

MEMORANDUM OF AGREEMENT
AMONG
THE U.S. ARMY CORPS OF ENGINEERS, NASHVILLE DISTRICT,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICER AND THE TENNESSEE
WILDLIFE RESOURCES AGENCY, PURSUANT TO SECTION 106 OF THE NATIONAL
HISTORIC PRESERVATION ACT AS IMPLEMENTED BY REGULATIONS 36CFR § 800
CONCERNING THE REMOVAL OF THE HISTORIC HARMS MILL DAM AND
POWERHOUSE

SUBJECT: LRN-0-5258900: MITIGATION OF ADVERSE EFFECTS FOR THE REMOVAL OF THE HARMS MILL DAM AND POWERHOUSE, LINCOLN COUNTY, TENNESSEE, PURSUANT TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

WHEREAS, the U.S. Army Corps of Engineers, Nashville District (Corps) is evaluating a Department of the Army Permit application pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), Section 10 of the River and Harbors Act from the Tennessee Wildlife Resources Agency (TWRA or the APPLICANT) for the authorization to remove the historic Harms Mill Dam and Powerhouse (the undertaking); and

WHEREAS, the undertaking also requires a Section 26a permit under the Tennessee Valley Authority (TVA) Act and pursuant to 36 CFR § 800.2(a)(2), the TVA designated USACE as lead federal agency; and

WHEREAS, the Corps has defined the undertakings area of potential effects (APE) as 3.5-acres surrounding the Harms Mill Dam and Powerhouse as depicted on maps (Appendix A); and

WHEREAS, the Harms Mill Dam and Powerhouse was listed on the National Register of Historic Places (NRHP) (NRHP # 90001007) in 1990 under Criteria A and C; and

WHEREAS, the Corps required an archaeological survey(s) to be conducted in sufficient scope to identify and evaluate all archaeological resources within the APE; and

WHEREAS, the Corps consulted with the Tennessee State Historic Preservation officer (TNSHPO) and determined that no evidence of previously documented site 40LN107 was encountered during the archaeological survey; and

WHEREAS, the Corps has determined that the issuance of permit(s) would cause an adverse effect to the Harms Mill Dam and Powerhouse (NRHP # 90001007), and has consulted with the TNSHPO pursuant to 36 C.F.R. part 800 of the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. 306108); and

WHEREAS, as the APPLICANT, the TWRA have been invited to be a Signatory to this agreement; and

WHEREAS, the TVA have been invited to be a Signatory to this agreement; and

WHEREAS, the Corps have contacted the Lincoln County Historical Society and Lincoln County Archives to be Concurring Parties to this agreement, but have elected to not participate; and

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WHEREAS, the Corps has consulted with the Absentee-Shawnee Tribe of Oklahoma, Alabama Coushatta Tribe of Texas, Cherokee Nation, Chickasaw Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Muscogee (Creek) Nation, Oklahoma, Shawnee Tribe and United Keetoowah Band of Cherokee Indians in Oklahoma regarding the effects of the undertaking on historic properties and invited them to sign as Concurring Parties; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), the Corps has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, the Corps, TNSHPO and the APPLICANT (the Signatories) and Concurring Parties, if applicable, collectively will be considered the Consulting Parties for this MOA; and

NOW, THEREFORE, the Corps and the TNSHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to mitigate the adverse effect of the undertaking to historic properties.

Stipulations

I. DAM RECORDATION AND INTERPRETATION

TWRA will carry out the following measures listed below using a professional meeting the applicable Secretary of the Interior's Professional Qualifications Standards (48FR 44716-740).

A. Dam and Powerhouse Recordation and Documentation.

Prior to authorizing any demolition or other activity that could damage any building, structure or associated feature, the Corps will ensure that the low-head dam and associated buildings and structures will be documented in accordance with the *Level III* standards and guidelines of the Historic American Engineer Record (HAER) (www.nps.gov/hdp/standards/index.htm). The proposed documentation methods would include the following items:

1. A detailed Sketch Plan of the Property.
2. Digital Photography of the Property
3. Written History and Description of the Property following the HAER short form for historical reports.

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Once completed and approved by the Signatories, the documents listed above will not need to be submitted to the National Park Service or filed at the Library of Congress.

B. Interpretive Signage.

TWRA will work with the Consulting Parties to install public interpretive signage near the location of the dam and powerhouse that is being removed. Prior to installation of the interpretive signage, the location, language, historic photos, layout and type will be reviewed and approved by the Consulting Parties. The interpretive signage should be readily visible to the public within the new proposed boat launch area.

II. Reporting.

- A. The Corps shall submit digital drafts of the documents produced as a result of the *Level III* standards and guidelines of the HAER to the TNSHPO within sixty (60) days from the completion of fieldwork. The Consulting Parties shall be afforded thirty (30) days to review and comment on all documents submitted in compliance with this agreement.
- B. TWRA shall submit the completed documents in final format to the Corps. The Corps shall provide digital copies of this report to the Consulting Parties and the Lincoln County Archives. If desired, additional digital or hard copies of the report(s) can be made available or distributed.
- C. Draft layouts and proposed locations of the signage will need to be submitted, reviewed, and approved prior to installation by the Consulting Parties (Appendix C).
- D. Prior to installation of the signage, the TWRA will need to notify the Corps once installed and provide photographic proof, which will be sent to the TNSHPO.

III. Treatment of Human Remains and Funerary Objects

No evidence of human remains, or funerary objects have been documented within the APE of the undertaking.

- A. If any human remains are encountered during the course of the investigation, the construction contractor shall cease all ground disturbing activities within a 50-foot area around the remains and notify the coroner or medical examiner, local law enforcement, the Corps, and the Tennessee State Archaeologist. The Corps shall

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also notify and consult with the Consulting Parties prior to resuming any ground disturbing activities in the area. Any exposed remains will be covered with cotton fabric and a thin layer of soil until an agreed upon course of action is approved.

IV. Post-Review Discovery

Pursuant to 36 CFR 800.13(b), the Corps, in consultation with the TNSHPO, shall make a reasonable and good faith effort to avoid or minimize any adverse effects to NRHP-eligible archaeological sites that may be discovered as a result of the dam and powerhouse removal. In the unlikely event that adverse effects to previously unknown NRHP-eligible archaeological sites cannot be avoided or minimized, the Corps shall consult with the Concurring Parties to resolve these adverse effects through execution of an amendment to this agreement document.

- A. If previously unidentified archaeological resources are discovered during the project construction, the contractor shall cease all construction activities immediately within a 50-foot area around the resource. TWRA shall notify the Corps and the TNSHPO within 24 hours of the discovery and shall take appropriate steps to immediately secure and protect the site. As lead federal agency, the Corps will notify the Consulting Parties within 12 hours of being notified by the APPLICANT.
- B. The APPLICANT shall hire a professional archaeologist meeting the Secretary of the Interior's standards (48FR 44716-740) to undertake any necessary investigation to provide as much information as possible concerning the cultural resource, such as resource type, location, and size, as well as any information on its significance. The investigation will be done in consultation with the Corps, TNSHPO and other concurring parties in order to obtain technical advice and guidance for the evaluation of the discovered cultural resource. Any investigation undertaken would follow all appropriate procedures for investigations and reporting requirements under applicable State and Federal requirements, including determinations of eligibility and the curation of recovered materials.
- C. The investigation will evaluate the resource's eligibility for inclusion in the NRHP. The results of the investigation will be formally submitted to the Corps Regulatory archaeologist, the TNSHPO and other appropriate review agencies and parties for review and comment. The reviewing agencies and parties shall be afforded five (5) business days to review and comment on the documents associated with unanticipated discoveries. All documents produced as a result of an unanticipated discovery will be distributed to the reviewing agencies and parties electronically via email.

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- D. If it is determined that the cultural resource does not represent a potentially significant resource, and the Corps archaeologist is in receipt of a written comment from the review agencies, work may resume in the area of the unanticipated discovery.
- E. In the event archaeological or cultural materials are discovered during the project undertaking, neither the construction team nor the applicant will disclose this information to the public or the media in any manner, including social media. Discoveries of archaeological materials will be kept private and confidential.

V. Duration

This MOA will be null and void if its terms are not carried out within two (2) years from the date of its execution. Prior to such time, the Corps may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with 36 CFR § 800.6(c).

Once executed, the Corps shall provide a biyearly summary to all parties to this MOA detailing work undertaken pursuant to its terms, until the MOA expires or is terminated. The Summary shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the Corps' efforts to carry out the terms of this MOA.

VI. Dispute Resolution

Should any Signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the Corps shall consult with such party to resolve the objection. If the Corps determines that such objection cannot be resolved, the Corps shall forward all documentation relevant to the dispute, including the Corps proposed resolution to the ACHP. The ACHP shall provide the Corps with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. If the ACHP does not provide its advice regarding the dispute within the thirty (30) days, the Corps may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Corps shall prepare a written response that takes into account any timely comments from the signatories and concurring parties regarding the dispute and provide all such parties and the ACHP with a copy of such written response.

VII. Amendments

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all of the Signatories is filed with the ACHP.

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VIII. Termination

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult to seek an amendment to the agreement. Agreed to amendments will be effective on the date a copy signed by all of the signatories is filed with the ACHP. If the agreement is not amended, any signatory may terminate the agreement. If the agreement is terminated, the Corps shall either execute a new agreement with the signatories pursuant to 36 CFR § 800.6(c)(1) or request the comments of the ACHP pursuant to 36 CFR 800.7(a). The Corps shall notify the signatories as to the course of action it will pursue.

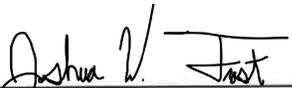
This agreement may be executed contemporaneously in one or more counterparts, each of which shall be deemed an original, but all of which shall together constitute one and the same document.

Execution of this Memorandum of Agreement by the Corps, the TNSHPO, and TWRA, and implementation of its terms, evidence that the Corps has taken the effects of the undertaking on historic properties into account in compliance with Section 106 of the National Historic Preservation Act.

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Signatory:

U.S. Army Corps of Engineers, Nashville District



JOSHUA FROST
Chief, Regulatory

26 September 2023

(Date)

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Signatory:

Tennessee State Historic Preservation Officer

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

E. Patrick McIntyre, Jr.
State Historic Preservation Officer

9/26/2023

(Date)

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Signatory:

Tennessee Wildlife Resources Agency



Jason Maxedon
Executive Director

9/9/23

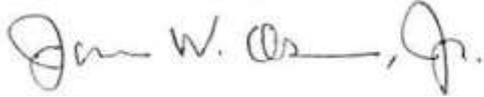
(Date)

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Invited Signatory:

Tennessee Valley Authority

A handwritten signature in black ink, appearing to read "James W. Osborne, Jr.", written over a horizontal line.

Mr. James W. Osborne, Jr.
Manager, Cultural Compliance

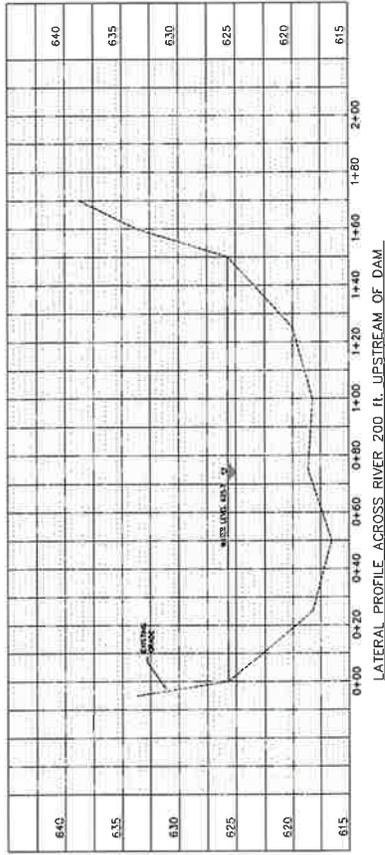
September 26, 2023

(Date)

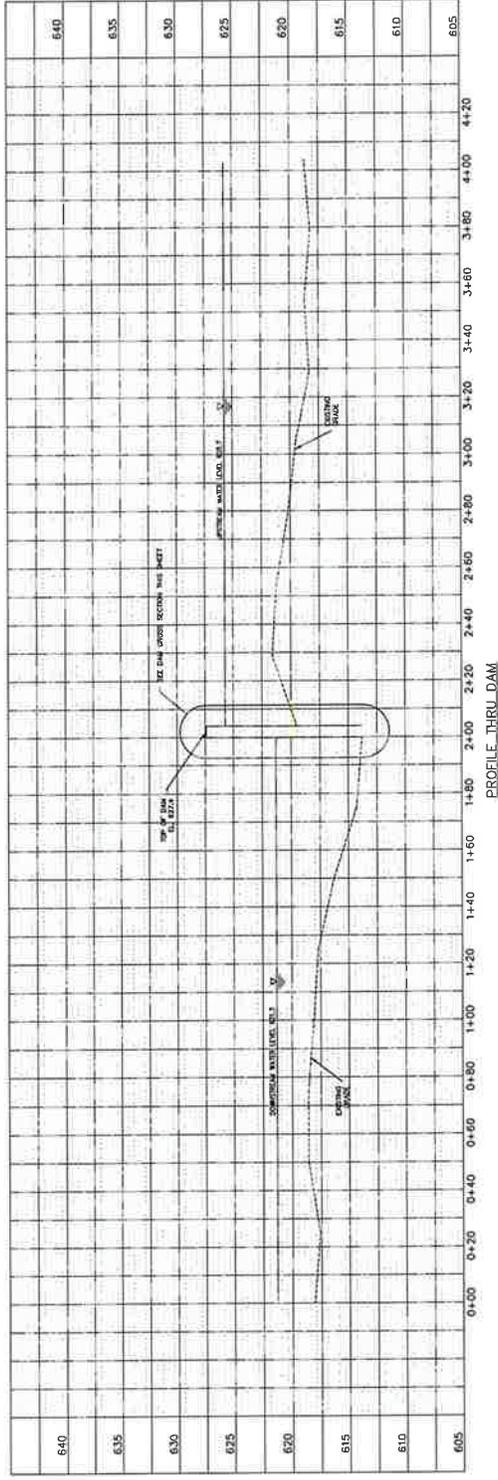
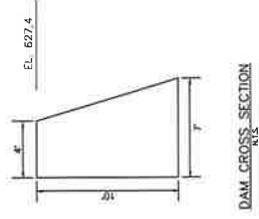
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Appendix A

Map of Permit Area / Area of Potential Effects



GRAPHIC SCALE
1"=20' HORIZONTAL
1"=5' VERTICAL



GRIGGS & MALONEY INCORPORATED
Engineering & Environmental Consulting
P.O. BOX 296B, MURFREESBORO, TN 37133-2966
(615) 895-5271 • FAX (615) 895-0637

PERMIT DRAWINGS NOT FOR CONSTRUCTION

SUBMITTALS AND REVISIONS

DATE	BY	NO.	DESCRIPTION

TENNESSEE WILDLIFE RESOURCES AGENCY
HARM'S MILL DAM
LINCOLN COUNTY, TENNESSEE

PROFILES

PROJECT NO. 707-168

JANUARY 2023	DATE	BY	SCALE	AS NOTED

SHEET 3 OF 6

Appendix B: Photos of Project Area



Photo 1 – Looking east at the Harms Mill Powerhouse and Dam from N35.150775°, W86.649222°. Rip-rap will be installed in this area.



Photo 2 – Looking northwest at Harms Mill Dam and Powerhouse from N35.150517°, W86.648347°.



Photo 3 – Looking northwest at Harms Mill Dam and Powerhouse from N35.150506°, W86.648353°.



Photo 4 – Looking east at the existing boat ramp location from N35.151239°, W86.648821°. The area has already been cut for an un-stabilized access point to the Elk River.

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Appendix B

SHPO and Corps Correspondence



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
REGULATORY DIVISION
3701 BELL ROAD
NASHVILLE, TENNESSEE 37214

June 2, 2023

SUBJECT: Department of the Army Application, File Number LRN-0-5258900; Harms Mill Dam and Powerhouse Removal; Lincoln County, Tennessee

Mr. E. Patrick McIntyre
Tennessee Historical Commission
State Historic Preservation Officer
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

The U.S. Army Corps of Engineers, Nashville District (USACE) received a permit application from the Tennessee Wildlife Resources Agency (TWRA) for the discharge of fill material into waters of the United States (WOUS) in association with the proposed Harms Mill Dam and Powerhouse removal in Lincoln County, Tennessee. The USACE defines the verification or issuance of a permit as a federal undertaking that has the potential to cause effects to historic properties and requests to initiate consultation under Section 106 of the National Historic Preservation Act. The undertaking also requires a 26a permit under the Tennessee Valley Authority (TVA) Act. Pursuant to 36 CFR § 800.2(a)(2), the TVA designates USACE as lead federal agency.

The primary purpose of the project is to deconstruct the existing Harms Mill Dam and Powerhouse which is a low-head dam that spans the width of the Elk River near river mile 77.00. The dam is located in rural south-central Tennessee in Lincoln County about five miles southwest of the county seat, Fayetteville. The site, approximately 500 feet from State Highway 15, is accessible by a one-lane, crushed stone drive. The site is located at approximate GPS coordinates are N35.150848, W-86.649294. The dam creates a barrier on the mainstem of the river and separates 804 linear miles of river below the dam from 780 miles upstream. Removing the dam would result in 1,114 free flowing miles of continuous river that are open to fish and aquatic wildlife migration, and recreation. The secondary purpose of the project is to install a boat/access ramp to provide local Emergency Services and recreational users access to the river. The USACE permit area for this project includes the upland staging areas, the road crossing and the land and water ward areas encompassing the Harms Mill Dam and Powerhouse, totaling approximately 3.5-acres. The permit area is defined in accordance with 33 CFR part 325 Appendix C (1)(g) and USACE guidance memoranda dated April 25, 2005, January 31, 2007, and January 6, 2009. The terms "undertaking" and "permit

area” are defined in our regulations at 33 CFR 325 Appendix C at (1)(f) and (1)(g) respectively.

Enclosed for your review are cultural resource reports: *Phase I Archaeological Survey of the Proposed Harms Mill Dam Removal; Lincoln County, Tennessee & Historic Structures Harms Mill Dam Section 106 Report Lincoln County, Tennessee.*

Prior to conducting the Phase I records search revealed that eight previously documented archaeological sites were recorded within a 1-mile radius of the project area with site 40LN107 being documented in northwest portion of the permit area along the southside of State Highway 15. The Phase I archaeological survey covered the seven proposed owned by Lincoln County for consideration as debris burial sites along Hwy 273 and the TWRA owned ca. 2.75-acre tract containing the Harms Mill Powerhouse and Dam. The parcels owned by Lincoln County which are under consideration for use for burial of demolition debris total approximately 3.77 acres and extends ca. 200 meters (656.17 feet) to the west from Harms Lane north and south of Hwy 273 and extends north and south of Hwy 273 ca. 30 meters (98.43 feet), which included the entire USACE permit area. The Phase I included the excavation of 18 shovel tests, which were all negative for cultural material. Shovel Tests 9-12 were excavated in attempts to relocate 40LN107. Based on the results of the Phase I, the USACE has determined that no previously documented archaeological site will be impacted by the proposed project.

Additionally, Midsouth Cultural Resource Consultants conducted a review of historic resources within the permit area as well as a 0.5-mile surrounding area. Listed in the National Register of Historic Places (NRHP) in 1990 under Criterion A for Commerce and Criterion C for Engineering the Harms Mill Dam and Powerhouse is located in the permit area. The Harms Mill Dam and Powerhouse was included in a National Register of Historic Places Multiple Property Documentation Form focused on Pre-TVA Hydroelectric Development in Tennessee, 1901-1933. Additionally, six previously documented architectural resources were recorded within the 0.5-mile buffer. These six architectural resources will not be impacted by the proposed project.

As the Harms Mill Dam and Powerhouse is Listed on the NRHP, the USACE has determined that its proposed demolition will result in an “adverse effect to historic properties”. The USACE will mitigate these adverse effects through the development of a Memorandum of Agreement (MOA) in consultation with the SHPO, TWRA, USFW, TVA, ACHP and other concerned interest groups.

The USACE respectfully requests a review of the proposed project and concurrence of our determinations within 30 days. Please address questions to Mr. Timothy Dodson at timothy.s.dodson@usace.army.mil or (615) 369-7512.

Sincerely,

Tim Dodson

Timothy Dodson
Archaeologist, Technical Services Branch
Regulatory Division

Enclosures: Cultural Resource Reports
Project Maps and Plans



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

2023-06-05 15:40:45 CDT

Mr. Tim Dodson
USACE-Nashville
Timothy.S.Dodson@usace.army.mil

RE: Corps of Engineers/Nashville District (COE-N), Harms Mill Dam and Powerhouse Removal and Boat Access Ramp, Project#: SHPO0003264, Fayetteville, Lincoln County, TN

Dear Mr. Tim Dodson:

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

Please submit a shapefile of the archaeological survey area. Additionally, a site record update for site 40LN107 must be submitted to the Tennessee Division of Archaeology.

Considering available information, we concur that the project as currently proposed will adversely affect the Harms Mill Dam. You should continue to consult with our office to resolve the adverse effect. Please direct questions and comments to Casey Lee at Casey.Lee@tn.gov. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and

State Historic Preservation Officer

Ref:MSG8615098_yYJml1OVjPgbLwX1rwJF



July 27, 2023

Mr. Timothy Dodson
Regulatory Archaeologist
U.S. Army Corps of Engineers
Nashville District
3701 Bell Road
Nashville, TN 37214

Ref: *Harms Mill Dam and Powerhouse Removal*
Lincoln County, Tennessee
File Number LRN-0-5258900
ACHP Project Number: 19795

Dear Mr. Dodson:

On July 13, 2023, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, Criteria for Council Involvement in Reviewing Individual Section 106 Cases, of Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe our participation in the consultation to resolve adverse effects is needed.

However, if we receive a request for participation from the Tennessee State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to 36 CFR § 800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Tennessee SHPO and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the NHPA.

Thank you for providing us with your notification of adverse effect. If you have any questions or require our further assistance, please contact Ms. Emily Choi at (202) 517-0207 or by e-mail at echoi@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

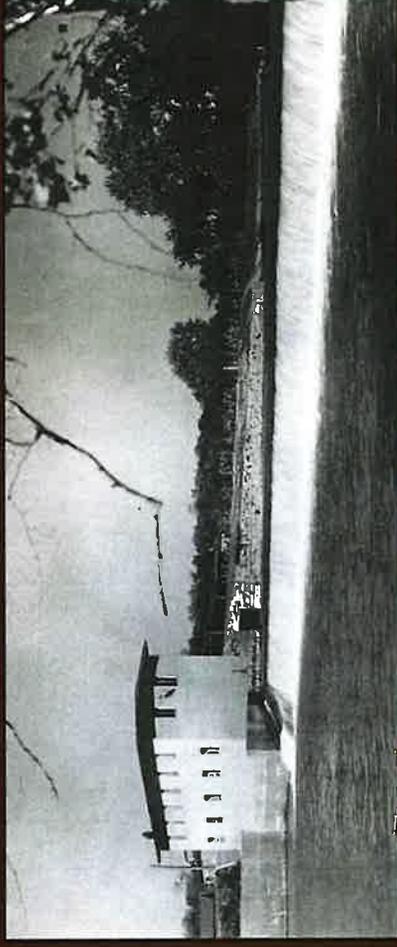
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Appendix C

Example of Interpretative Signage

Harms Mill Dam

A water-powered, wooded frame textile mill was built on the location in 1870 by the Harms Brothers. In 1905, a 75-hp hydroelectric generator was installed to provide power for the textile mill. In 1920, the textile mill was purchased by the Fayetteville Light and Power Company and a new concrete dam, and a concrete powerhouse were completed in 1922 and retired in 1940.



Completed Harms Mill Dam ca. 1922

The original design of Harms Mill dam is 14' at the base, 12' high, 5' wide at the top, 325' long, with a 250 feet uncontrolled ogee overflow spillway. The dam has a unique open flume water conducting system fed by an intake system consisting of four forebays, three of which feature two seven-foot-wide slide gates, with the remaining forebay having a nine-foot-wide slide gate. In 1929, TEPCO, the statewide electric power monopoly, purchased the facilities equipped with four turbines. Harms Mill Powerhouse and Dam was listed on the National Register of Historic Places on July 5, 1990. The main elements of Harms Mill Dam were disposed in **month 202X**.



Construction of powerhouse and dam ca. 1920s



Low Head Dams

The majority of dams typically alter a part of free-flowing river changing it into lake-like habitat by creating impoundments of varying size. The reduced water flow and larger surface area created by dams can alter the species composition of river organisms, favoring slower-moving aquatic species better adapted to impounded water. However, the removal of a dam can enable the return of native species by restoring pre-dam riverine habitats on which native species depend.



The Elk River is a biologically diverse river system, supporting numerous species of fish, mussels, and other aquatic organisms including the Boulder Darter (left) and Cracking Pearly Mussel (right) both of which are federally endangered. Photo courtesy of Joel Sartore.



Harms Mill Dam ca. 2022

A dam disrupts river connectivity and can block passage both up and downstream for migrating fish that move up and down a river to find suitable spawning, rearing and foraging habitat, and other wildlife. In addition, dams fragment the river corridor by isolating populations and habitats, altering the river environment both physically and thermally, and disturbing the interface between land and aquatic ecosystems. This combined negative impact of dams on aquatic species can adversely impact reproduction. Reproductive success, which often depends on appropriate timing for reaching spawning or breeding habits, can be improved by the removal of dams.

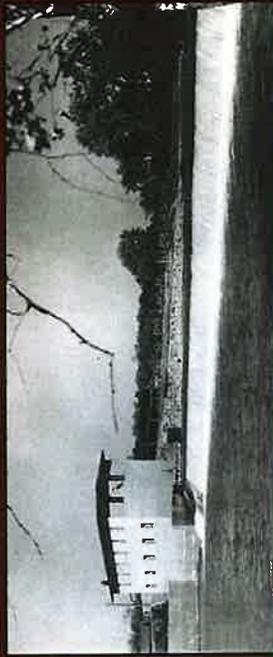


Harms Mill Dam

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Completed Harms Mill Dam ca. 1922

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A low-head dam is a man-made obstruction typically built in a river or stream channel spanning from bank to bank. The design of these dams varies depending on its intended use. These dams store a minimal amount of water below the stream bank and within the channel. Most low-head dams do not provide flood reduction abilities within the watersheds they are found.



Most dams typically alter a part of free-flowing river changing it into lake-like habitat by creating impoundments of varying size. The reduced water flow and larger surface area created by dams can alter the species composition of river organisms, favoring slower-moving aquatic species better adapted to impounded water. However, the removal of a dam can enable the return of native species by restoring pre-dam riverine habitats on which native species depend.



The Elk River is a biologically diverse river system, supporting numerous species of fish, mussels, and other aquatic organisms including the Boulder Darter (left) and Cracking Pearly Mussel (right) both of which are federally endangered. Photo courtesy of Joel Sartore.

A dam disrupts river connectivity and can block passage both up and downstream for migrating fish that move up and down a river to find suitable spawning, rearing and foraging habitat, and other wildlife. In addition, dams fragment the river corridor by isolating populations and habitats, altering the river environment both physically and thermally, and disturbing the interface between land and aquatic ecosystems. This combined negative impact of dams on aquatic species can adversely impact reproduction. Reproductive success, which often depends on appropriate timing for reaching spawning or breeding habits, can be improved by the removal of dams.





HARMS MILL HYDROELECTRIC STATION

The Harms Brothers constructed a water-powered textile mill on site in 1870 and a 75hp hydroelectric generator was installed in 1905. Its rectangular design horizontal emphasis was unique as was the use of four turbines to drive one generator. The powerhouse operated from 1922 to 1940 when the Tennessee Valley Authority retired it from service. The construction of Harms Mill Dam represents a change in the business of manufacturing, trading, commerce, services and commodities and the gradual introduction of electricity into everyday human existence in Tennessee.