Document Type: EA-Administrative Record
Index Field: Environmental Assessment
Project Name: **Watts Bar** Reservoir Tract WBR-82 Bank Stabilization Project
Project Number: 2019-17

WATTS BAR RESERVOIR TRACT WBR-82 (IRON HILL ISLAND) BANK STABILIZATION PROJECT ENVIRONMENTAL ASSESSMENT

Rhea County, Tennessee

Prepared by:
TENNESSEE VALLEY AUTHORITY
Knoxville, Tennessee

March 2019

This page intentionally left blank

Purpose and Need for Action

The Tennessee Valley Authority (TVA) is proposing to stabilize eroding shoreline using rock riprap on Watts Bar Reservoir tract WBR-82 (Iron Hill Island) in order to address severe erosion and undercutting of the shoreline.

TVA is responsible for the management of public shoreline on Watts Bar Reservoir and for the protection of shoreline and aquatic resources, while providing reasonable public access. The proposal is intended to minimize the destabilization and erosion of the shoreline and banks of the island. Controlling erosion enhances water quality by reducing sedimentation; it improves aesthetics and reduces property loss; and it has a positive impact on aquatic habitat since silt from erosion can cover the graveled bottom where fish spawn. The proposal supports and is consistent with TVA's mission of environmental stewardship, the objectives for water resource management in the 2011 Natural Resources Plan (NRP), and TVA's management goals set forth in the 2009 TVA Watts Bar Reservoir Land Management Plan (RLMP).

Two stabilization projects have taken place along this shoreline previously: 480 and 490 feet on the south end of the island. An abbreviated Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) were completed for the projects in March 2016 (490 ft.) and June 2018 (480 ft.).

Proposed Action

The proposed stabilization project would consist of placing rock riprap along 490 linear feet of the shoreline of Iron Hill Island, which is located on Watts Bar Reservoir, Tennessee River mile 539.1 (right bank), Rhea County, Tennessee. Delivery and placement of the riprap will be conducted by barge, and filter fabric will be applied where practical. The project location map is included in Attachment 1.

In total, 327 cubic yards of rock riprap of sufficient size (13-25 inches in diameter) will be installed from the toe to the top of the eroding bank, which ranges from 5 to 6 feet in height. The bottom of the riprap will be 2 feet below and the top 4 feet above the normal summer operating level (741 feet mean sea level). TVA proposes to conduct the work in the spring of 2019 and estimates the work would be completed in less than one month.

Photographs of the area below the shoreline depict nearly vertical cutbanks (Attachment 3). The banks of the island are covered with limited grass, forbs, and brush vegetation. Disturbed ground not covered by existing shoreline buffer plantings will be seeded and/or planted utilizing woody and herbaceous plantings. In the future, the riprap installation may periodically require routine, minor maintenance (i.e., the addition of rock riprap at locations where sloughing has occurred). The shoreline stabilization plan can be found in Attachment 2.

Riprap is considered fill material and is therefore subject to Sections 401 and 404 of the Clean Water Act (CWA). Before implementing the project, TVA must obtain an Aquatic Resource Alteration Permit (ARAP) from the State of Tennessee, Department of Environment and Conservation (TDEC), under Section 401. TVA must also gain approval for the project from the U.S. Department of Army, Army Corps of Engineers (USACE), under Section 404. This project qualifies for USACE's Nationwide Permit for Bank

Stabilization (NWP-13). Such approval is required when the waters of the United States (U.S.) could be altered by a project.

TVA is also considering taking no action (i.e., not placing riprap along the Iron Hill Island to stabilize the streamline erosion issues). Taking no action would not address these resource condition issues nor would it help TVA achieve its goals and objectives for managing the public shoreline. Taking no action is included in this analysis to provide a baseline for comparison of project impacts and benefits. TVA also considered other stabilization methods such as vegetation and bioengineering, but dismissed them from further consideration because the success of those methods in addressing critical erosion of such high banks is limited.

Environmental Impacts

TVA has reviewed the proposed project and documented potential environmental impacts related to the project in the attached categorical exclusion checklist (Checklist, Attachment 4). The Checklist identifies the resources present in the project area and documents TVA's determination that the proposal would not significantly affect these resources.

As documented in the Checklist, the proposal would have no effect to endangered, threatened, or special status plant, aquatic, or wildlife species. TVA conducted a review of its Natural Heritage Database and found that no species were documented at or within at least one mile of the project location. The proposed bank stabilization will not require the removal of trees; therefore, there would be no adverse impacts to Myotis species. A number of activities associated with the proposed project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2), completed in April 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. The conservation measures identified in Attachment 5 would be implemented as part of the proposed project. There is one bald eagle, osprey, wading bird colony located in the vicinity of the project area. The proposed actions to stabilize the shoreline are expected to reduce sedimentation at the site and thereby improve foraging habitat. In addition, there will be no effects to any protected aquatic species, as the habitat at the proposed site is not suitable for the various state and federal listed aquatic species known to occur in the vicinity. There are three state listed plant species found within 5 miles of the proposed action; however, the proposed action will have no effect on any protected plant species as documented in the Checklist.

A review of the National Register of Historic Places and the Tennessee Historical Commission Viewer indicated that no historic properties exist within the project area or within its viewshed. In 2000, TVA performed an archaeological survey of the project area (Ahlman et al 2000). The exposed shoreline was subjected to a walkover survey and no cultural deposits or artifacts were identified. Photographs of the area below the shoreline depict nearly vertical cutbanks ranging from 5-6 feet in height and photographs of above the shoreline depict a moderate to steep hillside slope. Given the survey results, terrain characteristics and absence of the properties listed on the National Register of Historic Places and the Tennessee Historical Commission Viewer, TVA finds there is a reliable basis for concluding that the project area and its viewshed contain no historic properties. The proposed action would have no effect to historic properties or resources.

A review of the National Wetland Inventory database indicates that there are no wetlands at the location and there are no expected impacts to water flow or the river channel. The

parcel is not located within or adjacent to a wildlife management, park, scenic, or heritage area. Because there are few riprap installations in this area of the reservoir, the riprap around Iron Hill Island may noticeably contrast with the natural appearance of shorelines within view of the island. Such visual impacts would be minor and would lessen over time as the riprap weathers.

The 100-year floodplain may be affected, although the stabilization structure falls under the guidelines of TVA's class review of repetitive actions within the 100-year floodplain. Accordingly, there is no practicable alternative that would avoid siting riprap in the floodplain. Navigation of the river system would not be impacted by the project. During construction, some soil erosion may occur or dredged or fill materials may be discharged. Minor and temporary impacts may occur to riparian vegetation along the shoreline as the riprap is placed. However, TVA would implement standard measures and apply best management practices in implementing the project in order to minimize or mitigate these potential impacts. While some erosion may occur during construction, the primary beneficial effect of the project will be the long-term reduction in erosion of the island's shoreline and in sloughing of its banks. Riprap along the island's shoreline may affect accessibility to the island by boaters as some may be unwilling to approach riprap. However, in most places on the island, there will be additional vertical-exposed shoreline that will provide access to the island for boaters without requiring them to traverse much riprap.

If TVA does not take action, the shoreline of Iron Hill Island would continue eroding and the undercutting and sloughing of banks would likely worsen. Erosion of the shoreline would continue to increase water turbidity and banks that are currently vertical or near vertical may be heightened by continued erosion. As portions of the bank slough into the reservoir, some vegetation would also become unstable and fall on to the shoreline. The portions of the shoreline that are more gently sloped may become vertical over time, with greater undercutting of the bank. Continued erosion and degrading conditions of the shoreline, such as an increase of vertical banks is expected to make access to the island more difficult for recreationists, as it is likely the shoreline currently used as access points will become destabilized over time.

The proposal is limited in scope and designed to improve degraded conditions along shoreline in this area of Watts Bar Reservoir. The potential adverse impacts of the project, when added to adverse impacts from other activities within the immediate area, would be insignificant. TVA regularly considers shoreline stabilization projects in Watts Bar reservoir. TVA also regularly considers proposals by property owners on the reservoir for minor structures or docks which may include the installation of riprap to stabilize the shoreline along the property. Cumulatively, these stabilization projects would change the character of small portions of the reservoir's shoreline. However, they would have beneficial overall impacts – though very diffuse in reach – because of decreased erosion and water turbidity and improved recreational accessibility by boaters. The cumulative impacts associated with these stabilization projects have also been described in the environmental review of the NRP and RLMP.

Agencies and Persons Consulted

Authorization to begin work is dependent on TVA obtaining the necessary permits. Because this project involves alteration of waters of the U.S., TVA must obtain a permit from TDEC under Section 401 of the Clean Water Act before implementing the proposal. TVA would obtain USACE's NWP-13. TVA will secure a permit from TDEC and will notify

USACE at least two weeks prior to start of work so that USACE can issue a Notice to Navigation Interests.

TVA Preparers

Freddie Bennett – Land Use and Watershed Specialist
Craig Phillips – Heritage Review and Watershed Specialist
Kelvin Young – Heritage Review and Watershed Specialist
Michael Angst – Archaeologist
Nicole Berger – Navigation Review
Elizabeth Smith – NEPA Specialist

References

Ahlman, T., S. Frankenberg, N. Herrmann. 2000. *Archaeological Reconnaissance Survey of Tennessee Valley Authority Lands on the Watts Bar Reservoir*. Knoxville: University of Tennessee, Department of Anthropology.

Attachments

Attachment 1 – Project Location Maps

Attachment 2 – Proposed Project Plans

Attachment 3 – Site Photographs

Attachment 4 – Categorical Exclusion Checklist 39844

Attachment 5 – TVA Bat Strategy Form

Conclusion and Finding

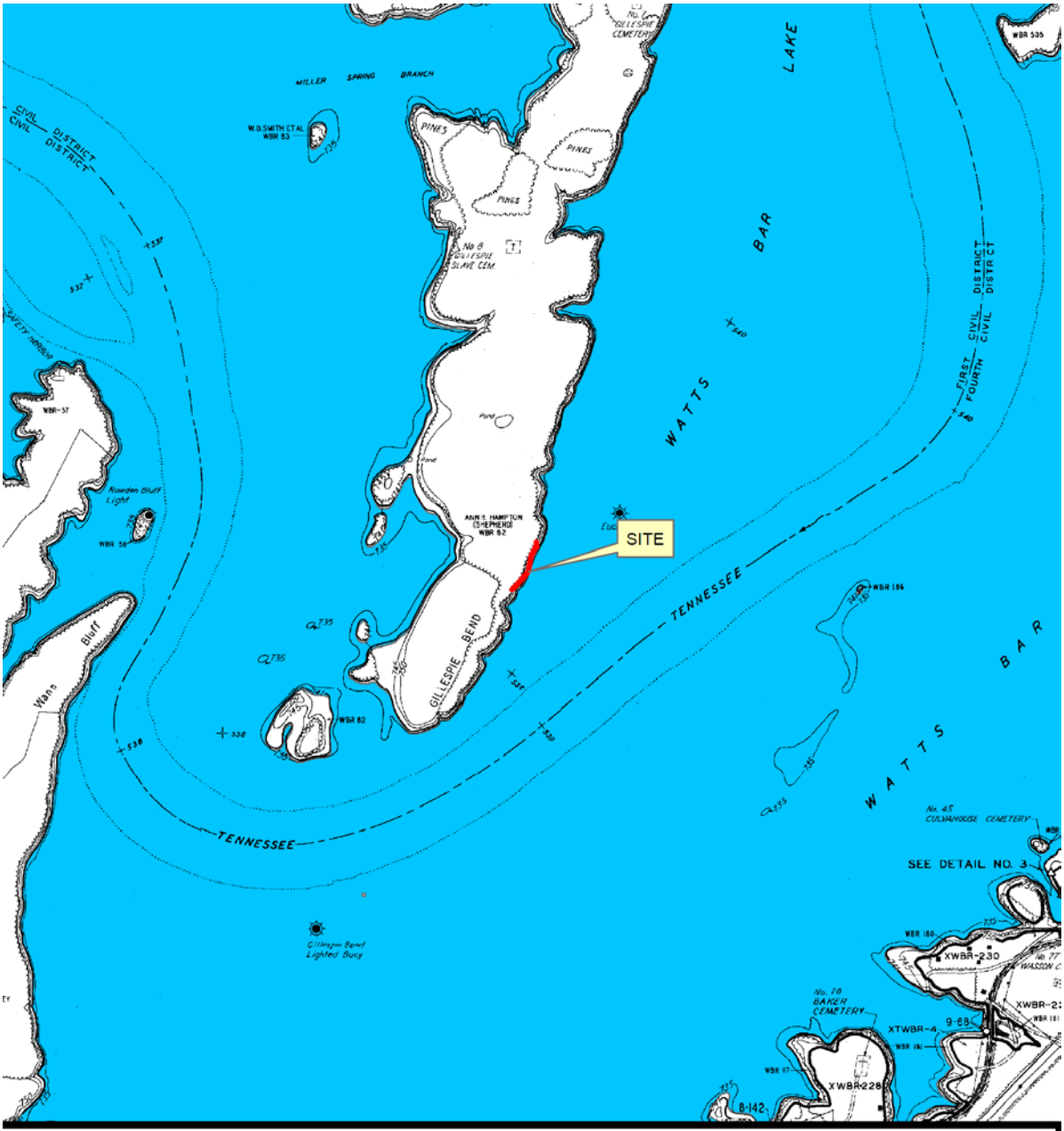
Based on the findings above and the analyses in the attached checklist, we conclude that the proposed action to apply riprap stabilization to 490 feet of shoreline on Watts Bar Reservoir at the Tract WBR-82 Iron Hill Island location would not be considered a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.

04/03/2019

Lana Bean, Manager
NEPA Program and Valley Projects
Tennessee Valley Authority

Date Signed

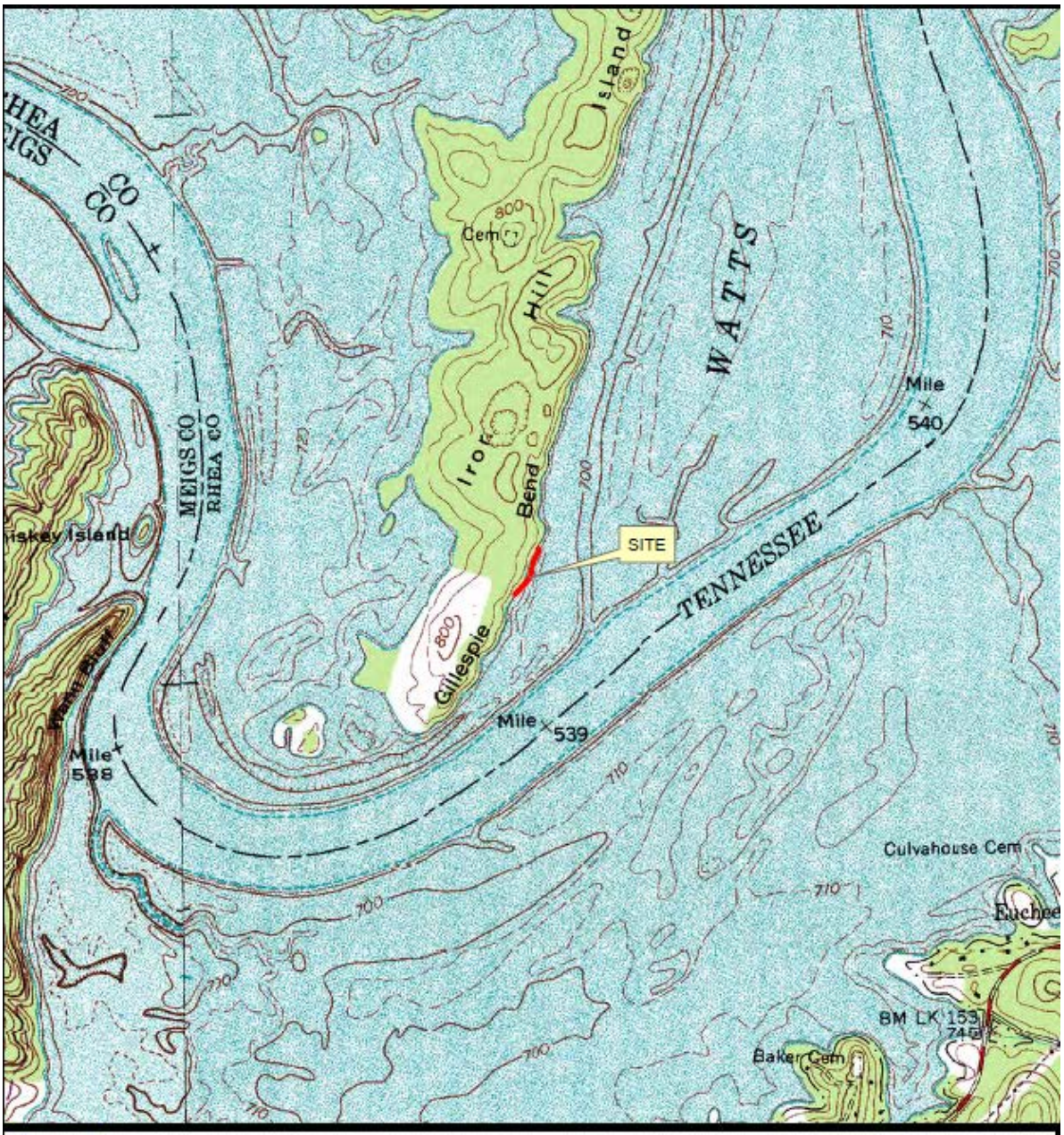
Attachment 1 – Project Location Maps



TENNESSEE VALLEY AUTHORITY
Shoreline Bank Stabilization - 490 linear feet
Tennessee River Mile 539.1R - Iron Hill Island
Tract: WBR-82; (Planned Parcel 254)
C/D Stage Map Sheet 15D; Topo Map 124NW (Ten Mile)
GPS Coordinates: Lat 35.686395; Lon -84.737338
Watts Bar Reservoir, Rhea County, TN

0 800 1,600 3,200 Feet

N



TENNESSEE VALLEY AUTHORITY
Shoreline Bank Stabilization - 490 linear feet
Tennessee River Mile 539.1R - Iron Hill Island
Tract: WBR-82; (Planned Parcel 254)
C/D Stage Map Sheet 15D; Topo Map 124NW (Ten Mile)
GPS Coordinates: Lat 35.686395; Lon -84.737338
Watts Bar Reservoir, Rhea County, TN

0 800 1,600 3,200
Feet

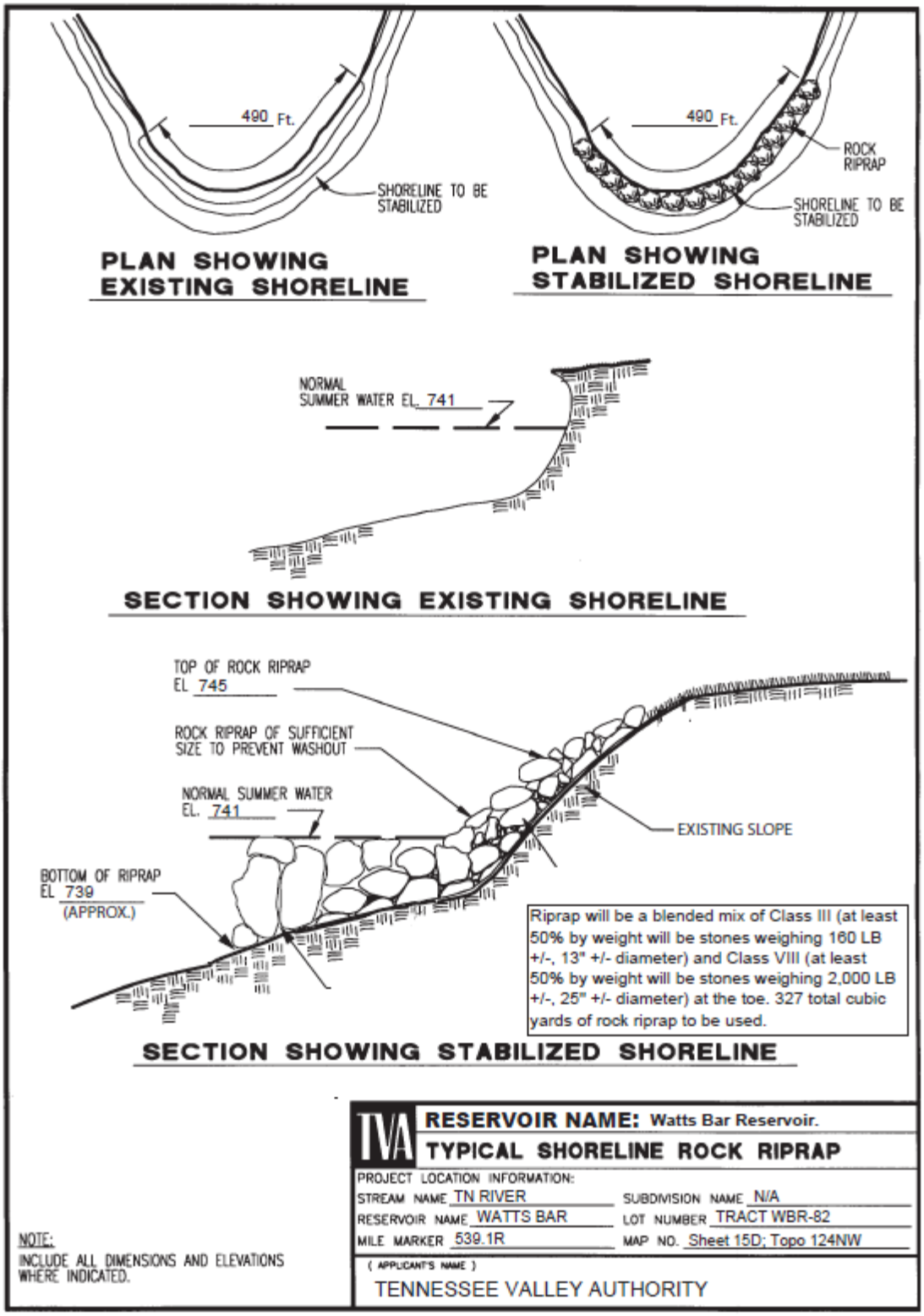
N

TENNESSEE VALLEY AUTHORITY
Shoreline Bank Stabilization - 490 linear feet
Tennessee River Mile 539.1R - Iron Hill Island
Tract: WBR-82; (Planned Parcel 254)
C/D Stage Map Sheet 15D; Topo Map 124NW (Ten Mile)
GPS Coordinates: Lat 35.686395; Lon -84.737338
Watts Bar Reservoir, Rhea County, TN

0 800 1,600 3,200
Feet

N

Attachment 2 – Proposed Project Plans



Attachment 3 – Site Photographs

Attachment 4 – Categorical Exclusion Checklist 39844

Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number NRM TRI ID 4000543	**Tracking Number** *(NEPA Administration Use Only)* 39844

Form Preparer	Project Initiator/Manager	Business Unit
Freddie C Bennett	W S Ledford	P&NR - Reservoir Property & Resource Mgmt

Project Title	Hydrologic Unit Code
SHORELINE BANK STABILIZATION - IRON HILL ISLAND - WATTS BAR RESERVOIR - RHEA COUNTY, TN	

Description of Proposed Action *(Include Anticipated Dates of Implementation)* ☐ Continued on Page 3 *(if more than one line)*

For Proposed Action See Attachments and References

Initiating TVA Facility or Office	TVA Business Units Involved in Project

Location *(City, County, State)*

For Project Location see Attachments and References

Parts 1 through 4 verify that there are no extraordinary circumstances associated with this action:

Part 1. Project Characteristics

	Is there evidence that the proposed action...	No	Yes	Commit-ment	Information Source for Insignificance
	1.Is major in scope?	X			Bennett, Freddie C. 11/13/2018
	2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Bennett, Freddie C. 11/13/2018
*	3.Involves non-routine mitigation to avoid adverse impacts ?	X		No	Bennett, Freddie C. 11/13/2018
	4.Is opposed by another federal, state, or local government agency?	X			Bennett, Freddie C. 11/13/2018
*	5.Has environmental effects which are controversial?	X			Bennett, Freddie C. 11/13/2018
*	6.Is one of many actions that will affect the same resources?	X			Bennett, Freddie C. 11/13/2018
	7.Involves more than minor amount of land?	X			Bennett, Freddie C. 11/13/2018

*If "yes" is marked for any of the above boxes, consult with NEPA Administration on the suitability of this project for a categorical exclusion.

Part 2. Natural and Cultural Features Affected

Would the proposed action...	No	Yes	Permit	Commit-ment	Information Source for Insignificance
1.Potentially affect endangered, threatened, or special status species?		X	No	No	For comments see attachments
2.Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites?		X	No	No	For comments see attachments
3.Potentially take prime or unique farmland out of production?	X		No	No	Bennett, Freddie C. 11/13/2018
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Bennett, Freddie C. 11/13/2018
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Bennett, Freddie C. 11/13/2018
6.Potentially affect wetlands?	X		No	No	For comments see attachments
7.Potentially affect water flow, stream banks or stream channels?		X	No	No	For comments see attachments
8.Potentially affect the 100-year floodplain?		X	No	No	For comments see attachments
9.Potentially affect ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails?	X		No	No	For comments see attachments
10.Contribute to the spread of exotic or invasive species?	X		No	No	For comments see attachments
11.Potentially affect migratory bird populations?		X	No	No	For comments see attachments
12.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Bennett, Freddie C. 11/13/2018
13.Potentially affect surface water?	X		No	No	Bennett, Freddie C. 02/08/2019
14.Potentially affect drinking water supply?	X		No	No	Bennett, Freddie C. 11/13/2018
15.Potentially affect groundwater?	X		No	No	Bennett, Freddie C. 11/13/2018
16.Potentially affect unique or important terrestrial habitat?	X		No	No	For comments see attachments
17.Potentially affect unique or important aquatic habitat?	X		No	No	For comments see attachments

Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)...	No	Yes	Permit	Commit-ment	Information Source for Insignificance
1.Release air pollutants?	X		No	No	Bennett, Freddie C. 11/13/2018
2.Generate water pollutants?	X		No	No	Bennett, Freddie C. 11/13/2018
3.Generate wastewater streams?	X		No	No	Bennett, Freddie C. 11/13/2018
4.Cause soil erosion?	X		No	No	Bennett, Freddie C. 11/13/2018
5.Discharge dredged or fill materials?		X	Yes	No	For comments see attachments
6.Generate large amounts of solid waste or waste not ordinarily generated?	X		No	No	Bennett, Freddie C. 11/13/2018
7.Generate or release hazardous waste (RCRA)?	X		No	No	Bennett, Freddie C. 11/13/2018
8.Generate or release universal or special waste, or used oil?	X		No	No	Bennett, Freddie C. 11/13/2018
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Bennett, Freddie C. 11/13/2018
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Bennett, Freddie C. 11/13/2018
11.Involve disturbance of pre-existing contamination?	X		No	No	Bennett, Freddie C. 11/13/2018
12.Generate noise levels with off-site impacts?	X		No	No	Bennett, Freddie C. 11/13/2018
13.Generate odor with off-site impacts?	X		No	No	Bennett, Freddie C. 11/13/2018
14.Produce light which causes disturbance?	X		No	No	Bennett, Freddie C. 11/13/2018
15.Release of radioactive materials?	X		No	No	Bennett, Freddie C. 11/13/2018
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Bennett, Freddie C. 11/13/2018
17.Involve materials that require special handling?	X		No	No	Bennett, Freddie C. 11/13/2018

Part 4. Social and Economic Effects

Would the proposed action...	No	Yes	Permit	Commit-ment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Bennett, Freddie C. 11/13/2018
2.Increase the potential for accidents affecting the public?	X			No	Bennett, Freddie C. 02/08/2019
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Bennett, Freddie C. 11/13/2018
4.Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	X			No	Bennett, Freddie C. 11/13/2018
5.Disproportionately affect minority or low-income populations?	X			No	Bennett, Freddie C. 11/13/2018
6.Involve genetically engineered organisms or materials?	X			No	Bennett, Freddie C. 11/13/2018
7.Produce visual contrast or visual discord?	X			No	Bennett, Freddie C. 11/13/2018
8.Potentially interfere with recreational or educational uses?	X			No	Bennett, Freddie C. 11/13/2018
9.Potentially interfere with river or other navigation?		X	No	No	For comments see attachments
10.Potentially generate highway or railroad traffic problems?	X			No	Bennett, Freddie C. 11/13/2018

Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action...	No	Yes	Commit-ment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Bennett, Freddie C. 11/13/2018
2.Involve a structure taller than 200 feet above ground level?	X		No	Bennett, Freddie C. 11/13/2018
3.Involve site-specific chemical traffic control?	X		No	Bennett, Freddie C. 11/13/2018
4.Require a site-specific emergency notification process?	X		No	Bennett, Freddie C. 11/13/2018
5.Cause a modification to an existing environmental permit or to existing equipment with an environmental permit or involve the installation of new equipment/systems that will require a permit?	X		No	Bennett, Freddie C. 11/13/2018
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Bennett, Freddie C. 02/08/2019
7.Involve construction or lease of a new building or demolition or renovation of existing building (i.e. major changes to lighting, HVAC, and/or structural elements of building of 1000 sq. ft. or more)?	X		No	Bennett, Freddie C. 11/13/2018

Parts 1 through 4: If "yes" is checked, describe in the discussion section following this form why the effect is insignificant. Attach any conditions or commitments which will ensure insignificant impacts. Use of non-routine commitments to avoid significance is an indication that consultation with NEPA Administration is needed.

An ☒ *EA or* ☐ *EIS Will be prepared.*

Based upon my review of environmental impacts, the discussion attached, and/or consultations with NEPA Administration, I have determined that the above action does not have a significant impact on the quality of the human environment and that no extraordinary circumstances exist. Therefore, this proposal qualifies for a categorical exclusion under Section 5.2. _____ of TVA NEPA Procedures.

Project Initiator/Manager W S Ledford		Date 02/08/2019
TVA Organization RSO&E	E-mail wsledfor@tva.gov	Telephone

Environmental Concurrence Reviewer

Travis Adam Giles 02/12/2019

Signature

Preparer Closure

Travis A Giles 02/22/19

Signature

Other Environmental Concurrence Signatures *(as required by your organization)*

_____

Signature

_____

Signature

_____

_____

Signature *Signature*

Other Review Signatures *(as required by your organization)*

Freddie C Bennett 02/08/2019

Signature *Signature*

Signature *Signature*

Signature *Signature*

Attachments/References

Description of Proposed Action Continued from Page 1
TVA is proposing to stabilize 490 feet of eroding shoreline using rock riprap on Watts Bar Reservoir tract WBR-82 (Iron Hill Island). Filter fabric will be applied where practical and the rock will be placed by barge. No trees will have to be removed to accommodate placement of the rock. Controlling erosion enhances water quality by reducing sedimentation; it improves aesthetics and reduces property loss; and it has a positive impact on aquatic habitat since silt from erosion can cover the graveled bottom where fish spawn. Reviewers' comments will be used in preparation of an abbreviated EA as this proposed action does not qualify as a Categorical Exclusion under our current environmental procedures for permitting TVA projects. NOTE: Two stabilization projects have taken place along this shoreline previously: 480 and 490 feet on the south end of the island –CEC 33118 -Abbreviated EA/FONSI completed March 2016 (490 ft); and CEC-37312 (abbreviated EA/FONSI completed June 2018 (480 ft).

Project Location Continued from Page 1
Rhea County, TN, Watts Bar Reservoir: TRM 539.1R; GPS coordinates Lat 35.686395, Lon -84.737338; C/D Stage Map 15D; Topo Map 124NW (Ten Mile); Rhea County, TN

CEC General Comment Listing

1. A recent version of Bat Strategy Form is attached.

By: Travis A Giles 02/22/2019

Files:	Project-Review-Form_TVA-Bat-Strategy_Dec-2018_CEC 39844.pdf	02/22/2019	59.99 Bytes

CEC Comment Listing

Part 2 Comments

1. Review of the TVA Natural Heritage Database indicated records of 11state and/or federally listed aquatic species within 10 miles of the proposed project near Tennessee River mile 539.1, including 4 fishes and 7 mussels (Aquatics Table 1). Most of the records are located downstream of Watts Bar Dam, well outside of the project action area, including the only extant populations included on the list (fanshell, pink mucket, and sheepnose). Therefore, no state or federally listed aquatic species would be affected by the project.

By: Craig L Phillips 12/10/2018

Files:	CEC 39844_AQ_TAB1.docx	12/10/2018	19.13 Bytes

1. There are seven federally listed and four state listed aquatic species found within 10 miles of the proposed actions. Habitat at the proposed site is not suitable for the various state and federally listed aquatic species known to occur in the vicinity. Aquatic species in the immediate vicinity are either extirpated or historical records. Due to the location of the proposed actions there would be no effects on any protected aquatic species.

There is one federally listed terrestrial animal species found within 3 miles of the proposed actions. No listed terrestrial animal species occur in the vicinity of the proposed actions. The proposed actions do not include the removal of trees. Therefore, there would be no effects to Myotis species.

There are three state listed plant species found within 5 miles of the proposed actions. Due to the nature of action and location, the proposed actions would have no effect on any protected plant species.

November 21, 2018

By: Kelvin Young 11/21/2018

Files:	Heritage_Species_List2.pdf	11/21/2018	388.76 Bytes
	bat.pdf	11/21/2018	824.91 Bytes

2. A review of the National Register of Historic Places and the Tennessee Historical Commission Viewer indicates that there are no historic properties within the Area of Potential Effects (APE) or its viewshed. A review of TVA's land acquisition maps and USGS historical topographic maps indicates that there are no otherwise known historic structures within the APE.

TVA performed an archaeological survey of Watts Bar Reservoir shoreline (Ahlman et al 2000). The exposed shoreline was subjected to a walkover survey along this portion of the reservoir and no cultural deposits or artifacts were identified. Photographs of the APE below the shoreline depict nearly vertical cutbanks ranging from 5 - 30 feet in height. Photographs of the APE above the shoreline depict a moderate to steep hillside slope. Given the survey results, terrain characteristics and absence of NRHP and TNHCV sites, TVA finds these factors provide a reliable basis for concluding that the APE or its viewshed contains no historic properties.

An adjoining portion of the property was again subject to a TVA archaeological field review in 2016 (CEC 33118), and no intact cultural deposits were identified.

The proposed undertaking will have no effect on historic properties.

By: Michael Angst 12/21/2018

Files: CEC39844 Section106.pdf 12/21/2018 14.01 Bytes

8. Cleared by criteria: In accordance with TVA's previous review of certain repetitive actions in the 100-year floodplain which was determined there were no practicable alternative that would avoid siting in the floodplain, the stream bank stabilization project is expected to have insignificant potential effects.
By: Freddie C Bennett 11/13/2018

9. There are six Managed areas (MABR) and Heritage Sites (SBR) located in the vicinity. However, due to the nature and location of the proposed actions these sites would not be affected.

By: Kelvin Young 11/21/2018

10. Since the project equipment and materials would be free of debris that could transfer exotic species, and no water or species would be intentionally transferred, the project will not contribute to the spread of exotic or invasive aquatic species.
By: Craig L Phillips 12/10/2018

10. The proposed actions would not contribute to the spread of exotic or invasive species.

By: Kelvin Young 11/21/2018

11. One bald eagle, osprey, wading bird colony is known in the vicinity. The proposed actions will improve migratory bird habitat with the stabilization of shoreline.
By: Kelvin Young 11/21/2018

16. There is one cave located in the vicinity. Due to the nature of the proposed actions there will be no effect on these sites.
By: Kelvin Young 11/21/2018

17. Although records of state and federally listed aquatic species occurs within ten miles of the project, no extant populations are supported upstream of Watts Bar Dam. Therefore, no unique or important aquatic habitat would be affected by the project.
By: Craig L Phillips 12/10/2018

17. No unique aquatic habitat areas are known from the vicinity of the proposed actions.

By: Kelvin Young 11/21/2018

6. No wetlands occur at the site. No wetland species occur at the site.

By: Kelvin Young 11/21/2018

7. Placement of riprap along the bank from a barge would have direct impacts to the stream bank. However, rock riprap placed on the stream bank would reduce the active erosion and help stabilize the banks. All work would be done in accordance with the General Standards and Conditions and Best Management Practices and is expected to have minor and insignificant impacts during the placement of the rock. Long term beneficial impacts would be the stabilization and reduction of siltation entering Watts Bar Reservoir from active bank erosion.
By: Craig L Phillips 12/10/2018

7. There would be no negative effects on water flow or existing condition of the stream channel or stream bank. Streambank stabilization will reduce sedimentation caused from erosion and improve overall water quality.
By: Kelvin Young 11/21/2018

Part 3 Comments

5. Rock riprap, placed on the stream banks, will be beneficial in controlling erosion which enhances water quality by reducing sedimentation. It has a positive impact on aquatic habitat since silt from erosion can cover the graveled bottom where fish spawn. It will be constructed in accordance with Best Management Practices and General Standards and Conditions and is expected to have insignificant potential effects.
By: Freddie C Bennett 11/13/2018

Part 4 Comments

9. Please see attached navigation comments.

By: Nicole Berger 11/20/2018

Files: 4000543wbr - 26a - TRM 539.1R - TVA.docx 11/20/2018 14.23 Bytes

CEC Permit Listing

Part 3 Permits

5.	State Water Quality Certification (¿401 Clean Water Act)	
	By: Freddie C Bennett	11/13/2018
5.	Section 404 Permit (¿404 Clean Water Act)	
	By: Freddie C Bennett	11/13/2018

CEC Commitment Listing

Attachment 5 – TVA Bat Strategy Form

Bat Habitat Preliminary Assessment

Project Name Iron Hill Date 10-16-18

Location Watts Bar Reservoir County Rhea State Tenn.

Transmission line # (if applicable)_____ Associated Structures (if applicable)_____

Latitude / Longitude 35.68165 -084.74116 Surveyor W.S.L.

Pictures documenting project site (Pictures in this section only needed once for each project site)

- ☐ General picture(s) of the potential habitat (a picture of the forest) and the project site
- ☐ Picture(s) of adjacent areas to project site

Pictures for documenting suitability of specific trees

- ☐ A picture of the trunk of the tree at eye level
- ☐ A picture taken at the base of the tree looking up into the canopy
- ☐ A picture taken capturing the whole tree while standing back at a distance
- ☐ A picture of the surrounding area that includes the tree being documented along with showing the density of the surrounding forest

Check all that apply for specific trees

- ☐ Live tree
- ☐ Snag (dead or dying tree still standing)

Description of level of decay if tree is a snag (use following table to make determination) _____

	Overall Decay Status			
	1	2	3	4
Branches	80-100%	Few-no branches	Limb stubs to none	none
Bark Tightness	80-100% remaining	30-80% remaining	If snag has most of height and ≤ 30% bark, or if snag has <50% of height and ≥ 80% bark	<30% bark
Height	Full-broken top	Broken top	Broken top to 50% height	<50 % of height

- ☐ Tree has **exfoliating bark** 10 ft high or higher off the ground that allows for bats to roost
- ☐ Tree has **crevices, cracks,** or **hollows** 10 ft high or higher off the ground that allow for bats to roost
- ☐ The tree is exposed to the sun at some point during the day
- ☐ Potential roost tree is within 1000 feet of forested area

No Trees will Be removed

Needed documentation for specific trees

DBH – diameter of tree at breast height (inches) _____

Tree species (if known) _____

Summary of project site (Section only needs to be filled out once for each project site)

Number of potential roost trees within the project site _____

Area of the project site to be cleared _____

Percent of the project site forested _____

Dominant canopy tree species in project area _____

Dominant midstory tree species in project area _____

Note: Include reference so corresponding pictures can be matched correctly with this check sheet _____

For questions contact Liz Hamrick (865-632-4011)

Project Review Form - TVA Bat Strategy *(09/14/2018)*

***NOTE**: 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. 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[1]*

Project Name: Iron Hill **Date:** 10-16-18
Contact(s): _____ **CEC#:** _____ **RLR#:** _____ **Project ID:** _____
Project Location (City, County, State): Rhea - Tenn.
Project Description: Stabilize 490' of Shoreline on Watts Bar Reservoir

SECTION 1: PROJECT INFORMATION – ACTION AND ACTIVITIES

STEP 1) Select TVA Action. If none are applicable, contact environmental staff or Terrestrial Zoologist to discuss whether form (i.e., application of Bat Programmatic Consultation) is appropriate for project):

X	1	Manage Biological Resources for Biodiversity and Public Use on TVA Reservoir Lands		6	Maintain Existing Electric Transmission Assets
	2	Protect Cultural Resources on TVA-Retained Land		7	Convey Property associated with Electric Transmission
	3	Manage Land Use and Disposal of TVA-Retained Land		8	Expand or Construct New Electric Transmission Assets
	4	Manage Permitting under Section 26a of the TVA Act		9	Promote Economic Development
	5	Operate, Maintain, Retire, Expand, Construct Power Plants		10	Promote Mid-Scale Solar Generation

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

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.

	1. Loans and/or grant awards	8. Sale of TVA property	19. Site-specific enhancements in streams and reservoirs for aquatic animals
	2. Purchase of property	9. Lease of TVA property	20. Nesting platforms
	3. Purchase of equipment for industrial facilities	10. Deed modification associated with TVA rights or TVA property	41. Minor water-based structures (this does not include boat docks, boat slips or piers)
	4. Environmental education	11. Abandonment of TVA retained rights	42. Internal renovation or internal expansion of an existing facility
	5.Transfer of ROW easement and/or ROW equipment	12. Sufferance agreement	43. Replacement or removal of TL poles
	6. Property and/or equipment transfer	13. Engineering or environmental planning or studies	44. Conductor and overhead ground wire installation and replacement
	7. Easement on TVA property	14. Harbor limits	49. Non-navigable houseboats

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

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

Project Review Form - TVA Bat Strategy *(09/14/2018)*

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

STEP 3) Project includes one or more activities in Table 3?.... ☑ **YES (Go to STEP 4)** □ **NO (Go to STEP 13).**

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

a) If conducting **activity 16, 25, 26, 37, 47, 52, 62, 63, 64, 65, 70, 71, 73, 78, 80, 82, 83, 86, or 91,** will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)? ..... ☑ **NO** (NV2 does not apply); □ **YES** (NV2 applies, subject to records review); □ **N/A**

b) If conducting **activity 15, 26, or 92**, will project involve entry into/survey of cave, bridge, other structure (potential bat roost)?.....☑ **NO** (HP1/HP2 do not apply); □ **YES** (HP1/HP2 applies, subject to review of bat records); □ **N/A**

c) If conducting **prescribed burning (activity 23)**, estimated acreage: _____ and timeframe(s) below; ☑ **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	□ Oct 15 - Nov 14	□ Nov 15 - Mar 31	□ Apr 1 - May 31, Aug 1- Oct 14	□ Jun 1 - Jul 31
VA	□ Sep 16 - Nov 15	□ Nov 16 - Apr 14	□ Apr 15 - Sep 15	□ Jun 1 - Jul 31
AL	□ Oct 15 - Nov 14	□ Nov 15 - Mar 15	□ Mar 16 - May 31, Aug 1 - Oct 14	□ Jun 1 - Jul 31
NC	□ Oct 15 - Nov 14	□ Nov 15 - Apr 15	□ Apr 16 - May 31, Aug 1 - Oct 14	□ Jun 1 - Jul 31
MS	□ Oct 1 - Nov 14	□ Nov 15 - Apr 14	□ Apr 15 - Sep 30	□ Jun 1 - Jul 31

d) If **activity 17, 22, 32, 33, 34, 35, or 36**, 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); □ **N/A**

e) If **tree removal (activity 33 or 34)**, estimated amount 0 □ ac □ trees and timeframe(s) below; □ **N/A**

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	□ Oct 15 - Nov 14	□ Nov 15 - Mar 31	□ Apr 1 - May 31, Aug 1- Oct 14	□ Jun 1 - Jul 31
VA	□ Sep 16 - Nov 15	□ Nov 16 - Apr 14	□ Apr 15 - Sep 15	□ Jun 1 - Jul 31
AL	□ Oct 15 - Nov 14	□ Nov 15 - Mar 15	□ Mar 16 - May 31, Aug 1 - Oct 14	□ Jun 1 - Jul 31
NC	□ Oct 15 - Nov 14	□ Nov 15 - Apr 15	□ Apr 16 - May 31, Aug 1 - Oct 14	□ Jun 1 - Jul 31
MS	□ Oct 1 - Nov 14	□ Nov 15 - Apr 14	□ Apr 15 - Sep 30	□ Jun 1 - Jul 31

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