHA) Lead in Construction Standard 29 CFR 1926.62.
- The contractor would dispose of recyclable and non-recyclable waste generated during demolition or renovation at permitted facilities.
- The contractor would comply with TVA's Safety Manual for Lead, Silica, Respiratory Protection, Hazard Communication and Rigging.
- The contractor would implement a Fugitive Dust Control Plan that addresses mitigation of construction, demolition, loading and unloading, and mechanical/manual breaking/sawing of debris, as applicable.
- During demolition, interruptions to utility lines (e.g., electrical, sewer) would be avoided or minimized to the extent possible to avoid unplanned utility outages. Should utility severance require any temporary outages or interruptions, TVA would coordinate with the applicable utility provider(s) to minimize planned disruptions.
- TVA would survey any unmaintained buildings (i.e., buildings not maintained or used) at least one month prior to demolition operations for wildlife that may be present.
- Prior to demolition, renovation, and/or construction activities, the contractor would obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of stormwater from site activities and prepare a Storm Water Pollution Prevention Plan (SWPPP).
- The contractor would comply with TVA's Safe Work Requirements Manual and implement a project-specific safety plan for any demolition, renovation, and/or construction activities.
- The contractor would develop and implement a traffic management plan in coordination with the City of Chattanooga.
- The contractor would implement a Soil Management Plan to address soil displacement and disposal as applicable.
- The contractor would obtain TVA permits for excavation and drilling/chipping of concrete, as applicable.

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

This chapter describes the existing environmental, social, and economic conditions of the Project Area and the surrounding areas as well as the anticipated potential effects of implementing the No Action Alternative and the Action Alternatives (i.e., Alternatives 2, 3, and 4) for each resource. The No Action Alternative is analyzed in the EA to establish a baseline for analyzing the environmental impacts of the Action Alternatives in accordance with NEPA regulations.

Unless otherwise noted, the geographic area of analysis for each resource includes the 9.3-acre COC.

Short-term effects are those that would occur during demolition or renovation. Long-term effects are those associated with post-demolition and post-renovation activities. Because TVA cannot reasonably predict how the COC or land would be used after disposal, impacts associated with specific future land uses are not evaluated.

### **3.1 Air Quality**

The U.S. Environmental Protection Agency (EPA) regulates pollutants and airborne emissions in the United States. The Clean Air Act of 1970 (CAA) (42 U.S.C. § 7401 et seq.) authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants to protect the environment and the public. The criterial pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>). If a geographic area (e.g., city, county) exceeds the NAAQS, it is considered a non-attainment area for the respective pollutant(s).

As required by the EPA, each state must develop a State Implementation Plan which identifies the NAAQS attainment status for each pollutant. In Tennessee, Chattanooga is in attainment for all criteria pollutants (USEPA 2023a).

#### **3.1.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. Because there would be no demolition or construction activities and no changes in emissions from COC operation or employee commuting, implementation of the No Action Alternative would not result in new direct or indirect impacts on air quality. Continued operation of the COC would not contribute to the non-attainment of any NAAQS.

#### **3.1.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition would result in a temporary increase in airborne soil and dust. Adverse effects associated with demolition debris would be minor because TVA would require best management practices (BMPs) including implementing a Fugitive Dust Control Plan to control dust and other emissions. Emissions from vehicles and equipment associated with demolition would have a temporary, minor effect on air quality, but the anticipated number of project-related vehicles (an average of 260 daily during demolition) is not anticipated to contribute to a decrease in air quality or non-attainment of any NAAQS.

Overall, impacts on air quality under Alternative 2 would consist of a minor increase in airborne soil and dust particles and vehicle/equipment emissions during demolition. These impacts would be mitigated by implementing BMPs such as dust suppression.

### **3.1.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. TVA employees would commute to a new office site, representing a continuation of current emissions trends from their vehicles. Because no demolition or renovation would occur, there would be no change in air quality over the short term.

### **3.1.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts from demolition would be similar to those under Alternative 2, except that only a portion of the COC would be demolished, resulting in fewer adverse impacts on air quality. As under Alternative 2, these impacts would be minimized by implementing BMPs and are not anticipated to contribute to non-attainment of NAAQS. Impacts from remodeling buildings would be less than those from demolition because there would be less debris. Over the long term, the renovated, modern facility is expected to use less energy and produce fewer emissions than in its current condition. Any “as-is” disposal of existing buildings would not result in an impact on air quality.

## **3.2 Land Use**

The COC occupies approximately 9.3 acres and has been occupied by TVA since 1985. It is bounded by Market Street to the East, West 12th Street to the south, Chestnut Street to the west, and 11th Street to the north. The COC is bisected by Broad Street which divides Monteagle Place, Signal Place, and Lookout Place from Missionary Ridge and Blue Ridge. It is located within the downtown commercial use (D-CX-12) zone.

The sites surrounding the COC are highly developed and zoned as U-IX (Urban industrial use), U-SH (Urban Shopfront Mixed use), and D-CIV (Downtown core Civic).

### **3.2.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no change in land use and therefore no impacts on land use.

### **3.2.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. TVA’s contractor would obtain all required permits for demolition, ensuring consistency with land use and associated regulations. Disposal would be consistent with land use regulations. TVA cannot reasonably predict how the COC land would be used after disposal, but any future uses would need to be compliant with City zoning and land use regulations.

### **3.2.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. As under Alternative 2, any future uses would need to be compliant with City zoning and land use regulations.

### **3.2.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). All actions would be consistent with land use regulations. TVA cannot reasonably predict how the COC land would be used after disposal, but any future uses would need to be compliant with City zoning and land use regulations.

## **3.3 Geology and Soils**

The COC is in the Ridge and Valley Level III Ecoregion and the Southern Limestone/Dolomite Valleys and Low Rolling Hills Level IV Ecoregion (Griffith et al. 2023). The geology and soils of this low-lying area are mostly made up of limestone and cherty dolomite rock formations with soils predominantly being Paleudults (Fullerton, Dewey, Decatur, Bodine, and Waynesboro series) (Griffith et al. 1997). These soils are characterized by thick subsoil layers and heavy leaching and are mostly utilized for agricultural cropland and forests (Morris 2017).

The soils within the Project Area are mapped as Urban soils (USDA NRCS 2023, USDA Soil Conservation Service 1982). Urban soils are at least 85 percent covered by urban buildings, streets, or other man-made structures. They are characterized by either unidentifiable soils or by soils that have been significantly disturbed by the installation of utilities and the excavation and construction of urban structures. They can also consist of other soils or man-made materials imported from other locations (USDA NRCS 2023).

During construction of the COC, on-site soils were disturbed and the land was excavated to a depth of approximately 20 to 25 feet below ground level for the building basements and foundations.

### **3.3.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no change in geology or soil conditions and therefore no impacts on geological or soil resources.

### **3.3.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. The buildings would be demolished down to the basement elevation, approximately 20 to 25 feet below ground level. As a result, there would be no additional disturbance beyond that associated with the original COC construction in the 1980s. Potential adverse impacts associated with soil displacement and disposal would be minimized by implementing a Soil Management Plan. For these reasons, there would be minor impacts on geology and soils.

### **3.3.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. There would be no change to the soils or geology of the COC and therefore no impacts.

### **3.3.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Retention and disposal would not result in adverse impacts on soils or geology because there would be no change in their condition.

Renovation and demolition would result in minor adverse impacts as described under Alternative 2.

### **3.4 Greenhouse Gases and Climate Change**

Climate change “refers to changes in global or regional climate patterns attributed largely to human-caused increased levels of atmospheric greenhouse gases” (USEPA 2023b). Human-produced greenhouse gases are the most significant driver of climate change and carbon dioxide (CO<sub>2</sub>) is responsible for three quarters of global greenhouse gas emissions (USEPA 2023c).

CO<sub>2</sub>-producing activities associated with the proposed COC project vary by alternative, but include heating and cooling the COC buildings, vehicle travel to and from the COC, and renovation and demolition fossil fuel powered equipment such as bulldozers, cranes, loaders, haulers, trucks, and generators.

In January 2023, the CEQ issued interim guidance to assist federal agencies in analyzing greenhouse gases (GHG) and climate change effects under NEPA. The guidance recommends that agencies quantify GHG emissions when possible, and if data are not available, to include a qualitative analysis in the NEPA document. The guidance also instructs agencies to consider: (1) the potential effects of a proposed action on climate change, including by assessing both GHG emissions and reductions from the proposed action; and (2) the effects of climate change on a proposed action and its environmental impacts (CEQ 2023).

#### **3.4.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would continue to be GHG emissions from operation of the COC, but there would be no demolition or construction activities and their associated GHG emissions. As such, the No Action Alternative would not contribute to climate change. Over the long term, the effects of climate change including warmer temperatures could result in a minor increase in energy consumption for heating and cooling the COC.

#### **3.4.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition equipment and vehicles for workers commuting to and from the site would emit GHGs during that phase of the project. The amount of GHG emissions associated with the equipment and vehicles is anticipated to be minor compared to local and regional emissions. GHGs would also be minimized by adhering to practices including proper maintenance of demolition equipment. Climate change is not anticipated to have any impact on demolition and disposal.

#### **3.4.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because no demolition or renovation would occur, there would be no change in GHGs and no impact on or from climate change.

#### **3.4.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on, and from, climate change would be similar to those two alternatives except that renovating existing buildings would result in a

short-term increase and long-term reduction in GHGs: equipment used during renovation would emit a minor amount of GHGs in comparison to local and regional emissions, and the building(s) would be made more energy efficient, resulting in a long-term decrease in GHGs during operation.

### **3.5 Noise and Vibration**

Noise is defined as unwanted or unwelcome sound judged to be unpleasant, loud, or disruptive. For the purposes of this document, this definition is focused on sound added to the natural acoustic environment of an area caused by human activities. The level of disturbance or unpleasantness can be variable and subjective, but the intensity or loudness of a sound is measured on a logarithmic scale in units called decibels (dB). Because of inherent subjectivity, we adjust dB using an “A-weighted decibel” (dBA), which weights high-pitched and low-pitched sounds to approximate the average person’s hearing level. A noise level change of 3 dBA or less is barely perceptible to average human hearing while a 5 dBA change is clearly noticeable, and a 10 dBA change is considered doubling or halving loudness.

The typical noise level for urban areas is approximately 70 dBA and can temporarily reach up to 120 dBA due to sirens and other loud vehicles (USEPA 1971). The COC and surrounding parcels are zoned as “Downtown Core/Urban” in an area comprised of storefronts, industrial, and civic buildings. The noise environment is characterized by road traffic, commercial activities, construction equipment, and other noises typical of an urban setting. The nearest sensitive receptors are the downtown branch of the Chattanooga Public Library (north of West 11th Street) and apartments on upper-level floors of Warehouse Row, which is a mixed-use development (east of Market Street). The USEPA recommends a 24-hour average noise exposure limit of 55dBA to protect against adverse effects on health and welfare in residential areas (US EPA 1974).

The City of Chattanooga noise ordinance prohibits construction/demolition activities between 8 p.m. and 7 a.m. (Chattanooga, TN Code of Ordinances- Article III 2016).

Construction activities from vehicle traffic and construction equipment create sounds referred to as construction noise (for the COC project, this also includes noise during demolition and renovation). The level of construction noise is never constant. Therefore, it is necessary to use a standardized descriptor to describe the varying construction noise levels. Here we use the maximum level of a noise source (L<sub>max</sub>), which is defined as the highest root mean squared sound pressure level within a measuring period. The Federal Highway Administration has developed a table for L<sub>max</sub> values for various pieces of construction equipment. For traffic-related noise, the Federal Highway Administration has set a threshold of 67 dBA as the sound level at which noise abatement should be considered. Equipment likely to be utilized for demolition and renovation are presented in Table 3-1.

**Table 3-1. Average Noise Levels from Construction Equipment**

<b>Construction Equipment</b>	<b>Average Measured Lmax @ 50 feet (dBA, slow)</b>
Auger Drill Rig	84
Backhoe	78
Concrete Mixer Truck	79
Concrete Pump Truck	81
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79
Jackhammer	89
Pickup Truck	75
Vibratory Concrete Mixer	80

Source: Federal Highway Administration 2017

Vibration is defined as an oscillation stemming from the motion of a mechanical system. According to the Federal Transit Administration, people are more likely to perceive ground-borne vibration when they are indoors. Signs of vibration may include rattling of windows or household items. Outdoors, where the effects of a shaking building are not experienced, ground-borne vibration is almost never considered to be a problem (FTA 2018).

Vibration is measured in peak particle velocity (PPV), which is the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring construction vibration as it relates to stresses on buildings. Buildings extremely susceptible to vibration damage are at risk of such damage when the PPV exceeds 0.12 inches per second (FTA 2018). Table 3-2 displays vibration source levels for typical construction equipment likely to be used during demolition or renovation.

**Table 3-2. Vibration Source Levels from Construction Equipment**

<b>Construction Equipment</b>	<b>Peak Particle Velocity (inches per second) at 25 Feet</b>	<b>Peak Particle Velocity (inches per second) at 50 Feet</b>
Clam Shovel Drop	0.202	0.071
Hydromill (in soil)	0.008	0.003
Hydromill (in rock)	0.017	0.006
Hoe Ram	0.089	0.032
Large Bulldozer	0.089	0.032
Loaded Truck	0.076	0.027
Jackhammer	0.035	0.012
Small Bulldozer	0.003	0.001

Source: Adapted from FTA 2018.

### **3.5.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. As a result, there would be no changes in noise or vibration levels in the Project Area and no adverse impacts on sensitive receptors.

### **3.5.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition equipment would result in a temporary adverse effect on noise and vibration levels. As shown in Table 3-1, maximum noise levels could be up to 89 dBA at 50 feet. Demolition noise would attenuate to urban background levels (70 dBA) at approximately 445 feet or 0.08 miles. As such, the temporary increase in noise levels would be noticeable near the COC, including sensitive receptors such as residents of Warehouse Row and visitors at the Chattanooga Public Library. Demolition noise would be more noticeable to outdoor receptors than those indoors, as the USEPA identifies noise levels indoors as typically being 15dB less than levels outdoors due to attenuation from the building structure (USEPA 1974). Impacts would be minimized by adhering to the City of Chattanooga's noise ordinance, which limits demolition activities to occurring from 7 a.m. to 8 p.m. For these reasons, short-term adverse noise impacts would be moderate in intensity for outdoor sensitive receptors and minor for indoor sensitive receptors.

Vibration impacts would be temporary and minor in intensity, as the COC is approximately 50 feet from the nearest neighboring building and vibration levels at that distance would be less than the threshold for possible harm to buildings that are extremely susceptible to vibration damage.

### **3.5.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an "as-is, where-is" state. Because no demolition or renovation would occur, there would be no change in noise or vibration conditions and no impact on sensitive receptors.

### **3.5.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Because Alternative 4 includes only partial demolition, related impacts on noise and vibration would be less in intensity and duration than those under Alternative 2. Noise associated with remodeling activities would largely be contained to the interiors of buildings and would therefore be less noticeable to nearby noise receptors. Vibration impacts during renovation would likely be less than those during demolition, as work would generally require less intensive construction equipment.

## **3.6 Transportation**

The COC is bounded by Market Street to the East, West 12th Street to the south, Chestnut Street to the west, and 11th Street to the north. The COC is bisected by Broad Street which divides Monteagle Place, Signal Place, and Lookout Place from Missionary Ridge and Blue Ridge. Primary routes servicing commuter traffic to the COC include Interstate 124 and Interstate 24, both of which can be accessed via Broad Street, Chestnut Street, Market Street, and W. Martin Luther King Jr. Boulevard. Table 3-3 displays the average annual daily traffic (AADT) of roads nearest the COC. Some roads have more than one traffic counter and, therefore, more than one AADT value.



**Table 3-3. Annual Average Daily Traffic Near the COC**

Road	Annual Average Daily Traffic <sup>1</sup>
11 <sup>th</sup> Street	1,359 to 1,783
Broad Street	6,039
Houston Street	2,282
10 <sup>th</sup> Street	1,369 to 2,019

Source: Tennessee Department of Transportation 2022

<sup>1</sup> Multiple values are presented where there is more than one traffic counter near the COC

### 3.6.1 Alternative 1

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities and no changes in commuter traffic patterns. As a result, there would be no impacts on transportation.

### 3.6.2 Alternative 2

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. TVA employees would commute to a new office site, representing a continuation of current commuting traffic trends. Demolition of the structures would require the strategic closure of one or more of the adjacent roadways: Chestnut Street, Market Street, Broad Street, and/or West 12th Street. This would temporarily alter traffic patterns in this part of downtown Chattanooga. Impacts from a closure would be greatest if Broad Street is temporarily closed because this road has the highest AADT. Demolition would introduce contractor commute traffic and truck traffic. The number of demolition contractor vehicles traveling to and from the COC each day could create congestion during certain times. Over the 10 months of demolition, there would be an estimated 19,500 truckloads to haul material on and off the site. This equates to an average of 75 truck trips each weekday. There would likely be more truck trips during certain times and fewer trips after the bulk of the demolition material has been removed and the site is prepared for disposal. During off-peak hours, these truck trips would have a minor impact on congestion and delays on nearby roads. During periods of peak demolition activity that coincide with rush hour, or if Broad Street or other roads are temporarily closed, impacts would be moderate. The contractor would implement a traffic management plan to minimize truck- and construction equipment-related disruptions on roads near the COC.

### 3.6.3 Alternative 3

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. There would be no impacts related to road closures or detours. TVA employees would commute to a new office site, representing a continuation of current commuting traffic trends.

### 3.6.4 Alternative 4

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). TVA anticipates that the number of TVA employees commuting to the COC would remain relatively unchanged. Accordingly, there would be no new impacts on transportation from TVA employee commutes. The nature and type of impacts from demolition would be similar to those described under Alternative 2, except that demolition would occur on only a portion of the COC and there would be fewer associated truck trips, congestion, and delays. Possible road closures (e.g., Broad Street) would likely occur over a shorter period of time, but would still represent a moderate adverse impact due to disruptions in downtown traffic. Transportation impacts from disposal without demolition would be the same as those under Alternative 3. Renovation of some

buildings would temporarily introduce additional traffic to local roads, but the increase is anticipated to be minor because the number of workers and truckloads would likely be less than that needed for demolition.

### 3.7 Visual Resources

This assessment provides a review of the visual attributes of existing scenery, along with the anticipated impacts resulting from implementation of the alternatives. The classification criteria used in this analysis are adapted from a scenic management system developed by the US Forest Service and integrated with planning methods used by TVA. The classification process is also based on the methodology and descriptions adapted from *Landscape Aesthetics, A Handbook for Scenery Management*, Agriculture Handbook Number 701 (US Forest Service 1995).

Scenic resources and impacts 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. Scenic integrity is a measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. The varied combinations of natural features and human alterations both shape landscape character and help define their scenic importance. The subjective perceptions of a landscape's aesthetic quality and sense of place are dependent on where and how it is viewed. For this analysis, the affected environment is the Project Area, as well as the physical and natural features of the surrounding properties.

The Project Area has been converted to developed use and offers a moderate degree of scenic attractiveness and integrity. The COC is designed in the style of brutalist architecture, characterized by its utilitarian and functional design that features geometric shapes and places an emphasis on materials, specifically exposed concrete. The Hamilton County Justice Building and the Chattanooga Public Library are two other examples of brutalist architecture in Chattanooga. While the COC was not deemed eligible for listing on the National Register of Historic Places (NRHP) because it lacks architectural detail of note (New South Associates 2023), its architectural style contributes to the overall aesthetic of the city center district.

The COC is in the city center district which features modern and historic mixed-use and commercial buildings, restaurants and bars, hotels, the Chattanooga Convention Center, the downtown branch of the Chattanooga Public Library, and Warehouse Row (a mixed-use development on Market Street). Most of the surrounding properties are developed with a few interspersed, small parks and green spaces in front of buildings, such as the amphitheater in front of the COC. These surrounding properties exhibit low to moderate scenic attractiveness and integrity. These values are generally higher where the property has a unique architectural style or has been recently renovated (e.g., Warehouse Row), and lower where those aspects are absent (e.g., parking garages).

Typical of a mixed-use urban setting, there are no sensitive visual resources near the Project Area.

#### 3.7.1 Alternative 1

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and, as a result, there would be no changes to the scenic attractiveness, integrity, or visibility of the Project Area.

### **3.7.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition would alter the scenic attractiveness, integrity, and visibility of the Project Area, resulting in a minor adverse impact on visual resources.

### **3.7.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because the COC would not be altered prior to disposal, there would be no changes to the scenic attractiveness, integrity, or visibility of the Project Area.

### **3.7.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on the scenic attractiveness, integrity, and visibility of the Project Area would vary depending on which building exteriors are altered through renovation or demolition. Impacts would be minor under Alternatives 4b through 4d because only a portion of the COC buildings would undergo exterior changes or demolition. There would be no impact on visual resources under Alternative 4a because all buildings would be retained or disposed of as-is.

## **3.8 Utilities and Service Systems**

The COC is served by a variety of utility providers and service systems, including the following:

- Electric and Phone – Electric Power Board of Chattanooga
- Water – Tennessee-American Water Company
- Sewer – City of Chattanooga, Waste Resources Division
- Gas – Chattanooga Gas
- Trash and Recycling – City of Chattanooga
- Cable and Internet – AT&T, EPB Lumen

### **3.8.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no changes to utilities and service systems and therefore no impacts.

### **3.8.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition would not affect future utility service availability and is not anticipated to adversely impact service systems because all demolition waste would be disposed of at permitted commercial facilities with adequate capacity to accommodate the waste. During demolition, interruptions to utility lines (e.g., electrical, sewer) would be avoided or minimized to the extent possible to avoid unplanned utility outages. Should utility severance require any temporary outages or interruptions, TVA would coordinate with the applicable utility provider(s) to minimize planned disruptions. In addition, waste would be disposed of in accordance with applicable laws and regulations (see Section 3.16, Solid and Hazardous Waste).

**3.8.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because the COC would not be altered prior to disposal, there would be no changes to utilities and service systems and therefore no impacts.

**3.8.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Demolition and renovation impacts would be similar to those under Alternative 2, except that they would generate less waste because only a portion of the buildings would be demolished or renovated. Continued use of some buildings by TVA would not overburden utility providers because there would be less square footage for heating, cooling, and other utilities and service systems.

Because the options under Alternative 4 involve retention of some buildings, TVA would need to separate and reconnect utilities where those systems are interconnected. While this process may require additional work, it is not anticipated to affect capacity or service of utilities because the geographic area of service would not change, and TVA’s utility use (e.g., electrical consumption, etc.) would likely decrease. There may be a short-term interruption in some utilities or services during this phase, the impacts of which would be minor because employees could work remotely. Future uses of disposed buildings cannot be reasonably predicted, but renovated buildings may result in a lower demand for utilities and service systems due to reduced energy consumption associated with modern building practices.

**3.9 Socioeconomics and Environmental Justice**

The Project Area is located within the City of Chattanooga in Hamilton County, Tennessee. Population and income estimates are derived from US Census data and provided in Table 3-4 below.

**Table 3-4. Population and Income**

<b>Metric</b>	<b>Tennessee</b>	<b>Hamilton County</b>	<b>City of Chattanooga</b>	<b>Census Tract 31</b>
Total Population	6,910,840	366,207	181,099	1,987
Median Household Income	\$65,254	\$76,219	\$64,340	\$74,755
Individuals Living Below Poverty	13.3%	11.3%	15.3%	12.6%
Minority Population	27.8%	30.4%	43.9%	21.4%

Source: US Census Bureau 2020

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates federal agencies consider potentially disproportionate health or environmental impacts that their activities may have on minority or low-income populations. Executive Order 14096 (Revitalizing our Nation’s Commitment to Environmental Justice for All) builds upon and reinforces the federal government’s commitment to deliver environmental justice to all communities across America. TVA routinely evaluates the potential impacts of its actions on low-income and minority populations in environmental reviews.

According to a query of the CEQ's Climate and Economic Justice Screening Tool v1.0 (CEQ 2022), Census Tract 31, which includes the COC, does not qualify as a disadvantaged community in regard to environmental justice. However, several other Census Tracts in Chattanooga are considered disadvantaged communities. These include two adjacent Census Tracts: Census Tract 16, located approximately 0.1 miles west of the COC, meets environmental justice burden thresholds for health, energy, housing, legacy population, and transportation; and Census Tract 8, located approximately 1 mile north of the COC, meets environmental justice burdens for climate change, housing, and legacy population. A query of the USEPA's Environmental Justice Screening and Mapping Tool v2.2 (USEPA 2023d) using a 1-mile buffer around the COC corroborated the results of the CEQ screening tool.

As discussed in Section 1.1, a substantial percentage of TVA COC office employees have worked in a hybrid work environment since 2020. This has led to the COC being significantly underutilized.

Many TVA employees at the COC spend money at nearby businesses such as restaurants. Most TVA employees who commute via car also utilize private parking lots near the COC because the COC has limited on-site parking (a total of 26 parking spaces across all lots, pull-throughs, and docks).

### **3.9.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or renovation activities and, therefore, no anticipated changes would be expected with regards to socioeconomics and environmental justice.

### **3.9.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. TVA employees would work at a new office site, representing a continuation of current spending at local businesses.

Demolition would result in minor, short-term beneficial impacts on socioeconomics through the temporary use of construction workers. TVA anticipates requiring approximately 96 workers during the 10-month demolition phase. Workers local to Hamilton County and surrounding counties would not generate additional lodging taxes but may increase expenditures at local businesses. Beneficial impacts would extend to environmental justice if workers were hired from disadvantaged communities. Indirect effects would be minor and include spending by workers in the local economy.

Adverse impacts on nearby disadvantaged communities could include demolition noise and traffic disruptions. The USEPA has identified typical background noise levels of 70 dBA in urban settings (USEPA 1971). Demolition noise would attenuate to urban background levels at a distance of 0.08 miles. As a result, demolition noise would not affect residents in Census Tract 8 because it is 1 mile away from the COC, or the closest residences in Census Tract 16 which are approximately 0.2 miles from the COC.

Road closures or detours during demolition are not anticipated to affect Census Tract 8 because it is 1 mile away from the COC, on the opposite bank of the Tennessee River. West 12<sup>th</sup> Street is one connection between downtown and Census Tract 16; a closure or detour affecting this road could affect access to Census Tract 16. The impact would be temporary and minor because West 12<sup>th</sup> Street is one of multiple roads used to access

Census Tract 16 and because the contractor would implement a traffic management plan to minimize truck- and construction equipment-related disruptions on roads near the COC. Businesses along roads that are closed or used for construction traffic during demolition may experience temporary minor impacts due to limited access and the potential need for alternate entrances.

Although specific future uses of the COC site cannot be reasonably predicted, the COC is currently underutilized and future development that more fully utilizes the site would increase economic activity downtown. The degree of beneficial impacts (e.g., minor, moderate, large) would depend on the specific future use(s).

### **3.9.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. TVA employees would work at a new office site, representing a continuation of current spending at local businesses. Any future development that more fully utilizes the site would increase economic activity downtown.

### **3.9.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts from demolition and renovation would be similar to those under Alternative 2, except that additional workers would be required for renovation in addition to demolition. Worker estimates for the four options in Alternative 4 range from 128 to 174 people, providing an additional employment benefit and indirect benefits through spending at local businesses. Under each option, renovation would also provide additional short-term socioeconomic benefits from the purchase of building materials, construction supplies, and construction equipment.

Similar to Alternative 2, road closures and construction traffic during demolition or renovation may temporarily impact businesses through limited access and need for alternate entrances. Local retail businesses and restaurants would benefit most from options that could maximize the number of employees (TVA and otherwise) and/or visitors at the COC. As under Alternative 2, there would be benefits from any future development that more fully utilizes the site and increases downtown economic activity. The degree of beneficial impacts (e.g., minor, moderate, large) would depend on the specific future use(s).

## **3.10 Public Health and Safety**

The mission of OSHA, a division of the US Department of Labor, is to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education, and assistance. The State of Tennessee has an OSHA-approved plan under the Tennessee Occupational Safety and Health Administration which covers employees in the private sector and state and local government.

TVA implements a contractor safety program that ensures a safety management system is in place for contract employees to actively participate in hazard recognition and control. Contractors must submit a Site-Specific Safety Plan (SSSP) in accordance with TVA guidelines and are audited by TVA based on their execution of the SSSP and adherence to TVA safety expectations (TVA 2020a). TVA also expects employees to follow safety guidelines outlined in the TVA Safe Work Requirements Manual (TVA 2020b).

Some wastes generated by demolition and renovation activities can pose a health and safety hazard. Exposure to these wastes (e.g., asbestos-containing materials) can occur for persons working on or accessing (e.g., trespassing) a project site and persons working or living adjacent to a project site. Currently, solid, hazardous, and liquid wastes discharges, and air emissions are managed in accordance with applicable federal, state, and local laws and regulations and applicable permit requirements. Furthermore, waste reduction practices are employed, including recycling and waste minimization. TVA is committed to complying with applicable regulations, permitting, and monitoring requirements to protect public and occupational health and safety.

### **3.10.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or renovation activities, and therefore no impact on public health and safety.

### **3.10.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Worker activity under Alternative 2 would comply with federal and state safety regulations, including donning appropriate personal protective equipment, maintaining equipment in good working order, and providing adequate training for work performed, which minimizes safety risks. Any hazardous materials associated with the existing buildings and structures would be removed and discarded in accordance with applicable federal, state, and local requirements (see Section 3.16 for additional information).

During demolition, customary industrial safety standards as well as the establishment of appropriate BMPs and a project-specific safety plan 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, confined space, hearing conservation, forklift operations, excavations, grading 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. It is TVA policy that all contractors have in place a site-specific health and safety plan prior to conducting construction activities on TVA property. Trained, experienced, and certified/accredited safety professionals would be onsite throughout the demolition or renovation of the COC. One safety professional would be on-site full time and dedicated to safety program implementation, monitoring, enforcement, reporting, and compliance.

The contractor would employ the following BMPs to be compliant with local, state, and federal regulations:

- Demolition, construction and/or external renovation would only occur between designated hours in accordance with the City's noise ordinance.
- A hazardous materials survey would be performed prior to demolition or renovation of the COC buildings to determine the presence of asbestos and lead containing materials. If found, they would be abated and disposed of in accordance with state and federal regulations.

- Demolition and renovation activities would comply with the OSHA Lead in Construction Standard 29 CFR 1926.62.
- Recyclable and non-recyclable waste generated during demolition or renovation would be disposed of at permitted facilities.
- Wet suppression would be used during demolition, renovation, and/or construction to control dust and other emissions.
- The contractor would comply with TVA's Safety Manual for Lead, Silica, Respiratory Protection, Hazard Communication, and Rigging.
- The contractor would comply with TVA's Safe Work Requirements Manual.
- Prior to demolition, renovation, and/or construction activities, a NPDES permit for discharges of stormwater from site activities would be obtained and a SWPPP prepared.

An increase in vehicle miles is a factor in injury and fatal traffic crash rates. Therefore, there would be a temporary minor adverse impact on public safety due to increased traffic in the COC vicinity during demolition. Trespassing and vandalism would not be a notable issue under this alternative because the site would be fenced and there would be little to attract unauthorized persons. As such, potential effects on public health and safety are not anticipated.

Overall, worker safety procedures, implementation of BMPs, and security measures would minimize potential health and safety risks. Therefore, impacts on public health and safety under Alternative 2 are expected to be minor and short term.

### **3.10.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an "as-is, where-is" state. There would be no impacts on public health or safety.

### **3.10.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on public health and safety from demolition or renovation would be similar to or less than those described under Alternative 2 and 3 because fewer structures would be affected. Overall, worker safety procedures, BMPs, and security measures would minimize potential health and safety risks. Therefore, impacts to public health and safety under Alternative 4 are expected to be minor and short term.

## **3.11 Wildlife**

The COC is in downtown Chattanooga, Tennessee, and encompasses five buildings that are operationally connected across 9.3 acres with the only vegetation present being manicured landscaping including planted trees alongside streets and in courtyards.

While the COC is in sound condition, some wildlife are known to use human-made structures opportunistically. Common mammals, birds, and reptiles have been observed using parts of buildings abandoned or used infrequently by humans. Several species of



bats commonly found in this region, such as big brown bats and eastern red bats, may roost in abandoned, dark or quiet areas of these buildings (Harvey 1992). Although one bat was observed by TVA staff inside a COC building several years ago, it is likely that opportunistic entry is rare, and no other bats have been reported at the COC. Migratory birds may also roost in buildings or areas of buildings used infrequently. Birds that have been observed nesting or roosting in TVA fossil plant buildings and structures include American robin, barn swallow, barn owl, Carolina wren, mourning dove, northern mockingbird, osprey, and rock dove. No migratory bird nests have been observed on or in the COC building. Other mammals and reptiles that may opportunistically use human structures and have been observed in TVA buildings include Norway rats, eastern woodrats rat, black rat snake, eastern gray squirrel, house mouse, northern raccoon, and Virginia opossum.

Planted trees and small areas of mowed grass exist around the buildings in this urban landscape. Tree species include crepe myrtle, ginkgo, magnolia, red oak, willow oak, red maple, birch, and flowering dogwood. Several of the trees are still young. Species that may use, or were observed using, these courtyard areas or planted trees along the street for foraging and/or nesting include American robin, blue jay, house finch, house sparrow, mockingbird, mourning doves, and tufted titmouse (National Geographic 2002). Where there are cracks, crevices, or dying branches, there may be low to moderate quality foraging and roosting habitat for several common species of bat (see Figure 6). Some examples of common bat species likely found within this habitat include big brown and eastern red bat. However, the density of the urban development and the constant disturbance (noise vibrations) coming from traffic and other typical background activities make these trees unlikely for use for anything other than a temporary night roost for bats. Eastern chipmunk, northern raccoon, and common opossum are other mammals that may be present within this habitat (Whitaker 1996). A squirrel nest was observed in a willow oak within the project area during field surveys on September 20, 2023. Due to the density of the urban development around the project area, reptiles and amphibians are unlikely to be found in the project area.

A review of the TVA Regional Natural Heritage database in September 2023 indicated that 11 caves are known within 3 miles of the project area, the closest of which is approximately 2.20 miles away. In addition, two colonial wading bird colonies have been documented within 3 miles of the project area, the closest of which is approximately 1.04 miles from the project area.

A review of the USFWS Information for Planning and Consultation (IPaC) in September 2023 indicates 14 migratory bird species of concern have the potential to occur in the project area. These include bald eagle, black-billed cuckoo, bobolink, Canada warbler, cerulean warbler, chimney swift, eastern whip-poorwill, golden-winged warbler, Kentucky warbler, prairie warbler, prothonotary warbler, red-headed woodpecker, rusty blackbird, and wood thrush (USFWS 2023a). No habitat exists for any of these species of birds within the project area.

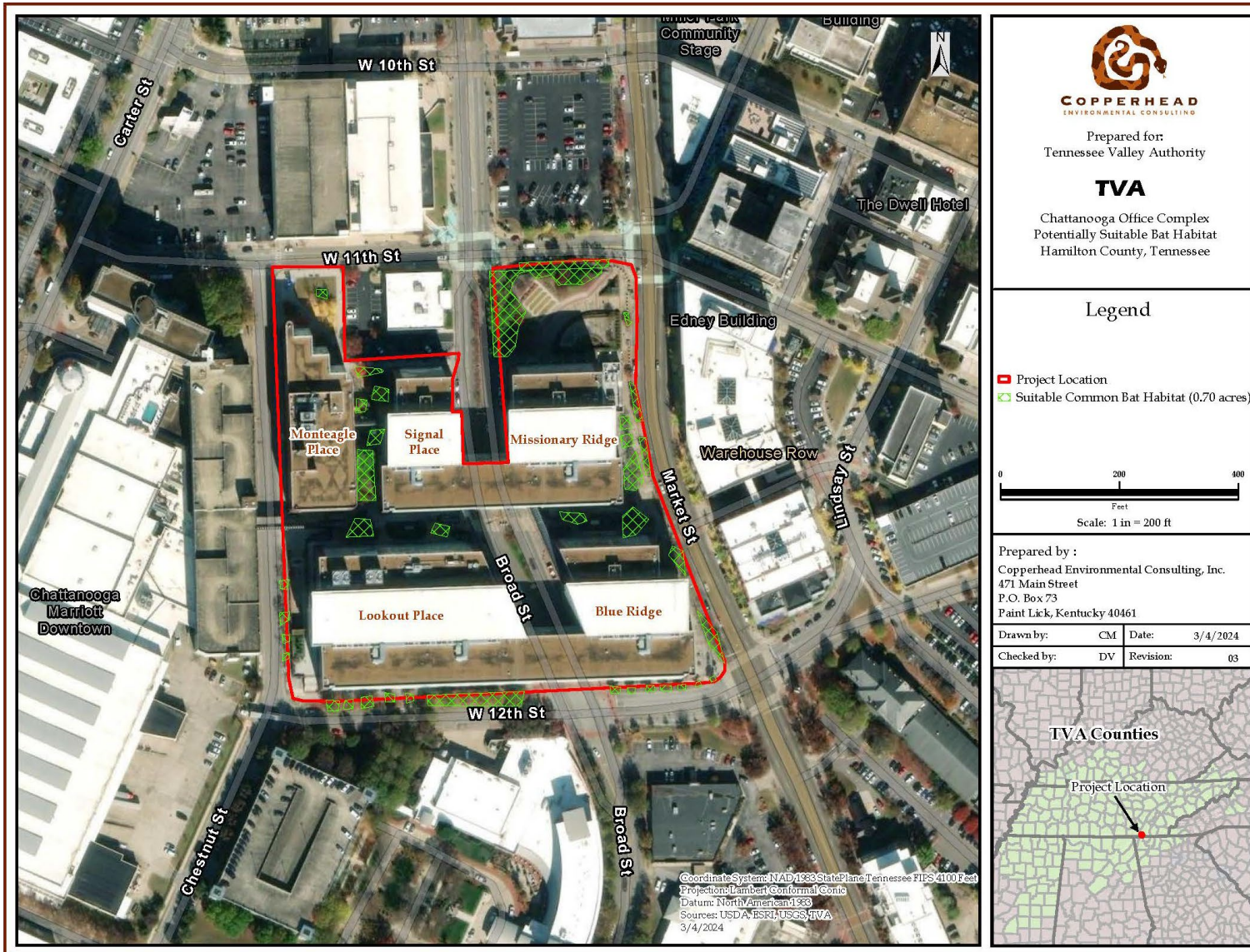


Figure 6. Potentially Suitable Common Bat Habitat.

### **3.11.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and landscaped vegetation and buildings would continue to be maintained as they are currently. Urban wildlife that currently uses mowed grass and planted vegetation including trees would continue to opportunistically use the project area.

### **3.11.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. This alternative would result in disturbance and displacement of urban wildlife in the project footprint due to the permanent removal of some structures. Displaced wildlife may move into adjacent areas with similarly developed habitat common around the city. Direct effects of building demolition may occur to some individuals that may be immobile during the time of construction (i.e., juvenile animals or eggs). This could be the case if demolition activities took place during breeding/nesting seasons.

All buildings and trees with the potential to be demolished under Alternative 2 were observed and preliminarily assessed for potential use by wildlife during field surveys in September 2023. Only one nest was found in trees surrounding the COC (a squirrel nest). At the time of survey, buildings were well-maintained and portions are still being actively used by TVA employees. If these buildings are left vacant and maintenance decreased such that wildlife openings are created (broken windows or doors, cracks the exterior, etc.), they may be opportunistically used by protected wildlife (i.e., migratory birds or colonies of bats). Therefore, should buildings be left unmaintained, a survey of these buildings would be performed at least once per month prior to demolition to determine if they are being used by migratory birds or other protected wildlife. Should they be found, the timing of deconstruction/demolition actions would be modified as feasible to avoid nesting seasons of migratory birds observed in future surveys. If avoidance cannot occur, coordination with USDA-Wildlife Services would be required for guidance to ensure compliance under EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds). If colonies of bats or other protected wildlife species are observed in buildings proposed for demolition, coordination with the appropriate state and federal agencies would occur in order to minimize impacts.

Migratory birds of conservation concern identified by the USFWS, except the chimney swift, require forested or prairie-like habitat for some or all or part of their life history. No suitable habitat for identified migratory birds of conservation concern exists in the project area. Bald eagle, black-billed cuckoo, bobolink, Canada warbler, cerulean warbler, chimney swift, eastern whip-poorwill, golden-winged warbler, Kentucky warbler, prairie warbler, prothonotary warbler, red-headed woodpecker, rusty blackbird, and wood thrush would not be impacted by the proposed actions.

The closest known caves are greater than 2 miles away. Due to the sufficient distance of proposed actions from these caves, they would not be impacted by the proposed actions.

In summary, due to the implementation of measures including a survey of unmaintained buildings and possible coordination with USDA-Wildlife Services, impacts on wildlife would be minor.

### **3.11.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because no ground disturbance would occur, there would be no impacts on wildlife or their habitats. After disposal, it would be the responsibility of the new owner to comply with all state and federal laws regarding impacts to protected wildlife for future activities under their control.

### **3.11.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). The types of impacts on wildlife would be a combination of those as described under Alternative 2 and 3 depending on the option selected.

## **3.12 Threatened and Endangered Species**

This section addresses threatened and endangered terrestrial wildlife species. There is no suitable habitat or potential for impacts on threatened and endangered aquatic or vegetation species, and they are not carried forward for detailed analysis.

A review of the TVA Natural Heritage Project Database in September 2023 identified records of three Tennessee state-listed terrestrial animal species (Tennessee cave salamander, Bachman’s sparrow, and osprey) and one federally listed species (northern long-eared bat) within 3 miles of the project footprint. One additional federally listed terrestrial animal species (gray bat), one federally protected species (bald eagle), and one federally proposed endangered species (tricolored bat) has been reported from Hamilton County, Tennessee (Table 3-5). Additionally, the federally endangered Indiana bat has been documented migrating through Hamilton County, Tennessee. A review of the USFWS IPaC website identified one candidate species (monarch butterfly) and one additional federally listed species (whooping crane) that have the potential to occur in the project area (USFWS 2023a). Thus, impacts to these species have also been evaluated.

**Table 3-5. Federally and State-Listed Terrestrial Animal Species Located Within Hamilton County, Tennessee and Other Species of Concern Documented Within 3 Miles of the Project Footprint**

Common Name	Scientific Name	Federal Status <sup>1</sup>	State Rank <sup>1,2</sup>
<b>Amphibians</b>			
Tennessee cave salamander	<i>Gyrinophilus palleucus</i>	--	T(S2)
<b>Birds</b>			
Bachman's sparrow	<i>Peucaea aestivalis</i>	--	E(S1B)
Bald eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	DL	D(S3)
Osprey	<i>Pandion haliaetus</i>	--	(S3)
Whooping crane <sup>4</sup>	<i>Grus americana</i>	EXPN	(SX)
<b>Invertebrates</b>			
Monarch butterfly <sup>5</sup>	<i>Danaus plexippus</i>	C	(S4)
<b>Mammals</b>			
Gray bat <sup>4</sup>	<i>Myotis grisescens</i>	E	E(S2)
Indiana bat <sup>4</sup>	<i>Myotis sodalis</i>	E	E(S1)
Northern long-eared bat	<i>Myotis septentrionalis</i>	T	T(S1S2)
Tricolored bat <sup>4</sup>	<i>Perimyotis subflavus</i>	PE	T(S2S3)

Source: TVA Regional Natural Heritage Database and USFWS Information for Planning and Consultation (<https://ecos.fws.gov/ipac/>), extracted September 1, 2023.

<sup>1</sup> Status Codes: C = Candidate Species; D = Deemed in Need of Management; DL = Delisted; E = Endangered; EXPN = Experimental Population, Non-Essential; PE = Proposed Endangered; T = Threatened.

<sup>2</sup> State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; S#B = Rank of Breeding population; SX = Presumed Extirpated.

<sup>3</sup> Species that has not been documented within three miles of the project area but has been documented within Hamilton County, Tennessee.

<sup>4</sup> Species has not been documented within three miles of the project area or from Hamilton County, Tennessee; USFWS has determined this species may occur in the project footprint.

<sup>5</sup> Historically this species has not been tracked by state or federal heritage programs; USFWS has determined that this species could occur within the project area.

Tennessee cave salamanders occur in and around streams and pools in caves. They are typically found in shallow, calm sections of subterranean streams but can also be found in other wet areas in the dark zones of caves (Niemiller et al. 2011). The closest record of the Tennessee cave salamander is from a cave approximately 2.25 miles away from the project footprint. Eleven caves are known within 3 miles of the project area, the closest of which is approximately 2.20 miles away. No caves occur in or adjacent to the project footprint.

Bald eagles are protected under the Bald and Golden Eagle Protection Act (USFWS 2013). This species is associated with larger mature trees capable of supporting its massive nests. These are usually found near larger waterways where the eagles forage (USFWS 2007). Six bald eagle nests have been documented in Hamilton County, the closest of which is approximately 10.47 miles away. Due to the distance away from known nests, proposed actions would not impact any bald eagle nests. No bald eagle habitat occurs in or adjacent to the project footprint.

Bachman's sparrows are small songbirds found in mature open pine woodland forests and are rare in Tennessee. Bachman's sparrow is only found in Tennessee during the spring/summer breeding season, and it will build nests on or near the ground under hanging vegetation (Dunning et al. 2020). A historical record from 1979 of a Bachman's sparrow is known approximately 1.61 miles from the project area. No Bachman's sparrow habitat occurs in or adjacent to the project footprint.

Osprey occupy riparian habitats alongside bodies of water such as rivers, lakes and reservoirs. They build nests of sticks on a variety of human-made structures (e.g., transmission line structures, lighting towers) near water (NatureServe 2023). One osprey nest is known within 3 miles of the project footprint. It is approximately 1.83 miles away from the proposed actions. Due to the distance away from known nests, proposed actions would not impact any osprey nests. No osprey habitat occurs in or adjacent to the project footprint.

The whooping crane is a large bird that once occurred throughout North America but has 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. The whooping crane is listed as Endangered in the Southwest (USFWS Region 2). Outside of this region (including Tennessee), the whooping crane is categorized as a non-essential experimental population. For the purposes of consultation, non-essential experimental populations are treated as species that are federally listed as threatened on National Wildlife Refuge and National Park land (requiring consultation under 7(a)(2) of the Endangered Species Act (ESA)) and as a proposed species on private land (which has no section 7(a)(2) requirements, but Federal agencies must not jeopardize their existence per Section 7(a)(4)). During migration, they may be found in coastal marshes, estuaries, agricultural fields, and other wetland habitats; however, sightings of whooping cranes in Tennessee are rare. No whooping crane habitat occurs in or adjacent to the project footprint.

The monarch butterfly is a highly migratory species, with eastern United States populations overwintering in Mexico. Monarch populations typically return to the eastern U.S. in April (Davis and Howard 2005). Summer breeding habitat requires milkweed plant species, on which adults exclusively lay eggs for larvae to develop and feed on. Adults will drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2023). All courtyard areas are limited to trees and grasses and do not provide host plants or a reliable source of flowering plants on which to feed. No monarch butterflies were observed during field reviews.

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). Although they prefer caves, gray bats have been documented roosting in large numbers in buildings (Gunier and Elder 1971). Five records of gray bats are known from Hamilton County, the closest of which is approximately 10.78 miles away.

Indiana bats hibernate in caves in winter and use areas around them for swarming (mating) in the fall and staging in the spring, prior to migrating back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead snags and living trees in mature forests with an open understory and a nearby source of water (Pruitt and TeWinkel 2007, Kurta et al. 2002). Although less common, Indiana bats have also been documented

roosting in buildings (Butchkoski and Hassinger 2002). Indiana bats are known to change roost trees frequently throughout the season, while still maintaining site fidelity, returning to the same summer roosting areas in subsequent years (Pruitt and TeWinkel 2007). The closest known record of this species is from a bat tracked during migration to a roost tree used for one night in 2012, approximately 21.9 miles away.

The northern long-eared bat predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the fall and spring, they use entrances of caves and the surrounding forested areas for swarming and staging. In the summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees (typically greater than 3 inches in diameter). Roost selection by northern long-eared bat is similar to that of Indiana bat, however northern long-eared bats are thought to be more opportunistic in roost site selection. This species also roosts in abandoned buildings and under bridges. Northern long-eared bats emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2014). The closest known record of this species is from 2011 in a cave approximately 2.25 miles away.

Tricolored bats hibernate in caves or man-made structures such as culverts or bridges (Fujita and Kunz 1984, Newman et al. 2021). During the summer, tricolored bats roost in clumps of tree foliage, often in oak and hickory trees (Veilleux et al. 2003, O'Keefe et al. 2009, Schaefer 2017, Thames 2020). Foraging studies of tricolored bats are lacking, but it is believed they typically forage near their roost trees in forested areas and riparian corridors. The nearest known tricolored bat record is in a cave approximately 2.24 miles away.

There are 11 caves known within 3 miles of the project actions, the closest of which is approximately 2.20 miles away. A negligible amount of foraging habitat for bat species exists in the project footprint in the form of planted landscaping trees. Two of the planted trees also have holes, cracks, or crevices (a Bradford pear and a young red oak), however, due to their location in a highly developed urban landscape, these trees are not considered suitable habitat for Indiana bats, northern long-eared bats, or tricolored bats, per 2023 USFWS guidelines (USFWS 2023b). Currently, buildings in the project footprint do not provide suitable roosting habitat for bats. However, suitable roosting habitat for these species may become available if buildings are left unoccupied and unmaintained such that openings form (e.g., broken windows, cracks in exterior) and wildlife is able to opportunistically enter the buildings.

### **3.12.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and landscaped vegetation and buildings would continue to be maintained as they are currently. No impacts on threatened and endangered species or their habitats would occur.

### **3.12.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Of the 10 state or federally listed species identified as having the potential to occur in the Project Area, no suitable habitat exists in the action area for six of them.

No caves occur in or adjacent to the project footprint. Due to the distance from the project footprint to known caves, the proposed project actions would not impact known caves or

habitat for Tennessee cave salamanders. Tennessee cave salamanders would not be impacted by the proposed actions under Alternative 2.

No bald eagle or osprey habitat occurs in or adjacent to the project footprint. No bald eagle or osprey nests occur within a mile of the proposed actions. Proposed actions under Alternative 2 would not impact bald eagles or ospreys and are in compliance with the National Bald Eagle Management Guidelines.

No suitable habitat exists in the action area for Bachman's sparrow or whooping crane. Neither of these species would be impacted by the proposed actions under Alternative 2.

All courtyard areas are limited to trees and grasses and do not provide host plants or a reliable source of flowering plants on which monarch butterflies may feed. No monarch butterflies were observed during field reviews. Monarch butterflies would not be impacted by the proposed actions under Alternative 2.

No caves for gray bat, Indiana bat, northern long-eared bat, or tricolored bat exist in the project footprint or would be impacted by the proposed actions under Alternative 2. Trees that could be removed may only provide a negligible amount of foraging habitat for these bats and do not provide suitable roosting habitat for Indiana bat, northern long-eared bat, or tricolored bat. Currently, buildings in the project footprint do not provide suitable roosting habitat for bats, however, suitable roosting habitat for these species may become available if buildings are left unoccupied and unmaintained such that openings form (e.g., broken windows, cracks in exterior) and wildlife is able to opportunistically enter the buildings. Therefore, should buildings be left unmaintained, a survey of these buildings would be performed at least one month prior to demolition to determine if they are being used by bats.

A number of activities associated with the proposed project, including building demolition, 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) which was completed in April 2018 and updated in May 2023. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures are identified in the TVA Bat Strategy Project Screening Form (attached) and need to be reviewed/implemented as part of the proposed project. With adherence to identified conservation measures, survey requirements, and Section 7 ESA consultation requirements, proposed actions would not significantly impact gray bat, Indiana bat, northern long-eared bat, or tricolored bat.

### **3.12.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an "as-is, where-is" state. Because no ground disturbance would occur, there would be no impacts on threatened and endangered species or their habitats. After disposal, it would be the responsibility of the new owner to comply with all state and federal laws regarding impacts to threatened and endangered species and their habitats for future activities under their control.

### **3.12.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on threatened and endangered species would be a combination of those as described under Alternative 2 and 3 depending on the option selected.



### 3.13 Cultural Resources

Existing conditions for cultural resources are presented in the following discussion for the vicinity of the COC. The COC was constructed between 1980 and 1984 and therefore fails to meet the 50-year minimum threshold for buildings to be considered historic. In 2017, TVA evaluated the COC’s potential eligibility under Criteria Consideration G (“properties achieving significance within the past 50 years if they are of exceptional importance”). TVA found the COC did not satisfy Criteria Consideration G, and the State Historic Preservation Officer (SHPO) concurred.

New South Associates, Inc., performed a phase I cultural resources survey for Potomac-Hudson Engineering, Inc., (under contract with the GSA) in 2023 (Simpson et al. 2023). The survey included a desktop review of available information and documentation of existing historic architectural resources within one block (170 meters, or 558 feet). According to the survey, this study area overlaps with four historic districts. However, according to the Tennessee Historical Commission Online Viewer, the study area only overlaps three historic districts (Table 3-6). Four individual buildings within these districts fall within their study boundary and have at least some views of the COC (Table 3-7).

**Table 3-6. NRHP-Listed Historic Districts Within One Block of the COC**

Name	Listed Date	Criteria of Significance	Period(s) of Significance
Market and Main Streets	1992	A, C	1875-1899 1900-1942 1925-1949
Market Street Warehouse District	1984	A, C	1900-1924 1925-1949 1950-1974
Stone Fort Land Company	1999	A, C	1882-1933

Source: National Register of Historic Places 2023

**Table 3-7. NRHP-eligible buildings within one block of, and within view of, the COC**

Property Number	Name
HN-426	Volunteer Garage
HN-459	Patten Tower
HN-461	Southern Express Building
HN-467	Southern Railway Freight Depot

From 1979 to 1981, the University of Tennessee-Chattanooga completed archaeological background research and field investigations at the then-proposed COC site. Background research revealed the affected area is on the site of the Union Depot and Railyard, which opened in 1857 and was demolished in the 1970s following decades of diminishing use. The investigation included reconnaissance testing, which resulted in the identification of hundreds of cultural features related to the former railyard; the content of the features was dominated by the by-products of coal combustion from steam locomotives and small power plants supplying machine shops in the vicinity. The investigation also identified building foundations, track underlayment, and a historic drainage system. Following the reconnaissance, the university completed feature excavations with the goal of collecting as much data as possible prior to the start of COC construction. Based on the Simpson et al.

(2023) study, TVA finds that due to the prior archaeological excavations and COC construction there is no remaining archaeological potential at the site. TVA consulted with the Tennessee SHPO and Tribes; they concurred with this finding.

### **3.13.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no effects on historic properties.

### **3.13.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition of buildings is a type of action that has potential for effects on historic properties if any are present. Such historic properties could include the buildings to be demolished and any archaeological sites located in the ground beneath the buildings that could be affected by associated ground disturbance. As the COC is ineligible for the NRHP and there are no longer any intact archaeological deposits on the site, TVA finds that demolition would not affect any historic properties. TVA also evaluated whether disposal of the COC could result in effects on historic properties. If any historic property were present in the area of potential effect (APE), transfer of that property outside of federal control without legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance would constitute an adverse effect pursuant to 36 CFR Part 800.5(a)(2)(vii). However, TVA has determined there are no historic properties in the APE. Disposal may be followed by future development of the property. However, any such plans would be developed after TVA's disposal of the property and the scale, specific location, design, and appearance of any future buildings is not reasonably foreseeable and would be outside of TVA's control and responsibility. Therefore, TVA finds that the analysis must be limited to TVA actions that are reasonably foreseeable under Alternative 2. The potential effects of these actions are limited to the COC itself and the ground underneath it, and TVA has found that these actions would not affect historic properties. TVA consulted with the Tennessee SHPO and Tribes; they concurred with this finding.

### **3.13.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an "as-is, where-is" state. Disposal may be followed by future development of the property, which could include demolition of one or more of the buildings. However, any such plans would be developed after TVA's disposal of the property and the scale, specific location, design, and appearance of any future buildings and the scale of the demolition is not reasonably foreseeable and would be outside of TVA's control and responsibility. Therefore, TVA finds that the analysis must be limited to TVA actions that are reasonably foreseeable under Alternative 3. If any historic property were present in the APE, transfer of that property outside of federal control without legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance would constitute an adverse effect pursuant to 36 CFR Part 800.5(a)(2)(vii). However, as there are no historic properties in the APE, TVA finds that Alternative 3 would not affect any historic properties. TVA consulted with the Tennessee SHPO and Tribes; they concurred with this finding.

### **3.13.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Disposal may be followed by demolition of one or more of the buildings and by future development of the property. However, any such plans would be developed after TVA's disposal of the property and the scale, specific

location, design, and appearance of any future buildings is not reasonably foreseeable and would be outside of TVA’s control and responsibility. Therefore, TVA finds that the analysis must be limited to TVA actions that are reasonably foreseeable under Alternative 4. If any historic property were present in the APE, transfer of that property outside of federal control without legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance would constitute an adverse effect pursuant to 36 CFR Part 800.5(a)(2)(vii). However, TVA has found there are no historic properties in the APE. As the COC is ineligible for the NRHP, renovation has no potential to affect historic properties. Therefore, TVA finds that Alternative 4, including all options, would not affect historic properties. TVA consulted with the Tennessee SHPO and Tribes; they concurred with this finding.

### 3.14 Managed and Natural Areas

Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, US Department of Agriculture, US Forest Service, State of Tennessee) to protect and maintain certain ecological and/or recreational features. Natural areas include ecologically significant sites; federal, state, or local park lands; national or state forests; wilderness areas; scenic areas; wildlife management areas; recreational areas; greenways; trails; Nationwide Rivers Inventory streams; and wild and scenic rivers. Ecologically significant sites are either tracts of privately owned land that are recognized by resource biologists as having significant environmental resources or identified tracts on TVA lands that are ecologically significant but not specifically managed by TVA’s Natural Areas program. A review of the TVA Natural Heritage Project database identified three managed and natural areas within 1 mile of the Project Area (Table 3-8 and Figure 7).

**Table 3-8. Managed and Natural Areas Within 1 Mile of the COC**

Natural Area	Acres	Distance from Project Area
MacLellan Island Audubon Society Wildlife Refuge	29	1.0 miles
Ross Landing City Park	20	0.9 miles
University of Tennessee Chattanooga Campus / Arboretum	338	0.3 miles

Source: TVA Natural Heritage Project Database

#### 3.14.1 Alternative 1

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and therefore no impacts on managed or natural areas.

#### 3.14.2 Alternative 2

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Potential impacts include noise, fugitive dust and debris, and traffic within a 1-mile radius of the COC. Demolition is not anticipated to restrict or delay access to managed or natural areas because these areas are accessible via multiple roads.

Noise impacts are not anticipated to adversely affect management of these areas or user experiences within them: as stated in Section 3.5, the typical noise level for urban areas is approximately 70 dBA and the highest noise level during demolition would be approximately 89 dBA at a distance of 50 feet. Demolition noise would attenuate to background levels at approximately 445 feet or 0.08 miles. Because the nearest resource (University of Tennessee-Chattanooga campus and arboretum) is approximately 0.3 miles from the COC, demolition noise would not be noticeable.

Wind-carried dust has potential to affect managed or natural areas, but with implementation of mitigation measures and BMPs in Section 2.3, impacts on managed and natural areas would be minor and temporary.

**3.14.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because no ground disturbance would occur, there would be no impacts on managed or natural areas.

**3.14.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on managed and natural areas would be a combination of those as described under Alternative 2 and 3 depending on the option selected.

**3.15 Recreational Resources**

As shown in **Error! Reference source not found.** and Figure 7, there are multiple recreational resources within 1 mile of the COC including city parks, the Chattanooga Riverwalk, and a boat ramp. The parks are popular for walking, running, and general recreation for visitors and residents alike (City of Chattanooga 2023).

**Table 3-9. Recreational Resources Within 1 Mile of the COC**

<b>Recreational Resource</b>	<b>Distance from COC</b>
AT&T Stadium	0.8 miles north
Boynton Park	0.8 miles north-northwest
Boynton Park	0.8 miles northwest
Chattanooga National Cemetery	1 mile southeast
Confederate Cemetery	0.8 miles northeast
Finley Stadium	0.5 miles southwest
Fort Negley Park	0.6 miles southeast
Fountain Square	0.5 miles north
Jefferson Park	1 mile south-southeast
MacLellan Island	1 mile north-northeast
Main Terrain Art Park	0.4 miles south-southwest
Miller Park	0.2 miles northeast
Phillips Park	0.3 miles northeast
Shelia M. Jennings Westside Park	0.4 miles west
Tennessee Riverwalk	Multiple locations within 1 mile
TVA Boat Ramp	0.8 miles northwest
Water Tower Park	0.7 miles south
Whiteside Park	0.7 miles east-southeast

Source: TVA Natural Heritage Project Database

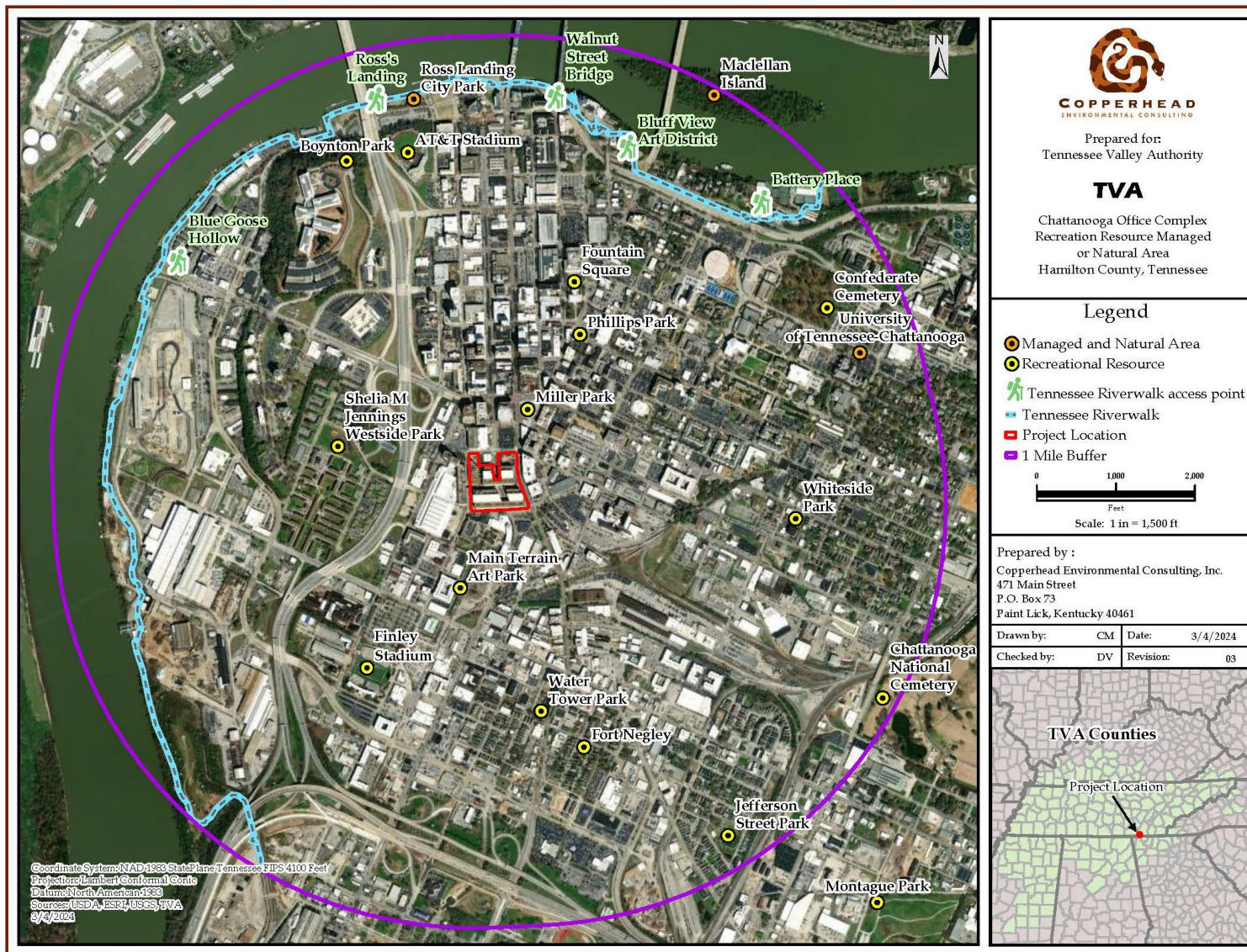


Figure 7. Recreational Resources and Managed and Natural Areas within 1 Mile of the COC.

The Chattanooga Riverwalk is a recreational resource that features a 16.1-mile paved trail system for recreational users and tourists along the southern bank of the Tennessee River. The Chattanooga Riverwalk allows users to visit local recreation sites, shops, restaurants, and other locations in downtown Chattanooga, and is primarily used for biking, walking, running, and dog walking. The Chattanooga Riverwalk also accesses portions of the Tennessee River used for recreational water use, including one TVA boat ramp, located 0.8 miles northwest of the project area. The Riverwalk also includes multiple bike and foot access points along the river, as well as one bike access located just north of the project area (Chattanooga Tourism Company 2023).

#### **Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and therefore no impacts on recreational resources.

#### **Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Potential impacts include noise, fugitive dust and debris, and traffic within a 1-mile radius of the COC. Demolition would have a minor effect on transportation to and from recreation resources that lie on Chestnut Street, Market Street, Broad Street, and West 12th Street, including the TVA boat ramp, Tennessee River Walk, and City of Chattanooga parks such as the Main Terrain Art Park and Shelia M. Jennings Westside Park. Transportation-related impacts would include delays accessing these resources, though the impacts would be minor because these resources are accessible from multiple roads. Noise impacts are not anticipated to adversely affect management of recreational resources or activities within them because demolition noise would attenuate to background levels at a distance of 0.08 miles and the nearest recreational resource is approximately 0.2 miles from the COC. Wind-carried dust has potential to affect recreational resources, but with implementation of mitigation measures and BMPs in Section 2.3, impacts would be minor and temporary.

#### **3.15.1 Alternative 3**

Under Alternative 3, TVA would dispose of the COC in an “as-is, where-is” state. Because no ground disturbance would occur, there would be no impacts on recreational resources.

#### **3.15.2 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on recreational resources would be a combination of those as described under Alternative 2 and 3 depending on the option selected.

### **3.16 Solid and Hazardous Waste**

Solid waste is defined by the 1976 Resource Conservation and Recovery Act (RCRA) as garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities. Solid waste generated includes office and workplace waste such as mixed paper products, packaging, cardboard, plastics (water bottles), glass waste, coffee cups, printer cartridges, light bulbs, electronic waste (computers, printers, and smart phones), and food waste/scrap.

Hazardous waste is solid waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Known hazardous materials present within the COC include:

- Underground Storage Tanks: 15,000 gallons of diesel fuel (approximate based on use; total capacity is 18,000 gallons)
- Diesel Fuel Day Tanks: 1,000 gallons of diesel fuel
- Refrigerant: 4,000 pounds (in chillers and inventory)
- Lubricating Oil: 50 gallons (in chillers and various equipment)
- Hydraulic Fluid: 50 gallons (in lifts, hydraulic elevator and legacy transformers)
- Batteries: 168 (unsealed lead acid, battery backup for generators)
- Universal Waste: 1,000 fluorescent bulbs (approximate number in use at the Missionary Ridge building)

A Phase I Environmental Site Assessment (Barge Design Solutions 2024) identified the following recognized environmental conditions (RECs) affecting on-site soils:

- Contaminants associated with the historic site use as a railyard;
- Historic use of fill along the railroad bed consisting of lead-bearing foundry sands;
- Possible soil/vapor impacts from chlorinated solvents from the former onsite and/or nearby drycleaners;
- Possible soil/vapor impacts from the former onsite and/or nearby gas stations.

The Phase I ESA disclosed that a 2022 lead paint survey found small amounts of lead paint in Mechanical Room S301 on a pipe flange and bottom plate of a fire pump assembly and that the lead paint has since been removed. There is no evidence of polychlorinated biphenyls (PCB)-containing transformers on-site. Some fluorescent lights with ballasts are on site, although most have been replaced with LED lighting (Barge Design Solutions 2024).

TVA is aware that there is some asbestos present. To identify the location and condition of other potentially harmful substances, a regulated material assessment would be conducted prior to demolition. Regulated materials, if present, would be removed prior to demolition and disposed of at the appropriate permitted facility in accordance with federal, state, and local regulations.

### **3.16.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and therefore no direct or indirect impacts on solid and hazardous waste.

### **3.16.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. There would be moderate short-term adverse impacts on solid and hazardous waste from the demolition and removal of approximately 140,000 to 280,000 tons of demolition debris, and the generation of associated waste products.

TVA would manage all solid wastes in accordance with applicable federal, state, and local laws and regulations and TVA BMPs. These wastes would be temporarily stored in properly managed storage areas on-site. Demolition and construction wastes would be hauled by truck to a permitted waste management facility/landfill designated to receive demolition and construction wastes.

Impacts from RECs that were identified during the Phase I ESA would be addressed prior to soil removal. Subsurface soils would be analyzed, and appropriate actions would be taken in accordance with federal and state regulations. TDEC Underground Storage Tank System Closure Assessment Guidelines would be followed for removal of underground storage tanks located on site.

Any asbestos-containing materials located in the buildings would be managed in permitted facilities/landfills. As discussed above, only a minimal amount of asbestos-containing materials are anticipated to be in the current buildings. Hazardous waste would be hauled to a permitted waste management facility designated to receive such waste. Waste would be hauled by truck to offsite landfills or recycling facilities.

Brick, block, and concrete demolition debris not contaminated by asbestos or other hazardous materials would be used as clean fill onsite. The contractor would obtain TVA permits for excavation and drilling/chipping of concrete, as applicable.

Site restoration would require the transport of borrow material from a previously developed or permitted borrow site, resulting in an increase in truck traffic to and from the COC intermittently during the demolition process.

Overall, solid and hazardous waste disposal would have a minor, long-term adverse impact on landfill capacity.

### **3.16.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC land and buildings “as is-where is”. Disposal of the COC to a non-federal entity may require TVA to certify that the property no longer requires a response action for remediation of on-site RECs that were identified during the Phase I ESA.

### **3.16.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). Impacts on solid and hazardous waste would be similar to those discussed in Alternative 2, except smaller in scale as only some of the buildings in the COC campus would be demolished.

## **3.17 Surface Water Quality**

The Lower Tennessee River (Nickajack Reservoir) is listed on the Tennessee Department of Environment and Conservation 303(d) list for Dioxin and PCBs from contaminated



sediments (TDEC 2022). The surface water streams would be expected to be designated for domestic water supply, industrial water supply, fish and aquatic life, recreation, livestock watering and wildlife, irrigation, and navigation (TDEC 2019). Stormwater runoff from the COC discharges into the Lower Tennessee River (Nickajack Reservoir) through a municipal stormwater sewer system operated and maintained by the City of Chattanooga.

#### **3.17.1.1 Alternative 1**

Under the No Action Alternative, TVA would continue to operate the 1,480,000 square foot COC. There would be no demolition or construction activities, and therefore no direct or indirect impacts on surface water quality.

#### **3.17.1.2 Alternative 2**

Under Alternative 2, TVA would demolish the COC and dispose of the vacant land. Demolition has the potential to affect surface water quality due to stormwater runoff. A state and/or MS4 construction stormwater permit would be required for demolition of the COC. This permit requires the development and implementation of a BMP plan. Development of the BMP plan would use “A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities” as a reference for applicable practices and controls to minimize adverse impacts (TVA 2021). A City of Chattanooga Land Disturbance and/or Stormwater permit would be needed per City of Chattanooga Municipal Codes and Ordinances, and demolition would comply with the City of Chattanooga Code of Ordinances Chapter 31 – Sewers, Mains and Drainage. Potential impacts on surface water quality would be mitigated through implementation of standard BMPs for erosion and sediment control, proper containment/treatment/disposal of wastewaters, stormwater runoff, wastes, and potential pollutants. With implementation of BMPs, impacts on surface water quality would be minor and temporary.

#### **3.17.1.3 Alternative 3**

Under Alternative 3, TVA would dispose of the COC land and buildings “as is-where is”. There would be no site disturbance and therefore no direct or indirect impacts on surface water quality.

#### **3.17.1.4 Alternative 4**

Under Alternative 4, TVA would implement a mix of retention, renovation, and disposal of selected buildings and land through the means described in Alternatives 2 or 3 (i.e., demolition, as-is, or a combination thereof). With implementation of BMPs, impacts on surface water quality from partial renovation or demolition would be minor and temporary – similar to those discussed in Alternative 2, except smaller in scale as only some of the buildings in the COC campus would be demolished.

### **3.18 Cumulative Impacts**

CEQ regulations for implementing NEPA define cumulative effects as “...effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR § 1508.1(g)(3)).

Unless otherwise stated, the geographic scope of analysis for cumulative effects includes the Project Area and a 1-mile buffer. This is the area in which indirect and cumulative effects are expected to occur. Land uses within the 1-mile buffer are mostly within the city

center, including a mix of commercial, industrial, and residential properties, parks, and managed and natural areas.

Past, present, and reasonably foreseeable future actions identified within the geographic scope of analysis include the following:

- The COC has been selected by the GSA as one of the sites under consideration for a new Federal courthouse in downtown Chattanooga.
- A continuation of the trend of converting abandoned or underutilized urban buildings to a mix of commercial and residential uses.
- Possible “Reimagining Broad Street” project. Design concepts could include a promenade, wider sidewalks, and altering the number of traffic lanes and placement of bicycle lanes. While the City and its contractor have solicited public input on the proposed project, no formal design has been chosen and no construction date has been chosen.
- No specific road construction or maintenance projects were identified within the geographic scope of analysis, but it is reasonable to assume that local roadways will continue to require maintenance.

As shown in Table 3-10, cumulative effects associated with the Proposed Action in combination with the above identified actions would be insignificant.

**Table 3-10. Cumulative Effects**

<b>Resource Area</b>	<b>Cumulative Effects</b>
Air Quality	Minor adverse cumulative effects on air quality conditions in Hamilton County.
Land Use	No cumulative effects.
Geology and Soils	Minor adverse cumulative effects due to implementation of Soil Management Plan.
Greenhouse Gases and Climate Change	Minor adverse cumulative effects on and from climate change.
Noise and Vibration	Minor to moderate temporary cumulative effects from contribution of demolition and/or renovation noise and vibration to the urban soundscape.
Transportation	Moderate adverse cumulative effects on traffic flow from temporary closure and traffic volume from demolition worker commutes and truck trips to deliver materials to and from the Project Area.
Visual Resources	Minor adverse cumulative effects from demolition; no cumulative effects from retention.
Utilities and Service Systems	No adverse cumulative effects from continued use or separation and reconnection of utilities and service systems.
Socioeconomics and Environmental Justice	Minor, short-term beneficial contribution to cumulative effects related to employment during renovation or demolition. Increase in economic activity downtown if future owner more fully utilizes COC site.
Public Health and Safety	No indirect effects and, therefore, no cumulative effects.
Wildlife	Minor adverse cumulative effects from loss of common wildlife habitat or mortality during demolition.
Threatened and Endangered Species	Minor adverse cumulative effects from demolition's contribution to broader trend of loss of foraging habitat.
Cultural Resources	No cumulative adverse effects to significant archaeological or historic resources.
Managed and Natural Areas	Minor cumulative effects from increased construction-related traffic and possible road closure(s) during demolition.
Recreational Resources	Minor cumulative effects from increased construction-related traffic and possible road closure(s) during demolition.
Solid & Hazardous Waste	Minor cumulative effects because waste would be handled in accordance with law, regulation, and policy; and would be disposed of at permitted commercial facilities with adequate capacity.
Surface Water Quality	Minor cumulative adverse effects with implementation of erosion and sediment control BMPs; and proper containment/treatment/disposal of wastewaters, stormwater runoff, wastes, and potential pollutants.

### **3.19 Unavoidable Adverse Environmental Impacts**

Unavoidable adverse impacts would vary by alternative. Under Alternative 1, there would be no unavoidable adverse impacts because there would be no changes to the COC. Under Alternative 2, demolition would result in permanent changes to the appearance of the

Project Area and would introduce noise, dust, and traffic, the impacts of which would be minimized, but not fully avoided. Unavoidable adverse impacts under Alternative 3 would be limited to any changes the future owner may undertake, which are not reasonably foreseeable. Under Alternative 4, unavoidable adverse impacts would be similar to those under Alternative 2.

### **3.20 Relationship of Short-Term Uses and Long-Term Productivity**

NEPA requires a discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. This EA analyzes the potential environmental effects of retaining, renovating, demolishing, and/or disposing of the COC. Short-term uses are those during the up-to-12-month demolition and renovation period. Long-term productivity is associated with post-demolition and post-renovation activities. Because TVA's use of the COC would continue under Alternative 1, retention would not change short-term uses or long-term productivity. In contrast, renovation and demolition would include changes to existing buildings or conversion to vacant land, requiring short-term uses of the land, contract workers, construction material, roadways, and emissions from transportation vehicles, as well as increased noise and vibration from construction equipment use. Disposal would not require any short-term uses, and long-term productivity is unknown because future uses are not reasonably foreseeable.

### **3.21 Irreversible and Irretrievable Commitments of Resources**

A commitment of a resource is "irreversible" when the primary or secondary effects from its use limit future options for its use. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations.

Demolition and renovation would result in the irreversible commitment of landfill space, certain fuels, energy, and construction materials. As discussed in Chapter 3, these impacts would be minor in intensity.

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## CHAPTER 4 – LIST OF PREPARERS

### 4.1 NEPA Project Management

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 Education: B.S., Marine Biology  
 Project Role: NEPA compliance, document preparation and project management  
 Experience: 23 years ecological evaluations, environmental permitting, regulatory compliance and NEPA compliance.

Name: **Uteva Chesser**  
 Education: Masters, Project Management; MBA  
 Project Role: Project Manager, Facilities Transformation  
 Experience: 12 years project management experience in the power industry

Name: **Dana Nelson**  
 Education: B.S., Environmental Science  
 Project Role: Environmental Program Manager  
 Experience: 17 years of environmental compliance; 6 years preparation of environmental review documents.

Name: **Drew Vankat (Copperhead Environmental Consulting, Inc.)**  
 Education: M.S., Environmental Policy and Planning  
 Project Role: Project Manager, NEPA Coordinator, Transportation  
 Experience: 18 years in NEPA compliance and environmental planning.

### 4.2 Other Contributors

Name: **Sarah Bayles**  
 Education: B.S., Outdoor Recreation Management; M.S., Sport and Recreation Management  
 Project Role: Recreation  
 Experience: 3 years of experience in Outdoor Recreation Management

Name: **Kelly Conger**  
 Education: B.A., Sport and Recreation Administration  
 Project Role: Recreation  
 Experience: 2 years of experience in Outdoor Recreation Management

Name: **Steve Cole**  
 Education: B.A., Anthropology; M.A., Anthropology; PhD, Anthropology  
 Project Role: Archaeology  
 Experience: 21 years of experience in Cultural Resources Management; 3 years of experience teaching Anthropology and Archaeology

Name: **Hallie Hearnnes**  
Education: B.S., Historic Preservation; M.A., History  
Project Role: Architectural History  
Experience: 15 years of experience in Cultural Resource Management as architectural historian

Name: **Chloe Sweda**  
Education: B.S., Earth and Environmental Sciences  
Project Role: Managed and Natural Areas  
Experience: 5.5 years of experience in Natural Resource Management

Name: **Elizabeth Hamrick**  
Education: B.A., Biology; B.A., Anthropology; M.S., Wildlife and Fisheries Science  
Project Role: Wildlife; Terrestrial Animal Threatened and Endangered Species  
Experience: 23 years of experience in wildlife sciences  
Experience: 10 years of experience with environmental field studies and reporting

Name: **Kelsie Eshler (Copperhead Environmental Consulting, Inc.)**  
Education: B.A., Environmental Earth Science  
Project Role: Hazardous and Solid Waste, Visual Resources, Utilities and Service Systems  
Experience: 6 years of experience performing environmental assessments and field surveys.

Name: **Matt Huddleston (Copperhead Environmental Consulting, Inc.)**  
Education: B.S., Biological Sciences; M.S. Biological Sciences; PhD, Environmental Toxicology  
Project Role: Public Health and Safety  
Experience: 30 years of experience with environmental reporting

Name: **Marty Marchaterre, JD (Copperhead Environmental Consulting, Inc.)**  
Education: B.A., History and Political Science; J.D., Law  
Project Role: QA/QC, Air Quality, Climate Change, Noise and Vibration  
Experience: 33 years of experience with environmental policy including NEPA document preparation.

Name: **Chris McNees (Copperhead Environmental Consulting, Inc.)**  
Education: B.S., Environmental Studies  
Project Role: GIS  
Experience: 18 years of experience with environmental policy including NEPA document preparation.

Name: **Jake Murphy (Copperhead Environmental Consulting, Inc.)**  
Education: B.S., Biology; M.S. Biology  
Project Role: Geology and Soils  
Experience: 4 years of experience with environmental field studies and reporting

Name: **Piper Roby (Copperhead Environmental Consulting, Inc.)**  
Education: B.A., Biology; M.S., Biology; PhD, Animal Sciences  
Project Role: Technical Editor  
Experience: 22 years of experience with ecological reporting and editing.

Name: **Will Seiter (Copperhead Environmental Consulting, Inc.)**  
Education: B.S., Wildlife Management  
Project Role: Land Use, Transportation  
Experience: 6 years of experience with environmental field studies and reporting



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## **Appendix A – Consultation and Coordination**



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**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)

2024-01-25 11:27:00 CST

James Osborne  
Tennessee Valley Authority  
[jwosborn@tva.gov](mailto:jwosborn@tva.gov)

RE: Tennessee Valley Authority (TVA), Divestiture of Chattanooga Office Complex (COC), TVA Tracking Number- 77833965235, Project#: SHPO0004378, Chattanooga, Hamilton County, TN

Dear James Osborne:

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

Considering the information provided, we concur that no historic properties eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed or archaeological remains are discovered during project construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Please provide your Project # when submitting any additional information regarding this undertaking. Questions or comments may be directed to Kelley Reid, who drafted this response, at [Kelley.Reid@tn.gov](mailto:Kelley.Reid@tn.gov), +16157701099.

Sincerely,

A handwritten signature in black ink that reads "E. Patrick McIntyre, Jr." in a cursive script.

E. Patrick McIntyre, Jr.  
6.1 Executive Director and  
6.2 State Historic Preservation Officer

Ref:MSG12013967\_ywCMc2HOJlo4F1cygr

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**Appendix B – Bat Strategy Project Screening Form**

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**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:** COC Divestment **Date:** 10/31/2023  
**Contact(s):** Erica McLamb, Uteva Chesser **CEC#:** \_\_\_\_\_ **Project ID:** 2023-17  
**Project Location (City, County, State):** Chattanooga, Hamilton County, TN

**Project Description:**

TVA is evaluating options for fully or partially divesting of the COC, which is too large for TVA's current or projected future needs. Alternatives include 1)demolish and divest, 2) divest "as is, where is" and 3) partial retention and divestment (divestment may include divesting "as is, where is" or demolition of select buildings.

**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 checked="" 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 type="checkbox"/> 5 Operate, Maintain, Retire, Expand, Construct Power Plants                          | <input type="checkbox"/> 10 Promote Mid-Scale Solar Generation                   |

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

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

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

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

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

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

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

**YES (Go to Step 4)**

**NO (Go to Step 13)**

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

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

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

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

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

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

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

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

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

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

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

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

**OSAR Reviewer** (name)  Date

**Terrestrial Zoologist** (name)  Date

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

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

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



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

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

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

**STEP 7) Project will involve:**

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

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

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

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

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

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
3 Manage Land Use and Disposal of TVA-Retained Land				

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

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

**SECTION 3: REQUIRED CONSERVATION MEASURES**

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

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

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

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

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

Manual Override

Name: Elizabeth Hamrick

Check if Applies to Project	Activities Subject To Conservation Measure	Conservation Measure Description
		<p><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.</p>
		<p><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.</p>
		<p><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.</p>
		<p><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.</p>
		<p><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.</p>
		<p><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).</p>
		<p><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.</p>
		<p><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).</p>
		<p><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.</p>
		<p><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.</p>

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

<p><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).</p>
<p><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).</p>
<p><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.</p>
<p><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.</p>
<p><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.</p>

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

<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><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><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>

**SSPC1 (Transmission only)** - Transmission actions and activities will continue to Implement A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities. This focuses on control of sediment and pollutants, including herbicides. Following are key measures:

- 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:
  - Plan clearing, grading, and construction to minimize area and duration of soil exposure.
  - Maintain existing vegetation wherever and whenever possible.
  - Minimize disturbance of natural contours and drains.
  - As much as practicable, operate on dry soils when they are least susceptible to structural damage and erosion.
  - Limit vehicular and equipment traffic in disturbed areas. Keep equipment paths dispersed or designate single traffic flow paths with appropriate road BMPs to manage runoff.
  - Divert runoff away from disturbed areas.
  - Provide for dispersal of surface flow that carries sediment into undisturbed surface zones with high infiltration capacity and ground cover conditions.
  - Prepare drainage ways and outlets to handle concentrated/increased runoff.
  - Minimize length and steepness of slopes. Interrupt long slopes frequently.
  - Keep runoff velocities low and/or check flows.
  - Trap sediment on-site.
  - Inspect/maintain control measures regularly & after significant rain.
  - Re-vegetate and mulch disturbed areas as soon as practical.
- Specific guidelines regarding sensitive resources and buffer zones:
  - Extra precaution (wider buffers) within SMZs is taken to protect stream banks and water quality for streams, springs, sinkholes, and surrounding habitat.
  - BMPs are implemented to protect and enhance wetlands. Select use of equipment and seasonal clearing is conducted when needed for rare plants; construction activities are restricted in areas with identified rare plants.
  - Standard requirements exist to avoid adverse impacts to caves, protected animals, unique/important habitat (e.g., cave buffers, restricted herbicide use, seasonal clearing of suitable habitat).

**SSPC2** - Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.

**SSPC3 (Power Plants only)** - Power Plant actions and activities will continue to implement standard environmental practices. These include:

- Best Management Practices (BMPs) in accordance with regulations:
  - Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy
  - Maintain every site with well-equipped spill response kits, included in some heavy equipment
  - Conduct Quarterly Internal Environmental Field Assessments at each sight
  - Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant.
  - When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage
- Construction Site Protection Methods
  - Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites
  - Storm drain protection device
  - Check dam to help slow down silt flow
  - Silt fencing to reduce sediment movement
- Storm Water Pollution Prevention (SWPP) Pollution Control Strategies
  - Minimize storm water contact with disturbed soils at construction site
  - Protect disturbed soil areas from erosion
  - Minimize sediment in storm water before discharge
  - Prevent storm water contact with other pollutants
  - Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac)
- Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to
  - Minimize fuel and chemical use Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy
  - Maintain every site with well-equipped spill response kits, included in some heavy equipment
  - Conduct Quarterly Internal Environmental Field Assessments at each sight
  - Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant.
  - When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage
- Construction Site Protection Methods
  - Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites
  - Storm drain protection device
  - Check dam to help slow down silt flow
  - Silt fencing to reduce sediment movement
- Storm Water Pollution Prevention (SWPP) Pollution Control Strategies
  - Minimize storm water contact with disturbed soils at construction site
  - Protect disturbed soil areas from erosion
  - Minimize sediment in storm water before discharge
  - Prevent storm water contact with other pollutants
  - Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac)
- Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to minimize fuel and chemical use

**SSPC4 (Transmission only)** - Woody vegetation burn piles associated with transmission construction will be placed in the center of newly established ROWs to minimize wash into any nearby undocumented caves that might be on adjacent private property and thus outside the scope of field survey for confirmation. Brush piles will be burned a **minimum of 0.25 miles from documented caves** and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.

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<p><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.</p>
<p><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.</p>
<p><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.</p>
<p><b>L1</b> - Direct temporary lighting away from suitable habitat during the active season.</p>
<p><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).</p>

<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:**

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

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

**For Use by Terrestrial Zoologist Only**

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

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

For Terrestrial Zoology Use Only. Finalize and Print to Noneditable PDF.