

Document Type: EA-Administrative Record
Index Field: Environmental Document
Project Name: Boone Reservoir Tract 22R Shoreline
Stabilization
Project Number: 2015-12

BOONE RESERVOIR TRACT 22R SHORELINE STABILIZATION ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

**Boone Reservoir
Sullivan County, Tennessee**

Prepared by:
TENNESSEE VALLEY AUTHORITY
Knoxville

February 2018

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Purpose and Need for Action

TVA is proposing to place rock riprap along a section of shoreline at South Fork Holston River Mile 19.5, Right descending bank, on Boone Reservoir in order to address severe erosion and undercutting of the shoreline. The section to be stabilized is along TVA Tract 22R, adjacent to the Boone Dam Reservation. A 1,300 linear foot section would be stabilized with rock riprap.

TVA originally considered the request to stabilize 1800 feet of shoreline on Tract 22R in 2008, and again in 2012. However, neither request was finalized. After reservoir levels were drawn-down to facilitate repair work to Boone Dam, the proposed plans on Tract 22R were revised to apply riprap stabilization to only 1,300 linear feet. A through inspection determined that 500 linear feet contained sufficient exposed bedrock and was removed from the proposal.

TVA is responsible for the management of public shoreline on Boone 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 its banks as well as the resultant turbidity and sedimentation of reservoir waters. Erosion of the shoreline is increasing, primarily due to the increasing presence of boats producing higher wakes on the reservoir. The proposal supports and is consistent with TVA's mission of environmental stewardship, the objectives for water resource management in the TVA Natural Resources Plan (NRP, 2011), and TVA's management goals set forth in TVA's Northeastern Tributary Reservoirs Land Management Plan (RLMP, 2000).

Proposed Action

The proposed stabilization project would consist of placing rock riprap along approximately 1300 feet of shoreline, located on Boone Reservoir, South Fork Holston River Mile 19.5, Right descending bank, in Tennessee (Attachment 1). The riprap would be placed using land-based equipment. The escarpment of the shoreline to be stabilized is approximately 6 to 8 feet high. The banks are bare of vegetation and actively eroding.

The reservoir has been drawn-down to facilitate repairs to Boone Dam. TVA retains ownership of the shoreline and back lying lands. A portion of Tract 22 has been developed into a temporary recreation area to support recreational opportunities while the reservoir is drawn-down. The site was developed with a swim beach, launch ramp, picnic area, and recreation facilities. Project activities will occur while the recreation area is open to the public. After repairs to the dam are complete, the temporary recreation area would be removed and riprap would be placed on the remainder of the shoreline. The site is depicted in Attachment 2.

The project will use Class II riprap (generally 12 to 24 inches in diameter) to prevent washout from wave action. Riprap would be placed along 1300 feet of shoreline, such that the bottom of the riprap would be at an elevation of 1379 feet above mean sea level (amsl) to 1385 amsl. No bankshaping would occur and filter fabric would be placed beneath the rock. Woody and/or herbaceous riparian species may be hand planted above the rock riprap for additional stabilization. A number of trees were undercut and have fallen onto the banks and would need to be removed; however, no standing trees will be removed. Project design drawings are provided in Attachment 3.

TVA proposes to conduct the work in 2018 during low water elevations and estimates that the work would be completed in approximately 45 days. 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).

Riprap placed below the Ordinary High Water Mark (OHWM) of jurisdictional waters is considered fill material and is therefore subject to Sections 401 and 404 of the Clean Water Act. TVA has obtained an Aquatic Resource Alteration Permit from the State of Tennessee, Department of Environment and Conservation, under Section 401 of the Clean Water Act. TVA has applied for approval for the project from the U.S. Department of Army, Army Corps of Engineers (USACE), under Section 404.

TVA is also considering taking no action (i.e., not placing riprap along the shoreline to stabilize the erosion issues). Taking no action would allow the destabilization and erosion of the shoreline and its banks to continue and would allow turbidity and sedimentation of reservoir waters to increase. As portions of the bank slough into the reservoir, some vegetation would also become unstable and fall on to the shoreline. The no action alternative is inconsistent with TVA's objectives for managing the public shoreline, but is included in this analysis to provide a baseline for comparison of project impacts and benefits. TVA also considered other stabilization methods (e.g. vegetation and bioengineering) but dismissed them from further consideration because measures which do not include hard armoring, such as rock riprap, have limited success in addressing critical erosion of such high banks.

Environmental Impacts

TVA has reviewed the proposed project and documented potential environmental impacts related to the project in the attached 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.

Threatened and Endangered Species: As documented in the Checklist, TVA conducted an initial review of its Natural Heritage Database on August 27, 2014, and followed up on the review on March 16, 2017. TVA found that no terrestrial threatened or endangered (T&E) species have been documented at or within a least a three mile radius of the project location (Attachment 5). One state listed species, the common raven (*Corvus corax*), was located within the three mile radius. No trees would be removed as part of the project, ensuring that there would be no impacts to the habitat of the Indiana bat (*Myotis sodalis*), Northern long-eared bat (*Myotis septentrionalis*), or the common raven.

Five aquatic T&E species were identified within a 10 mile radius of the project location. The four mussel species prefer shallow, fast-flowing water with a gravel substrate. The one fish species, the Tennessee dace (*Chrosomus tennesseensis*), prefers spring fed first order streams. However, suitable habitat for these species is not available at the project location because the impoundment of the dam has created slow moving water and a sediment laden embayment at the project location.

Three state listed terrestrial plant species were identified within 5 miles of the project location; however, suitable habitat for these species does not exist within the project location. In addition, no sensitive aquatic or terrestrial wildlife habitats occur adjacent to or within the project area. Therefore, the proposal would have no effect on endangered, threatened, or special status plant, aquatic, or wildlife species.

Cultural Resources: No impacts to cultural resources or historic properties would occur as a result of this project. TVA initially considered this stabilization project in 2008 and conducted a field reconnaissance at that time. The field reconnaissance identified no archaeological material. Based on the results of the field reconnaissance, TVA found that no historic properties would be affected by the proposed shoreline stabilization. On November 20, 2014, the Tennessee State Historic Preservation Office concurred with this finding (Attachment 6). As the scope of this proposal is within the confines of the original project, this consultation is carried forward, satisfying the requirements of Section 106 of the Historic Preservation Act.

Wetlands: 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. Therefore, impacts to wetland resources would not occur.

Floodplains: Because of the nature of the stabilization project, there is no practicable alternative that would avoid siting riprap in the floodplain. Although the 100-year floodplain may be affected, the stabilization structure falls under the guidelines of TVA's class review of repetitive actions within the 100-year floodplain. See 46 Fed. Reg. 22845 (Apr. 21, 1981).

Recreation: The proposed stabilization occurs adjacent to a temporary TVA day use recreation area. The recreation area would remain open during shoreline stabilization activities. While there may be temporary noise and recreation impacts to the public from construction equipment, these impacts should be of short duration. The project was redesigned to reduce the need to construct roads and laydown areas, which would also reduce impacts to the recreating public. Construction is anticipated to take approximately 45 days to complete.

Erosion: During construction, some soil erosion may occur or dredged or fill materials may be discharged and 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 potential impacts of the project. While some erosion may occur during construction, the primary beneficial effect of the project would be the long-term reduction in erosion of the shoreline and in sloughing of its banks.

Visual Impact: The parcel is located on public lands and the riprap would be visible to visitors of the recreation area and to boaters on the reservoir. As there are few riprap installations in this area of the reservoir, the riprap on Tract 22R may contrast with the natural appearance of shorelines within view of the point. However, much of the adjacent shoreline contains exposed bedrock and is visible to the same points of reference. Therefore, the visual impacts of the project to the surrounding view shed should be minor.

Cumulative Impacts: The proposal is limited in scope and designed to improve degraded conditions along shoreline in this area of Boone 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 on Boone 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 but would have beneficial overall impacts – though very diffuse in reach – because of decreased erosion and water turbidity and improved recreational access. 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

In addition to the necessary approvals from TVA, the following permits would be required for implementation of the proposed action:

- USACE Permit(s) pursuant to Section 404 of the Clean Water Act for the discharge of fill material into the waters of the United States.
- Aquatic Resource Alteration Permit/Water Quality Certification from the Tennessee Department of Environment and Conservation pursuant to Section 401(a)(1) of the Clean Water Act for proposed bank stabilization.

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 1,300 feet of shoreline on Boone Reservoir at the Tract 22R location would not be considered a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



Susan R Jacks, Senior Manager
NEPA Program and Valley Projects
Tennessee Valley Authority

03/22/2018

Date Signed

TVA Preparers

Damien Simbeck – Heritage Review and Watershed Specialist
Freddie Bennett –Watershed Specialist
Aurora Pulliam – Recreation Specialist
Edward Wells – Archaeologist
William White – NEPA Specialist

List of Attachments

Attachment 1 - Project Map
Attachment 2 - Site Photographs
Attachment 3 - Project Drawings
Attachment 4 - Environmental Review Checklist
Attachment 5 - TVA Natural Heritage Database Query
Attachment 6 – Consultation
Attachment 7 – Photos

Attachment 1 – Location Map

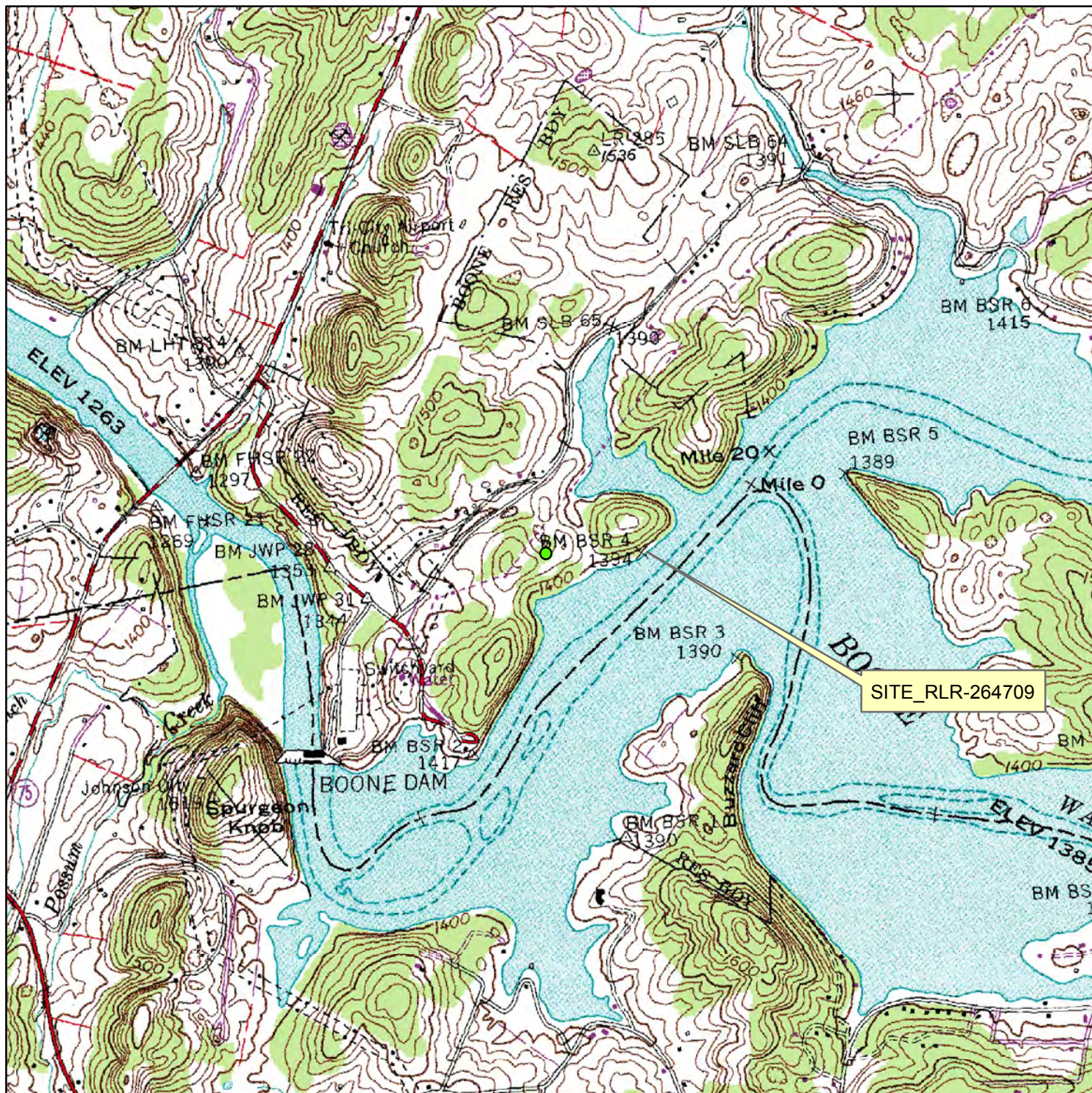


Figure 1

TENNESSEE VALLEY AUTHORITY
 Shoreline Stabilization
 South Fork Holston River - Mile 19.5R
 Boone Reservoir
 Sullivan County, Tennessee
 Quad Sheet 198NW (Boone Dam)



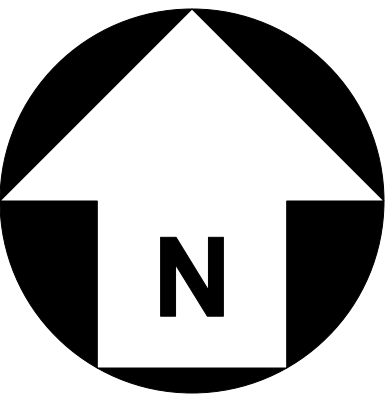
1,600 800 0 1,600 Feet

Attachment 2 – Site Map



BOONE DAM		TVA NATURAL RESOURCES & REAL PROPERTY SERVICES PUBLIC OUTREACH & RECREATION		
TRACT 22R SHORELINE STABILIZATION SITE PLAN		DESIGNED JAMES MORSE	APPROVED	DATE Nov 10, 2016
		SUBMITTED SHANNON O'QUINN	SCALE	REVISD FILE NO.

Attachment 3 – Drawings



Existing Rock
Outcrop

Normal Winter Pool
El. 1364.0 MSL

WOODLAND

BOONE RESERVOIR

Reef Ball

Reef Ball

Shoreline Erosion Contour
El. 1384.0 MSL

Ordinary High-Water Mark
El. 1382.0 MSL

DETAIL A

BOONE DAM



NATURAL RESOURCES & REAL PROPERTY SERVICES
PUBLIC OUTREACH & RECREATION

TRACT 22R
SHORELINE STABILIZATION
DETAIL A

DESIGNED
JAMES MORSE

APPROVED

DATE
Nov 10, 2016

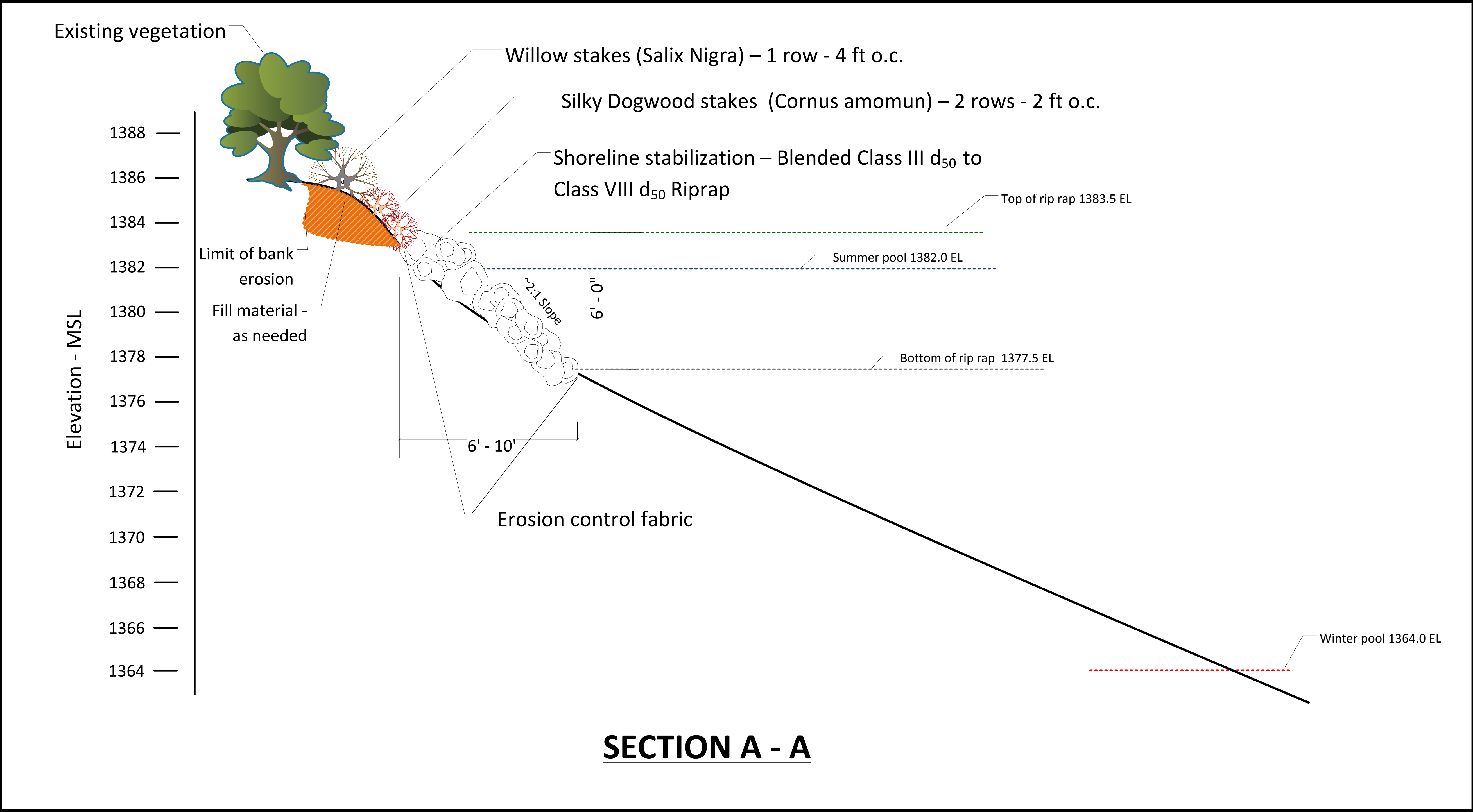
SHEET
1 of 1

SUBMITTED
SHANNON O'QUINN

SCALE

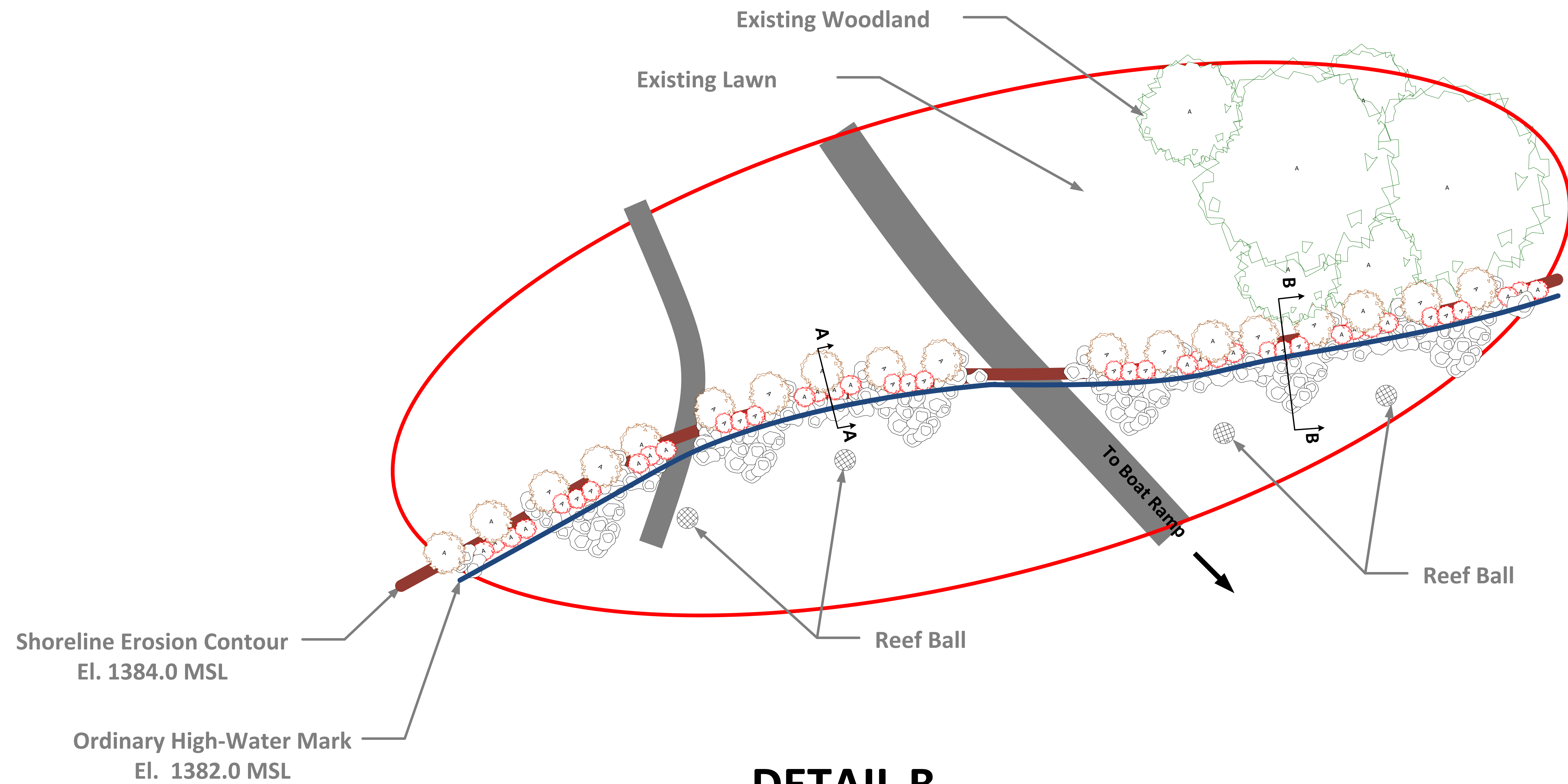
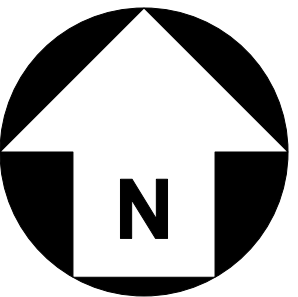
REVISED

FILE NO.



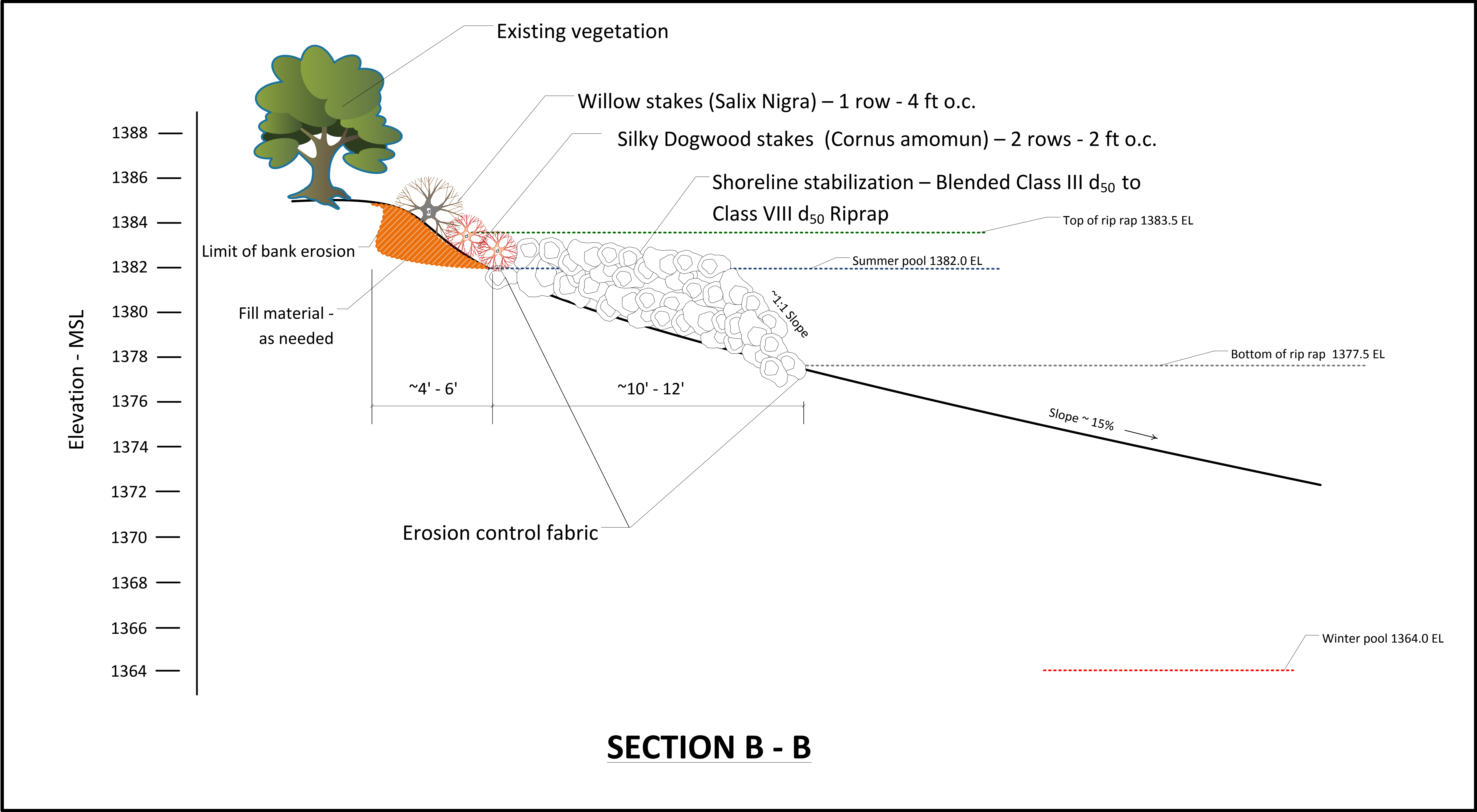
- Notes:
- 1 – Contractor shall be responsible for equipment, labor, and material needed for installation.
 - 2 – Riprap fill shall be a blended mix of Class III (at least 50% by weight shall be stones weighing 160 LB +/-, 13" +/- diameter) and Class VIII (at least 50% by weight shall be stones weighing 2,600 LB +/-, 25" +/- diameter).
 - 3 – Plant in a staggered pattern.
 - 4 – Disturbed ground not covered by shoreline buffer plantings shall be seeded with perennial rye grass and mulched with straw mulch.
 - 5 – Erosion control fabric to be covered with shredded or chipped mulch above toe protection.

BOONE DAM		TVA NATURAL RESOURCES & REAL PROPERTY SERVICES PUBLIC OUTREACH & RECREATION		
TRACT 22R SHORELINE STABILIZATION SECTION A-A	DESIGNED	APPROVED	DATE	SHEET
	JAMES MORSE		Mar 19, 2015	1 of 1
	SUBMITTED	SCALE	REVISED	FILE NO.
	RANDY SHORT		Jun 8, 2015	



DETAIL B

BOONE DAM		TVA NATURAL RESOURCES & REAL PROPERTY SERVICES PUBLIC OUTREACH & RECREATION		
TRACT 22R SHORELINE STABILIZATION DETAIL B	DESIGNED JAMES MORSE	APPROVED	DATE Nov 10, 2016	SHEET 1 of 1
	SUBMITTED SHANNON O'QUINN	SCALE	REVISED	FILE NO.



- Notes:
- 1 – Contractor shall be responsible for equipment, labor, and material needed for installation.
 - 2 – Riprap fill shall be a blended mix of Class III (at least 50% by weight shall be stones weighing 160 LB +/-, 13"/- diameter) and Class VIII (at least 50% by weight shall be stones weighing 2,600 LB +/-, 25"/- diameter). Top shall be “choked” with surge stone 3-4” diameter and then surfaced with 2" stone – total depth 6-8".
 - 3 – Plant in a staggered pattern.
 - 4 – Disturbed ground not covered by shoreline buffer plantings shall be seeded with perennial rye grass and mulched with straw mulch.
 - 5 – Erosion control fabric to be covered with shredded or chipped mulch above summer pool elevation.

BOONE DAM		TVA NATURAL RESOURCES & REAL PROPERTY SERVICES PUBLIC OUTREACH & RECREATION		
TRACT 22R SHORELINE STABILIZATION SECTION B-B		DESIGNED JAMES MORSE	APPROVED	DATE June 27, 2016
		SUBMITTED JERRY FOUSE	SCALE	REVISD June 11, 2016
		SHEET 1 of 1 FILE NO. TOCA-106 R1		

Attachment 4 - Environmental Review Checklist



ENTRAC - Categorical Exclusion Checklist

 Freddie C Bennett [Log off](#)

What's New	Help	Contacts	EnviroNet
CEC	CEC Commitments		
EA/EIS Commitments	Consultation Commitments		

Information about CEC 30983

Preparer	Freddie C Bennett
Date Entered	8/11/2014
Initiating Organization	P&NR - Reservoir Property & Resource Mgmt
Initiating Org Tracking ID	RLR_264709
ALIS ID(s)	264709
Project Initiator/Manager	Freddie C Bennett
Project Title	26a Category 3 RLR 264709 Tennessee Valley Authority Boone Reservoir
Proposed Action	<p>TVA is proposing to stabilize approximately 1800 feet of shoreline on Boone Reservoir with rock riprap and geotextile filter fabric. Treatment will follow a minimum soil disturbance approach. Bank reshaping will be conducted where needed. Treatment will require selective removal of some inland trees. Access to the stabilization site will be over existing and new constructed roads as required for use by rubber-tired and tracked heavy equipment and haul trucks. A 200' x 110' (0.5 acres) laydown yard will be established for temporary storage of material and equipment. The proposed laydown site is an open area in Sericea Lespedeza about 200 feet from the stabilization project. 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 procedures for permitting TVA projects. This stabilization site was reviewed and cleared with CEC 17656 in March 2008; however, the project was never initiated.</p>
Proposed Categorical Exclusion	

	Reason for closing the checklist under a different CE or no CE?		
	TVA Facility	Eastern Region	
View General Info	Location	County, State: SULLIVAN, TN Map Sheet(s): 1 C/D Stage 198	
Reopen CEC	Description	NW Quad Sheet Stream(s): SF Holston R 19.50 R	
CEC Comments	Primary	Environmental Reviews Biological & Cultural Compliance *	8/12/2014
Email Message	Media Expert		
View Attachments	Reviewer(s)	Freddie C Bennett	8/12/2014
Generate PDF	Secondary	Damien J Simbeck	8/27/2014
	Media Expert	Reviews EMap Heritage	8/12/2014
	Reviewer(s)	Edward W Wells, III	12/13/2014
	Review /	Matthew Higdon	3/2/2015
	Concurrence	Freddie C Bennett	12/15/2014
	Final	Preparer Only	
	Concurrence/Closure		
	Due Date	11/12/2014	
	TVA Short Code	0307527	
	TVA Project Number		
	TVA Project Organization Number		
	TVA Project Task Number		
	Business Sensitive	No	
	Status	Closed on 3/3/2015, EA Created	
	* Denotes reviewer who coordinates secondary media reviewers		

Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number RLR_264709	Tracking Number (NEPA Administration Use Only) 30983
Form Preparer Freddie C Bennett	Project Initiator/Manager Freddie C Bennett	Business Unit P&NR - Reservoir Property & Resource Mgmt
Project Title 26a Category 3 RLR 264709 Tennessee Valley Authority Boone Reservoir		Hydrologic Unit Code
Description of Proposed Action (Include Anticipated Dates of Implementation) For Proposed Action See Attachments and References		<input type="checkbox"/> Continued on Page 3 (if more than one line)
Initiating TVA Facility or Office Eastern Region		TVA Business Units Involved in Project
Location (City, County, State) SULLIVAN, TN, County, State: SULLIVAN, TN Map Sheet(s): 1 C/D Stage 198 NW Quad Sheet Stream(s): SF Holston R 19.50 R		

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	Commitment	Information Source for Insignificance
1.Is major in scope?	X			Bennett, Freddie C. 08/12/2014
2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Bennett, Freddie C. 08/12/2014
* 3.Involves non-routine mitigation to avoid adverse impacts?	X			Bennett, Freddie C. 08/12/2014
4.Is opposed by another federal, state, or local government agency?	X			Bennett, Freddie C. 08/12/2014
* 5.Has environmental effects which are controversial?	X			Bennett, Freddie C. 08/12/2014
* 6.Is one of many actions that will affect the same resources?	X			Bennett, Freddie C. 08/12/2014
7.Involves more than minor amount of land?	X			Bennett, Freddie C. 08/12/2014

*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	Commitment	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. 08/12/2014
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Bennett, Freddie C. 08/12/2014
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Bennett, Freddie C. 08/12/2014
6.Potentially affect wetlands, water flow, or stream channels?		X	No	No	For comments see attachments
7.Potentially affect the 100-year floodplain?		X	No	No	For comments see attachments
8.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
9.Contribute to the spread of exotic or invasive species?	X		No	No	For comments see attachments
10.Potentially affect migratory bird populations?	X		No	No	For comments see attachments
11.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Bennett, Freddie C. 08/12/2014
12.Potentially affect surface water?	X		No	No	Bennett, Freddie C. 08/12/2014
13.Potentially affect drinking water supply?	X		No	No	Bennett, Freddie C. 08/12/2014
14.Potentially affect groundwater?	X		No	No	Bennett, Freddie C. 08/12/2014
15.Potentially affect unique or important terrestrial habitat?	X		No	No	For comments see attachments
16.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	Commitment	Information Source for Insignificance
1.Release air pollutants?	X		No	No	Bennett, Freddie C. 08/12/2014
2.Generate water pollutants?	X		No	No	Bennett, Freddie C. 08/12/2014
3.Generate wastewater streams?	X		No	No	Bennett, Freddie C. 08/12/2014
4.Cause soil erosion?	X		No	No	Bennett, Freddie C. 12/15/2014
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. 08/12/2014
7.Generate or release hazardous waste (RCRA)?	X		No	No	Bennett, Freddie C. 08/12/2014
8.Generate or release universal or special waste, or used oil?	X		No	No	Bennett, Freddie C. 08/12/2014
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Bennett, Freddie C. 08/12/2014
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Bennett, Freddie C. 08/12/2014
11.Involve disturbance of pre-existing contamination?	X		No	No	Bennett, Freddie C. 08/12/2014
12.Generate noise levels with off-site impacts?	X		No	No	Bennett, Freddie C. 08/12/2014
13.Generate odor with off-site impacts?	X		No	No	Bennett, Freddie C. 08/12/2014
14.Produce light which causes disturbance?	X		No	No	Bennett, Freddie C. 08/12/2014
15.Release of radioactive materials?	X		No	No	Bennett, Freddie C. 08/12/2014
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Bennett, Freddie C. 08/12/2014
17.Involve materials that require special handling?	X		No	No	Bennett, Freddie C. 08/12/2014

Part 4. Social and Economic Effects

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Bennett, Freddie C. 08/12/2014
2.Increase the potential for accidents affecting the public?	X			No	Bennett, Freddie C. 08/12/2014
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Bennett, Freddie C. 08/12/2014
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. 08/12/2014
5.Disproportionately affect minority or low-income populations?	X			No	Bennett, Freddie C. 08/12/2014
6.Involve genetically engineered organisms or materials?	X			No	Bennett, Freddie C. 08/12/2014
7.Produce visual contrast or visual discord?	X			No	Bennett, Freddie C. 08/12/2014
8.Potentially interfere with recreational or educational uses?	X			No	Bennett, Freddie C. 08/12/2014
9.Potentially interfere with river or other navigation?	X			No	Bennett, Freddie C. 08/12/2014
10.Potentially generate highway or railroad traffic problems?	X			No	Bennett, Freddie C. 08/12/2014

Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Bennett, Freddie C. 08/12/2014
2.Involve a structure taller than 200 feet above ground level?	X		No	Bennett, Freddie C. 08/12/2014
3.Involve site-specific chemical traffic control?	X		No	Bennett, Freddie C. 08/12/2014
4.Require a site-specific emergency notification process?	X		No	Bennett, Freddie C. 08/12/2014
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. 08/12/2014
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Bennett, Freddie C. 08/12/2014
7.Involve construction of a new building or renovation of existing building (i.e., major changes to lighting, HVAC, and/or structural elements of building of 2000 sq. ft or more) on which TVA will pay/pays the utilities??	X		No	Bennett, Freddie C. 08/12/2014

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 Freddie C Bennett		Date 12/15/2014
TVA Organization UNKN	E-mail fcbennet@tva.gov	Telephone

Environmental Concurrence Reviewer

Preparer Closure

Freddie C Bennett

03/03/15

Signature

Other Environmental Concurrence Signatures (as required by your organization)

Other Review Signatures (as required by your organization)

Matthew Higdon 03/02/2015

Signature

Signature

Signature

Signature

Signature

Signature

Attachments/References

Description of Proposed Action Continued from Page 1

TVA is proposing to stabilize approximately 1800 feet of shoreline on Boone Reservoir with rock riprap and geotextile filter fabric. Treatment will follow a minimum soil disturbance approach. Bank reshaping will be conducted where needed. Treatment will require selective removal of some inland trees. Access to the stabilization site will be over existing and new constructed roads as required for use by rubber-tired and tracked heavy equipment and haul trucks. A 200' x 110' (0.5 acres) laydown yard will be established for temporary storage of material and equipment. The proposed laydown site is an open area in Sericea Lespedeza about 200 feet from the stabilization project. 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 procedures for permitting TVA projects. This stabilization site was reviewed and cleared with CEC 17656 in March 2008; however, the project was never initiated.

CEC General Comment Listing

1. NO COMMENT TEXT
By: 26a Added Comment
2. NO COMMENT TEXT
By: 26a Added Comment
3. NO COMMENT TEXT
By: 26a Added Comment
4. NO COMMENT TEXT
By: 26a Added Comment
5. NO COMMENT TEXT
By: 26a Added Comment
6. Laydown yard (0.5 acre (200' x 110'))
By: 26a Added Comment

7. NO COMMENT TEXT
By: 26a Added Comment
8. NO COMMENT TEXT
By: 26a Added Comment
9. NO COMMENT TEXT
By: 26a Added Comment
10. NO COMMENT TEXT
By: 26a Added Comment
11. NO COMMENT TEXT
By: 26a Added Comment
12. NO COMMENT TEXT
By: 26a Added Comment
13. NO COMMENT TEXT
By: 26a Added Comment

CEC Comment Listing

Part 2 Comments

1. A total of three federally listed and two state listed aquatic species have been found within 10 miles of the proposed actions. Most populations of state and federally listed aquatic species were extirpated after the completion of Boone Dam. No federally listed and one state listed species are known from extant populations in the vicinity. Extant populations are known only from unimpounded reaches of area streams and rivers. Habitat at the proposed site, impounded embayment, is not suitable for the various state and federally listed aquatic species known to occur in the vicinity. The proposed actions will have no effect on any protected aquatic species.

No federally listed and one state listed terrestrial animal species have been found within 3 miles of the proposed actions. Habitat at the proposed site consists of scrub forest and would not be adequate for these species. Since the proposed actions will involve only minor land disturbances, populations of these species will not be adversely impacted. No extant populations of *M. sodalis* are known from within 10 miles of the proposed actions. Since the proposed actions will involve only minimal disturbances to area trees or and no disturbances to caves, no impacts to *M. sodalis* will occur. Removal of any tree greater than 3" in diameter must be done between November 15 and March 1.

No federally listed and three state listed plant species have been found within 5 miles of the proposed actions. Habitat at the proposed site consists of scrub forest and would potentially be adequate for these species. Since the proposed actions will involve only minor disturbances to the shoreline vegetation, populations of these species will not be adversely impacted. Habitat at the laydown area (*Sericea lespedeza* field) would not be adequate for these species. The proposed actions will have no effect on any protected plant species.
By: Damien J Simbeck 08/27/2014
Files: Heritage Review_CEC30983_DJS_082714.pdf 08/27/2014 114.90 Bytes
2. TVA, in consultation with the State Historic Preservation Officer and federally recognized Indian tribes, finds the undertaking will have no effect to historic properties (see attached "Boone 1800 feet Stabilization SHPO Reduced.pdf" for supporting documentation.
By: Edward W Wells, III 12/13/2014
Files: Boone 1800 feet Stabilization SHPO Reduced.pdf 12/13/2014 977.13 Bytes
6. No significant impacts are anticipated since only minor amounts of wetlands occur at the site. Actions will not affect water flow or existing condition of the stream channel. Stabilization will protect stream bank from erosion.
By: Damien J Simbeck 08/27/2014
7. 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 bank stabilization project is expected to have insignificant potential effects.
By: Freddie C Bennett 08/12/2014
8. Four Managed Areas (MABR) and no Heritage Sites (SBR) are located in the vicinity. The proposed actions will occur approximately 0.4 miles from the nearest site. These actions will therefore have no effect on these sites.
By: Damien J Simbeck 08/27/2014
9. Standard Condition 6g applies.
By: Damien J Simbeck 08/27/2014
10. There are no osprey or bald eagle nests known from the vicinity. No colonial wading bird colonies are known in the vicinity. No changes in habitat will occur due to the proposed actions; therefore, there will be no effect to migratory bird species.
By: Damien J Simbeck 08/27/2014
15. Two caves and no other unique terrestrial habitat areas are located within 3 miles of the proposed actions. The proposed actions will have no effect on these sites.
By: Damien J Simbeck 08/27/2014
16. No unique aquatic habitat areas are located within 3 miles of the proposed actions. The proposed actions will have no effect on these sites.
By: Damien J Simbeck 08/27/2014

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.
By: Freddie C Bennett 08/12/2014

CEC Permit Listing

Part 3 Permits

5. Section 404 Permit (¿404 Clean Water Act)
By: Freddie C Bennett 08/12/2014
5. State Water Quality Certification (¿401 Clean Water Act)
By: Freddie C Bennett 08/12/2014

CEC Commitment Listing

Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number NRM Task ID 281829	Tracking Number <i>(NEPA Administration Use Only)</i> 36482	
Form Preparer Freddie C Bennett	Project Initiator/Manager Terry S O'Quinn	Business Unit P&NR - Reservoir Property & Resource Mgmt	
Project Title SHORELINE STABILIZATION - BOONE RESEREVOIR TRACT 22R			Hydrologic Unit Code
Description of Proposed Action <i>(Include Anticipated Dates of Implementation)</i> For Proposed Action See Attachments and References		<input type="checkbox"/> Continued on Page 3 <i>(if more than one line)</i>	
Initiating TVA Facility or Office		TVA Business Units Involved in Project	
Location <i>(City, County, State)</i> Sullivan, TN, Boone reservoir - SF Holston River mile 19.5R - Quad Sheet 198NW (Boone Dam) - Sullivan County, TN			

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	Commitment	Information Source for Insignificance
1.Is major in scope?	X			Bennett, Freddie C. 03/16/2017
2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Bennett, Freddie C. 03/16/2017
* 3.Involves non-routine mitigation to avoid adverse impacts ?	X		No	Bennett, Freddie C. 03/16/2017
4.Is opposed by another federal, state, or local government agency?	X			Bennett, Freddie C. 03/16/2017
* 5.Has environmental effects which are controversial?	X			Bennett, Freddie C. 03/16/2017
* 6.Is one of many actions that will affect the same resources?	X			White, W. D. 03/22/2018
7.Involves more than minor amount of land?	X			Bennett, Freddie C. 03/16/2017

*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	Commitment	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. 03/16/2017
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	For comments see attachments
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	For comments see attachments
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. 03/16/2017
13.Potentially affect surface water?	X		No	No	Bennett, Freddie C. 03/16/2017
14.Potentially affect drinking water supply?	X		No	No	Bennett, Freddie C. 03/16/2017
15.Potentially affect groundwater?	X		No	No	Bennett, Freddie C. 03/16/2017
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	Commitment	Information Source for Insignificance
1.Release air pollutants?	X		No	No	Bennett, Freddie C. 03/16/2017
2.Generate water pollutants?	X		No	No	Bennett, Freddie C. 03/16/2017
3.Generate wastewater streams?	X		No	No	Bennett, Freddie C. 03/16/2017
4.Cause soil erosion?	X		No	No	Bennett, Freddie C. 03/16/2017
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. 03/16/2017
7.Generate or release hazardous waste (RCRA)?	X		No	No	Bennett, Freddie C. 03/16/2017
8.Generate or release universal or special waste, or used oil?	X		No	No	Bennett, Freddie C. 03/16/2017
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Bennett, Freddie C. 03/16/2017
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Bennett, Freddie C. 03/16/2017
11.Involve disturbance of pre-existing contamination?	X		No	No	Bennett, Freddie C. 03/16/2017
12.Generate noise levels with off-site impacts?	X		No	No	Bennett, Freddie C. 03/16/2017
13.Generate odor with off-site impacts?	X		No	No	Bennett, Freddie C. 03/16/2017
14.Produce light which causes disturbance?	X		No	No	Bennett, Freddie C. 03/16/2017
15.Release of radioactive materials?	X		No	No	Bennett, Freddie C. 03/16/2017
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Bennett, Freddie C. 03/16/2017
17.Involve materials that require special handling?	X		No	No	Bennett, Freddie C. 03/16/2017

Part 4. Social and Economic Effects

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Bennett, Freddie C. 03/16/2017
2.Increase the potential for accidents affecting the public?	X			No	Bennett, Freddie C. 03/16/2017
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Bennett, Freddie C. 03/16/2017
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. 03/16/2017
5.Disproportionately affect minority or low-income populations?	X			No	Bennett, Freddie C. 03/16/2017
6.Involve genetically engineered organisms or materials?	X			No	Bennett, Freddie C. 03/16/2017
7.Produce visual contrast or visual discord?	X			No	Bennett, Freddie C. 03/16/2017
8.Potentially interfere with recreational or educational uses?		X		No	For comments see attachments
9.Potentially interfere with river or other navigation?	X		No	No	Bennett, Freddie C. 03/16/2017
10.Potentially generate highway or railroad traffic problems?	X			No	Bennett, Freddie C. 03/16/2017

Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Bennett, Freddie C. 03/16/2017
2.Involve a structure taller than 200 feet above ground level?	X		No	Bennett, Freddie C. 03/16/2017
3.Involve site-specific chemical traffic control?	X		No	Bennett, Freddie C. 03/16/2017
4.Require a site-specific emergency notification process?	X		No	Bennett, Freddie C. 03/16/2017
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. 03/16/2017
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Bennett, Freddie C. 03/16/2017
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. 03/16/2017

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 Terry S O'Quinn	Date 05/23/2017
TVA Organization RSO&E	E-mail tsoquinn@tva.gov
	Telephone

Environmental Concurrence Reviewer

W. Doug White 03/22/2018

Signature

Preparer Closure

W. D White 03/22/18

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 05/23/2017

Signature

Signature

Signature

Signature

Signature

Signature

Attachments/References

Description of Proposed Action Continued from Page 1

During August 2014, NRM initiated CEC-30983 to stabilize 1800 linear feet of eroding shoreline Tract 22R adjacent to the Boone Dam reservation. Because TVA does not issue itself 26a permits, the CEC was closed and the project was elevated to an EA. As a result of the Boone Dam Seepage Remediation project, the stabilization project was put on hold. A section of the shoreline was converted to a day use area to replace those facilities that became unavailable to the public because of the Dam repair. Plans have been revised for stabilizing the shoreline for 1300 linear feet. The site can now be easily accessed with no need for an access road or a laydown yard as required in the initial plans. Bank shaping will not be necessary, but some trees that have fallen in the reservoir area along some stretches of the shoreline because of severe erosion will have to be removed to facilitate placing of the rock riprap. A new review is being requested of this proposed project which we hope to start in FY18.

CEC General Comment Listing

- | | | | |
|----|-----------------------------------|------------|----------------|
| 1. | Aerial with attached site photos. | | |
| | By: Freddie C Bennett | 03/15/2017 | |
| | Files: 1_Aerial & Site Photos.pdf | 03/15/2017 | 2,582.42 Bytes |
| 2. | Revised Plans | | |
| | By: Freddie C Bennett | 03/15/2017 | |
| | Files: 2_Revised Plans_22R.pdf | 03/15/2017 | 664.03 Bytes |
| 3. | Project Overview | | |
| | By: Freddie C Bennett | 03/15/2017 | |
| | Files: 3_Project Overview.pdf | 03/15/2017 | 8.03 Bytes |
| 4. | Initial/Closed CEC 30983 | | |
| | By: Freddie C Bennett | 03/15/2017 | |
| | Files: 4_Closed CEC-30983.pdf | 03/15/2017 | 218.00 Bytes |

CEC Comment Listing

Part 2 Comments

- | | | | |
|----|--|------------|--------------|
| 1. | No new EOR records were found with a database review 03/16/2017. Therefore, all comments for CEC 30983 still apply. There are three caves within a three-mile radius of the proposed action. Gray bat, Myotis grisescens, Indiana bat, Myotis sodalis, and northern long-eared bat, Myotis septentrionalis are listed as a federally endangered or threatened species for this area. All three species hibernates in caves. Gray bat roosts in caves year-round and forages over streams and rivers. Indiana bat and northern long eared bats migrate from winter caves to roost during the summer behind loose bark of dead or dying trees or in tree cavities. This includes both individual bats and maternity colonies. Northern long-eared bats are also known to roost in buildings, bridges, and culverts. Indiana bat and northern long-eared bat forage within and around forests, as well as over bodies of water. No trees would be removed as a result of the proposed project and no other roosting structures are known within the project footprint. BMPs would be used around all bodies of water. Therefore, TVA has determined that there would be no effects to gray bat, Indiana bat, or northern long-eared bat. There will be no impacts to sensitive species due to suitable habitat for the species being absent on or immediately adjacent to the project location. | | |
| | By: Damien J Simbeck | 03/16/2017 | |
| | Files: Heritage Review_CEC30983_DJS_082714.pdf | 03/16/2017 | 114.90 Bytes |
| 2. | The revised scope for 1300 feet is subsumed under the original Cultural Resources Staff review of 1800 feet. TVA found no effect to historic properties during the previous consultation and this carries forward to the scope revision. | | |
| | By: Edward W Wells, III | 05/22/2017 | |
| 4. | The proposed project does not occur on WSR. AMP | | |
| | By: Aurora M Pulliam | 04/03/2017 | |

5. The proposed project does occur on NRI. AMP
By: Aurora M Pulliam 04/03/2017
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 shoreline stabilization project is expected to have insignificant potential effects.
By: Freddie C Bennett 03/16/2017
9. Comments for CEC 30983 still apply.
By: Damien J Simbeck 03/16/2017
10. To avoid translocation of exotic invasive plants, Standard Condition 6g applies. No transfer of exotic animals is proposed for this action.
By: Damien J Simbeck 03/16/2017
11. Comments for CEC 30983 still apply.
By: Damien J Simbeck 03/16/2017
16. Comments for CEC 30983 still apply.
By: Damien J Simbeck 03/16/2017
17. Comments for CEC 30983 still apply.
By: Damien J Simbeck 03/16/2017
6. No significant impacts are anticipated since only minor amounts of wetlands occur at the site.
By: Damien J Simbeck 03/16/2017
6. Attached is the NWI for the project. No wetlands were identified.
By: W. D White 02/12/2018
Files: Boone 22R - NWI.pdf 02/12/2018 654.44 Bytes
7. Actions will not affect water flow or existing condition of the stream channel. Stabilization will protect stream bank from erosion.
By: Damien J Simbeck 03/16/2017

Part 3 Comments

5. The placement of rock riprap on the stream bank to control erosion will be installed in accordance with General Standards and Conditions and is expected to have insignificant potential effects.
By: Freddie C Bennett 03/16/2017

Part 4 Comments

8. The proposed stabilization occurs within a TVA day use area and temporary recreation facilities, ie beach and launching ramp to replace those facilities that became unavailable to the public because of the ongoing repair work for Boone Dam remediation. As a result of the drawdown of the reservoir and the constructed public use area, the site can now be easily accessed with no need for an access road or a laydown yard as required in the initiate plans - this is good and redefines possible interference issues proposed with original CEC. Once the Dam is repaired and the reservoir returns its normal operating elevations, the temporary public use area will be stabilized as indicated on the plans (Detail B) utilizing a rock stone toe with vegetation planted above it. Concrete reef ball fish attractors will be placed in the reservoir along this shoreline stretch to enhance fish habitat. The plan is for the boat launching ramp to remain for winter drawdown use. These recreation amenities will enhance recreation and educational uses for public on Boone Reservoir, and align with the recreation focus area of TVA's NRP. AMP
By: Aurora M Pulliam 04/03/2017

CEC Permit Listing

Part 3 Permits

5. Section 404 Permit (404 Clean Water Act)
By: Freddie C Bennett 03/16/2017
5. State Water Quality Certification (401 Clean Water Act)
By: Freddie C Bennett 03/16/2017

CEC Commitment Listing

Attachment 5 – TVA Natural Heritage Database Query

Table 1. Records of state- and federal-listed aquatic animal species located within a 10 mile radius search

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Epioblasma torulosa gubernaculum	Green Blossom Pearlymussel	X - Extirpated	TN	SX	EXTI	LE	06010102 - South Fork Holston
Io fluviialis	Spiny Riversnail	X - Extirpated	TN	S2	TRKD		06010102 - South Fork Holston
Pegias fabula	Little-wing Pearlymussel	X - Extirpated	TN	S1	END	LE	06010102 - South Fork Holston
Phoxinus tennesseensis	Tennessee Dace	E - Verified extant (viability not assessed)	TN	S3	NMGT		06010102 - South Fork Holston
Quadrula intermedia	Cumberland Monkeyface	X - Extirpated	TN	S1	END	LE	06010102 - South Fork Holston

Table 2. Records of *Myotis soldalis* located within a 10 mile radius search

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
None in vicinity							

Table 3. Records of state- and federal-listed plant species and champion tree points located within a 5 mile radius search

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Buckleya distichophylla	piratebush	H - Historical	TN	S2	THR		06010103 - Watauga
Draba ramosissima	Branching Whitlow-wort	E - Verified extant (viability not assessed)	TN	S2	SPCO		06010102 - South Fork Holston
Thuja occidentalis	Northern White Cedar	H - Historical	TN	S3	SPCO		06010103 - Watauga

Table 4. Records of Managed Areas (MABR) points and Heritage Sites (SBR) points located within a 5 mile radius search

Managed Area Name
WARRIORS PATH STATE RECREATION PARK
BOONE DAM RESERVATION
BOONE RESERVOIR RESERVATION
FT. PATRICK HENRY RESERVOIR RESERVATION

Site Name
None in vicinity

Table 5. Records of state- and federal-listed terrestrial animal species and heronry points located within a 3 mile radius search

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Corvus corax	Common Raven	E - Verified extant (viability not assessed)	TN	S2	THR		06010102 - South Fork Holston

Table 6. Records of caves sites located within a 3 mile radius search

TN Sullivan County Cave	Not ranked	TN	06010102 - South Fork Holston
TN Washington County Cave	Not ranked	TN	06010103 - Watauga

Attachment 6 – Consultation



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

November 7, 2014

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TVA, SHORELINE STABILIZATION, BOONE RESERVOIR, SULLIVAN COUNTY,
TENNESSEE (36° 26.72' N, 82° 25.63' W)

TVA is proposing to stabilize approximately 1,800 linear feet of eroded stream bank on Boone Reservoir in Sullivan County, Tennessee (Figures 1 and 2), utilizing rock riprap with geotextile filter fabric. The rock would extend six feet vertically, from an elevation of 1379 feet above mean sea level (amsl) to 1385 feet amsl. Woody and/or herbaceous riparian species may be hand planted above the rock riprap for additional stabilization. The work would follow a minimum soil disturbance approach that includes TVA Best Management Practices. Where site conditions dictate, bank reshaping would be conducted, and an earthen key would be built at the base of the slope for anchoring the rock. Access to the stabilization site would utilize both existing and newly constructed roads as required for use by rubber-tired and tracked heavy equipment and haul trucks. A half-acre laydown yard will be used for temporary storage of material and equipment. TVA has determined that this proposed project is an undertaking (as defined at 36 CFR § 800.16(y)) that has the potential to cause effects on historic properties. We are initiating consultation under Section 106 of the National Historic Preservation Act for this undertaking.

TVA identified the area of potential effects (APE) for the undertaking as the shoreline that would be stabilized, the half-acre laydown area, and the proposed access road. TVA considers the undertaking to have no potential to affect historic architectural properties.

TVA initially considered this project in 2008. At that time, TVA Cultural Compliance staff conducted a desktop review and a field reconnaissance of the APE. The desktop review indicated that TVA has conducted no previous archaeological surveys within the APE. The existing staging area (Figure 3), typically used for dam reservation projects, lies on a hillside slope composed of Waynesboro loam, 12 to 20 percent slopes, eroded phase soils (Web Soil Survey 2014). The new access roads will follow steep terrain from the staging area to shoreline. The shoreline lies along a seasonally inundated toe slope which has experienced severe erosion (Figure 4). The reconnaissance identified no archaeological material. Based on the results of the field reconnaissance, TVA finds that no archaeological sites listed in or eligible for listing in the National Register of Historic Places (NRHP) are located within the APE.

Mr. E. Patrick McIntyre, Jr.
Page Two
November 7, 2014

Pursuant to 36 CFR Part 800.4(d)(1), we are seeking your concurrence with TVA's finding that no historic properties would be affected by this proposed shoreline stabilization.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for the NRHP.

Should you have any questions or comments, please contact Ted Wells in Knoxville at ewwells@tva.gov or (865) 632-2259.

Sincerely,

A handwritten signature in black ink, appearing to read "Clinton E. Jones". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Clinton E. Jones, Manager
Biological and Cultural Compliance
Environment
WT11B-K

EWV:CSD

Enclosures

cc (Enclosures):

Ms. Jennifer Barnett
Tennessee Division of Archaeology
1216 Foster Avenue, Cole Bldg. #3
Nashville, Tennessee 37210



Access Road Entrance

Existing
access road

New road to
be constructed

Proposed Laydown Yard (200' x 110')
for equipment and material

TVA High voltage Power line right of way

INTERNAL COPIES, NOT INCLUDED WITH OUTBOUND LETTER:

Brenda Brickhouse, BR 4A-C

Skip Markham, BR 4A-C

Khurshid Mehta, WT 6A-K

Samantha Strickland, MPB 1H-M

EDMS, WT CA-K



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON ROAD
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org



November 20, 2014

Mr. Clinton Jones
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902

RE: TVA, BOONE RESERVOIR BANK STABILIZATION, UNINCORPORATED,
SULLIVAN COUNTY

Dear Mr. Jones:

The Tennessee State Historic Preservation Office has reviewed the above-referenced undertaking received on Wednesday, November 12, 2014 for compliance by the participating federal agency or applicant for federal assistance with Section 106 of the National Historic Preservation Act. The Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

After considering the documentation submitted, we concur with your agency that there are no National Register of Historic Places listed or eligible properties affected by this undertaking. This determination is made either because of the location, scope and/or nature of the undertaking, and/or because of the size of the area of potential effect; or because no listed or eligible properties exist in the area of potential effect; or because the undertaking will not alter any characteristics of an identified eligible or listed property that qualify the property for listing in the National Register or alter such property's location, setting or use. Therefore, this office has no objections to your proceeding with the project.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. You may direct questions or comments to Jennifer M. Barnett (615) 741-1588, ext. 105. This office appreciates your cooperation.

Sincerely,

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

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

November 12, 2014

To Those Listed:

TVA, SHORELINE STABILIZATION, BOONE RESERVOIR, SULLIVAN COUNTY,
TENNESSEE (36° 26.72' N, 82° 25.63' W)

TVA is proposing to stabilize approximately 1,800 linear feet of eroded stream bank on Boone Reservoir in Sullivan County, Tennessee (Figures 1 and 2), utilizing rock riprap with geotextile filter fabric. The rock would extend six feet vertically, from an elevation of 1379 feet above mean sea level (amsl) to 1385 feet amsl. Woody and/or herbaceous riparian species may be hand planted above the rock riprap for additional stabilization. The work would follow a minimum soil disturbance approach that includes TVA Best Management Practices. Where site conditions dictate, bank reshaping would be conducted, and an earthen key would be built at the base of the slope for anchoring the rock. Access to the stabilization site would utilize both existing and newly constructed roads as required for use by rubber-tired and tracked heavy equipment and haul trucks. A half-acre laydown yard will be used for temporary storage of material and equipment. TVA has determined that this proposed project is an undertaking (as defined at 36 CFR § 800.16(y)) that has the potential to cause effects on historic properties. We are initiating consultation under Section 106 of the National Historic Preservation Act for this undertaking.

TVA identified the area of potential effects (APE) for the undertaking as the shoreline that would be stabilized, the half-acre laydown area, and the proposed access road. TVA considers the undertaking to have no potential to affect historic architectural properties.

TVA initially considered this project in 2008. At that time, TVA Cultural Compliance staff conducted a desktop review and a field reconnaissance of the APE. The desktop review indicated that TVA has conducted no previous archaeological surveys within the APE. The existing staging area (Figure 3), typically used for dam reservation projects, lies on a hillside slope composed of Waynesboro loam, 12 to 20 percent slopes, eroded phase soils (Web Soil Survey 2014). The new access roads will follow steep terrain from the staging area to shoreline. The shoreline lies along a seasonally inundated toe slope which has experienced severe erosion (Figure 4). The reconnaissance identified no archaeological material. Based on the results of the field reconnaissance, TVA finds that no archaeological sites listed in or eligible for listing in the National Register of Historic Places (NRHP) are located within the APE.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with the following federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for listing in the NRHP: Cherokee Nation, Eastern Band of Cherokee Indians, and the United Keetoowah Band of Cherokee Indians in Oklahoma.

To Those Listed
Page Two
November 12, 2014

By this letter, TVA is providing notification of these findings and is seeking your comments regarding this undertaking and any properties that may be of religious and cultural significance and may be eligible for listing in the NRHP pursuant to 36CFR §§ 800.2 (c)(2)(ii), 800.3 (f)(2), and 800.4(a)(4)(b).

Please respond by December 12, 2014, if you have any comments on the proposed undertaking. If you have any questions, please contact me in Knoxville, Tennessee, at (865) 632-6461 or by email at pbezzell@tva.gov.

Sincerely,

A handwritten signature in black ink that reads "Pat Bernard Ezzell". The signature is written in a cursive, flowing style.

Patricia Bernard Ezzell
Senior Program Manager
Tribal Relations and Corporate History
Public Relations and Corporate Information
Communications
WT 7D-K

PBE:CSD
Enclosure

IDENTICAL LETTERS MAILED TO THE FOLLOWING ON NOVEMBER 12, 2014:

Dr. Richard Allen
Policy Analyst
Cherokee Nation
Post Office Box 948
Tahlequah, Oklahoma 74465

Mr. Tyler Howe
Historic Preservation Specialist
Eastern Band of Cherokee Indians
Post Office Box 45
Cherokee, North Carolina 28719

cc: Mr. Russell Townsend
Tribal Historic Preservation Office
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Ms. Miranda Panther
NAGPRA Coordinator
Eastern Band of Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Mrs. Lisa C. LaRue-Baker
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464

INTERNAL COPIES, NOT INCLUDED WITH OUTBOUND LETTER:

Brenda Brickhouse, BR 4A-C
Kathryn Hodges, WT 7D-K
Clinton Jones, WT11B-K
Skip Markham, BR 4A-C
Khurshid Mehta, WT 6A-K
Gail Rymer, WT 7D-K
Samantha Strickland, MPB 1H-M
Ted Wells, WT 11D-K
EDMS, WT CA-K

Attachment 7- Photographs

Legend

Minga Store Rd
Minga Rd

Project End

Project Begin

Photo Page 6

Photo Page 5

Photo Page 4

Photo Page 3

Photo Page 2

Photo Page 1

Photo Page 1A -
New Beach/Ramp
Area

Google earth

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900 ft













