FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
DAM SAFETY ACTIONS IN ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, SOUTH CAROLINA, AND TENNESSEE

The Department of Homeland Security's (DHS) Federal Emergency Management Agency has completed a Programmatic Environmental Assessment (PEA) in accordance with the National Environmental Policy Act (NEPA); National Historic Preservation Act (NHPA) and tribal considerations; Endangered Species Act (ESA); Executive Orders (EO) addressing Floodplains (EO 11988) and Wetlands (EO 11990); and agency guidance for implementing NEPA (DHS Instruction 023-01 and FEMA Directive 108-01-1). The PEA is hereby incorporated by reference.

BACKGROUND

The PEA evaluated the impacts of dam safety actions utilizing Public Assistance (PA), Hazard Mitigation Grant Program (HMGP), High Hazard Potential Dam (HHPD), Flood Mitigation Assistance (FMA), or Pre-Disaster Mitigation (PDM) funding within FEMA's Region 4 States: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The purpose of dam safety activities, such as repair, rehabilitate, replace, reconstruct, or the removal of dams due to age, erosion, and/or deterioration, is to reduce the risk of breach or failure. Through such activities, the potential for a breach or failure may be reduced and the risk to life, structure, and infrastructure is minimized. These activities will be implemented using accepted engineering practices, established codes, standards, modeling techniques, and best practices. Dam activities must demonstrate that they are cost-effective based on FEMA benefit-cost analysis methods.

ALTERNATIVES

FEMA evaluated two alternatives; the no action where FEMA continues to evaluate projects case-by-case and the proposed action considering activities to repair, rehabilitate, replace, reconstruct, increase water storage capacity, or the removal of hazardous dams. FEMA focused on dams within the southeast United States that either are under the minimum dam definition requirements for each state and/or national guidelines, using the guideline (state or national) that is more rigorous. FEMA based the proposed action on activities consistent with FEMA grant program eligibility guidelines, previous FEMA NEPA documents identified for individual dam projects, and the following NEPA documents:

EPA's 2018 *WIFIA Program Programmatic Environmental Assessment*
USACE's 2023 *Garrison Dam Spillway Repair Environmental Assessment*
USACE's 2019 *Pipestem Dam Safety Modification Study Environmental Assessment*
USACE's 2019 *Salt Creek Outlet Works Modification Project Environmental Assessment*
USFWS's 2024 *Beaver Dam Notching Red Rock Lakes National Wildlife Refuge Environmental Assessment*
US Air Force's 2022 *Repair to Kettle Creek Dry Dam Environmental Assessment*

SUMMARY OF IMPACTS

Section 5.0 and *Table 5.0.2: Affected Environment and Potential Impact Summary Table* of the PEA includes a summary of effects to resource areas evaluated under the PEA. The proposed action alternative has short-term, mostly minor but in some cases up to moderate effects to resources, primarily relating to construction disturbances impacts to biological resources. Dependent on the scope of work, long-term, moderate to high impacts may occur and will be assessed on a project-by-project basis. However, FEMA anticipates that the proposed action alternatives will have positive and long-term beneficial impacts on biological resources as well as for human safety and welfare, socioeconomics, among others when meeting the Purpose and Need of the proposed action.

FEMA includes thresholds in the PEA that addresses what actions and impacts are covered and what would need a tiered environmental assessment to address impacts exceeding the PEA. Project proposals that do not meet the Purpose and Need or fall within the thresholds table for tiering would require separate project- and site-specific evaluation described in Section 10.0 of the PEA.

CONDITIONS

The PEA will require general conditions attached to each project and will include additional conditions based on project specifics:

- General
    - The dam owner and/or subrecipient (subrecipient) is responsible for obtaining and complying with all required local, state, and federal permits and approvals.
    - All proposed actions must be in compliance with state and federal dam safety requirements.
    - Changes to the previously provided and approved Scope of Work (SOW) resulting in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, the subrecipient must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws, including but not limited to ESA, NHPA, and Executive Orders 11988 and 11990.
    - Disturbed green spaces that will be revegetated shall use species native to their specific geographic area.
- Threatened and Endangered Species (ESA)
    - All practicable measures must be taken to avoid adverse impacts to aquatic species, including, but not limited to, implementing directional boring methods and stringent sedimentation and erosion control measures.
    - All practicable measures must be taken to avoid adverse impacts to threatened and endangered species and designated critical habitats, including conditions identified in FEMA's ESA compliance review.
    - For dam removal projects, coordination with the state's Department of Natural Resources Wildlife Division is required for any concerns to species not federally protected.

- National Historic Preservation Act (NHPA)
    - If human remains or intact archaeological features or deposits (e.g., arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the subrecipient. The subrecipient will than adhere to state guidelines and conditions outlined in FEMA's NHPA compliance review.
    - Prior to conducting repairs, the subrecipient must identify the source and location of fill material and provide this information to FEMA. If the borrow pit is privately owned, or is located on previously undisturbed land, or if the fill is obtained by the horizontal expansion of a pre-existing borrow pit, FEMA consultation with the SHPO will be required.
- Water Resources and Water Quality, Wetlands, and Soils:
    - Project may require Section 401/404 Clean Water Act permit(s) or approval. The dam owner is responsible for coordinating with and obtaining any required Section 404 permits from the United States Army Corps of Engineers, Section 401 permits/approval from the [INSERT DELEGATED AUTHORITY], and a National Pollution Discharge Elimination System permit/approval from the [Environmental Protection Agency or INSERT DELEGATED AUTHORITY] prior to initiating work. The dam owner is responsible for verifying and adhering to all permit/approval requirements including the implementation, monitoring, and maintenance of all applicable Best Management Practices. Copies of permitting or documentation from the permitting official(s) that a permit/approval is not required are to be forwarded to the state and FEMA for inclusion in the administrative record.
    - Project may require Section 9/10 permit(s) or approval under the Rivers and Harbors Act from the United States Army Corps of Engineers. The dam owner is responsible for verifying and adhering to all permit/approval requirements including the implementation, monitoring, and maintenance of all applicable Best Management Practices. Copies of permitting or documentation from the permitting official(s) that a permit/approval is not required are to be forwarded to the state and FEMA for inclusion in the administrative record.
    - Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material. Stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable.
    - Stockpiles are to be protected with silt fence installed along toe of slope with a minimum offset of five (5) feet from the toe of stockpile.
    - Maintain natural buffers on all streams and creeks adjacent to the project site at a minimum. Should state law require additional buffer around state waters or specific streams, these laws shall be implemented.
    - Dewatering Permits are required prior to dewatering activities and the subrecipient must comply with all of the conditions prescribed by the permit.

- Air Quality
    - The subrecipient's contractor shall monitor and take precautions to control dust and other air pollutants including but not limited to using water or chemicals, limiting vehicles allowed on-site, and minimizing the operation speed of vehicles in accordance with the Stormwater Pollution Prevention Plans.
- Noise
    - The subrecipient must comply with local and state Traffic Control Plans and Noise Ordinances. Permits must be obtained if required as regulated by these ordinances.
- Construction activities must take place during less noise-sensitive daylight hours.
- Hazardous Materials
    - All solid or hazardous wastes generated during construction will be removed and disposed at a permitted facility or designated collection point.
    - Construction equipment must be managed to avoid oil, fuel, or lubricant leaks during equipment use, and will employ BMPs as described in the SWPPP to mitigate potential impacts of hazardous materials.
    - If hazardous source materials are encountered during construction activities, the subrecipient's contractor will identify, manage, and dispose of hazardous materials, or other heavily contaminated materials, in accordance with all local, state, and federal regulations. The subrecipient must notify FEMA of the encounter and provide disposal details.
    - Procedures will be in place that address safety, health, and emergency response; environmental protection; contaminated soil excavation; transportation and disposal of hazardous or contaminated material; and contaminated dewatering and drainage.
- Migratory Birds
    - Tree and vegetation removal will be avoided during the migratory bird nesting season to the extent practicable. By observing the US Fish and Wildlife Service tree clearing window for endangered bat species, impacts will be minimized to the greatest extent feasible.
- Invasive Species
    - Graded areas will be revegetated with native grasses and forbs, or native seed mixes.
- Safety and Security
    - The construction contractor shall be required to develop and implement a Health and Safety Plan to assure worker safety during construction activities.
    - Construction workers shall be required to comply with all applicable OSHA regulations, as well as other applicable regional regulations.
    - The construction site must be secured from public access.

PUBLIC ENGAGEMENT

The writing team for this PEA included staff from FEMA Region 4. FEMA provided opportunities for other federal and state partners to review and distribute copies through early notification documentation for a 30-day comment period and direct meetings when requested. FEMA made the PEA available for public comment on FEMA's NEPA Repository (https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa/programmatic-environmental-36) for 30-day comment. For posting of early notification and the Draft PEA, FEMA provided written notification to interested State, Federal, and Tribal Partners.

CONCLUSIONS

Based upon the information contained in the referenced Final PEA completed in accordance with the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA) and tribal considerations, Endangered Species Act (ESA); Executive Orders (EO) addressing Floodplains (EO 11988) and Wetlands (EO 11990) and agency guidance for implementing NEPA (DHS Instruction 023-01 and FEMA Directive 108-01-1), it is found that the Proposed Action and Connected Actions with the prescribed mitigation measures and stipulations, would have no significant adverse impact on the human environment. As a result of this Finding of No Significant Impact (FONSI), an Environmental Impact Statement will not be prepared.

APPROVED BY:

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PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Dam Safety Projects

FEMA Region 4

JULY 2025

FEMA

Federal Emergency Management Agency
Region 4
Department of Homeland Security
3005 Chamblee Tucker Road
Atlanta, GA 30341

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FIGURES

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APPENDICES

LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADEM	Alabama Department of Environmental Management
AHPA	Archeological and Historic Preservation Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMPs	Best Management Practices
BRIC	Building Resilient Infrastructure and Communities
CAA	Clean Air Act
CATEX	Categorical Exclusion
CBIA	Coastal Barrier Improvement Act
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources Systems
CEQ	Council on Environmental Quality
CERCA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FMA	Flood Mitigation Assistance
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FR	Federal Register
GDNR	Georgia Department of Natural Resources
GIS	Geographic Information System
HHPD	High Hazard Potential Dam

HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
MDMR	Mississippi Department of Marine Resources
MOA	Memorandum of Agreement
MSA	Magnuson–Stevens Fishery Conservation and Management Act
MSATs	Mobile Source Air Toxics
MTBA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCDEQ	North Carolina Department of Environmental Quality
NDSP	National Dam Safety Program
NDSRB	National Dam Safety Review Board
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NID	National Inventory of Dams
NMFS	National Marine Fisheries Service
NOAA	U.S. National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NRIS	National Resources Information Service
OPA	Otherwise Protected Area
OSHA	Occupational Safety and Health Administration
PA	Public Assistance or Programmatic Agreement
PAPPG	Public Assistance Program & Policy Guide
PDM	Pre-Disaster Mitigation
PEA	Programmatic Environmental Assessment
PPA	Prototype Programmatic Agreement
PR&G	Principles, Requirements, and Guidelines
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RHA	Rivers and Harbors Act
SDWA	Safe Drinking Water Act
SCDHEC	South Carolina Department of Health and Environmental Control
SC-GHG	Social Cost of GHGs
SEA	Site-Specific Environmental Assessment
SHPO	State Historic Preservation Officer

SSA	Sole Source Aquifer
SOW	Scope of Work
SWPPP	Stormwater Pollution Prevention Plan
TCSA	Solid Waste Act, the Toxic Substances Control Act
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	U.S. Army Corp of Engineers
USC	United States Code
USCB	U.S. Census Bureau
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOCs	Volatile Organic Compounds
WOTUS	Waters of the United States
WRDA	Water Resources Development Act
WSR	Wild and Scenic Rivers Act

1.0 SECTION ONE - INTRODUCTION

1.1 Overview

The mission of the Federal Emergency Management Agency (FEMA) is to help people before, during, and after disasters. FEMA programs work to reduce the loss of life and property and protect institutions from all hazards by leading and supporting the nation in a comprehensive, risk-based, emergency management program of mitigation, preparedness, response, and recovery. An important component of FEMA's mission is disaster resilience, which includes funding for activities that help communities reduce the future impacts of natural disasters on life and property.

The National Dam Safety Program (NDSP) includes a funding opportunity for state, local, and private dam owners through the High Hazard Potential Dam (HHPD) program. To be eligible for funding, a dam must meet the requirements identified within the *Rehabilitation of High Hazard Potential Dams, Grant Program Guidance, Section 2* (FEMA, 2020).

FEMA has additional opportunities in which dam owners may request funds for activities related to dam safety. FEMA's Hazard Mitigation Assistance (HMA) Program, as authorized by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, includes the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA), and Pre-Disaster Mitigation (PDM). Dam owners applying for funding from any HMA program must meet the individual program requirements as set forth by FEMA. Currently, the requirements for hazard mitigation activities are found in the *HMA Program and Policy Guide* (FEMA, 2023).

Funding may also be requested through FEMA's Public Assistance (PA) Program for emergency protective measures and debris removal (emergency work) and permanent restoration of damaged facilities, including cost-effective hazard mitigation to protect the facilities from future damage. For a dam to be eligible for PA funding opportunities, the activity must meet all eligibility requirements set for by FEMA. The eligibility requirements are outlined within the *Public Assistance Program & Policy Guide* (PAPPG), *Chapter 3, Section V* (FEMA, 2020).

1.2 Use of This Programmatic Environmental Assessment

The National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et. seq.,* (NEPA) mandates that Federal agencies consider the effects of their actions, including programs, regulations, policies, and grant-funded specific projects, on the quality of the human environment. NEPA Regulations under 40 Code of Federal Regulations (CFR) 1500 *et. seq.* requires each Federal agency to develop its own implementing procedures specific to its mission. FEMA's procedures are found in FEMA Instruction 108-1-1. These procedures include a list of actions, referred to as Categorical Exclusions (CATEX), that typically do not individually or cumulatively have significant impacts on the human environment. An action that may normally qualify for a CATEX may have extraordinary circumstances that disqualify it from the CATEXs applicability. FEMA's list of extraordinary circumstances is identified in FEMA Instruction 108-1-1. Actions

that do not qualify for a CATEX or covered by a CATEX but has unresolved extraordinary circumstances require the preparation of an Environmental Assessment (EA) under NEPA. The EA analyzes the nature and extent of impacts of the action and alternatives to determine whether the action has significant, negligible, or beneficial impacts on the quality of human life. An Environmental Impact Statement (EIS) is required when an action will have significant impact on the quality of the human environment.

Under 40 CFR §§ 1500.4(i), 1502.4 and 1502.20, the development of program-level NEPA environmental documents and tiering for eliminating repetitive discussions may be used and should focus on the issues specific to the subsequent action. FEMA has developed this Programmatic Environmental Assessment (PEA) for dam activities under the requirements of NEPA.

FEMA has prepared this PEA to analyze the potential environmental consequences associated with proposed actions, while providing a framework for the evaluation of Federal and State laws and regulations. The no action alternative and preferred alternative(s) are being analyzed in accordance with NEPA, and the Emergency Management and Assistance CFR. This analysis is programmatic in nature and does not address individual site-specific impacts, which will be evaluated for individual projects prior to approval. FEMA coordinates and integrates to the maximum extent possible the review and compliance process required under similar laws and executive orders such as Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), and the eight-step process of the Executive Orders (EO) 11988, Floodplain Management, and 11990, Protection of Wetlands.

This PEA will provide the public and decision-makers with the information required to understand and evaluate the potential environmental consequences of national preparedness actions. Finally, this PEA meets the goal of NEPA to identify impacts, disclosure, and addresses the need to streamline the NEPA review process for dam or dam related projects in the interest of national preparedness.

If the project is consistent with the criteria described in the PEA, then FEMA will prepare a Record of Environmental Consideration (REC). The REC marks the completion of compliance review under NEPA. A Site-Specific Environmental Assessment (SEA) tiered from this PEA will be prepared if a project creates impacts outside of the scope of this PEA, to include but is not limited to impacts greater in magnitude, extent, or duration than described. Additionally, an SEA will be prepared if a project requires mitigation measures to minimize impacts that have not been described in this PEA. The SEA will contain an appropriate level of analysis to determine the impacts that exceed those described in the PEA. After a public notice and 30-day comment period, FEMA will determine whether to issue a Finding of Not Significant Impact (FONSI) or to prepare an EIS for the specific action.

In accordance with *40 CFR § 1506.3*, other federal agencies, such as U.S Army Corp of Engineers (USACE) or the Federal Energy Regulatory Commission (FERC), or agencies assuming federal NEPA authority may choose to adopt this PEA, in whole or in part, according to their respective regulations. FEMA is aware of the November 12, 2024, decision in Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, FEMA has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500–1508, in addition to DHS and FEMA's procedures implementing NEPA found in DHS Directive 023-01-01, DHS Instruction 023-01-001-01, FEMA Directive 108-1, and FEMA Instruction 108-1-1to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

Consistent with E.O. 14154, CEQ has rescinded the NEPA regulations, effective April 11, 2025, and is working with Federal agencies to revise or establish their own NEPA implementing procedures. Per CEQ Guidance, while revisions are ongoing, agencies should continue to follow their existing practices and procedures implementing NEPA and can voluntary rely on the regulation in 40 CFR 1500-1508 in completing ongoing NEPA reviews (Implementation of the National Environmental Policy Act, February 19, 2025)

1.3 Area of Study

The area in which this PEA will study includes all FEMA's Region 4 States: Alabama; Georgia; Florida; Kentucky; Mississippi; North Carolina; South Carolina; and Tennessee.

Figure 1.3.1: FEMA Region 4 Map

1.4 Agency Coordination and Public Involvement

In accordance with CEQ regulations (40 CFR 1506.06), the EA will be subject to public involvement. Members of the public with a potential interest in the Proposed Action are encouraged to participate.

1.4.1 Agency Coordination

Interagency and intergovernmental coordination is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. This coordination also fulfills requirements under EO 12372, *Intergovernmental Review of Federal Programs* (amended by EO 12416, and supplemented by EO 13132), which requires federal agencies to coordinate with state and local officials and consider their views in implementing a federal proposal, such as federal financial assistance or direct federal development. FEMA coordinated with federal, state, and local agencies with jurisdiction or special expertise over the proposed actions to inform the range of issues addressed in this PEA and a list of these agencies is provided in **Appendix A**. Early coordination was conducted prior to the drafting of this PEA through a Notice of Intent and Summary of Proposed Actions provided for public comment for 30 days.

1.4.2 Tribal Nation Coordination

Tribal Nations were invited to participate as Sovereign Nations in accordance with Section 106 of the NHPA, EO 13175, *Consultation and Coordination with Indian Tribal Governments* (2000), Presidential Memorandum of January 26, 2021, *Tribal Consultation and Strengthening Nation to Nation Relationships*, and DHS Tribal Affairs policy at 071-04 and 071-04-001. These policies require government-to-government notification and consultation to ensure meaningful and timely input by tribal officials for federal actions that may have tribal implications.

FEMA identified federally recognized Tribal Nations that are historically affiliated with the geographic region encompassed in this PEA regarding the potential for the proposed action that may affect properties of cultural, historical, or religious significance to the Tribal Nations. FEMA has contacted Tribal Nations to determine their interest in acting as a consulting party for this PEA and notified one (1) state recognized Tribal Nation. A list of the Tribal Nations identified is provided in **Appendix A**.

1.4.3 Public Review

FEMA published a Notice of Intent and Summary of Proposed Action to prepare for dam safety projects on December 11, 2024, and solicited comments for thirty (30) days. The notice initiated the scoping process by inviting comments from federal, state, and local agencies, Indian tribes, and the public to help identify the environmental issues and reasonable

alternatives to be examined in the PEA. Five (5) public comments were received and are included in Section 11.0.

FEMA invites public, agency, and Tribal participation in the NEPA process. All agencies, organizations, and members of the public having a potential interest in the proposed action are urged to provide input on the PEA and future project specific NEPA processes. This PEA will be available for a 30-day public review and comment period starting on the day it is posted in FEMA's NEPA repository. Comments submitted within the 30-day public comment period will be made part of the Administrative Record. FEMA will consider and respond to any substantive comments received before finalizing this PEA and issuing a FONSI.

Interested persons may provide comments or obtain more detailed information about the PEA by contacting Dr. Angelika H. Phillips, Regional Environmental Officer, FEMA Region 4, 3005 Chamblee Tucker Road, 4th Floor, Atlanta, GA 30341; or by email at fema-r4EHP@fema.dhs.gov.

2.0 PURPOSE AND NEED

This PEA addresses numerous individual projects where actions to increase the safety of aging dams will be undertaken by state, local, and private entities. It also includes infrastructure hazard mitigation activities to protect life and property. These actions are applicable to all proposed alternatives described in this document. This PEA also provides the public and decision-makers with the information required to understand and evaluate the potential environmental consequences of these actions, and to consider these impacts in decision making. The purpose of this action is to help FEMA fulfill and expedite the environmental review process required by NEPA. FEMA will use this PEA to determine the level of environmental analysis and documentation required under NEPA for any of the preferred alternatives. Projects will be funded through FEMA's disaster and non-disaster programs.

The purpose of dam safety activities such as repair, rehabilitate, replace, reconstruct, or remove dams due to age, erosion, and/or deterioration is to reduce the risk of breach or failure. Through such activities, the potential for a breach or failure may be reduced and the risk to life, structure, and infrastructure is minimized. These activities will be implemented using accepted engineering practices, established codes, standards, modeling techniques, and best practices. Dam activities must demonstrate that they are cost-effective based on FEMA benefit-cost analysis methods.

There is an increasing need to repair, rehabilitate, replace, reconstruct, or remove significant and high-hazard dams within Alabama, Florida, Georgia, Kentucky, North Carolina, Mississippi, South Carolina, and Tennessee. Within these states, 2,185 significant-hazard and 4010 high-hazard dams are identified within the National Inventory of Dams (February 2024

data). There is continued environmental and manmade hazards that aide in the deterioration of dams, leading to an increased risk of breach or failure.

3.0 BACKGROUND

Many of the United States (U.S.) dams are at least fifty years of age or older and the likelihood of a failure of the infrastructure continues to increase as they age. When a dam fails, it is likely to occur in one of five ways: overtopping; foundation defects; cracking; inadequate maintenance and upkeep; or piping. In order to accomplish a reduction in the risk, mitigation or safety measures are required to be implemented at the local, state, Tribal, and federal levels to reduce the risk and consequences of failures to the human environment. This includes mitigation planning, increased regulatory oversight, improved coordination and communication, and the development of tools, training, and technology to assist dam owners.

The NDSP was enacted in 1996 as part of the Water Resources Development Act (WRDA) to be administered by the Director of FEMA, establish a National Dam Safety Review Board (NDSRB), provide state dam safety program assistance, maintain, and update the National Inventory of Dams (NID), and for research of dam related actions. NDSP was reauthorized in 2002, 2006, and 2014. During the reauthorization in 2002, security to critical dam safety issues was added to the program.

A classification system for determining the hazard of dams stems from USACE's *Recommended Guidelines for Safety Inspections of Dams* in Appendix D, dated September 26, 1979. Over the years, multiple systems with various nomenclatures and specific design criteria which led to confusion between communities and dam safety officials evolved. To assist with clarification, FEMA formed a task group to refine the classification system. The determination of the task group was to retain the three hazard categories from the 1979 guidance: Low; Significant; and High. Using this system, individual dams are inspected and assigned a classification based on potential impacts to human life and environment. Dams are re-assessed at a minimum, every five years. Table 3.0.1 identifies the classification and potential impacts to human life and environment.

Table 3.0.1: Dam Hazard Potential Classification

Hazard Potential Classification	Description	Loss of Human Life	Economic, Environmental, and Lifeline Losses
Low	Failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses	None Expected	Low Impact; Generally limited to property of dam
Significant	Failure or mis-operation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns.	None Expected	Moderate Impact; typically located rural or agricultural areas but could be in areas with population and significant infrastructure
High	Failure or mis-operation will probably cause loss of human life	Probable; One or More Expected	Moderate to High Impact

Since 1970, Region 4 states have experienced 155 dam failures resulting in the loss of 51 lives. Alabama does not have a state regulated dam safety program at the time of this PEA, information regarding failures and fatalities are currently unknown. Table 3.0.2 breaks down the number of failures and fatalities per state since 1970.

Table 3.0.2: Dam Failures Per State

State	Failures	Fatalities
Alabama	Unknown	Unknown
Florida	4	0
Georgia	9	39
Kentucky	4	1
Mississippi	18	0
North Carolina	31	11
South Carolina	80	0
Tennessee	9	0
Total	155	51

3.1 Existing Resources

FEMA is committed to expediting and unifying interagency environmental and historic preservation compliance review processes to facilitate its mission and ensure compliance with applicable laws in accordance with Section 429 of the Robert T. Stafford Disaster Relief

and Emergency Assistance Act, as amended by the Sandy Recovery Improvement Act of 2013. FEMA Region 4 have executed programmatic documents that support compliance with ESA and NHPA and function congruently with this PEA.

FEMA, the Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers (NCSHPO) have determined that FEMA's Section 106 of NHPA requirements can be more effectively implemented and delays to the delivery of FEMA assistance minimized if a programmatic approach is used. This approach stipulates roles and responsibilities, exempts certain undertakings from Section 106 review, establish protocols for consultation, facilitates identification and evaluation of historic properties, and streamlines the assessment and resolution of adverse effects.

In 2013, FEMA developed a Prototype Programmatic Agreement (PPA) pursuant to 36 CFR Part 800.14(b)(4) in consultation with ACHP and NCSHPO to serve as a basis for negotiation of a State and/or Tribal specific Programmatic Agreement (PA) with the SHPO, State and/or Tribal Emergency Management Agency, and participating Tribe(s). FEMA Region 4 has executed statewide PAs in Alabama, Florida, Georgia, Kentucky, Mississippi, South Carolina and Tennessee and currently has an executed Disaster Specific Programmatic Agreement in North Carolina. FEMA is currently in consultation with North Carolina SHPO, North Carolina Emergency Management and Tribal Nations to establish a Statewide PA. These PAs are routinely renegotiated through consultation with the SHPO, the State Emergency Management Agency and Tribal Nations. The most up to date PA for each state is on file with FEMA, each state's SHPO, each state's Emergency Management Agency, ACHP, and any Tribal Nations who have signed the agreement.

4.0 ALTERNATIVES

NEPA guidance requires that federal agencies explore and objectively evaluate reasonable alternatives for proposed actions. NEPA guidance also requires evaluation of a No Action Alternative as a benchmark to evaluate other actions. The identified Proposed Action Alternative presents a range of potential actions that meet the purpose and need of this PEA. Subrecipients may determine that a specific proposal may require one or more of the potential actions, evaluated collectively as the Preferred Alternative in this PEA.

4.1 Alternative 1: No Action Alternative

A "No Action" alternative is required to be included in this environmental assessment in accordance with NEPA. The "No Action Alternative" is defined as maintaining the status quo with no mitigation or Agency involvement. This alternative is used to evaluate the effects of not performing dam safety activities and provides a benchmark against other alternatives evaluated.

Under the No Action Alternative, FEMA would not provide funding for dam safety repair, rehabilitation, replacement, reconstruction, removal, and/or water storage improvement activities. The No Action Alternative would cause dams to remain vulnerable to potential breaching or failure and out of compliance with Dam Safety requirements. The No Action Alternative increases the risk of downstream sedimentation and erosion, loss of lake habitats, loss of intended recreational opportunities, negative economic impacts, increase in pests and/or invasive species, and increase in emergency response times. The impacts can exceed beyond the immediate area surrounding the dam and its associated features in the instance of a breach or failure. In the instance of a breach or failure, significant impacts can occur within the inundated area. The inundation area is based on the dam location, topography of the environment, and risk analysis which can lead to impacts to not only the community but state or regional areas.

In this alternative there is likelihood that dam safety activities would still be completed and may be approached and does not appropriately take into consideration environmental impacts. Individual projects may accomplish inconsistent hydraulic capacity, creating upstream or downstream impacts. Unpredictable downstream flows could lead to chronic infrastructure and property damages and unpredictable flood events. Infrastructure within sufficient hydraulic capacity could lead to structural failure and risk loss of life.

4.2 Alternative 2: Dam Safety Activities (Preferred Alternative)

FEMA has identified dam safety activities as the Preferred Alternative. Under the Preferred Alternative, FEMA will utilize federal assistance to fund dam safety activities to repair, rehabilitate, replace, reconstruct, or remove dams to reduce risks to minimize potential for breach or failure that would pose a threat to human life and safety.

This PEA will evaluate activities to repair, rehabilitate, replace, reconstruct, remove, or improvements to water storage for dams within FEMA's Region 4 states: Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, South Carolina, And Tennessee. While some activities are not expected to have any impact on the quality of the human environment, others may have the potential to impact a variety of environmental and/or cultural resources.

The analysis included within this PEA leverages FEMA's experiences regarding environmental impacts that can be expected from actions funded for dam safety activities. It is based on a review of scientific literature, consultation with regulatory agencies, and expert opinions. The analysis in this PEA will describe program-level environmental impacts of dam repair, rehabilitation, replacement, reconstruction, removal or improvements to water storage projects, and define those projects that would require further analysis before a determination of environmental impacts could reasonably be made. A breakdown of what types of actions each of these project types may include is identified below. Additionally, actions that will not be included within the PEA, and require a SEA are identified within Section 10.0 *Threshold for Preparing a Site-Specific EA*.

The NEPA compliance review for dam projects funded by FEMA could result in projects (1) needing to be modified or redesigned to reduce or eliminate environmental impacts, (2) needing a Record of Environmental Consideration (REC) to account for the resolution of requirements under other all laws, regulations, and executive orders, and the resolution of other extraordinary circumstances, (3) requiring a SEA tiered from this PEA, (4) requiring an individual site-specific EA to evaluate the potential for environmental impacts, or (5) needing an EIS to assess the extent of the environmental impact of the project.

This PEA will not evaluate activities that rehabilitate Federally owned dams as Federally owned properties are not eligible for FEMA funding. Other actions not evaluated within this PEA include routine operations or maintenance of dams, modification of dams to produce hydroelectric power, and/or the modifications of dams for any purpose other than to improve the safety of the dams for the human environment.

4.2.1 Repair and/or Rehabilitation

Under the repair and/or rehabilitation alternative, the dam owner will implement measures that will provide repairs and/or rehabilitation actions to ensure the dam, and its ancillary features, continue to function in a manner that provides safety and security to human life and environment. Potential dam repair and/or rehabilitation actions include structure stabilization, primary and/or auxiliary spillway improvements, stream and/or river embankment stabilization, clearing and grubbing of vegetation, and seepage control. Types of structure stabilization include, but are not limited to, the following actions:

- Installation of buttress systems;
- Installation of anchoring;

- Installation of geomembrane systems to provide, enhance, or restore watertightness;
- Installation of shelving built into an embankment or cut to break the continuity of the slope;
- Clearing and grubbing of vegetation;
- Placement of fill from a permitted fill source;
- Upgrading deteriorating and or/failing features within the dam structure including, but not limited to, piping and gates;
- The excavation and widening of the crest of a dam to not exceed 10% of the current dam crest;
- Reduction or flattening of unstable slope angles to improve the stability of a dam;
- Activities identified as minor mitigation or upgrades that do not adversely impact biological, cultural, or natural resources;
- Changes required to bring a previously permitted facility into compliance with new state or federal permit conditions or accepted codes/standards.

The repair or rehabilitation to primary or auxiliary spillways includes, but is not limited to, the following actions: widening; resurfacing; regrading; armoring; upgrading materials; establishing spillways in more efficient areas within previously disturbed soils; removing existing spillways; and installation of associated features. Types of stream and/or river embankment stabilization include, but are not limited to, the following activities:

- Installation of drainage systems, including revetments and bulkheads;
- Installation of new and additional armoring;
- Installation of hard armoring stabilization such as riprap, gabion baskets, matting, and soil cement;
- Bioengineering to include activities such as use of biological, mechanical, and ecological concepts to control erosion and stabilize soil;
- Minor modifications include the extension of the embankment structures to tie into stable ground;
- Bioengineering to include activities such as use of biological, mechanical, and ecological concepts to control erosion and stabilize soil;
- Minor modifications include the extension of the embankment structures to tie into stable ground;
- Changes required to bring a previously permitted facility into compliance with new state or federal permit conditions or accepted codes/standards;
- Activities identified as minor mitigation or upgrades that do not adversely impact biological, cultural, or natural resources;
- Activities identified as minor mitigation or upgrades that do not adversely impact biological, cultural, or natural resources;
- Seepage control actions to include, but not limited to, the following:
    - Cut off wall;
    - Stability panels;

  - Grouting abutments;
  - Clay blanket.

4.2.2 Replacement

Under the replacement alternative, the dam owner will implement measures that will replace the dam, components of the dam, and/or ancillary features of the dam to ensure the dam and its ancillary features function in a manner that provides safety and security to human life and environment. Potential dam replacements projects include, but are not limited to, the removal of partial or the entirety of an existing dam and any associated components.

The dam and components would then be replaced to meet current codes and standards without expanding more than 25% of the current footprint. Replacement activities include, but are not limited to, the following activities:

- Potential to include replacement of an existing foundation;
- Increase of height of dam;
- Seepage control actions to include, but not limited to, the following:
  - Cut off wall;
  - Stability panels;
  - Grouting abutments;
- Reinforcement of existing dam features;
- Replacement of downstream materials.

4.2.3 Reconstruction

Under the reconstruction alternative, the dam owner will implement measures that will reconstruct the dam, components of the dam, and/or ancillary features of the dam to ensure the dam and its ancillary features function in a manner that provides safety and security to human life and environment. Potential dam reconstruction projects include, but are not limited to, the replacement of partial or the entirety of an existing dam and any associated components.

The dam and components would be reconstructed to meet current codes and standards without expanding more than 25% of the current footprint. Reconstruction activities include, but are not limited to, the following activities:

- Upgrading existing pipe and valve materials;
- Stabilization and/or upgrades to existing foundation;
- Increase of height of dam;
- Seepage control actions to include, but not limited to, the following:
  - Cut off wall;
  - Stability panels;
  - Grouting abutments;
- Reinforcement of existing dam features;

- Replacement of downstream materials.

4.2.4 Removal

Under the removal alternative, the dam owner will implement measures that will remove the dam, components of the dam, and/or ancillary features of the dam to ensure the dam and its ancillary features function in a manner that provides safety and security to human life and environment. Potential dam removal projects include, but are not limited to, the removal of the dam structure, stream channel restoration, removal of fish and wildlife migration blockages, and impoundment revegetation with native flora. Additional removal actions may include the creation of a controlled breach of an existing dam or impoundment.

4.2.5 Water Storage Improvements

Under the water storage improvement alternative, the dam owner will implement measures that will improve or increase water storage facilities associated with the dam. Potential water storage improves includes, but is not limited to, stabilization activities above and the potential to increase the capacity of existing water retention sources as long as the capacity does not exceed 10 acres for direct impacts and 50 acres for indirect impacts.

Direct impacts are identified as construction activities. Indirect impacts are identified as increased water recreational activities, development, and noise not associated with construction.

5.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

Within this section, a description of the various resources, that could potentially be impacted by the proposed projects submitted using FEMA grant funding will be evaluated. The areas of concern covered within this section are physical resources, water resources, coastal resources, biological resources, cultural resources, and socioeconomic resources.

This section will also provide a programmatic analysis of the No Action Alternative and the Proposed Action. It describes the potential effects of and project types eligible under the various FEMA grants and, to the extent possible, identifies programmatic mitigation and best management practices (BMPs) that will be used to reduce or avoid the impacts of particular activities. In addition, this section identifies project activities that require site-specific evaluation and may trigger the need for a Tiered SEA to determine if the particular activities would have significant impacts on the quality of the human environment given their unique environmental context.

At the time of development in 1980, and the revisions in 1981, 1982, 1987, 1994, 1996, and 2001, dam-specific activities were not included in FEMA's list of CATEXs and extraordinary circumstances. However, some actions associated with dam construction activities identified in this PEA could be eligible for one or more of FEMA CATEXs.

When possible, quantitative information was provided to establish potential impacts; otherwise, the potential qualitative impacts are evaluated based on the criteria listed in Table 5.0.1:

Table 5.0.1: Impact Significance and Context Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected and there would be no impact, OR changes or benefits would either be non-detectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, but the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes to the resource would be readily measurable and would have substantial consequences/benefits on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

The impact analysis in this EA evaluates the potential environmental direct and indirect impact of the No Action and Preferred Action alternatives. The summary of impacts table below is a baseline impact analysis of a project that will require minimal ground disturbance outside of the existing footprint of the dam or its associated features, no effect to or not likely to adversely affect endangered and threatened species or their critical habitat, minimal impacts to water quality and watershed, and no impacts to known or unknown cultural resources.

Table 5.0.2: Affected Environment and Potential Impact Summary Table

Area of Evaluation	Impacts of No Action Alternative	Impacts of Preferred Alternative
5.1.1 Physical Resource ***Air Quality***	Negligible to Minor impact	Minimal to moderate short-term impacts are expected during construction activities but can be minimized through the use of BMP dust control techniques such as covering of transported material, and watering of the construction area and haul routes to control dust emissions. No long-term impacts are expected

5.1.3 *Physical Resource* ***Geology and Soils***	Moderate impacts from potential non-regulated construction activities and/or erosion.	Minor to high impacts dependent on scope of work. Individual project analysis would be conducted to determine the extent of impacts on geological and soil.
5.1.4 *Physical Resource* ***Visual Quality and Aesthetics***	Negligible to Minor impact	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.2.1 *Water Resource* ***Clean Waters Act*** ***Rivers and Harbors Act***	Long-term moderate to adverse impacts due to increased risk for sediments, nutrients, and pollutants into the waters.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.2.2 *Water Resource* ***EO 11988 Floodplain Management*** ***EO11990 Protection of Wetlands***	Long-term adverse impacts as a result of continued erosion, sediment displacement, and further degradation of the conditions and functions of floodplains and wetlands.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.2.3 *Water Resource* ***Wild and Scenic Rivers Act***	Long-term moderate to adverse impacts due to continued deterioration of aging dams and have an increased risk of breach or failure that could lead to modification to designated rivers that may affect the values that the river was designated to protect.	Long-term impacts are anticipated to be minor based on review of individual projects.
5.2.3 *Water Resource* ***Drinking Water***	Negligible to Minor impact	Negligible to Minor impact
5.3.1 *Coastal Resources* ***Coastal Barrier Resources Act*** ***Coastal Zone Management Act*** ***Coastal Barrier Improvement Act***	Minor to Major Impacts	Negligible to Minor impact

5.4.1 *Biological Resource* ***Threatened and Endangered Species and Critical Habitat***	Moderate to Major and irreversible adverse effects due to non-regulated activities resulting in the loss of habitat and/or prevention of the development of suitable habitat.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.4.2 *Biological Resource* ***Magnuson–Stevens Fishery Conservation and Management Act***	Moderate to Major and irreversible adverse effects due to non-regulated activities resulting in the loss of habitat and/or prevention of the development of suitable habitat.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.4.3 *Biological Resource* ***Migratory Bird Treaty Act*** ***Bald and Golden Eagle Protection Act***	Moderate to Major and irreversible adverse effects due to non-regulated activities resulting in the loss of habitat and/or prevention of the development of suitable habitat.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible to minimal based on review of individual projects.
5.4.4 *Biological Resource* ***Vegetation***	Minor to moderate impacts due to erosion, vegetation loss, and spread of invasive species.	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible based on review of individual projects.
5.5.1 *Cultural Resource* ***Standing, Archaeological, and Tribal Resources***	Minor to major impacts on cultural resources due to lack of proper identification prior to construction or through unmonitored construction activities	Minimal to major impacts based on individual projects. BMPs shall be utilized to minimize impacts to cultural resources during construction activities.
5.6.1 *Socioeconomical Resource* ***Environmental Justice***	Moderate to Major impacts as actions may not be substantially mitigated and would continue to threaten low income and minority communities	Minor short-term impacts during construction, Negligible long-term impacts

5.6.2 Socioeconomical Resource ***Hazardous Materials and Solid Waste***	Moderate to Major impacts as actions may not be substantially mitigated and would continue to threaten hazardous materials sites. Potential of contaminated materials near the dam, they may be exposed as deterioration continues, leading to contamination of the soil and water in the project area and vicinity.	Negligible to minimal impacts
5.6.3 Socioeconomical Resource ***Noise***	Negligible to minimal impacts	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible.
5.6.4 Socioeconomical Resource ***Transportation***	Minor to major impacts due to the risk of a dam breach or failure rises as the dam infrastructure ages and risk of deterioration	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible.
5.6.5 Socioeconomical Resource ***Public Services and Utilities***	Minor to major impacts due to the risk of a dam breach or failure rises as the dam infrastructure ages and risk of deterioration	Short-term impacts expected during construction activities; Long-term impacts are anticipated to be negligible.

The following Laws and EOs listed under Table 5.0.3 are not applicable to the federal undertaking and were dismissed from the potential impact analysis review:

Table 5.0.3: Dismissed Laws and Executive Orders

Resource Topic	Reason
American Indian Religious Freedom Act (AIRFA)	This PEA includes activities that is not restricting any religious areas or religious freedoms of Native Americans. Work is restricted to the footprint of the dams and surrounding areas. Additionally, through NHPA, FEMA consults with Tribes with areas of interest for a project area to identify any potential impacts.
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	This PEA includes activities that does not involve the cleanup of a superfund site, nor will it take place within a superfund site. Additionally, this PEA does not include projects that would release hazardous substances.
Fish and Wildlife Coordination Act (FWCA)	This PEA includes activities that are not conducted by a Federal Agency.
Marine Protection, Research, and Sanctuaries Act (MPRSA)	The project is inland and away from marine environments.
Toxic Substances Control Act (TSCA)	This PEA includes activities that does not involve the production, importation, use, or disposal of chemicals designated by the EPA as needing compliance requirements.
EO 13175: Consultation and Coordination with Tribal Governments	This PEA includes activities that does not pertain to the development of federal policies.

5.1 PHYSICAL RESOURCES

5.1.1 Air Quality

The Clean Air Act (CAA), 42 U.S.C. §§ 7401 et seq., requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA has generally applied a two-pronged approach to controlling air pollution: 1) setting National Ambient Air Quality Standards (NAAQS) that define maximum pollution levels in the air at levels safe to human health and welfare and 2) developing emission standards for sources of air pollution sources to reduce pollutant emissions to the atmosphere. Pollutants for which NAAQS have been established are called “criteria air pollutants”, which include ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), lead (Pb), and particulate matter (PM). For each pollutant that does not meet or persistently exceeds one or more of the NAAQS, EPA has designated those locations as “non-attainment” areas.

The EPA categorizes the level of compliance or non-compliance as follows: attainment (area currently meets the NAAQS), maintenance (area currently meets the NAAQS but has previously been out of compliance), and non-attainment (area currently does not meet the NAAQS). Federally funded actions in nonattainment and maintenance areas are subject to EPA conformity regulations, 40 C.F.R. Parts 51 and 93. The air conformity analysis process ensures that emissions of air pollutants from planned federally funded activities would not

affect the state's ability to achieve the goal of meeting the NAAQS. Additionally, section 176(c) of the CAA requires that federally funded projects must not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. Activities that would cause emissions to exceed the NAAQS or cause an area to fall out of attainment status would be considered a significant impact. The emissions from construction activities are subject to air conformity review.

In addition to the NAAQS, the EPA regulates mobile source air toxics (MSATs). MSATs are compounds, such as benzene and other hydrocarbons, emitted from highway vehicles and non-road mobile source engines (e.g., heavy construction equipment, trains, or ships) that are known or suspected to cause cancer and other serious health and environmental effects. The CAA identified 187 air toxics labeled as hazardous air pollutants, of which the EPA identified a group of 21 MSATs, and further identified a subset of nine priority MSATs. These priority MSATs are acrolein, benzene, 1,3-butadiene, acetaldehyde, ethylbenzene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. No federal ambient standards currently exist for MSATs.

Under the general conformity regulations, a determination for federal actions is required for each criteria pollutant or precursor in nonattainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed de minimis rates for that pollutant. The prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NOX) (O3 precursors) and 100 tons of PM2.5, SO2, or NOX (PM2.5 and precursors).

5.1.1.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety. Construction activities and/or repairs to dams and ancillary features may take place without federal funding as required by state regulation. These actions may have short-term minor impacts on air quality from vehicle and equipment emissions at the project site. Measures taken may not be substantially mitigated. Construction activities to repair damaged infrastructure may follow, resulting in minor temporary increases in localized emissions from construction equipment and potential detours that lead to increasing traffic. Therefore, the No Action Alternative would have no to minimal effect on air quality.

<u>Preferred Alternative</u>

During construction of the proposed project, diesel and gasoline-powered equipment and vehicles would be used for earth-moving, materials hauling, and other construction activities. These activities would have a temporary impact on local air quality in the project area from PM (dust) emissions, construction equipment engine emissions, and on- and off-road MSAT

emissions. Potential impacts to air quality would be minimized through the use of BMP dust control techniques such as covering of transported material, watering of the construction area, and haul routes to control. In addition, the construction contractor(s) would limit idling of construction equipment during extended periods when the equipment is inactive, and properly maintain construction equipment in accordance with the manufacturer's specifications. The potential impacts of MSAT emissions would be minimized through compliance with the state low emission diesel fuel standards, where applicable.

No air emissions would be generated from the dam structures themselves. Therefore, completion of the proposed project would not result in any long-term impacts to air quality.

5.1.2 Geology and Soils

Soil resources are the superficial unconsolidated and weathered part of the earth's crust, consisting of weathered bedrock fragments and decomposed organic matter from plants, bacteria, fungi, and other living things. The value of soil as a geologic resource lies in its potential to support plant growth, especially agriculture. Prime and unique farmlands and farmlands of state and local importance are protected under the Farmland Protection Policy Act of 1981 (7 U.S.C. § 4201 et seq.). Prime farmland is characterized as land with the best physical and chemical characteristics to produce food, feed, forage, fiber, and oilseed crops. Prime farmland is either used for food or fiber crops or is available for those crops; it is not urban, built-up land, or water areas. Unique farmland is defined as land that is used to produce certain high-value crops, such as citrus, tree nuts, olives, and fruits. This Act requires federal agencies to examine the potentially adverse effects to these resources before approving any action that irreversibly convert farmland to non-agricultural uses. This examination is done in consultation with Natural Resources Conservation Service (NRCS), who uses a land evaluation and site assessment system to complete a Farmland Conversion Impact Rating Form (Form AD-1006). Federal regulations at 7 CFR 658 describe the process for this analysis.

Soil information, to include soil surveys and soil classification, is available through the NRCS. The degree of soil erodibility is determined by physical factors such as drainage, permeability, texture, structure, and percent slope. The rate of erodibility is based on the amount of vegetative cover, precipitation, proximity to water bodies, and land use. Disruptive surface activities can accelerate the natural erosion process by exposing erodible soils to precipitation and surface runoff. Highly erodible land is defined by the Sodbuster, Conservation Reserve, and Conservation Compliance parts of the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990. Erodibility is one of several soil classification characteristics identified by the NRCS.

Geological resources are defined as the topography, geology, and geological hazards of a given area. Topography is typically described with respect to the elevation, slope, aspect, and surface features found within a given area. The topography of a proposed project site can be determined with topographic maps published by the U.S. Geological Survey (USGS), the

Bureau of Land Management (BLM), or through Geographic Information System (GIS) datasets available online. The topography and soils at a project site will be characterized prior to proposed work to assess suitability for construction and potential for erosion. The geology of an area might include bedrock materials, mineral deposits, soils, paleontological resources, and unique geological features. The topography and soils at a project site will be characterized prior to construction to assess suitability for construction and potential for erosion. The geology of an area might include bedrock materials, mineral deposits, soils, paleontological resources, and unique geological features. The principal geologic hazards include landslides and seismic activity, such as earthquakes. The stability of structures covered under this PEA might be influenced by steep slopes, soil stability, and karst topography and EPA recommends these factors be considered during design and construction. The potential for geologic hazards will be assessed through a geotechnical assessment and dependent on findings, a geotechnical survey may be required.

5.1.2.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams and increased risk for breach or failure. As a result, there would be long-term, adverse impacts causing significant instability and potentially impacting structures and infrastructure at the dam location, upstream, downstream, and within the inundation area. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulations. Measures taken may not be substantially mitigated by these efforts and could impact structures and infrastructure near the dam and within the inundation area. Construction to repair damaged infrastructure may follow, this could have long-term minor to major impacts on soils depending on what actions are taken. Therefore, the No Action Alternative may have long-term, moderate impacts on soil, geology, and seismic stability.

<u>Preferred Alternative</u>

Under the preferred alternatives, FEMA anticipates minor to significant ground disturbance depending on the project scope of work. Typical actions will include soil-disturbing activities, including vegetation removal, grubbing, and grading followed by construction actions, including boring, repairs, and removal. Construction actions may be temporary, such as access roads, or permanent. The extent of ground disturbance will vary based on project scope of work. Soil disturbance and steep topography can increase the potential for soil erosion to occur. Soil erosion has the potential to indirectly impact water resources and air quality. An individual project analysis would be conducted to determine the extent of impacts on geological and soil.

5.1.3 Visual Quality and Aesthetics

Community acceptance of a proposed dam safety project is frequently influenced by the extent of its visual impacts. Anticipating and responding appropriately to these impacts avoids unnecessary delay in delivering needed transportation improvements.

NEPA was established, in part, to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings" Sec. 101 [42 U.S.C. § 4331]. NEPA requires Federal agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Visual quality and aesthetics are included among those environmental effects. FEMA policy requires that alternatives for its proposed actions be evaluated so that the result is the best option for overall public interest. This is based on the need for safe dams balanced with the social, economic, and environmental impacts of the proposed action, while meeting Federal and State environmental protection goals. Mitigation measures necessary to mitigate adverse impacts resulting from the proposed action are to be incorporated into the proposed project design, and the costs may be eligible for Federal funding as described in the applicable regulation.

In addition to Federal and State requirements, cities and counties may have plans, policies, and ordinances that relate to visual resources or features that contribute to visual quality. Such plans, policies, and ordinances may include protective measures for the visual quality of the local character, including restrictions on acceptable building materials. Many of these restrictions may be specific to a particular location. Scenic qualities, such as forests, scenic ridgelines, roadways, and vistas, can be locally controlled. Plans, ordinances, and other relevant policies that pertain to preserving native vegetation or other landscaping requirements should be considered. For example, trees are frequently cited in local plans, policies, and ordinances with references to street, heritage, or landmark trees. Parks, open space, and other recreational land uses can be subject to the plans, policies, and ordinances of local authorities. Relevant to dam safety projects, water bodies, including lakes, ponds, wetlands, streams, rivers, and their banks and shorelines may have local visual restrictions. Measures for establishing and protecting waterways, including the establishment of aesthetic treatments for local river corridors, may be identified. Additional controls may include restrictive measures for reducing or preventing light pollution during construction, installation of underground utilities, the placement or height of signs, or similar aesthetic measures to control different forms of visual intrusion.

Policies pertaining to controlling the visual environment may be included in a separate scenic resource element within a community's general planning and policy documents. They also may be found as subsections of other plans and policies for the community, such as community's land-use (parks, recreation, and open-space), transportation (transit, bicycle, and pedestrian), and community and economic development.

These plans and policies reflect the visual preferences of a community and are essential for understanding the values of the viewers that may be affected by a proposed dam safety

project. Construction activities associate with dam safety projects should review these and other local plans and policies for issues related to possible visual impacts.

Cities and counties will often have local zoning ordinances that relate to visual resources or features that contribute to visual quality. Such ordinances may include protective measures for particular resources or restrictions on building new facilities, such as restrictions on what can take place along a scenic highway or protection of heritage trees that could be affected by a dam repair or restoration activities. Consulting local ordinances as they are indicative of local values and should be used to improve the fit of the proposed project into the visual fabric of the affected community.

5.1.3.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams leading to minor visual quality and aesthetic impacts. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. Measures taken may cause minor visual quality and aesthetic impacts depending on what actions are taken. Therefore, the No Action Alternative may have none to minimal impacts on visual quality and aesthetics.

Preferred Alternative

The Preferred Alternative would have short-term impacts on visual quality and aesthetics. Construction activities associated with the project would be visible to traffic traveling in and around the immediate vicinity of the respective dam. Construction activities would include intermittent movements of earth-moving equipment, materials and equipment transportation, and areas of stockpiled soil and construction materials.

Cranes, drills, barges and other heavy equipment anchored within the waterway or positioned along the shoreline would be common items in the project area during construction. Construction equipment and stockpiled materials may be visible from some residential homes, if present, in the immediate vicinity of the dam. Residents would likely also note increased traffic along local roadways as workers and trucks hauling materials to and from construction areas would primarily travel on these routes.

In the long term, the repaired or restored dam may exhibit a changed appearance from existing conditions. Depending on the extent of the dam safety construction activities performed, the repairs or reconstruction of the dam should result in an overall improved visual quality and aesthetic appearance. Any alterations to the existing visual quality and aesthetic of the dam are anticipated to have only minimal effects.

5.2 WATER RESOURCES

5.2.1 Clean Water Act and Rivers and Harbors Act

Congress enacted the Federal Water Pollution Control Act in 1948 which was later reorganized and expanded in 1972 and became known as the Clean Water Act (CWA) in 1977 (33 USC §§ 1251 *et seq.*). The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the USACE and the EPA; these jurisdictional waters are called "Waters of the United States" (WOTUS). Certain WOTUS are considered "special aquatic sites" under the CWA because they are recognized as having a particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallow, eelgrass beds, coral reefs, and riffle and pool complexes. Special aquatic sites are defined in the CWA and may be afforded additional consideration in the USACE permit process for a project. As a reminder, FEMA Region 4 covers the following eight (8) states: Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, Tennessee, and Kentucky.

Under Section 303(d) of the CWA, states are required to compile a list of impaired waters that fail to meet any of their applicable water quality standards. States develop a Total Maximum Daily Load (TMDL) plan to identify the maximum pollutant load that a listed water body can receive each day and still maintain water quality standards.

Section 401 of the CWA specifies that states must certify that any activity subject to a permit issued by a federal agency, such as a USACE General or Individual Permit, meets all state water quality standards. Section 401 of the CWA allows delegated states to set standards for water quality certification that may exceed USACE's permit conditions which become state-specific regional conditions for projects authorized by USACE in each state.

Section 402 of the CWA regulates the discharge of pollutants or contaminants from point sources as well as stormwater runoff into waterways through National Pollutant Discharge Elimination System (NPDES) permits. These permits limit what can be discharged into waterways and further provides project-specific monitoring and reporting requirements. Construction activities that have the potential to disturb soils that could lead to erosion and sedimentation must obtain and comply with a general construction NPDES permit. All eight (8) states that fall within FEMA Region 4 are fully authorized by the EPA to enforce and regulate the NPDES programs. More information can be found at: https://www.epa.gov/npdes/npdes-state-program-authority. The below table lists each state agency leading the NPDES programs.

Table 5.2.1: State Agencies leading NPDES Programs

State	Agency	Webpage
Alabama	Alabama Department of Environmental Management (ADEM)	https://adem.alabama.gov/programs/water/permitting.cnt
Florida	Florida Department of Environmental Protection (FDEP)	https://floridadep.gov/water/domestic-wastewater/content/wastewater-permitting

Georgia	Environmental Protection Division (EPD)	https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/wastewater-permitting/national-pollutant
Kentucky	Energy and Environment Cabinet (KYEEC)	https://eec.ky.gov/Environmental-Protection/Water/PermitCert/KPDES/Pages/default.aspx
Mississippi	Department of Environmental Quality (MDEQ)	https://www.mdeq.ms.gov/permits/
North Carolina	Department of Environmental Quality (NCDEQ) Division of Water Resources	https://www.deq.nc.gov/about/divisions/water-resources/permitting/npdes-wastewater
South Carolina	Department of Environmental Services (SCDES)	https://des.sc.gov/programs/bureau-water/national-pollutant-discharge-elimination-system-npdes/npdes-overview
Tennessee	Department of Environment and Conservation (TDEC)	https://www.tn.gov/environment/permit-permits/water-permits1/npdes-permits.html

Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into WOTUS and traditional navigable waterways. The USACE issues two types of 404 permits: General Permits and Individual Permits. General Permits are issued on a state, regional, and nationwide basis and cover a variety of activities, including minimal individual and cumulative adverse effects. These permits fit into specific categories established by the USACE. Individual Permits are issued for a case-specific activity. USACE may also issue emergency authorizations or emergency general permits that streamline repairs following a storm or flooding event. USACE comprises of several Divisions, under which Districts were created and hold regulatory jurisdiction over specific areas. Depending upon the location of a proposed project, a specific District within these Divisions would manage the permits on behalf of USACE. USACE has three (3) Divisions covering FEMA Region 4 states with nine (9) different USACE Regulatory District Offices involved. A broad breakdown of each Division and District coverage areas are outlined below.

- Mississippi Valley Division
    - Vicksburg Regulatory District covering western and central Mississippi.
    - Memphis Regulatory District covering a small portion of northern Mississippi, a small portion of western Kentucky, and western Tennessee.
- Great Lakes and Ohio River Division
    - Nashville Regulatory District covering much of Tennessee including portions of southwestern and southeastern Kentucky and northern Alabama.
    - Louisville Regulatory District covering much of Kentucky.

- South Atlantic Division
    - Mobile Regulatory District covering eastern Mississippi and much of Alabama.
    - Jacksonville Regulatory District covering all of Florida.
    - Savannah Regulatory District covering all of Georgia.
    - Charleston Regulatory District covering all of South Carolina.
    - Wilmington Regulatory District covering all of North Carolina.

The below webpage link is the USACE International Boundary Map with layers to show where each USACE Division and District Office is located.

https://usace.maps.arcgis.com/apps/webappviewer/index.html?id=7344e62432694199af7790aa47a32fdd

Section 10 of the Rivers and Harbors Act (RHA) of 1899 requires authorization from the USACE for the construction of any structure in, over, or under any navigable water of the United States, the excavation/dredging or deposition of material in these waters, or any obstruction or alteration in a navigable water (33 USC § 401 *et seq.*). The definition of "navigable waters of the United States" under the RHA is different from the definition of WOTUS. The term "navigable waters of the United States" under the RHA includes tidally influenced waterbodies such as oceans and estuaries and/or those that may be used in their natural condition or by reasonable improvement to transport interstate or foreign commerce such as rivers, canals, harbors, etc. If proposed construction activities would occur below the ordinary high-water mark (OHWM), Sections 9, 10, and 13 of the Rivers and Harbors Act may apply. Section 9 of the RHA prohibits the construction of any bridge, dam, dike, or causeway over or in navigable waterways of the U.S. without Congressional approval. While administration of Section 9 as it pertains to bridges and causeways has been delegated to the U.S. Coast Guard, the U.S. Army regulates dams and dikes in navigable waters. Bridges, causeways, dams, or dikes in intrastate waters must be approved by state legislatures. In interstate waters, Section 9 permits require congressional approval. Similarly, under Section 10 of the RHA, the building of any wharfs, piers, jetties, and other structures is prohibited without approval of USACE. Under Section 10, USACE authorization is also required prior to any work above the OHWM that affects the course, location, condition or capacity of navigable waters. Section 13 regulates the discharge of refuse into navigable waters. Section 10 of the RHA and CWA Section 404 overlap in some activities involving wetlands. Permits for activities regulated under both are processed simultaneously by the USACE.

5.2.1.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams causing higher risk of breach or failure. As a result, there would be long-term, adverse impacts on water quality due to the release of sediments, nutrients, and pollutants into the water. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. Measures taken may not be federally coordinated, properly

engineered, or fully designed leading to mitigations measures not being considered. This will foreseeably lead to further deterioration for the dam and ancillary features increasing the risk of a breach or failure. If a breach or failure occurred, areas within the inundation zone are at increased risk for sediments, nutrients, and pollutants into the waters not directly associated with the dam structure. Therefore, the No Action Alternative may have long-term moderate to adverse impacts to WOUS or navigable waterways.

Preferred Alternative

The Preferred Alternative may have short-term impacts on WOUS or navigable waterways due to construction. Construction activities associated with the traveling in and around the immediate vicinity of the respective dam could loosen soils and cause inadvertent erosion or runoff. Construction activities would include intermittent movements of earth-moving equipment, materials and equipment transportation, and areas of stockpiled soil and construction materials. During construction, exposed soils are highly vulnerable to erosion by wind and water and eroded soils have the potential to reduce water quality. Clearing and grading will result in earthen material to loosen and to be caught via runoff resulting in displacement into nearby WOUS or navigable waterways during the following, but not limited to, efforts: stabilization; clearing and grubbing of vegetation; water storage improvements; repairs; replacement; reconstruction; and removal of dams.

The result of lower water quality within WOUS via displaced soils could result in penalties under Section 401 of the CWA. Nutrients such as phosphorus and nitrogen that are found naturally in soils are released into the water when soils are disturbed through development and erosion. Excess nutrients can lead to algal blooms that impact water quality in nearshore environments. Water quality also may be affected by the use of construction equipment within or near water resulting in contamination of water.

Construction activities listed above would likely require Section 401 Water Quality Certificate or other authorization document and require all construction work to adhere to the conditions outlined the Section 401 approval document.

Construction work may entail the use of cranes, drills, barges, and other heavy equipment such as cofferdams and access routes within the waterway or positioned along the shoreline potentially triggering the need for Section 10 and Section 404 permitting. Work may also directly or indirectly affect wetlands (more on this in below in **Section 5.2.3 Wetlands**) requiring Section 404 permitting.

NOTE: Work resulting in permanent long-term impacts, such as permanent adverse impacts from fill and loss of WOUS, may require compensatory mitigation (projects that require compensatory mitigation would need to prepare an SEA or may rise to an EIS pending scope of impacts).

Applicable permits required will be determined during project specific reviews once a defined scope of work is known. The dam owner will be responsible for initiating the federal and state permitting/authorization process for their proposed scope of work. If the dam owner has not

initiated their request for RHA and/or CWA permitting, the funding action agency such as FEMA will condition the grant project to coordinate with the applicable state and USACE district office for permitting requirements and to adhere to all permitting/authorization conditions. If the conditions are not adhered to it could jeopardize the grant funding project leading to a non-compliant determination. If permits are in hand and conditions known, those specifics will be relayed through the funding agency record of environmental consideration to be reviewed at grant project closeout to ensure adherence to conditions applied to the project.

If the specific project requires USACE and delegated State permitting/authorization for RHA and/or CWA, project conditions with BMPs are to be adhered to in order to avoid and/or minimize impacts to WOUS and/or navigable waterways including water quality. Once work is completed, and depending on the project type, the beneficial effects will include mitigation to erosion from storm events or wake, protection from soil displacement, runoff treatment or capture, and possible restoration of natural flow of waterway all resulting in long-term water quality benefits.

5.2.2 Floodplains and Wetlands

EO 11988 *Floodplain Management*, as implemented in 44 CFR Part 9, requires federal agencies "to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. Each federal agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities." Floodplains are any land area subject to flooding (89 FR 56929, 2024). An area subject to a 1% annual chance flood is known as the 1% annual chance floodplain (also known as the 100-year floodplain or base floodplain). An area subject to a 0.2% annual chance flood is known as the 0.2% annual chance floodplain (also known as the 500-year floodplain). Dam facilities are functionally dependent on being within and/or near water and, by design, are usually within or near mapped floodplains. Table 5.2.2 identifies the agency responsible for implementing NFIP for each state covered within this PEA.

Table 5.2.2: State NFIP Implementing Agency

State	State NFIP Implementing Agency
Alabama	Alabama Department of Economic and Community Affairs (ADECA) Office of Water Resources
Florida	Florida Division of Emergency Management (FDEM)
Georgia	Georgia Department of Natural Resources (GADNR) Floodplain Unit
Kentucky	Kentucky Department of Natural Resources (KYDNR) Division of Water

Mississippi	Mississippi Emergency Management Agency (MEMA) Office of Mitigation
North Carolina	North Carolina Department of Public Safety (NCDPS) Division of Emergency of Management Risk Management Section
South Carolina	South Carolina Department of Natural Resources (SCDNR)
Tennessee	Tennessee Department of Emergency Management (TDEM)

EO 11990, *Protection of Wetlands*, requires federal agencies "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." Information about the wetlands potentially affected by the proposed action was gathered from USFWS National Wetlands Inventory (NWI) Web Map Services. The project area is within and near a designated riverine and freshwater, forested or shrub wetlands. Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE, 1987). Dam facilities are functionally dependent on being near or within water; therefore, it is expected that many projects will be near or within mapped wetlands.

Federal agencies use the 8-Step decision-making process to evaluate potential impacts on and mitigate effects to floodplains in compliance with EO 11988, EO 11990 and 44 CFR Part 9.

5.2.2.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams causing higher risk of breach or failure. As a result, there would be long-term, adverse impacts to mapped floodplain(s) and/or mapped wetlands as a result of continued erosion, sediment displacement, and further degradation of the conditions and functions of floodplains and wetlands. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulations. These actions may not constitute the same level of duration or organization as the proposed actions described in this PEA. The No Action alternative would not achieve any substantial flood protection benefits potentially jeopardizing downstream and upstream resources.

Preferred Alternative

The Preferred Alternative may have short-term impacts on mapped floodplains and wetlands due to construction. Construction activities would include intermittent movements of earth-moving equipment, materials and equipment transportation and areas of stockpiled soil and construction materials. During construction, exposed soils are highly vulnerable to erosion by wind and water and eroded soils have the potential to reduce water quality. Clearing and grading will result in earthen material to loosen and to be caught via runoff resulting in displacement into nearby floodplains and/or wetlands during the following, but not limited to, efforts: stabilization; clearing and grubbing of vegetation; water storage improvements; repairs; replacement; reconstruction; and removal of dams. Construction work may entail the use of cranes, drills, barges, and other heavy equipment such as cofferdams and access routes within the waterway or positioned along the shoreline potentially affecting floodplain and wetland values.

The 8-Step decision-making process is utilized by federal agencies to determine if the proposed action, despite being within or near mapped floodplain or wetland, is the best practicable decision. The 8-Step process consists of:

1. Determine whether the proposed action is located in a wetland and/or the floodplain and whether it has the potential to affect or be affected by a floodplain or wetland.
2. Send out an early public notice detailing the intent to carry out an action in a floodplain or wetland.
3. Identify and evaluate practicable alternatives to locating the proposed action in a floodplain or wetland.
4. Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains and wetlands and the potential of any direct or indirect support of development.
5. Minimize the potential adverse impacts and support to or within floodplains and wetlands.
6. Reevaluate the proposed action to determine first, if it still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and the potential to disrupt floodplain and wetland values and second, determine if previously rejected alternatives are practicable in light of the information gained in Steps 4 and 5.
7. Prepare and provide a final public notice stating the final decision made.
8. Review the implementation and post-implementation phases of the proposed action to ensure that the requirements and conditions are included.

The federal agency will apply the 8-Step decision making process as required, to consider site-specific impacts to or by floodplains and wetlands for each project. Furthermore, local dam owners will use BMPS and follow all floodplain permitting requirements including coordination with the local floodplain administrator for approval. If a proposed action results in any concerning or controversial issues either known through a hydraulics and hydrology analysis

or via public comment, then a project specific SEA would need to be prepared or the proposed action may rise to a higher level of analysis under NEPA.

5.2.3 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (WSR) of 1968 (Public Law 90-542; 16 U.S.C. § 1271 *et seq.*) was created to permanently protect free-flowing rivers and their riverbanks from impacts due to hydro-electric dams, oil, gas, and mineral mining. It prohibits federal support for actions such as the construction of dams or other instream activities that would harm the river's free-flowing condition, water quality, or outstanding resource values. The US Congress or the US Department of the Interior (DOI) can designate rivers or segments of rivers. Designated wild and scenic rivers may also include a portion of land, including existing riparian buffers, typically 0.25 mile on either side in the lower 48 states. Within the eight southeastern states under review for this PEA, there are 11 total wild and/or scenic rivers. The table below identifies these rivers and the state in which it is located.

Table 5.2.3: Wild and Scenic Rivers In FEMA Region 4

State	WSR Rivers	Webpage
Alabama	Sipsey Fork of the West Fork River (61.4 miles)	https://www.rivers.gov/river/sipsey-fork-west-fork
Florida	Loxahatchee River (7.6 miles)	https://www.rivers.gov/river/loxahatchee
	Wekiva River (41.6 miles)	https://www.rivers.gov/river/wekiva
Georgia	Chattooga River (58.7 miles)	https://www.rivers.gov/river/chattooga
Kentucky	Red River (19.4 miles)	https://www.rivers.gov/rivers/river/red
Mississippi	Black Creek (21 miles)	https://www.rivers.gov/river/black-creek
North Carolina	Chattooga River (58.7 miles)	https://www.rivers.gov/river/chattooga
	Horsepasture River (4.2 miles)	https://www.rivers.gov/river/horsepasture
	Lumber River (81 miles)	https://www.rivers.gov/river/lumber
	New River (26.5 miles)	https://www.rivers.gov/river/new
	Wilson Creek (23.3 miles)	https://www.rivers.gov/river/wilson
South Carolina	Chattooga River (58.7 miles)	https://www.rivers.gov/river/chattooga
Tennessee	Obed River (45.3 miles)	https://www.rivers.gov/river/obed

Per the rivers.gov/about, a river is added to a National System and is given a classification of either wild, scenic, or recreational. Sections of a river may have different classifications from each other. Wild river classification pertains to rivers that are free of impoundments, primitive

watersheds or shorelines, and generally inaccessible except by trail. Scenic river classification defines a river as free of impoundments, primitive watersheds or shorelines but accessible in places by roads. Recreational river classification is a river that is readily accessible by road or rail with some development along the shoreline and may have undergone some impoundment or diversion in the past. The four Federal agencies charged with safeguarding the National Wild and Scenic Rivers System (NWSRS) are the Bureau of Land Management, U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), and the U.S. Forest Service (USFS). The WSR defines "free-flowing" as existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence of low-head dams, diversion works, or other minor structures at the time any river is proposed for inclusion in the NWSRS does not automatically disqualify it for designation. However, future construction of such structures is not allowed under 16 U.S. Code § 1278. Restrictions on water resources projects states "… no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established…" The guidance "…shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation of a river as a component of the National Wild and Scenic Rivers System." Therefore, no dam or impoundment projects are to be funded, permitted, and/or licensed that reside within a river listed on the NWSRS but a dam or impoundment project located below (downstream) or above (upstream) of a listed river may be eligible for funding, permitting, and licensing.

5.2.3.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams and have an increased risk of breach or failure. Dams or impoundments located downstream would have minimal to no impacts to rivers designated on the NWSRS within the same watershed. For dams or impoundments upstream of rivers listed on the NWSRS, the no action could lead to the downstream erosion of streambanks or within the inundation zone. This could be viewed as a natural process on a wild and scenic designated river and thus would not represent an adverse impact. Although, the continued erosion could result in a decrease in water quality leading to a loss of fish and wildlife habitat, affects to recreational opportunities, and affecting other wild and scenic river values. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. Measures taken may not be substantial and could lead to further deterioration of the dam and ancillary features including the potential increased risk for breach or failure. Minor upgrades and regular

maintenance could lead to the modification of designated rivers that may affect the resources the river was designated to protect.

Preferred Alternative

The Preferred Alternative will require construction activities involving heavy equipment, compaction of soils, excavation, temporary water diversion measures, dredging, and others noted in the Summary of Actions. Construction activities would include intermittent movements of earth-moving equipment, materials and equipment transportation, and staging areas. During construction, exposed soils are highly vulnerable to erosion by wind and water and eroded soils have the potential to reduce water quality. Clearing and grading during the following, but not limited efforts: stabilization, clearing and grubbing of vegetation, water storage improvements, repairs, replacement, reconstruction, and removal of dams will result in earthen material to loosen and caught via runoff resulting in displacement into nearby water bodies or carried downstream.

Due to the requirements of the WSR, no dam or impoundment projects are to be funded, permitted, and/or licensed residing within the designated river segments. Work may occur upstream or downstream of designated river segments. If work occurs upstream of designated river segments there is potential for runoff or materials to be carried downstream impacting wild and scenic river resources. Work occurring both upstream and downstream has the potential to change velocity potential within designated river segments. For example, if a downstream dam is removed the velocity upstream could potentially change due to volume expansion. If an upstream dam is expanded to increase volume of reservoir, then the downstream designated river segments may see less velocity due to volume restriction.

Impacts will be determined during project specific reviews when a defined scope of work is known. The funding action agency, such as FEMA, will coordinate with the federal and state managing partners responsible for the affected river. This coordination will reach a determination of whether the upstream or downstream impacts will or will not invade the designated river segments or unreasonably diminish the scenic, recreational, and fish and wildlife values. Avoidance of impacts requires the project to be conditioned then the applicable federal agencies utilizing this PEA will require compliance as part of their funding, permitting, and/or licensing actions. Adherence to these conditions will be non-discretionary and will be reviewed at project closeout.

5.2.4 Drinking Water

The Safe Drinking Water Act (SDWA) was enacted into law in 1974 and was substantially amended and authorized in 1986 and 1996 (42 U.S.C. § 300f *et seq.*). The SDWA focuses on both above- and below-ground waters designated for public drinking use. These waters including rivers, reservoirs, lakes, springs, and groundwater wells. It also establishes health-

based national standards and testing regimes to protect the public from naturally occurring and human-generated contaminants of drinking water (40 CFR Parts 141-143). Although the SDWA originally focused on treatment as the primary method for providing safe drinking water, the 1996 amendments recognized that other factors such as protecting water sources, providing funds for water system improvements, and disseminating information to the general public are also important. Oversight of SDWA rules is usually conducted by states under their own drinking water programs if a state's standards are at least as stringent as those of the EPA.

The Sole Source Aquifer (SSA) program is established under Section 1424(e) of the SDWA (Public Law 93–523). The SDWA authorizes USEPA to designate an aquifer for special protection under the SSA program if the aquifer is the sole or principal drinking water resource for an area and if its contamination would create a significant hazard to public health. The definition of a designated SSA is one supplying 50 percent or more of the drinking water for a particular area. No commitment for federal financial assistance may proceed for any project that EPA determines significant hazard to public health due to contamination of a SAA.

Projects are not subject to EPA review if they lie outside the SSA project review area or do not receive federal financial assistance. The review area may include the area overlying the SSA, its recharge zone, and source areas of streams that flow into the SSA's recharge zone.

Two of the eight states under this PEA have SSA. Mississippi has the Southern Hills Regional Aquifer System designated SSA with the Federal Register ID of 53 FR 25538 (1988) and Florida has three (3) SSAs: Volusia-Floridan Aquifer SSA (SSA36 – 52 FR 44211 (1987)), Biscayne Aquifer SSA (SSA34a – 44 FR 58797 (1979)), and Biscayne Aquifer SSA Streamflow and Recharge Source Zones (SSA34b – 44 FR 58797 (1979)).

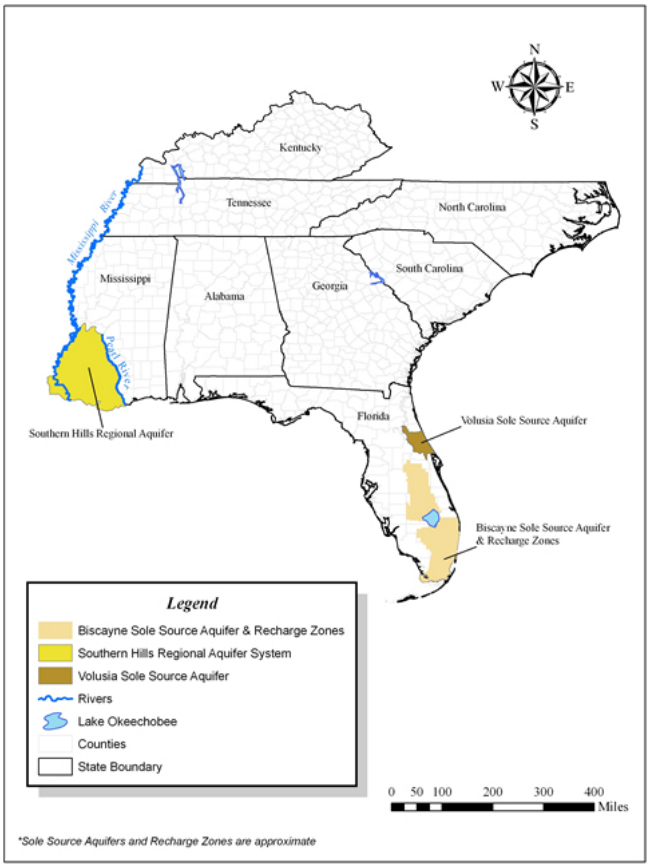

Figure 5.2.1: EPA's Sole Source Aquifers in the Southeast

The Mississippi Department of Environmental Quality (MDEQ) Office of Land and Water Resources (OLWR) oversees conserving, managing, and protecting Mississippi water resources. Tasks include monitoring the state's major aquifers, monitoring dam safety in the state, monitoring water use, licensing and regulating water well drillers, issuing permits for groundwater withdrawal, surface water diversion, and impoundment in the state. The Southern Hills Aquifer System covers approximately 14,000 square miles of southeast Louisiana and southwest Mississippi. Southwest Mississippi is largely rural and is defined as the recharge area with alternating layers of clay and sand with as many as 13 layers throughout this system with the freshwater moving within the sand layers. Much of the water uptake occurs in Baton Rouge, Louisiana. Water not used will continue moving within the sand layers to the south out to the Gulf of Mexico. The following Mississippi counties are fully overlying the SSA: Adams, Amite, Claibourne, Copiah, Franklin, Jefferson, Lincoln, Pike, Walthall, and Wilkinson. Hinds and Warren counties are partially overlying the SSA.

The Florida Department of Environmental Protection (FDEP) Division of Water Resource Management (DWRM) ensures compliance with federal and state drinking water laws and standards. Authority derives from Chapter 403, Part VI, Florida Statutes, and by delegation of

the federal program from the EPA. FDEP's Aquifer Protection Program and the federal Underground Injection Control program permits the lawful option of disposal of appropriately treated fluids via underground injection wells, while protecting Florida's underground sources of drinking water. The construction, operation, permitting, and closure activities for injection wells are administrated in accordance with Chapter 62-528, Florida Administrative Code providing requirements to prevent the degradation of the existing water quality of the aquifers adjacent to the injection zone. The Volusia-Floridan Aquifer is within most of Volusia County and portions of Flagler and Putnam counties, spanning 1,450 square miles. The major cities are Daytona Beach, Deland, Ormond Beach, and New Smyrna Beach. The Biscayne Aquifer SSA and Biscayne Aquifer SSA Streamflow and Recharge Source Zones are almost fully within Osceola, Okeechobee, Highlands, Glades, Palm Beach, Brevard, and Miami-Dade County and partially within Orange, Polk, Hendry, and Monroe County. The Florida SSAs relies on precipitation and sinkholes as the recharge pathway with pumps wells and springs as discharge areas.

5.2.4.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to the continued deterioration of aging dams and an increased risk of breach or failure. This alternative would have no direct impacts on water quality and resources. However, if the system remains unrepaired, damaged infrastructure will require more frequent emergency repairs to maintain the ability to provide reliable drinking water to the public. As a result, it is possible that this alternative could contribute to future erosion and sedimentation because of soil disturbance from routine maintenance access and can result in intermittent long-term minor to adverse effects to dams or impoundments overlying an SSA, its recharge zone, or is near or within a stream that connects to a SSA's recharge zone. For dams or impoundments not near or overlying an SSA, recharge zone, or connecting streams there would be no effect as a result of this alternative. This alternative would not require the federal entity to have an SSA impact review, including no coordination with EPA.

<u>Preferred Alternative</u>

The Preferred Alternative will require construction activities including heavy equipment, compaction of soils, excavation, temporary water diversion measures, dredging, and other activities as noted in the Summary of Actions. During construction, exposed soils are highly vulnerable to erosion by wind and water and eroded soils have the potential to reduce water quality. Clearing and grading may result in earthen material to loosen and to be caught via runoff resulting in displacement into nearby water bodies or to be carried off downstream during the following, but not limited to, efforts: stabilization; clearing and grubbing of vegetation; water storage improvements; repairs; replacement; reconstruction; and removal of dams.

Work occurring within an SSA area or recharge zone has the potential to affect a SSA directly by infiltrating an underground crossing or indirectly via runoff. Work occurring within recharge zones may affect the water recharge if earth material is removed and replaced with less permeable material such as concrete. Impacts will be determined during project specific reviews when a defined scope of work is known. These impacts will largely be minimized through the application of BMPs and project-specific conditions. The funding action agency, such as FEMA, will coordinate via the EPA Region 4 SSA project review form to determine any possible contamination to the SSA from the proposed action. The review form is found at: https://www.epa.gov/dwssa/forms/epa-region-4-sole-source-aquifer-project-review-form-section-project-description. If any conditions are required at the conclusion of the coordination with EPA, those conditions will be required as part of the federal funding, permitting, and/or licensing action. Adherence to these conditions will be non-discretionary and will be reviewed at project closeout.

5.3 COASTAL RESOURCES

5.3.1 Coastal Zone Management Act (CZMA) / Coastal Barrier Resources Act (CBRA) / Coastal Barrier Improvement Act (CBIA) of 1990

The Coastal Zone Management Act (CZMA) of 1972, is administered by states with shorelines in coastal zones requiring those states to have a Coastal Zone Management Plan (CZMP) to manage coastal development. State CZMPs are approved by U.S. National Oceanic and Atmospheric Administration (NOAA). Under the CZMA 16 U.S.C. Section 1453(4), the term "state" includes commonwealths and U.S. territories. Projects falling within designated coastal zones must be evaluated to ensure they are consistent with the state CZMPs. The consistency determinations ensures that federal actions with reasonably foreseeable effects on coastal uses and resources must be consistent with the enforceable statutes of a state's approved CZMPs. Projects receiving federal assistance must follow the procedures outlined in the CZMA implementing regulations at 15 CFR 930.90 – 930.101 for federal coastal zone consistency determinations.

The Coastal Barrier Resources Act (CBRA) of 1982, the Coastal Barrier Improvement Act of 1990, the Coastal Barrier Resources Reauthorization Action of 2000, the Coastal Barrier Resources Reauthorization Act of 2005, and the Strengthening Coastal Communities Act of 2018 are administered through the USFWS. The three purposes of the CBRA are to (1) minimize loss of human life by discouraging development in high-risk areas; (2) reduce wasteful expenditure of federal resources; and (3) protect the natural resources associated with coastal barriers. The CBRA designated two types of Coastal Barrier Resources Systems (CBRS): System Units and Otherwise Protected Areas (OPA). System Units consist of areas that were relatively undeveloped at the time of their designation. OPAs are generally lands held by a qualified organization primarily for wildlife refuge, sanctuary, recreational or natural

resource conservation purposes. The USFWS maintains the online Coastal Barrier Resources System Mapper showing both types.

Federal funding for disaster relief may not be used for projects or actions that promote or provide for expanded development or services within the CBRS, such as replacement of non-public roads, dredging of new navigation channels; providing structural beach or shoreline stabilization; or expansion of publicly owned or operated roads, structures, or facilities. However, Section 6 of CBRA (16 U.S.C. Section 3505(a)(6)) includes some exceptions for certain actions in System Units if those actions are also consistent with the three purposes of the CBRA. Exceptions are permitted for emergency actions essential to the saving of lives and the protection of property, public health, and safety. Certain exceptions are also permitted for permanent restoration assistance. One such exception includes nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system. The only federal funding prohibition within OPAs is identified within federal flood insurance.

The Coastal Barrier Improvement Act (CBIA), enacted in November 1990, expanded the identified land in the CBRS.

Coastal resources are continually stressed by human-caused threats, such as coastal development, and can be exacerbated by natural forces such as storms and tides. Human activities such as recreational overuse and coastal development can alter coastal resources through physical damage. Federal consistency reviews are completed to ensure that federal actions with reasonably foreseeable effects on coastal uses and resources are consistent with the enforceable statutes of a state's approved CZMPs. FEMA Region 4 has six states that include coastal zones: Alabama; Florida; Georgia; Mississippi; North Carolina; and South Carolina. Federal consistency reviews are overseen by the Alabama Department of Environmental Management (ADEM), Florida Department of Environmental Protection (FDEP), Georgia Department of Natural Resources (GDNR) Mississippi Department of Marine Resources (MDMR), North Carolina Department of Environmental Quality (NCDEQ), and South Carolina Department of Health and Environmental Control (SCDHEC), respectively.

FEMA's regulations require coordination with the USFWS at the regional level before approving any action involving permanent restoration actions on or attached to a CBRA System Unit. For some activities, FEMA's implementation of CBRA through 44 CFR Part 206 may be more stringent than USFWS. All the previous mentioned six states in FEMA Region 4 contain CBRA System Units.

5.3.1.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams and increased risk of a breach or

failure. This action could lead to the downstream erosion of streambanks and within the inundation area and could result in minor to major adverse impacts to coastal areas. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. Minor upgrades and maintenance may not be substantial and could lead to further deterioration for the dam and ancillary features with potential for increased risk of breach or failure. These measures are more likely to result in impacts on coastal resources through inappropriate placement of fill materials, use of inappropriate materials that could introduce contaminants into the environment, or through pollutants via inundation after a breach or failure. Potential impacts on coastal resources would be minor to major under the No Action alternative.

Preferred Alternative

Under the preferred alternative, FEMA anticipates negligible to minor impacts to coastal resources. No moderate to major impacts are anticipated as any significant impacts to coastal resources will require mitigation measures to minimize impacts. Short term impacts are anticipated from construction-related erosion and sedimentation. These impacts will largely be minimized through the application of BMPs. Federal consistency review by the applicable state agency will be required for projects that would affect the coastal zone. The consistency review would identify mitigation measures necessary to avoid, minimize, and mitigate adverse effects and ensure consistency with coastal hazard objectives and enforceable policies. Specific permits may also be required as a part of this review and would be the subrecipient's responsibility to acquire and to implement any identified mitigation measures outlined as conditions within the permit(s).

Once a project scope of work is received, the project will be assessed to determine alignment with the requirements of CZMP and CBRA. If a project is found to be inconsistent with a CZMP policy, the scope of work would need to be adjusted to conform to these policies. Changes to a project scope would trigger additional project specific NEPA compliance reviews. If the required scope of work changes is beyond the extent of this PEA, then a SEA may be required. In order to receive funding, projects located within a CBRA system unit would need to be in alignment with the purposes of CBRA. Expansion of structures and facilities is not allowed within CBRA system units, and thus funding of this type of work would not be permitted. Coordination with USFWS would be required to determine if any other work meets an exception and if the project is consistent with the purposes of CBRA.

5.4 BIOLOGICAL RESOURCES

5.4.1 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. ESA is implemented

by USFWS, NOAA and National Marine Fisheries Service (NMFS). As relevant to the proposed action, USFWS has regulatory authority for species occurring on land and in freshwater within the project area and NMFS has regulatory authority for species occurring or deriving from marine habitats including anadromous species such as sturgeon and salmon. The law requires federal agencies to ensure that actions authorized, funded, or carried out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a direct "take" (e.g., killing, harassing) or indirect "take" (e.g., destruction of habitat) of any listed species of endangered fish or wildlife.

Section 7 of the ESA identifies the requirements federal agencies must take into consideration impacts to species and habitat when authorizing, funding, or carrying out actions. These requirements include aiding in the conservation of listed species and to ensuring activities of federal agencies will not jeopardize the continued existence of listed species or adversely modify designated critical habitats. These requirements are implemented during FEMA's review utilizing USFWS Information for Planning and Consultation (IPaC) tool. FEMA defines the project area and obtains a list of threatened and endangered species and critical habitats present within the project area to evaluate potential impacts that may occur. If there are no impacts, FEMA documents its finding. If there are potential impacts identified, FEMA initiates informal or formal consultation with USFWS and/or NMFS.

5.4.1.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action alternative, there would be no direct disturbance from FEMA-funded construction activities; therefore, there would be no short-term impacts on federally listed or proposed species. However, the continued deterioration of aging dams and increased potential for breach or failure is likely due to lack of maintenance resulting in potential long-term impacts to federally listed or proposed species. If a breach or failure occurs, there is potential for moderate to major and irreversible adverse effects to threatened and endangered species within the inundation area. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. Construction activities may not be conducted with appropriate consideration for the presence of listed species and potential avoidance and minimization measures may not be fully implemented. These measures may result in the use of inappropriate materials. Activities may result in loss of habitat for listed species, including the continued loss of forests, wetlands, and beaches, which may provide habitat for listed species. This alternative may also prevent the development of suitable habitat for those listed species. Therefore, the No Action Alternative could have long-term moderate to major and irreversible adverse effects on threatened and endangered species and critical habitat.

Preferred Alternative

Under the preferred alternative, FEMA foresees minor Short-term impacts to threatened and endangered species from FEMA-funded construction activities due to intermittent movements of earth-moving equipment, transportation of materials and equipment, and areas of stockpiled soil and construction materials. Construction actions also have the potential to introduce temporary visual and noise impacts to threatened and endangered species located within or in proximity to the project site.

Construction actions may have the potential to have long-term impacts to threatened and/or endangered species through encroachment, displacement, or damage to habitats. To determine the long-term impacts to threatened and endangered species, FEMA will assess individual project locations, site characteristics, USFWS's IPaC, and NMFS Species Directory for actions and the impacts on species and/or critical habitats. FEMA will consult with USFWS and/or NMFS for actions that exceed a "no effect" determination. FEMA will determine if informal consultation (for actions that may affect species) or formal consultation (for projects likely to affect species) is required and initiate the consultation process with USFWS. If USFWS and/or NMFS concur with FEMA's determination, agency concurrence and project conditions are recorded in the REC. For formal consultation, a biological opinion will be prepared by USFWS to include conservation recommendations to further the recovery of listed species, and it also may include reasonable and prudent measures, as needed, to minimize any "take" of listed species. Project locations may require conditions and requirements which limit work to not be conducted during specific periods of time or implementation of conservation measures and/or avoidance measures to minimize potential adverse effects to threatened and endangered species.

5.4.2 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976 (16 U.S.C. §§1801- 1882), as amended, is the primary law that governs marine fisheries management in U.S. federal waters. Key objectives include preventing overfishing, rebuilding overfished stocks, and protecting habitat that fish need to spawn, breed, feed, and grow to maturity. The law places a high priority on the aesthetic, recreational, and commercial value of fishery resources that are dependent on Essential Fish Habitat (EFH). EFH includes coral reefs, kelp forests, bays, wetlands, rivers, and even areas of the deep ocean that are necessary for fish reproduction, growth, feeding, and shelter. EFH covers federally managed fish and invertebrates, but it does not apply to strictly freshwater species. Species not covered by EFH, such as lake trout, maybe managed by a state or local authority.

Federal agencies that fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding potentially adverse effects of their actions and respond in writing to NMFS and Fishery Management Council recommendations. NMFS is

further directed to comment on any state agency activities that may potentially impact EFH. The NMFS manages the EFH Mapper website that shows EFH locations nationwide that have been mapped using geographic information system data. The maps are a generalized interpretation of the textual definition of EFH and do not fully represent the complexity of the habitats described in the designation. The textual description of EFH within the EFH Mapper is always determinative of the presence or absence of EFH for the species. Review of the EFH Mapper identified the majority of EFH found in region 4 are along the coast, mainly in Florida, Georgia, South Carolina, and North Carolina. Some EFH are found in Alabama and Mississippi and there are no EFH in Tennessee and Kentucky.

5.4.2.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams, which can result in potential erosion surrounding the dam and its ancillary features or within the inundation area if a breach or failure occurs. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation and may have adverse effects on essential fish habitats. Construction activities may not be conducted with appropriate consideration for the presence of habitats and potential avoidance and minimization measures may not be fully implemented. These measures may result in the use of inappropriate materials and insufficient coordination. Activities may result in significant or complete loss of habitat. Therefore, the No Action Alternative could have long-term moderate to major and irreversible adverse effects on EFH.

Preferred Alternative

Under the preferred alternative, FEMA anticipates negligible to moderate impacts on marine fisheries and EFH based on the project scope of works that are covered within this PEA. Short-term impacts expected are due to intermittent movements of earth-moving equipment, transportation of materials and equipment, and areas of stockpiled soil and construction materials. The substantial ground disturbance and earth work associated with construction could increase the likelihood of soil erosion and runoff into bodies of water that may result in fine sediment delivery, localized turbidity increases, and degraded water quality. Turbidity increases could cause some juvenile and adult fish species to seek alternative habitat. Sedimentation and degraded water quality can also affect invertebrate abundance (a critical food source) and thus reduce fish and other aquatic populations. Use of appropriate BMPs would minimize erosion and sediment runoff and reduce adverse impacts on fish. The small amount of sediment that cannot be effectively removed using BMPs is anticipated to be minimal while the project is in progress. Therefore, short-term impacts on fisheries and EFH would be negligible to minor during construction.

The removal alternative presents an opportunity to benefit fish and wildlife impacted by habitat fragmentation. Many dams pose an impediment to upstream and downstream migration for aquatic organisms. When dams are present within an aquatic ecosystem, many of the fish movement patterns are severely disrupted or completely halted. Instream conditions such as water quality or available habitat are negatively affected as well. Removal is the most desirable option when considering dam rehabilitation activities to address fish passage and promote the restoration of the local environment. When these opportunities arise within critical habitat designation areas, or other geographic priority areas, such efforts can have profound positive benefit to the conservation of federally list, and other ecologically or economically important aquatic species. Moderate impacts are anticipated since aquatic species can be affected within a single stream or a watershed. Mitigation measures may be needed as a result of changes to stream hydrology and hydraulics as well as changes to the stream ecosystem. Once a stream has stabilized the applied mitigation measures would not be necessary. Therefore, long-term impacts are not anticipated for marine fisheries and EFH for dam removal projects.

Section 305(b)(2) of the MSA requires a Federal agency to consult with NMFS on all activities, or proposed activities, authorized, funded, or undertaken that might adversely affect EFH. When required for site-specific project reviews, FEMA will prepare a written EFH Assessment describing the effects of that action on EFH and submit its findings to NMFS as early as possible. Early coordination allows agencies to integrate habitat conservation measures into their plans and may eliminate the need for a full consultation. NMFS recommends consolidated EFH consultations with interagency coordination procedures required by other statutes such as NEPA, Section 7 of the ESA, or the Fish and Wildlife Coordination Act. NMFS must provide the Federal agency with EFH consultation recommendations for any action that may adversely affect EFH (50 C.F.R. § 600.805-930).

5.4.3 Migratory Birds

The Migratory Bird Treaty Act (MBTA) provides a program for the conservation of migratory birds that fly through lands of the United States. The lead Federal agency for implementing the MBTA is the USFWS. This law was enacted in 1918 to fulfill the United States' requirement in the 1916 "Convention between the United States and Great Britain for the protection of Migratory Birds" in the hopes of stopping the "take" of migratory birds. The MBTA defines take as "pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR 10.12). Additionally, it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell…" (16 U.S.C. § 703). Therefore, incidental, or unintentional take shall be considered with the potential impacts to migratory birds.

The Bald and Golden Eagle Protection Act (BGEPA), enacted in 1940, and amended in 1962, prohibits anyone without a permit issued by the Secretary of the Interior, from "taking" bald and golden eagles, including their parts, nests, or eggs. Like the MBTA, the law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any bald or golden eagle, or their parts, feathers, nests, or eggs. Any actions that are likely to cause injury to an eagle, decrease its productivity, or cause nest abandonment are also prohibited. Under the Act, both active and inactive eagle nests must be protected from disturbance, unless a USFWS permit is obtained.

The US is sectioned into four administrative Flyways that were established to facilitate management of migratory birds and their habitats: Atlantic; Mississippi; Central; and Pacific. FEMA Region 4 is located within the Atlantic and Mississippi Flyways.

Figure 5.4.1: Migratory Bird Flyways

Migratory birds have a yearly cycle that includes four phases: breeding; migration away from breeding grounds; overwintering period; and migration to breeding grounds. The yearly cycle includes migration in the spring and fall, breeding in the summer, and overwintering in the winter. During these phases, birds may live in different habitats or have different needs. Impacts to migratory birds are likely to occur during their migration phases, with some impacts occurring during breeding and/or overwintering.

5.4.3.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams and potential increased risk of breach or failure. If a breach or failure occurs, habitats within the inundation area will be impacted. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation and may have adverse effects on migratory birds and bald and golden eagles. Construction activities may not be conducted with appropriate consideration for the presence of these species and potential avoidance and minimization measures may not be fully implemented. These measures may result in the use of inappropriate materials and insufficient coordination. Activities may result in loss of habitat for these species, including the continued loss of forests, which may provide habitat for these species. Therefore, the No Action Alternative could have long-term moderate to major and irreversible adverse effects on migratory birds and bald and golden eagles and their habitats.

Preferred Alternative

Under the preferred alternative, FEMA does not anticipate actions that will result in the "take" of migratory birds or bald and golden eagles. Minor short-term impacts from construction activities may occur and include, but are not limited to, noise and habitat. Some projects may have higher short-term impacts based on the project scope of work. Long-term impacts, including the loss of habitat, may occur but significance of the impact will be based on the project scope of work.

An individual project analysis for the presence of migratory birds or bald and golden eagles, including habitat for these species, and the potential for adverse impacts on these species would be conducted. Part of the analysis will include review of the standard conservation measures for migratory birds and to apply any applicable measures based on the project scope of work. If a project is deemed to have an impact or "take" of these species, FEMA will determine if informal consultation (for actions that may affect species) or formal consultation (for projects likely to affect species) is required and initiate the consultation process with USFWS. For formal consultation, a biological opinion will be prepared by USFWS to include conservation recommendations to further the recovery of listed species, and it also may include reasonable and prudent measures, as needed, to minimize any "take" of listed species.

FEMA may be required to complete an SEA to evaluate the effect of impacts to these species, provide additional opportunities for public input, and determine mitigation measures. If impacts cannot be mitigated, the project would not be covered under this PEA and an EIS would likely be required.

5.4.4 Vegetation

EO 13112 Invasive Species, as amended, requires federal agencies to use relevant agency programs and authorities to prevent the introduction, establishment, and spread of invasive species, including strengthening associated regulatory frameworks, and providing for the restoration of native species, ecosystems, and other assets impacted by invasive species. Invasive species are any non-indigenous species or viable biological material, including seeds, eggs, and spores, that are transported into an ecosystem and cause economic or environmental harm or harm to human health when they colonize a new area. States and other jurisdictions also have laws, regulations, or other requirements designed to accomplish similar purposes to EO 13112. Some states have adopted their own quarantines, which could require a permit to transport certain types of materials out of a quarantine zone, an inspection of products that could harbor invasive species prior to their being moved out of the quarantine zone, or a ban on moving potentially infested material from a quarantined area to a non-quarantined area.

5.4.4.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action Alternative, no FEMA-funded actions would be implemented for dam safety leading to continued deterioration of aging dams and potential increased risk of breach or failure. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. These actions may have short-term construction impacts on vegetation and, in the long term, may leave the area more suspectable to invasive species where existing vegetation is disturbed and/or removed. Actions may not be substantially mitigated, and the continued loss of vegetation, and its functions for holding soils in place, could worsen impacts from the deterioration of the aging dam and its ancillary features. Under the No Action Alternative, continued erosion and vegetation loss would cause long-term, minor to moderate adverse impacts on vegetation, depending on the extent of erosion, vegetation loss, and spread of invasive species.

Preferred Alternative

Under the preferred alternative, FEMA anticipates minor to major impacts to vegetation. Construction activities will vary based on the project scope of work by may include ground-disturbing activities, including but not limited to vegetation removal, grubbing, grading, and digging. Ground-disturbing activities have the potential to affect vegetative resources by reducing the extent of vegetative cover, compacting soils, and causing erosion or sedimentation that degrade the ability of land to support vegetation. Reduced vegetation and shading can allow a greater amount of sunlight to reach the soil or stream if riparian vegetation is reduced. Reduced shading can increase soil temperatures further inhibiting successful vegetation, or incrementally increase surface water temperatures. Ground-disturbing activities can also increase the potential for establishment of noxious, invasive, or

pest plants. Construction vehicles and the transport of equipment provide the potential to bring in noxious, invasive or pest pioneer species (with pioneer species defined as the first vegetative species which get established in disturbed soils).

Project scope of work will be assessed on an individual basis to determine impacts to vegetative species. During construction activities, it is expected that some vegetation cover will be lost due to direct impacts via clearing and incidental damage from trucks backing into them, root systems damaged through trenching, excavation, and soil compaction, and general activity on the site. The amount of temporarily disturbed area depends on the size and configuration of the project but are not expected beyond the boundaries of the project site.

5.5 CULTURAL RESOURCES

As a federal agency, FEMA must consider the potential effects of its actions upon cultural resources prior to engaging in any project as outlined in National Historic Preservation Act (NHPA), Archeological and Historic Preservation Act (AHPA), Native American Graves Protection and Repatriation Act (NAGPRA), Archaeological Resources Protection Act (ARPA), and EO 13007: Indian Sacred Sites.

The NHPA of 1966 was established by Congress to preserve the culture and history of our nation. The NHPA established a partnership between Federal Agencies and States, tribal, and local governments. The NHPA also created the National Register of Historic Places (NRHP) and the Advisory Council on Historic Preservation (ACHP). Section 106 of NHPA (Section 106), as amended, and implemented by 36 CFR Part 800 is a process requires federal agencies to consider the effects of their actions on cultural and historic properties. The effects of a project on a historic property are determined through consultation with State Historic Preservation Offices (SHPOs) and Tribal Historic Preservation Officers (THPOs), the public, and other consulting parties throughout the Section 106 process. Section 106 also provides the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on federal projects that may have an effect on historic properties.

Section 106 consultation as detailed in 36 CFR Part 800 must take place prior to the approval of the expenditure of federal funds on an action, known as an 'undertaking' under NHPA. Pursuant to 36 CFR Part 800.16(d), the Area of Potential Effect (APE), "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." Within the APE, impacts to historic properties are evaluated prior to the undertaking for both Standing Structures (above ground resources) and Archaeology (below ground resources).

Historic properties include districts, buildings, structures, objects, landscapes, archaeological sites, and traditional cultural properties that are listed on or eligible for listing on the NRHP. The NRHP is hosted by the National Parks Service (NPS). To be considered significant, a historic resource must meet one or more of the criteria established by the National Park

Service (NPS) that would make that resource eligible for inclusion in the NRHP. The term "eligible for inclusion in the NRHP" includes all properties that meet the NRHP listing criteria, which are specified in the Department of Interior regulations Title 36, Part 60.4 and NRHP Bulletin 15. Properties and sites that have not been evaluated at the time of the undertaking may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated properties. Each state maintains a database of historic resources in which FEMA utilizes in addition to with the NRHP National Resources Information Service (NRIS), as part of its efforts to identify significant cultural resources that may be impacted by a project. Historic resources determined to be potentially significant under the NHPA are subject to a higher level of review and federal agencies must consider the potential effects of their projects on those resources and consider steps to avoid, minimize, or mitigate those effects.

Included in the Section 106 process is the evaluation of any potential impacts to National Historic Landmarks (NHLs) from the proposed undertaking. NHLs are historic properties that represent an exceptional aspect of American history or culture. A list of NHLs is maintained by the NPS. A higher standard is applicable to federal agencies when their actions may affect historic properties that are designated NHLs. Federal agencies must, to the maximum extent possible, minimize harm to NHLs directly and adversely affected by their undertakings prior to their approval [16 U.S.C. § 470h-2(f)]. In addition, federal agencies must notify and formally invite the Secretary of Interior and the ACHP to participate in the resolution of adverse effects to an NHL.

The AHPA is a salvage law that was established in 1974. The AHPA mandates that federal agencies take into account the impact of their project on archaeological and historic resources and does not provide an alternative to doing archaeological recovery as mitigation for these impacts. Archaeological recovery includes investigations (surveys, excavations, etc.), reports, and other associated activities. In 2014, AHPA was incorporated into P.L. 113–287 and 54 U.S.C. §§ 312501-312508.

The Native American Graves Repatriation Act (NAGPRA) was passed in 1990 and provides a process for museums and Federal agencies to return Native American human remains and other cultural items to lineal descendants, culturally affiliated Indian Tribes, and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking.

Archaeological Resources Protection Act (ARPA) was signed into law in 1979. ARPA, as amended, provides tools to protect archaeological resources on public and Native American lands. These tools include (but are not limited to): permitting for archaeological investigations on federal or public lands; identification of prohibited activities, enforcement, and criminal

prosecution for violations; prohibition of the sale, purchase, or transport of any archaeological resource or artifact; and prohibition of public disclosure of any information about archaeological resources (including location).

Executive Order (EO) 13007: Indian Sacred Sites was signed by President Clinton in 1996. The purpose of this EO is to help protect and preserve Native American religious practices. Sacred sites are defined in this EO as "any specific, discrete, narrowly delineated location on Federal land" that has religious significance or used for ceremonial purposes by any Native American Tribe. It is important to note that these sites protected by EO 13007 do not need to meet any of the Criteria set forth by the NRHP to be protected by this EO. The ACHP has established that an agency may integrate this EO into the Section 106 review process.

The presence of historic resources identified is highly likely based on the broad scope and potential location of projects that are included in this PEA. Once a proposed project has been identified and an APE is established, FEMA will conduct background research to determine the level of Section 106 (and other applicable laws) review required. Research may provide an understanding of the historic context for a project area, which will further assist in identifying resources and evaluating whether they may meet one or more of the NRHP criteria. Fieldwork could also be required to identify historic properties, this includes but is not limited to, a cultural resource survey of the project area.

5.5.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action alternative, there would be no FEMA action; therefore, there would be no effect to historic properties from FEMA-funded activities. However, with the No Action alternative, deterioration of dams and ancillary features will continue with a potential increased risk of breach or failure. Should a breech or failure happen it may adversely impact historic properties within the area. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. These actions could potentially impact historic properties due to lack of proper identification prior to construction or through construction activities needed to repair the dam. Furthermore, dam repair activities may be completed with materials that are incompatible with existing or adjacent historic properties and this could compromise the integrity of those resources. Under the No Action Alternative, there may be moderate to major impacts to historic properties.

Preferred Alternative

Under the preferred alternative, FEMA anticipates there to be minimal to major impacts on cultural resources based on the project scope of work. Construction has the potential to directly impact NRHP listed or eligible properties, through diminishing the historic integrity, encroachment, or destruction of the resource. Construction activities at the project site have the potential to introduce minor impacts to historic properties due to temporary visual and

vibrations. Construction impacts to NRHP listed, or eligible properties will vary on the proposed project location and the historic properties located at or near the project location.

Though avoidance of historic properties is preferred, impacts to these resources will be unknown until an individual project review is underway. FEMA will conduct site analysis based on an individual project scope of work and coordinate with SHPO, THPO, and interested partners through the Section 106 consultation process to determined affects to historic properties. If the project action does not have the potential to affect historic properties, then no further Section 106 review would be required. Measures are likely to be placed on the project when historic properties are present but are unlikely to be adversely impacted by the project action. Such measures can include conditions like archaeological or architectural monitoring, which is used to identify, document, protect, and/or recover historic resources. If the project action has potential to affect historic properties adversely, FEMA may require a memorandum of agreement (MOA) with SHPO, THPO, and/or the ACHP to mitigate adverse impacts to historic resources. If the Section 106 process results in an MOA or other agreement needed to resolve adverse effects and that agreement is required under NEPA to reduce the level of impacts to below significance, then a tiered SEA will likely be required.

5.6 SOCIOECONOMIC RESOURCE

5.6.1 Hazardous Materials and Solid Waste

Hazardous materials solid wastes are regulated under a variety of federal and state laws, including 40 CFR Part 260, the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. §§ 6901 et seq.), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601 et seq.), Solid Waste Act, the Toxic Substances Control Act (TSCA), and CAA of 1970 (42 U.S.C. §§ 7401 et seq.). The Occupational Safety and Health Administration (OSHA) standards seek to minimize adverse impacts on worker health and safety (29 CFR Part 1926). Evaluations of hazardous materials and wastes must consider whether any hazardous material would be used, or hazardous waste generated by the proposed action activity and/or already exists at or in the general vicinity of the site (40 CFR Part 260.10). If hazardous materials or wastes are discovered, they must be handled by properly permitted entities per the state regulations, identified in the table below, in which the project takes place.

Table 5.6.1: State Regulations for Hazards Materials and Solid Waste

State	Regulation
Alabama	• Alabama Environmental Management Act, Ala. Code §§22-22A-1 to 22-22A-16 • Division 14 of the ADEM Administrative Code, pursuant to Ala. Code §§22-30-1 to 22-30-24 Division 13 of the ADEM Administrative Code, pursuant to Ala. Code §§22-27-1 to 22-27-49
Florida	• Florida Administrative Code Chapter 62-701: Solid Waste Management Facilities • Florida Administrative Code Chapter 62-730: Hazardous Waste
Georgia	• Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-60, et seq • Subject 391-3-11 Hazardous Waste Management • Subject 391-3-19 Hazardous Site Response • Subject 511-3-4 Solid Waste
Kentucky	• Kentucky Administrative Regulations for Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste – Chapter 36 • Kentucky Administrative Regulations for Hazardous Waste Permitting Process – Chapter 38 • Kentucky Administrative Regulations for Hazardous Waste – Chapter 39 • Kentucky Administrative Regulations for Solid Waste Facilities – Chapter 47
Mississippi	• Mississippi Solid Waste Disposal Law (Miss. Code, Ann. § 17-17-1 et seq) • Mississippi Hazardous Waste Management Regulations; (40 Code of Federal Regulation Part 261 Solid Waste Part 262 Hazardous Waste).
North Carolina	• North Carolina Hazardous Waste Management Rules (15A NCAC 13A) • Solid Waste Management 15A NCAC Subchapter 13B • North Carolina General Statues Chapter 130A – Article 9: Solid Waste Management
South Carolina	• South Carolina Hazardous Waste Management Act (SC Code of Laws Title 44 Chapter 56) • South Carolina Pollution Control Act (SC Code of Law Title 48 Chapter 1) • State Regulation 61-79 Hazardous Waste Management Regulations • State Regulation 61 – 104 Hazardous Waste Management Location Standards

Tennessee	• Tennessee Division of Solid Waste Management Chapter 0400-12-01: Hazardous Waste Management Memorandum Of Agreement Between the State of Tennessee and the US EPA Region 4 for the RCRA Hazardous Waste Program, signed January 2017

5.6.1.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action alternative, there would be no FEMA-funded action; therefore, there would be no impacts to hazardous materials or solid waste resulting from a federal action. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation, which could cause short-term negligible to minor impacts from equipment use and the associated risk of oil and fuel leaks, and the potential use of contaminated fill and materials (e.g., asphalt or concrete rubble). Actions may not be substantially mitigated and would continue to threaten hazardous materials sites near the dam location. If there are any contaminated materials near the dam, they may be exposed as deterioration continues, leading to contamination of the soil and water in the project area and vicinity. Thus, under this alternative, there could be moderate to major long-term impacts from hazardous materials.

Preferred Alternative

Under the preferred alternative, FEMA does not anticipate the use of hazardous materials or generation of hazardous waste other those that are used or generated as a standard practice of construction activities. Analysis on a case-by-case basis should be considered as needs of hazardous materials and generation of hazardous waste would be site specific depending on the nature of the activity. All hazardous materials and/or solid waste that might be generated during construction activities must be removed and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company's own dumpster).

In general, the preferred alternative could cause short-term negligible to minor impacts from equipment use and the associated risk of oil and fuel leaks, and the potential use of contaminated fill and materials (e.g., asphalt or concrete rubble). Additionally, this activity will not take place within a superfund site (see CERCLA) as these are pre-existing dams and are not new construction. Therefore, there is minimal potential to expose pre-existing waste during construction activities. Following best management practices and adherence to conditions identified in Section 7 would minimize potential impacts.

5.6.2 Noise

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to one (1) establish a means for effective coordination of Federal research and activities in noise control; two (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and three (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products. Sound levels are measured in decibels (dB). A-weighted sound measures emphasize the frequency range of human hearing and are expressed in terms of A-weighted decibels (dBA).

The threshold level for a significant noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas. Noise standards developed by EPA provide a basis for state and local governments' judgments in setting local noise standards. Local governments often implement noise ordinances that limit excessive noise, such as time limits on construction work. Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (e.g., 10 p.m. to 7 a.m.) provide a larger impact on surrounding areas than those that occur during regular waking hours (e.g., 7 a.m. to 10 p.m.). Assessment of noise impacts includes consideration of the proximity of the noise sources to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors in developed areas include residences, schools, churches, hospitals, and libraries. In more sparsely developed areas, noise-sensitive receptors would include recreational developments such as parks, campgrounds, water access sites, trails, and Tribal Nation properties of religious and cultural significance. Recreational areas are areas that rely on quiet settings as an essential part of their character. Typical noise sources in residential or recreational areas are associated with climatic conditions (wind, rain), transportation (traffic on roads, airplanes), and life sounds (people talking, children playing, yard maintenance).

5.6.2.1 Potential Impacts and Proposed Mitigation

<u>No Action Alternative</u>

Under the No Action alternative, there would be no FEMA-funded action; therefore, there would be no noise impacts resulting from a federal action. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation, which may have short-term, minor, and localized noise impacts from construction. Measures taken may not be substantially mitigated by these efforts and could impact structures and infrastructure near the dam. Construction to repair damaged infrastructure may follow, resulting in minor increases in noise levels on sensitive receptors from equipment use and potential detours. Therefore, short- and long-term noise impacts would be minor.

Preferred Alternative

Under the preferred alternative, minor short-term impacts are anticipated during construction activities within the project area. Noise increases are anticipated from increased traffic, equipment and materials being transported and moved around the project area, and during construction activities. These noise increases are anticipated to cease following completion of the project and removal of all remaining equipment and materials.

Implementation of BMPs and complying with local ordinances and state regulations will minimize temporary noise impacts. No long-term noise impacts are anticipated by activities outlined within this PEA.

5.6.3 Transportation

Transportation is the movement of people and goods from one location to another. It is accomplished by a variety of modes, such as road, rail, air, water, and in some cases pipeline, and there are different systems within those modes. Examples of principal transportation systems include vehicular systems (e.g., highways and streets); aviation system (e.g., commercial air carriers), waterway and maritime systems, and rail systems (e.g., railroads). The focus of this analysis is to surface transportation and roadway traffic.

State Departments of Transportation are generally responsible for the design, construction, and maintenance of their state highway systems, as well as the portion of the federal highways and interstates within their boundaries. Arterials, connectors, rural roads, and local roads are constructed and maintained by county or city governments and the regulation of traffic and transportation is, mostly, a local matter.

5.6.3.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action alternative, there would be no FEMA-funded action; therefore, there would be no impacts to transportation resulting from a federal action. If no construction activities occur, the risk of a dam breach or failure rises as the dam infrastructure ages and risk of deterioration continues which could have moderate to major impacts to transportation infrastructure within the inundation area. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation. These efforts may have temporary minor impacts on traffic if road closures or detours occur while the repairs are being constructed. However, measures taken may not be substantially mitigated the potential for a dam breach or failure and could have a moderate to major impact on transportation infrastructure within the inundation area. Closures of roads that support transit service and serve ferry terminals, marinas, or airports and heliports would have additional impacts on transportation service and access. Runways or airport facilities may also be damaged by a breach or failure. Depending on the extent of damage, and the

importance of infrastructure to the community, the No Action alternative could have minor to major long-term impacts on traffic and transportation.

Preferred Alternative

Under the preferred alternative, FEMA anticipates minor to major short-term impacts on transportation for activities outlined within this PEA. Increased traffic to and from the project area is expected during the entirety of the project as construction workers access the project area. Additional traffic is anticipated for the movement of equipment and materials to and from the project area. Temporary road closures and/or replacement of existing roadways may be required. Traffic delays and alternate routes are expected near the project location and may cause a significant burden to localized transportation.

Following completion of construction activities and the removal of all equipment and materials, it is anticipated that all infrastructure impacted will be returned to its previous function. The project actions will increase safety of the dam and potentially prevent future impacts to transportation infrastructure associated with the dam structure and ancillary features. FEMA does not anticipate significant adverse long-term impacts to transportation infrastructure.

5.6.4 Public Services and Utilities

This section evaluates the potential impacts from activities covered in this PEA on public services (sewer, water, gas, and electricity), emergency services (fire, police, etc.), and public facilities (schools, hospitals, parks, etc.).

The utility infrastructures that may found within a project area includes natural gas and electricity infrastructure, telecommunications, and potable water, wastewater, and stormwater utilities. Electricity and telecommunications are often provided to communities by private suppliers. Water and wastewater facilities are generally managed, owned, and operated at the local level. Rural project areas are often serviced by private wells and septic systems instead of public utilities. State agencies regulate access to adequate, safe, and reliable utility services and oversee local water authorities. These state agencies oversee the public and private utility companies in their respective states.

Public safety services include local law enforcement agencies, fire departments, and emergency medical services. Emergency response time standards frequently exist in contractual obligations between communities and emergency service organizations. As a result, there may be variation in the standards between one community and another. Most emergency response teams use roads and sometimes air transportation to reach affected people and communities. Public facilities such as schools, hospitals, and parks may exist within a project area and/or may be in the vicinity of some project areas. Schools and hospitals

are more likely to be located within developed areas rather than undeveloped areas and may not be impacted by certain actions covered in this PEA.

5.6.4.1 Potential Impacts and Proposed Mitigation

No Action Alternative

Under the No Action alternative, there would be no FEMA-funded action; therefore, there would be no impacts to public services and utilities resulting from a federal action. If no construction activities occur, the risk of a dam breach or failure rises as the dam infrastructure ages and risk of deterioration continues which could have moderate to major impacts to public services and utilities within the inundation area. If no action is taken by FEMA, construction activities and/or repairs to dams and ancillary features may still take place as required by state regulation potentially putting utilities, including those that are overhead or currently buried, at higher risk of damage or failure. If utility infrastructure is damaged due to a dam breach, failure or construction activities, outages could be extensive and long term while the utility works to repair or replace the lost facilities. This could result in power outages, the loss of water and sewer, heating and cooling, and telecommunication services. Dam breach, failure or construction activities may also threaten public facilities within the inundation area, increasing the risk of failure of critical facilities such as schools and hospitals. Road closures from breach or failure would impact emergency response times. Infrastructure that is currently within the inundation area would require repairs from inundation damage, creating a burden on local and state governments. Therefore, under the No Action alternative, there would be long-term moderate to major impacts on public services and utilities.

Preferred Alternative

Under the preferred alternative, FEMA anticipates temporary minor impacts to public services, emergency services, and public facilities.

Temporary disruption in services is possible during construction activities for the safety of construction workers and may impact residential areas and/or public areas within immediate vicinity of the project area.

The increase in traffic surrounding the project area may cause temporary impacts to emergency services. Construction workers moving to and from the project area and movement of equipment and materials may cause unexpected delays. Additionally, the project may require temporary closure of roadways near the project area and/or the removal of existing roadways associated with the dam structure. Temporary alternative routes may be required that can cause delay of services to certain areas surrounding the project area. When possible, BMPs including the use of flag crews and traffic control monitoring will be utilized to keep roadways open.

Public facilities such as schools, hospitals, and parks may be in the vicinity of some project areas and temporarily impacted. Alternative routes to hospitals and schools may be required if they are affected by the project area. Access to parks or recreational facilities may be temporarily restricted during construction activities for the safety of the public.

Following completion of construction activities, no long-term impacts to public services, emergency services, and public facilities are expected.

6.0 CUMULITIVE IMPACTS

According to NEPA of 1969, as amended defines cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or local) or person undertakes such other action". Based on these regulations, if the alternative does not have direct or indirect effects there can be no cumulative effects resulting from the project because there would be no impacts added to past, present, or reasonably foreseeable actions. NEPA also describe cumulative impacts as impacts that "can result from individually minor but collectively significant actions taking place over a period of time." On a programmatic level, and combined with other actions affecting watersheds, alternatives could result in cumulative impacts, depending on the scale (number of projects) or geography (localized area) in which the actions are performed.

6.1 Summary of Cumulative Impacts

Individual projects proposed under this Programmatic Environmental Assessment have the potential to cause significant impacts when compounded and undocumented. To track and mitigate cumulative impacts, any official usage of this PEA must be documented by the completion of the Compliance Checklist found in Appendix D. All supporting documentation, including completed project specific compliance checklists, must be submitted to the Region at fema-r4ehp@fema.dhs.gov and to the FEMA Region 4 Regional Environmental Officer, Dr. Angelika H. Phillips, at angelika.phillips@fema.dhs.gov.

Cumulative impacts can be reduced, and project streamlining realized, by coordinating natural and cultural resource compliance review with adjacent projects, exploring designs, utilizing bioengineering techniques, and incorporating effective mitigation strategies.

7.0 COMPLIANCE REQUIREMENTS

7.1 Permitting

The subrecipient is responsible for obtaining all applicable federal, state, and local permits and other authorizations and adhering to permit conditions for project implementation prior to construction activities. Subrecipients are responsible for providing copies of permits to the recipients and FEMA prior to project closeout and should do so upon obtaining them. Any substantive change to the approved SOW will require reevaluation by FEMA for compliance with all laws, regulations, and EOs.

7.2 Project Conditions

The PEA will require general conditions attached to each project and will include, additional conditions based on project specifics:

General

- The dam owner and/or subrecipient (subrecipient) is responsible for obtaining and complying with all required local, state, and federal permits and approvals.
- All proposed actions must be in compliance with state and federal dam safety requirements.
- Changes to the previously provided and approved Scope of Work (SOW) resulting in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, the subrecipient must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws, including but not limited to ESA, NHPA, and Executive Orders 11988 and 11990.
- Disturbed green spaces that will be revegetated shall use species native to their specific geographic area.

Threatened and Endangered Species (ESA)

- All practicable measures must be taken to avoid adverse impacts to aquatic species, including, but not limited to, implementing directional boring methods and stringent sedimentation and erosion control measures.
- All practicable measures must be taken to avoid adverse impacts to threatened and endangered species and designated critical habitats, including conditions identified in FEMA's ESA compliance review.
- For dam removal projects, coordination with the state's Department of Natural Resources Wildlife Division is required for any concerns to species not federally protected.

National Historic Preservation Act (NHPA)

- If human remains or intact archaeological features or deposits (e.g., arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the subrecipient. The subrecipient will than adhere to state guidelines and conditions outlined in FEMA's NHPA compliance review.
- Prior to conducting repairs, the subrecipient must identify the source and location of fill material and provide this information to FEMA. If the borrow pit is privately owned, or is located on previously undisturbed land, or if the fill is obtained by the horizontal expansion of a pre-existing borrow pit, FEMA consultation with the SHPO will be required.

Water Resources and Water Quality, Wetlands, and Soils:

- Project may require Section 401/404 Clean Water Act permit(s) or approval. The dam owner is responsible for coordinating with and obtaining any required Section 404 permits from the United States Army Corps of Engineers, Section 401 permits/approval from the [INSERT DELEGATED AUTHORITY], and a National Pollution Discharge Elimination System permit/approval from the [Environmental Protection Agency or INSERT DELEGATED AUTHORITY] prior to initiating work. The dam owner is responsible for verifying and adhering to all permit/approval requirements including the implementation, monitoring, and maintenance of all applicable Best Management Practices. Copies of permitting or documentation from the permitting official(s) that a permit/approval is not required are to be forwarded to the state and FEMA for inclusion in the administrative record.
- Project may require Section 9/10 permit(s) or approval under the Rivers and Harbors Act from the United States Army Corps of Engineers. The dam owner is responsible for verifying and adhering to all permit/approval requirements including the implementation, monitoring, and maintenance of all applicable Best Management Practices. Copies of permitting or documentation from the permitting official(s) that a permit/approval is not required are to be forwarded to the state and FEMA for inclusion in the administrative record.
- Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material. Stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable.
- Stockpiles are to be protected with silt fence installed along toe of slope with a minimum offset of five (5) feet from the toe of stockpile.

- Maintain natural buffers on all streams and creeks adjacent to the project site at a minimum. Should state law require additional buffer around state waters or specific streams, these laws shall be implemented.
- Dewatering Permits are required prior to dewatering activities and the subrecipient must comply with all of the conditions prescribed by the permit.

Air Quality

- The subrecipient's contractor shall monitor and take precautions to control dust and other air pollutants including but not limited to using water or chemicals, limiting vehicles allowed on-site, and minimizing the operation speed of vehicles in accordance with the Stormwater Pollution Prevention Plans.

Noise

- The subrecipient must comply with local and state Traffic Control Plans and Noise Ordinances. Permits must be obtained if required as regulated by these ordinances.
- Construction activities must take place during less noise-sensitive daylight hours.

Hazardous Materials

- All solid or hazardous wastes generated during construction will be removed and disposed at a permitted facility or designated collection point.
- Construction equipment must be managed to avoid oil, fuel, or lubricant leaks during equipment use, and will employ BMPs as described in the SWPPP to mitigate potential impacts of hazardous materials.
- If hazardous source materials are encountered during construction activities, the subrecipient's contractor will identify, manage, and dispose of hazardous materials, or other heavily contaminated materials, in accordance with all local, state, and federal regulations. The subrecipient must notify FEMA of the encounter and provide disposal details.
- Procedures will be in place that address safety, health, and emergency response; environmental protection; contaminated soil excavation; transportation and disposal of hazardous or contaminated material; and contaminated dewatering and drainage.

Migratory Birds

- Tree and vegetation removal will be avoided during the migratory bird nesting season to the extent practicable. By observing the US Fish and Wildlife Service tree clearing window for endangered bat species, impacts will be minimized to the greatest extent feasible.

Invasive Species

- Graded areas will be revegetated with native grasses and forbs, or native seed mixes.

Safety and Security

- The construction contractor shall be required to develop and implement a Health and Safety Plan to assure worker safety during construction activities.
- Construction workers shall be required to comply with all applicable OSHA regulations, as well as other applicable regional regulations.
- The construction site must be secured from public access.

8.0 LIST OF PREPARERS

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10.0 Threshold for Preparing a Site-Specific EA

Table 10.0.1: Threshold for Preparing a Site-Specific EA

Resource Area or Regulation	Action Covered by this PEA	Site-Specific Environmental Assessment Required
Water Quality	The proposed action would have no, negligible, or minor impacts to water resources and would be at or below water quality standards or criteria. Localized and short-term alterations in water quality and hydrologic conditions relative to historical baseline may occur. or The proposed action results in moderate impacts that are mitigated by regulatory permit conditions and resource agency consultations to reduce the impacts below the level of significance. and The proposed action does not require an individual permit from USACE. The proposed action is in compliance with all permit conditions, notification and reporting requirements for applicable nationwide permits, regional general permits, emergency authorizations, programmatic general permits or other USACE-issued general permit. and The subrecipient has received a written waiver from USACE for projects that exceed permit thresholds.	The proposed action would cause or contribute to existing exceedances of water quality standards resulting in violation of state water quality criteria. or The proposed action requires an individual permit from USACE. or The subrecipient has not demonstrated compliance with applicable permit conditions, notifications, or application procedures.

Floodplains and Wetlands	The action complies with all state, federal and local permit conditions, regulations, and authorizations, including CWA, state floodplain and wetland laws, and local floodplain codes. and The proposed action will not increase levels, frequency or duration of floods and will not alter hydrological connectivity. and FEMA completes an 8-Step decision-making process and has determined that the proposed action is the most practicable alternative.	Proposed action requires an individual permit from USACE because of impacts to a wetland. or The proposed action would result in adverse effects to the floodplain or wetlands, including an increase in flood levels, significant changes to flood frequency, conveyance and duration that increase flood risk at locations upstream, downstream, or adjacent to the project site.
Coastal Resources	Proposed action in a coastal zone receives consistency determination or complies with state-issued permits, and the proposed action would have no, negligible, or minor impacts to coastal resources. or The proposed action is located within a Coastal Barrier Resources System Unit and FEMA receives concurrence from USFWS that it qualifies as an exception under Section 3505.a.6 of the CBRA and is consistent with CBRA. or The proposed action results in moderate impacts that are mitigated by regulatory permit conditions and resource agency consultations to reduce the impacts below the level of significance.	Proposed action is located within a Coastal Barrier Resources System Unit and USFWS does not concur that it qualifies as an exception under Section 3505.a.6 of the CBRA. or For work subject to CZMA consistency review, proposed action has not received concurrence from AL, GA, FL, MS, NC, or SC or Proposed action includes beach renourishment and does not meet conditions for FEMA CATEX.

Protected Species and Habitat	The effects of the action can be resolved through the applicable PBOs. The proposed action would have no effect on threatened or endangered species or critical habitat for those species. or The proposed action results in potential moderate impacts that are mitigated via resource agency consultations. FEMA makes a "May affect, Not Likely to Adversely Affect" determination and USFWS or NMFS concurs. or Proposed action includes mitigation measures to reduce the level of impacts to species and habitats protected by MBTA, BGEPA MSA, and MMPA below the level of significance. or Proposed action discourages spread of invasive species by implementing BMPs according to state and federal guidance.	Projects that that cannot be resolved using the applicable PBOs and exceed a "May affect, Not Likely to Adversely Affect" determination to a species listed as federally threatened or endangered. or Projects that result in the loss or adverse modification of designated critical habitat for a listed species. or Projects that are determined to likely result in the take of birds protected under the MBTA or BGEPA or marine mammals protected under the MMPA. or Projects having adverse impacts to Essential Fish Habitat that cannot be mitigated through consultation with the NOAA. or Proposed action does not implement BMPs consistent with state and federal guidance to reduce the spread of invasive species EO 13112 Invasive Species.
Cultural Resources	The effects of the action can be resolved through the Programmatic Agreement or standard consultation.	FEMA makes an "Adverse Effect" determination with concurrence from SHPO/THPO that cannot be resolved using measures outlined in state programmatic agreements or negotiated through a standard project-specific Memorandum of Agreement (MOA). or Projects that that result an "Adverse Effect" determination on a National Historic Landmark.

Transportation	The proposed action would have no impact to transportation infrastructure or traffic patterns. or Regulatory permit conditions or resource agency consultations reduce the impacts of the proposed action to maritime transportation facilities such as ferries, ports, shipping, dock, piers, etc., are mitigated to below the level of significance.	The proposed action conflicts with USACE permits or encroaches on maintained shipping routes. or The subrecipient has not demonstrated compliance with applicable permit conditions, notifications, or application procedures.