FINAL ENVIRONMENTAL ASSESSMENT

Big Sandy Lake Dam Rehabilitation Project

UPPER MISSISSIPPI RIVER HEADWATERS
AITKIN COUNTY, MINNESOTA

US Army Corps of Engineers
St. Paul District

FINAL REPORT
MAY 2020

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1 Introduction

1.1 Background

The Big Sandy Lake Dam is located on the Sandy River in Aitkin County, MN, 1.25 miles upstream of the junction between the Sandy River and Mississippi River. The dam's original purpose was to provide supplemental flow to the Mississippi River during periods of low river stages for navigation. Construction of the locks and dams downstream of Minneapolis in the 1930's reduced the need for upstream storage for navigation and since then the Big Sandy Lake Dam's purpose has shifted to flood control, recreation, fish and wildlife conservation, water supply, and water quality improvement. The dam is owned and operated by the U.S. Army Corps of Engineers, St. Paul District (Corps) in accordance with the 2003 Water Control Manual and the 2010 Mississippi River Headwaters Reservoir Operating Plan Evaluation Study. The Big Sandy Lake Dam structure is comprised of a concrete control dam with a log sluice bay, six mechanical slide gates, and an inoperable lock bay. There are two short earthen embankments with timber diaphragm cutoff walls that tie the concrete structure into higher ground and then a series of four earthen perimeter dikes to prevent uncontrolled overflow from lower areas surrounding the reservoir.

Over its history, the Big Sandy Lake Dam has undergone a series of modifications, repairs, and periodic inspections. From 2011 to 2016, a series of above and below water inspections identified several features that had deteriorated to a point that repair or replacement were necessary to maintain the long-term stability of the structure. These deficiencies were highlighted in Corps' 2016 inspection report and include:

- Upstream Timber Apron and Cutoff – poor or unknown condition, needs replacement.
- Lock Curtain Wall – poor condition, needs replacement or repair.
- Concrete – areas of poor condition, needs repair.
- Log Sluice Bay – stoplogs in poor condition and difficult to operate, needs replacement.
- Slide Gates – operable but nearing end of typical service life, need replacement.

The 2016 inspection report also recommended that a preliminary engineering report (aka design analysis report) be completed for the listed repairs/replacements. The objective of that report was to summarize the evaluation and development of the recommended rehabilitation plan and present preliminary design and cost estimates for proposed repairs/replacements.

Accordingly, the Corps has prepared this Environmental Assessment (EA) to disclose the environmental effects that may result from the rehabilitation of the Big Sandy Dam. This EA follows the procedures outlined in the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality Regulations (40 CFR 1500-1508), the USACE regulation Engineer Regulation 200-2-2 and includes the following information:

- Need for the proposed project
- Alternatives considered
- Evaluation of environmental effects
- Agency coordination and public involvement.

At the Federal level, this Environmental Assessment (EA) will be used to provide sufficient environmental documentation to determine whether an Environmental Impact Statement (EIS) is needed or a Finding of No Significant Impact (FONSI) is appropriate.

1.2 Project Area

The Big Sandy Lake Dam is located at the northwest corner of Big Sandy Lake. Figures 1 and 2 show a general location map and site layout map, respectively, and Figure 3 shows overall project footprint including staging areas on either side of the dam structure.

Figure 1. Project Area.

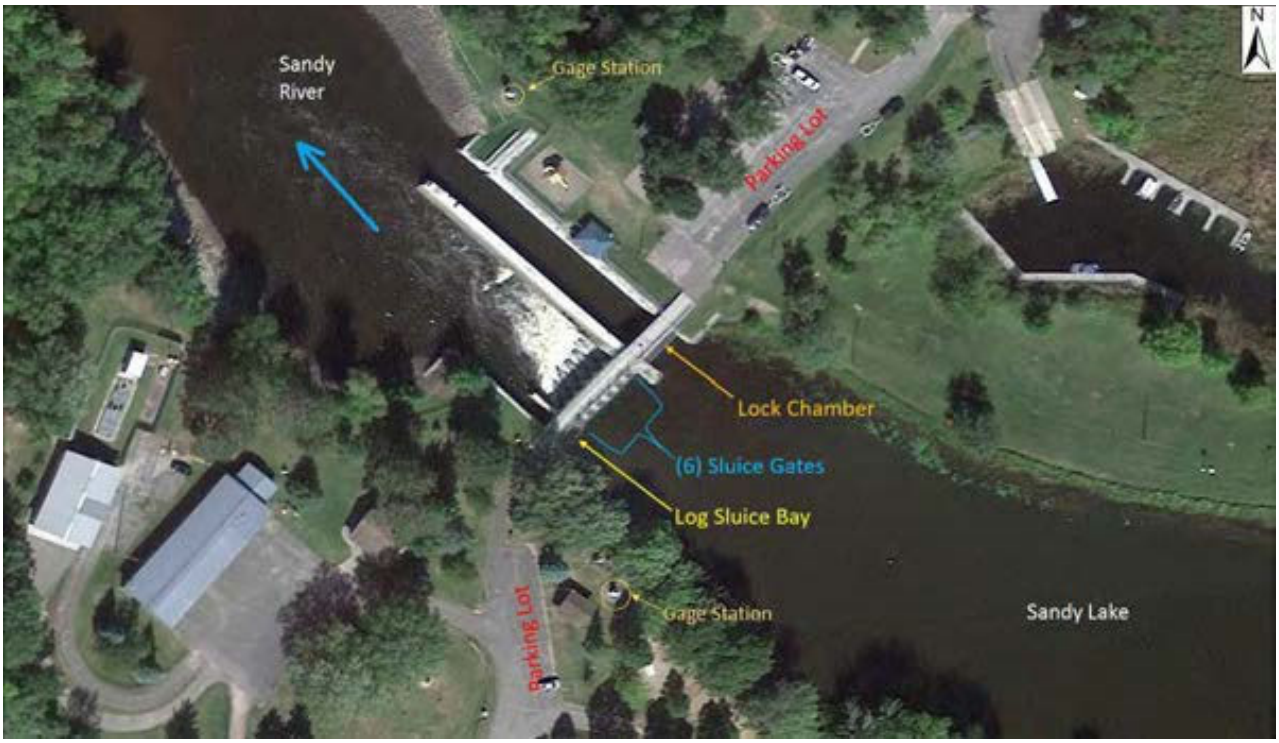

Figure 2. Big Sandy Lake Dam Area Overview.

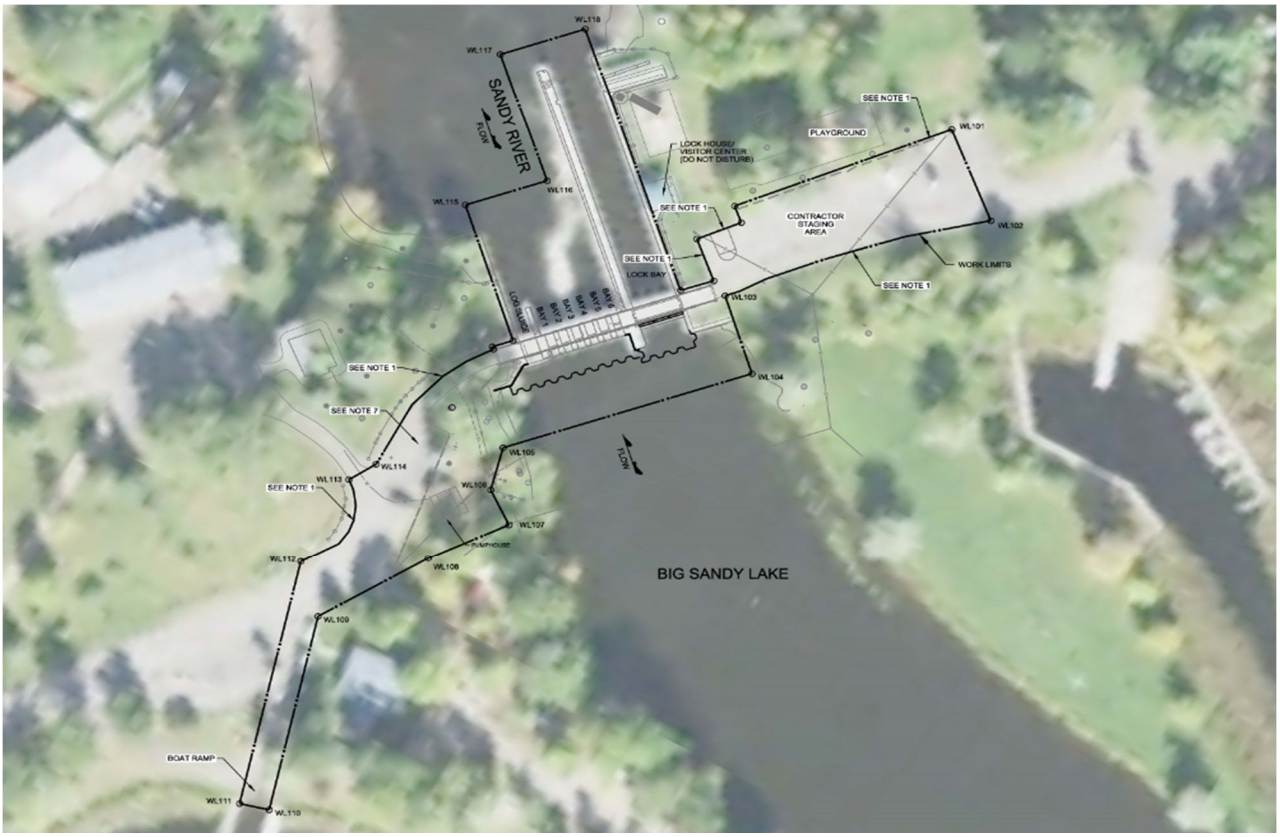

Figure 3. Big Sandy Lake Dam Area Project Footprint.

1.3 Purpose and Need

The purpose and need for the proposed rehabilitation work is to address a series of deficiencies identified during the last inspection and prolong the life of the structure for the next 50 or more years. The proposed activities would include repairing the features outlined above in Section 1.1.

1.4 Authority

The River and Harbor Acts of June 14th, 1880 and August 2nd, 1882 authorized the construction of dams at each of the six Mississippi River Headwaters lakes for the purpose of forming reservoirs. The lakes affected by these acts include Winnibigoshish, Leech, Pokegama, Sandy, Cross (Pine River), and Gull. Following authorization of the reservoirs, Congress directed the Secretary of War to establish regulations governing their operation through the River and Harbor Act of August 11, 1888 (25 Stat. 400).

1.5 Related Studies, Previous Evaluations, and Related Documents

- Big Sandy Lake Dam Rehabilitation Project Plans.
- Big Sandy Lake Dam Preliminary Engineering Report (PER), Stantec, September, 2018.
- Value Engineering Study Report, USACE, January, 2020.
- Sandy Dam Safety Inspection Report, USACE, 2016.

2 Alternatives

2.1 No-Action – Continued Use of the Existing Structure

The no-action alternative in this case would be the continued use of the dam structure under current deteriorated conditions. No repairs or rehabilitation would occur.

2.2 Proposed Action – Rehabilitation

The proposed action is the repair and rehabilitation of the existing structure in accordance with the proposed project plans. Project plans were developed through identification of existing deficiencies in the 2016 Dam Safety Inspection Report, engineering assessments through the Preliminary Engineering Report, and as refined through the subsequent Value Engineering Study and additional discussions between the Corps' Project Development Team. Table 1 below includes a list of activities with the proposed action including a general description of the work needed to repair or rehabilitate each.

Table 1: Preferred Alternatives for the Big Sandy Lake Dam Rehabilitation

Design Features	Work Item
Lock Bulkhead Wall	Rehabilitate deteriorating concrete lock bulkhead (lock curtain wall).
Log Sluice	Replace wooden stoplogs with a more operable system.
Slide Gates	Refurbish the existing slide gates with mechanized equipment with push button controls operated from the bridge.
Upstream Apron and Cutoff	Remove existing timber apron and replace with concrete. Include new sheet pile cutoff.
Concrete Repairs	Repair the deteriorated concrete, including cracks, delamination, exposed aggregate, spalling, erosion, abrasion, and concrete loss above, at and below the normal pool water line.
Construction Phasing	Establish a construction phasing plan for construction tasks and bypass of water during construction.
Dam Dewatering During Construction	Provide a dam dewatering system to facilitate the rehabilitation work (some or all) in the dry. Include cofferdam(s) and dewatering (possibly including groundwater dewatering).
Electrical	New onsite electrical system for gate operators, lighting, and other powered facilities on the dam, including manual local/remote controls for the gates.

2.2.1 Project Phasing and Duration of Planned Activities

The proposed work would occur in two phases. Rehabilitation work on the lock chamber would occur first, followed by rehabilitation work on the sluice gates and log sluice chamber. Planned activities are expected to begin in the fall of 2020 or the spring or summer of 2021 and are expected to be completed by the end of the 2022 construction season.

2.2.2 Use of Cofferdams, Dewatering and Project Footprint

Upstream and downstream cofferdams would be used for each phase. Under Phase 1 (lock chamber), a sheet pile cofferdam would be installed immediately upstream of the lock chamber and span from the central concrete pier to the shoreline. Downstream, a portable cofferdam (port-a-dam) would be installed across the end of the lock chamber from chamber wall to chamber wall. The Phase 1 project footprint would encompass 750 square feet upstream and 5500 square feet downstream, including dewatering areas. Under Phase 2 (Sluice Gates and Log Sluice Bay), a sheet pile cofferdam would be installed immediately upstream of the lock chamber and span from the central concrete pier to the shoreline. Downstream, a portable cofferdam (port-a-dam) would be installed across the sluice gate bay from the lock chamber wall to the shoreline abutment. The Phase 2 project footprint would encompass 1400 square feet upstream and 6700 square feet downstream, including dewatering areas. Once cofferdams are in place, work areas would be dewatered to allow for construction activities.

2.2.3 Water Management during Construction

During Phase 1 (lock chamber), water flows would continue to be directed and managed through the existing sluice gate bays as they are currently. During Phase 2 (Sluice Gates and Log Sluice Bay), water flows would be directed and managed through the lock chamber by using variable height stoplogs in a manner that would mimic normal water management through the sluice gates. Phasing the project in this manner will allow outlet flows to be managed as they are currently in accordance with the approved water control plan. No significant changes or modifications to the existing water control plan are expected to occur during construction activities.

3 Existing Conditions and Environmental Effects

The following sections present the existing environmental conditions surrounding the proposed project area. The affected environment ranges from a small area around the actual project work to a larger socioeconomically affected area depending on the condition.

The effects of the no-action alternative are those expected to occur short-term and into the future under continued use of the existing dam without rehabilitation. The no-action alternative serves as the base condition against which the proposed action is compared for evaluating effects. Although the no-action alternative is not expected to have any adverse socioeconomic or environmental impacts in the immediate future, if the structure continues to deteriorate and one or more parts of the structure fails and water management capabilities are lost, substantial adverse impacts on recreational opportunities, public health and safety, property values, public facilities and services, flooding effects, aquatic habitat, and biological productivity could result.

A description of potential environmental effects follows for the proposed action, including a summary of effects provided in Table 3 at the end of this chapter. If not specifically listed, no effect is expected.

3.1 Social Conditions and Effects

3.1.1 Noise

Noise levels in and around the vicinity of the project area are commensurate with that of other semi-remote northern Minnesota locale. Ambient noise levels typically increase during the summer months when the nearby recreation area and campground is frequented by visitors and campers.

Under the preferred alternative, an increase in noise levels around Sandy Dam would occur during construction activities, which are expected to begin in the spring or summer of 2021 and extend through the 2022 construction season. Noise levels would return to normal after the rehabilitation project is completed. Therefore, overall impacts on noise under the preferred alternative are expected to be minor and temporary.

3.1.2 Recreational Opportunities

Big Sandy Lake is well-known for recreational opportunities such as fishing, boating, and camping.

Under the proposed action, the areas immediately upstream and downstream of the dam structure and areas directly adjacent to the structure are expected to be blocked off during construction activities for the safety of the public and construction workers. In addition, the “North Loop” of the recreation area will be temporarily closed to the public during the 2 year construction period due to concerns with public safety. This includes the temporary closure of 34 of 60 campsites, 1 boat launch, and the main playground area. Consequently, recreational opportunities in these areas, such as fishing, boating, and camping are expected to be temporarily interrupted during rehabilitation work. The use of parking areas adjacent to the dam structure may also be limited or temporarily closed during construction activities to accommodate construction vehicles and ensure public safety. However, the proposed work is not expected to limit the public’s use of the remainder of the Big Sandy Lake Recreation Area and other nearby public recreational facilities. Consequently, overall impacts to recreational opportunities are expected to be minor and temporary. No changes are anticipated to Big Sandy Lake water levels during construction, compared to what would otherwise occur under the no-action.

Conversely, if the rehabilitation work is not completed and the dam structure continues to deteriorate and fails, the stable pool that is currently maintained by the dam would revert to the natural run-out elevation which is 8-9 feet lower than the currently maintained pool-level. Under these conditions, the surface area of the lake would be smaller and the overall depths would be shallower substantially reducing the quality of recreational opportunities such as fishing and boating.

3.1.3 Public Health and Safety

Currently, the dam structure does not pose a threat to public health and safety. However, its deteriorating condition may result in a structural failure that could pose a substantial threat to public health and safety. Rehabilitating the dam now would maintain its current structural integrity for the next 50+ years avoiding the potential for unsafe conditions to occur. As a result, the preferred alternative would have a substantial beneficial effect on public health and safety by maintaining structure with good integrity and optimum functionality for the foreseeable future.

3.1.4 Controversy

Maintaining water levels at Big Sandy Lake as they have been for the last several decades is very important to the local residents, cabin owners and those that routinely enjoy the use of Big Sandy Lake. This was one of the key issues raised at the public meeting held by the Corps on November 2nd, 2019 at the Big Sandy Lodge in McGregor, MN. Rehabilitating the dam structure would allow the Corps to continue to manage water levels in Big Sandy Lake as they have been for the last several decades, supporting the public interest and preserving the use of the lake for the next 50+ years. No changes are anticipated to Big Sandy lake water levels during construction, compared to what would otherwise occur under the no-action. Conversely, allowing the dam structure to continue to deteriorate as it is currently and potentially fail would not support the public interest and would not preserve the use of the lake for next several decades.

3.1.5 Environmental Justice

Environmental Justice is a national goal and is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Project goals and objectives were established to ensure the continued and safe use of the dam structure for all people. The proposed project would occur on public lands, therefore no private lands would need to be acquired. The distribution of information through public notifications will continue to be an integral part of planning for this project to ensure that concerns of all people will be fully considered in the decision-making process. In summary, the proposed action would not have a disproportionate adverse impact on any population, racial or economic group.

3.2 Economic Conditions and Effects

3.2.1 Property Values

The shoreline of Big Sandy Lake is predominantly developed and many landowners enjoy the benefits the lake has to offer. Big Sandy Lake is a desirable location with many permanent residences and cabins along its shoreline. These landowners typically enjoy high property values due to the strong desire to own lakeshore property around Big Sandy Lake. The Corps manages lake levels in accordance with an approved water management plan that takes into account the potential need for source water to manage the navigation channel in the Mississippi River, but also considers the management and maintenance of lake levels for recreational opportunities and the preservation of local fish and wildlife, which benefits local property owners and the property values of residences around the lake. Rehabilitating the dam structure would allow the Corps to continue to manage lake levels as it has in the past which would substantially benefit these property owners by maintaining the lake's desirability, which would preserve local property values. Allowing the dam structure to deteriorate and fail could have an adverse impact on local property values.

3.2.2 Public Facilities and Services

The Corps currently manages a recreation area, campground and public water access in conjunction with its operation of the Big Sandy Lake Dam. These public facilities are largely dependent upon the recreational activities afforded by Big Sandy Lake which predominantly exist through continued maintenance of existing lake levels. If the dam structure continues to deteriorate and fails, the quality of these public facilities may be substantially reduced. Conversely, rehabilitation of the existing dam would preserve the Corps' ability to maintain the water levels in Big Sandy Lake, thereby preserving the quality of these public facilities for the next several decades.

3.2.3 Flooding Effects

Under current conditions, discharges through the Big Sandy Lake Dam are managed in accordance with the current water management plan which was developed in consideration of minimizing flooding effects both around the perimeter of Big Sandy Lake and downstream. If the current structure continues to deteriorate and is either non-

functional or is unsafe to operate, the ability of the Corps to manage water levels for these purposes would be diminished or eliminated. In addition, if the dam structure deteriorates to the point of failure, large amounts of water could be released uncontrolled, which may result in increased flooding effects downstream. Rehabilitating the dam structure now would preserve the Corps' ability to continue to manage water levels as it has in the past to minimize flooding effects both around the shoreline of Big Sandy Lake and downstream. Consequently, the no-action alternative could result in substantial adverse flooding effects, while the preferred alternative would avoid these effects.

3.3 Natural Resource Conditions and Effects

3.3.1 Air Quality

The U.S. Environmental Protection Agency (EPA) is required by the Clean Air Act to establish air quality standards that primarily protect human health. These National Ambient Air Quality Standards (NAAQS) regulate six major air contaminants across the United States. When an area meets criteria for each of the six contaminants, it is called an "attainment area" for that contaminant. Areas that do not meet the criteria are called "nonattainment areas". Aitkin County, MN is classified as an attainment area for each of the six contaminants, and is therefore, not considered an area of impaired ambient air quality (U.S. EPA, 2020). This designation means that the project area has relatively few air pollution sources of concern.

The use of heavy equipment to conduct the rehabilitation work may reduce air quality in and around the project area during the construction activities, but these effects would be minor and temporary and air quality is expected to return to normal shortly after construction activities cease.

3.3.2 Aquatic Habitat

Aquatic habitat immediately above Big Sandy Lake Dam is similar to the surrounding lake habitat, but is likely lower in quality due to presence of the dam and its accompanying man-made features. Aquatic habitat below Big Sandy Lake Dam is similar to the riverine aquatic habitat in the Sandy River, but is likely lower in quality for the same reasons. Aquatic habitats above and below the dam are not expected to change markedly under the no-action alternative, even if the dam structure fails and the historic outlet is returned. However, large amounts of aquatic habitat may be lost along the shoreline of Big Sandy Lake if lake levels decrease substantially under a catastrophic failure scenario. Rehabilitating the dam would preserve existing aquatic habitat for the foreseeable future, but minor temporary impacts to the aquatic environment would be realized during construction activities due to the use of temporary cofferdams to perform the work. Overall effects would be minor and temporary and the aquatic environment would return to existing conditions after construction activities cease.

3.3.3 Biological Productivity

Similar to the aquatic habitat discussion above, biological productivity immediately above and below Big Sandy Lake Dam is lower in quality due to presence of the dam and accompanying man-made features, and biological productivity above and below the dam is not expected to change markedly under the no-action alternative. However, biological productivity could be substantially affected if large amounts of aquatic habitat are lost along the shoreline of Big Sandy Lake under a catastrophic failure scenario. Conversely, rehabilitating the dam would preserve existing aquatic habitat for the foreseeable future resulting in substantial long-term benefits on biological productivity, though minor temporary impacts to the aquatic environment would be realized during construction activities due to the use of temporary cofferdams to perform the work.

3.3.4 Surface Water Quality

Big Sandy Lake above the dam and the Sandy River below support a diverse assemblage of aquatic flora and fauna including numerous fishes and aquatic plant species indicating the presence of good water quality in both water bodies. The continued use of the existing dam structure is not expected to have any adverse effect on surface water quality in the immediate future and likely would not have more than negligible effects on surface water quality even if the dam structure fails. Conversely, rehabilitating the dam will likely result in localized degradation of surface water quality during construction activities, but adverse effects associated with the rehabilitation work are expected to be minor overall and surface water quality would return to normal after construction activities are concluded.

3.3.5 Fish and Wildlife

The project area above and below Big Sandy Lake Dam is predominantly aquatic. Therefore, the flora and fauna that could be affected by the proposed rehabilitation project are those species that are adapted to live in aquatic habitats such as fish, frogs, turtles, mussels and aquatic plants. Fish, frogs and turtles are highly mobile, so it is likely that those occupying the area in and around the vicinity of Big Sandy Lake Dam would move out of the area if they are bothered by construction activities associated with the proposed rehabilitation project and would return after construction activities cease. However, it is possible that a few individuals may be stranded or unintentionally killed from the installation of cofferdams and subsequent dewatering activities necessary to perform the work; especially in the case of mussels and other bottom-dwelling invertebrates that are much less mobile and aquatic plants are sedentary. However, the footprint of the proposed work area within the aquatic environment is small and limited to areas directly adjacent to and immediately upstream and downstream of the dam. At most, only a few individuals are likely to be adversely affected by the proposed work. It is expected that these areas would recolonize with biota and return to normal after the completion of the rehabilitation project. Therefore, no substantial long-term adverse effects to resident fish and wildlife are expected to occur under the preferred rehabilitation project.

3.4 Federally-listed Threatened and Endangered Species

According to the USFWS IPaC Trust Resources Report obtained through the ECOS website on March 26, 2020, there are three federally threatened species that have the potential to occur within or near the proposed project area. Their common name, scientific name, status and preferred habitat type are further described in Table 2 below. No critical habitats are present within the proposed project area.

Table 2: Federally-listed species

Common Name	Scientific Name	Status	Habitat
Canada Lynx	*Lynx Canadensis*	Threatened	Northern Boreal Forest habitat
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Hibernates in caves and mines - swarms in wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
Gray Wolf	*Canis lupis*	Threatened	Wide range of habitats, typically forested areas in northern Minnesota

3.4.1 Canada Lynx

Canada Lynx are solitary animals predominantly found in the subalpine classic northern boreal forest areas called taiga in Canada and Alaska, but have been found in northern boreal forested areas of Minnesota. They prefer area with deep snow where they have an advantage against their favorite food source, snowshoe hares. The proposed project is located at the southern edge of their preferred habit range, therefore they are not likely to occupy or frequent the project area. In addition, the location of Sandy Dam and the nearby frequently used recreation area and campground has a high level of human activity and further reduces the likelihood that Lynx would be present in, or nearby the project area. As a result, the proposed work is not expected to have any adverse effects to Canada lynx.

3.4.2 Gray Wolf

Gray wolves in the region typically occupy forested habitats in the northern parts of Minnesota and southern Canada. Although the proposed project is within the gray wolf known range, their preferred habitat area is several miles further to the northeast of the project area. Still, gray wolves may occasionally pass through or temporarily occupy forested areas in the region. However, the location of Big Sandy Lake Dam directly adjacent to a public water access, recreation area and campground makes it far less likely that gray wolves would reside nearby or in the project area. Further, the proposed work is limited to the areas adjacent to and directly upstream and downstream of Big

Sandy Lake Dam where no suitable habitat exists for this species. Therefore, the proposed work is not expected to have any adverse effect on gray wolves.

3.4.3 NORTHERN LONG-EARED BAT (NLEB)

The proposed project area is located within the northern long-eared bat's known range and within the designated white-nose syndrome (WNS) zone, but there are no known hibernacula or roost trees within several miles of the project area. However, there are partially forested areas nearby the project area that could provide suitable habitat for roosting and/or pupping. However, those areas are adjacent to a frequented public recreation area and campground, so it is not likely that NLEB would occupy or use the areas near Big Sandy Lake Dam. Additionally, the proposed work would not involve the removal of any trees. Therefore, the Corps has determined that the proposed project will have no effect on the NLEB.

3.5 Bald Eagles

There are no known eagle nests or winter roosting areas located in close proximity (660 feet) to the project area and eagles residing or nesting in the vicinity of the project area would likely be accustomed to regular recreation and boat traffic. A search of the USFWS Eagle Database did not reveal the presence of any nests within one mile of the project area. Therefore, no adverse impacts to bald eagles are expected to occur under either alternative.

3.6 Migratory Birds

There is a small potential that the proposed project may have an effect on migratory birds if the site preparation and/or removal activities are conducted during the breeding, nesting or fledging season. However, the planned work will not require the removal of trees and will not require the modification or destruction of any prime migratory bird habitat. Therefore, the Corps does not believe that the proposed action would have any significant effect on migratory birds.

3.7 Cultural Resources

The proposed project includes the rehabilitation of the Big Sandy Lake Dam which is eligible for inclusion in the National Register of Historic Places (NRHP) (Harrison 1987). The dam is significant for its role in the development of navigation, commerce, tourism and Indian policy. In general, the proposed features of the rehabilitation plan meet the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (Standards) and would not involve any substantive change to the structure itself. Proposed overlay repairs is only recommended where areas of deterioration are extensive, where patches would be numerous and nearly touch, or would create large irregular shapes that are not effective in the long-term success of a patch. The removal of upstream piers to facilitate the installation of guides for a new stop log system is required. Even though it would result in substantial removal of historic material, proposed work would adhere to the Standards with reconstruction methods having the

same dimensions and geometry, color, texture and overall appearance of the historic piers.

The Area of Potential Effects (APE) includes the areas where both direct and indirect effects would occur. In this case, the APE would be limited to the proposed work on the dam and the proposed electrical system upgrades (Figure 2). Construction access would be through existing boat ramps, and the staging areas would be located on the north side of the dam in the existing parking lot and basketball court directly adjacent to the dam. Construction would be performed in two phases; phase I would consist of work within the lock bay area and phase II would consist of work within the slide gate and log sluice area. Both phases of construction would use a dam dewatering system such as a cofferdam to allow work from within the channel.

The proposed work is also within the boundaries of Big Sandy Lake archaeological site, 21AK11, a multi-component site eligible to the NRHP. All proposed work would avoid or minimize effects to this site. The new electrical service and control equipment for the dam gates would be located in the existing well pumphouse which was constructed in the 1970s. The electrical connection would be directionally bored from this well house to the dam, limiting the level of ground disturbance. This electrical connection would also be within previously disturbed areas from past projects including a directional boring project for insulating an existing waterline. Based on the information provided, the proposed action would have no adverse effect to historic properties or archaeological resources.

3.8 Cumulative Effects

The proposed rehabilitation project is a stand-alone project and there are no other known projects related to the proposal either on-going or planned in the foreseeable future. The only known project that is partially related to the rehabilitation work is fish and aquatic environment study planned to begin in the spring or summer of 2021. One of the components of this project is to study fish habits and movements in the vicinity of and around Big Sandy Lake Dam. Results from that study may ultimately develop into the potential feasibility of adding a fish passage structure to Sandy Dam. However, neither the fish passage study, nor the development of a fish passage structure at Big Sandy Lake Dam (if deemed appropriate and feasible) are dependent upon the proposed rehabilitation project. Therefore, no cumulative effects are expected to occur because of the proposed rehabilitation project.

Table 3: Environmental Assessment Matrix

	No-Action Alternative							Proposed Alternative						
	BENEFICIAL				ADVERSE			BENEFICIAL				ADVERSE		
PARAMETER	SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT	SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT
A. Social Effects														
1. Noise Levels				X								T		
2. Aesthetic Values				X							X			
3. Recreational Opportunities						X			X			T		
4. Transportation				X							X			
5. Public Health and Safety						X			X					
6. Community Cohesion (Sense of Unity)				X							X			
7. Community Growth and Development				X							X			
8. Business and Home Relocations				X							X			
9. Existing/Potential Land Use				X							X			
10. Controversy						X					X			
B. Economic Effects														
1. Property Values						X			X					
2. Tax Revenue				X							X			
3. Public Facilities and Services						X			X			T		
4. Regional Growth				X							X			
5. Employment				X							X			
6. Business Activity				X							X			
7. Farmland/Food Supply				X							X			
8. Commercial Navigation				X							X			
9. Flooding Effects						X			X					
10. Energy Needs and Resources				X							X			
C. Natural Resource Effects														
1. Air Quality				X								T		
2. Terrestrial Habitat				X							X			
3. Wetlands				X							X			
4. Aquatic Habitat						X			X			T		
5. Habitat Diversity and Interspersion				X							X			
6. Biological Productivity						X			X			T		
7. Surface Water Quality				X								T		
8. Water Supply				X							X			
9. Groundwater				X							X			
10. Soils				X							X			
11. Threatened or Endangered Species				X							X			
D. Cultural Resource Effects														
1. Historic Architectural Values				X							X			
2. Prehistoric & Historic Archeological Values				X							X			

T= Temporary Effect

4 Environmental Compliance Review

4.1 Applicable Environmental Laws and Executive Orders

The proposed action would comply with federal environmental laws, Executive Orders and policies, and applicable state and local laws including but not limited to the Clean Air Act, as amended; the Clean Water Act, as amended; the Endangered Species Act of 1973, as amended; the Fish and Wildlife Coordination Act of 1958, as amended; the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; and Executive Order 12898 - Environmental Justice.

4.2 Coordination and Consultation

Planning for the overall project has been and will continue to be coordinated with the public, state, and federal agencies, and other interested parties. The Corps held a public meeting on November 2nd, 2019 at the Big Sandy Lodge in McGregor, MN to inform the public about the Big Sandy Lake Dam Rehabilitation Project. The meeting was well attended and because of the high level of public interest, the Corps decided to prepare this EA to give the public an additional opportunity to submit comments on the proposed project. The following list of entities, including the Corps, have had involvement with the planning and/or permitting of this project:

U.S. Army Corps of Engineers	Clean Water Act review (Section 404)
U.S. Army Corps of Engineers	Rivers and Harbors Act (Section 10)
U.S. Fish and Wildlife Service	FWCA
MN Department of Natural Resources	DNR Public Waters Permit
U.S. Environmental Protection Agency	Interagency Coordination
MN State Historic Preservation Office	Section 106 of the NHPA

Detailed descriptions of compliance efforts for certain regulations are described below and related coordination correspondence is included in Appendix B.

4.2.1 Rivers and Harbors Act (RHA) and Clean Water Act (CWA)

The Corps regulates work in navigable waters under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403) and discharges of dredged and fill material under Section 404 of the Clean Water Act (CWA; 33 U.S.C. §1251 et seq.). Big Sandy Lake and the Sandy River are both classified as navigable waters under the RHA and waters of the U.S. under the CWA. Since the proposed work includes work in and discharges of dredged or fill in both water bodies, authorization under Section 10 (RHA) and Section 404 (CWA) is required. The Nationwide Permit program provides authorization under Section 10/404 for activities deemed to be individually and cumulatively minor. In terms of the proposed Big Sandy Lake Dam rehabilitation project,

the proposed work is commensurate with that described under Nationwide Permit 3 (Maintenance) and Nationwide Permit 33 (Temporary Construction, Access, and Dewatering). Therefore, the Corps concludes that the proposed work is authorized under these Nationwide Permits.

Regulated activities under Section 404 of the CWA require water quality certification under Section 401 of the CWA. In Minnesota, the Minnesota Pollution Control Agency (MPCA) is the regulatory authority for 401 water quality certification. The MPCA previously issued 401 water quality certification for work that requires authorization under Section 404 and qualifies for one or more Nationwide Permits. That certification includes both Nationwide Permit 3 and 33 and is applicable for the proposed work. Therefore, no additional 401 water quality certification is required for the proposed rehabilitation project.

4.2.2 Fish and Wildlife Coordination Act (FWCA)

In compliance with the FWCA, project plans were coordinated with the U.S. Fish and Wildlife Service (USFWS), the Minnesota DNR, and the EPA. Furthermore, appropriate state and federal agencies as well as the public will have the opportunity to review and comment on the final environmental assessment. Coordination efforts with the Minnesota DNR to date determined that the preparation of a state Environmental assessment worksheet (EAW), a water appropriation permit, and dam safety permit are not needed for the proposed project. However, the project will require a DNR Protected Waters Permit for this effort and the Corps will continue to work with the Minnesota DNR to obtain a permit prior to the start of work.

4.2.3 Endangered Species Act

The Corps determined that the proposed project would have no effect on Canada lynx, gray wolves and the NLEB due to the nature, location and scope of the proposed work. This determination also included consideration for the habitat needs of each species and likelihood that they would be present within the action area during planned construction activities.

4.2.4 Bald and Golden Eagle Act

The Bald and Golden Eagle Act prohibits anyone from taking, possessing, or transporting an eagle, or the parts, nests, or eggs of such birds without prior authorization. Disturbing an eagle to a degree that causes, or is likely to cause injury to an eagle, decrease productivity, or cause nest abandonment are considered forms of take. Activities that directly or indirectly lead to take are prohibited without a permit. The USFWS recommends maintaining a buffer of at least 660 feet between project activities and active eagle nests. There are no known eagle nests or winter roosting areas located in close proximity (660 feet) to the project area and eagles residing or nesting in the vicinity of the project area would likely be accustomed to regular recreation and boat traffic. A search of the USFWS Eagle Database did not reveal the presence of any

nests within one mile of the project area. Therefore, the Corps determined that the proposed project would have no effect on eagles.

4.2.5 National Historic Preservation Act

The National Historic Preservation Act (NHPA) is the primary law establishing the historic preservation structure in the United States. It assigns preservation responsibilities to federal agencies and establishes the Advisory Council on Historic Preservation, the State Historic Preservation Offices and Historic Tribal Preservation Offices. Section 106 of the Act specifies that federal agencies shall, prior to the approval of the expenditure of any funds on an undertaking, take into account the effect of an undertaking on any property included in or determined eligible for the National Register. The Corps has determined the proposed work would have no adverse effect to historic properties.

Big Sandy Lake Dam, AK-LBY-005 was determined eligible to the NRHP in 1989 for its significant role in the development of navigation, commerce, tourism, and Indian policy. The proposed project features associated with rehabilitation would not alter or remove character defining features or the qualities that support its' NRHP eligibility. The proposed work is also within the designated site boundary for 21AK11; however, it is within an area that has been heavily disturbed from dam operations since the 1880s and more recently in 2018 for waterline work. Since proposed work would be confined to areas that have been previously disturbed; i.e. within dam operation areas, along existing water line and utility line corridors, within previous building construction areas, and along the existing road ways, the proposed action would have no adverse effect to archaeological site 21AK11. The Corps has notified the State Historic Preservation Office (SHPO) of the proposed project and our determination of no adverse effect. The SHPO provided concurrence with the Corps' determination on 15 May 2020. In addition, the Corps has notified thirteen Tribal Historic Preservation Officers (THPO). Three Tribal offices concurred with the Corp's determination, one chose not to be a consulting party regarding this proposed project, and the rest did not respond to the Corps' consultation request.

4.3 Review of the Draft Environmental Assessment

A draft environmental assessment was posted via Public Notice on April 16th, 2020, which included a 30-day review and comment period. A notice of availability was sent to interested citizens and the following agencies:

U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Minnesota Department of Natural Resources

The USEPA responded to the public notice with a letter via email concurring with the analysis and determinations in this EA. No other comments were received. A copy of the EPA letter is included in the Coordination and Correspondence Appendix (Appendix B) of this report.

References

Harrison, Christina. 1987. Report on Phase II Archaeological Testing at 21 AK 11, Big Sandy Lake, Aitkin County, Minnesota (June 10-11 and August 1-5 and 20-21, 1985). Archaeological Research Services, Minneapolis, Minnesota. Contract No. DACW37-85-M-1141.

Stantec Corporation Incorporated. 2018. Big Sandy Lake Dam Preliminary Engineering Study.

U.S. Army Corps of Engineers (USACE). 2020. Value Engineering Report.

U.S. Army Corps of Engineers (USACE). 2016. Big Sandy Dam Safety and Inspection Report.

U.S. Army Corps of Engineers (USACE). 1997. Final Environmental Impact Statement for 9-Foot Navigation Channel Maintenance Management Plan, Upper Mississippi River, Head of Navigation to Guttenberg, Iowa. Record of Decision (ROD) signed 7 July 1997.

U.S. Environmental Protection Agency (USEPA). 2015. Current Nonattainment Counties for All Criteria Pollutants [October 1 update]. http://www3.epa.gov/airquality/greenbk/ancl.html Accessed on March 26, 2020.

Appendices

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

Appendix A – Final FONSI

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

Regional Planning and Environment Division North

FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, the U.S. Army Corps of Engineers, St. Paul District assessed the environmental impacts of the following project:

BIG SANDY LAKE DAM REHABILITATION PROJECT
HEADWATERS, BIG SANDY LAKE
AITKIN COUNTY, MINNESOTA

The U.S. Army Corps of Engineers (Corps), St. Paul District, is proposing to rehabilitate the Big Sandy Lake Dam located between Big Sandy Lake and the Sandy River. According to recent inspections several features of the dam are deteriorating and are in need of repair or rehabilitation to preserve the long-term structural integrity of the dam.

The proposed rehabilitation when compared with the no-action alternative would have similar effects, with the exception that the rehabilitation work would have minor temporary adverse effects on ambient noise, recreation, public facilities, air quality, aquatic habitat, biological productivity and surface water quality. Conversely, not conducting the rehabilitation work could result in substantial adverse effects on recreation, public health and safety, property values, public facilities, flooding, aquatic habitat and biological productivity if one or more components of the structure fail. Therefore, the minor temporary adverse effects of rehabilitating the dam in the short-term are better for the environment than the substantial long-term effects of the no-action.

For the reasons above, the proposed action does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared.

Karl D. Jansen

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Date: 2020.10.07 12:46:42 -05'00'

07 OCT 2020
Date

Karl D. Jansen
Colonel, Corps of Engineers
District Engineer

Appendix B – Coordination and Correspondence

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

May 15, 2020

Jonathan Sobiech
Regional Planning and Environment Division North
U.S. Army Corps of Engineers
180 5th Street E, Suite 700
St. Paul, MN 55101-1678

RE: Proposed Sandy Lake Dam Rehabilitation Project
T50 R24 S25, Libby Twp, Aitkin County
SHPO Number: 2019-0032

Dear Mr. Sobiech,

Thank you for continuing consultation with our office regarding the above-referenced undertaking. Information received in our office on March 31, 2020 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing federal regulations at 36 CFR Part 800.

We previously provided comments on the proposed undertaking to your agency on October 18, 2018. Since then, we have continued to consult with agency staff as the dam rehabilitation project plans have been further refined, including a recent consultation meeting with SHPO staff and Vanessa Alberto, USACE archaeologist, on March 10, 2020.

We have now completed a review of your letter dated March 31, 2020, a submission which included documentation in support of your agency's No Adverse Effect finding for the proposed federal undertaking. As acknowledged in your letter, we have also utilized the 65% design plans (dated 2/25/2020) for the undertaking which were submitted to us during the March 10th consultation meeting.

Define Undertaking and Area of Potential Effects
The updated description of the proposed undertaking as provided in your March 31st letter and the supplemental project documentation, on pages 5-15, in both narrative and images, is greatly appreciated. We understand the proposed dam rehabilitation project to include upstream apron replacement, lock curtain wall replacement, concrete repair work, upstream pier reconstruction, log sluice modifications, new gates, and electrical upgrade.

Based upon our understanding of the scope and nature of the proposed undertaking, we agree that your agency's definition and corresponding documentation, Figure 1, of the Area of Potential Effect (APE) is generally appropriate to take into account potential direct and indirect effects to historic properties. If the project's scope is significantly altered from what is currently proposed, then additional consultation with our office may be necessary.

Identification of Historic Properties
Archaeological Resources
Your March 31st letter confirms the identification of archaeological site **21AK0011**, known as the **Big Sandy Lake Dam Site**, a historic property previously determined eligible for listing in the National Register of Historic Places (NRHP), as being located within the APE as it is currently defined.

History/Architecture Properties
Your agency also confirms the presence of one (1) history/architecture property within the APE for this project. The **Big Sandy Lake Dam** (AK-LBY-005), also a historic property which was previously determined eligible for listing in the NRHP.

Assessment of Adverse Effect
It is evident, through consultation with our office, and as documented in your March 31st submission, that extensive efforts have been undertaken by your agency in order to design the dam rehabilitation project to meet the needs of your agency while at the same time avoid and minimize adverse effects to both archaeological site 21AK011 and the Big Sandy Lake Dam structure.

Based upon information provided to our office at this time, we agree that the proposed undertaking will not adversely affect archaeological site 21AK011.

We have reviewed the proposed modifications to the Big Sandy Lake Dam structure in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (Standards), specifically the Standards for Rehabilitation which allow for repairs, in-kind replacement of severely deteriorated historic materials/features, and alterations to historic properties in order to accommodate contemporary uses/functions. Our comments on the 65% plans and corresponding narrative description provided in your March 31st letter are provided below.

1. In general, the proposed repair of deteriorated portions historic concrete meets Standards. The actual repair methods are not described in very much detail. However, we agree that proposed "cut and patch" repairs are acceptable as a basic treatment. The proposed overlay repairs are a bit more concerning. This overlay approach is only recommended where areas of deterioration are extensive, where patches would be numerous and nearly touch, or would create large irregular shapes that are not effective in the overall long-term success of a patch. It is important to ensure that overlays avoid any increase the overall depth of the wall. For example, if 3" of deteriorated concrete is removed, then the overlay should be 3" maximum. We recommend that the replacement material – for both patch and overlay methods – must match the historic concrete in composition, permeability, strength, color and surface texture.
2. The project proposes to replace the historic upstream piers not because of extensive deterioration but because your agency has indicated it is necessary to modify the historic structure and install stop logs. We understand that the upstream piers will need to be removed in order to facilitate the installation of the guides for the new stop log system, and that repairs to the existing piers in order to modify for these guides is not feasible. Although the proposed modification will result in substantial removal of historic material, we acknowledge the agency's efforts in minimizing this adverse effect and closer adherence to the Standards by designing the new piers compatible with the historic. To further this effort, we recommend that the proposed reconstructed piers shall have the same dimensions and geometry (in all three dimensions), color, texture and overall appearance of the historic piers.

3. Project proposes to replace the log sluice with gates, and then add two stop log guides. We agree that although there is functional modification to the historic dam, there will likely be no discernable visual effects. Therefore, this work is in conformance with the Standards.

Therefore, pursuant to 36 CFR 800.5(b), we provide concurrence with your agency's finding that the undertaking, as it is currently proposed, will have no adverse effect on historic properties provided that the recommendations for conformance with the Standards as described in #1 and #2 above are incorporated into the final design and specifications for the dam rehabilitation project.

Implementation of the undertaking in accordance with this finding, as documented, fulfills your agency's responsibilities under Section 106. If your agency disagrees with the condition (above) upon which we provide concurrence with your effect finding, or does not construct the undertaking as proposed, including, but not limited to, a situation where design changes to the currently proposed project diverts substantially from what was presented at the time of this review, or design changes involving undisturbed ground are made for the undertaking following completion of this review, then your agency will need to reopen Section 106 consultation with our office pursuant to 36 CFR 800.5(d)(1).

Please contact me at sarah.beimers@state.mn.us or (651) 201-3290 if you have any questions regarding our review of this project or require clarification on our recommendations.

Sincerely,

Sarah J. Beimers
Environmental Review Program Manager

Cc via email:
Vanessa Alberto, USACE Archaeologist

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

March 31, 2020

Regional Planning and Environment Division North

SUBJECT: Sandy Lake Dam Rehabilitation Project, SHPO Number 2019-0032

Ms. Sarah Beimers
State Historic Preservation Office
Administration Building #203
50 Sherburne Avenue
Saint Paul, MN 55155

Dear Ms. Beimers:

The U.S. Army Corps of Engineers, St. Paul District (Corps) is continuing our review of the proposed Sandy Lake Dam rehabilitation project. Since consultation was initiated with your office on 26 September 2019, the Corps has received the 65% plans and specs (hand delivered to your office on March 10) and sufficient information to complete our review. Based on the information received, the Corps has determined the proposed Sandy Lake Dam rehabilitation work would have no adverse effect to historic properties.

The Area of Potential Effects (APE) includes the areas where both direct and indirect effects would occur. In this case, the APE would be limited to the proposed work on the dam and the proposed electrical system upgrades (Figure 1). Construction access would be through existing boat ramps, and the staging areas would be restricted to paved surfaces on the north side of the dam in the existing parking lot and basketball court directly adjacent to the dam. Construction would be performed in two phases; phase I would consist of work within the lock bay area and phase II would consist of work within the slide gate and log sluice area. Both phases of construction would use a dam dewatering system such as a cofferdam to allow work from within the channel. The new electrical service and control equipment for the dam gates would be located in the existing well pumphouse which was constructed in the 1970s. The electrical connection would be directionally bored from this well house to the dam, limiting the level of ground disturbance.

Two historic properties reside within the APE. The Sandy Lake Dam, AK-LBY-005, was determined eligible to the National Register for historical associations under Criterion A in the development of navigation, commerce, tourism and Indian policy. Aside from the dam and the lock house, no standing structures (i.e., damtender's house, outbuildings) remain from the original damtender's complex. At the time Sandy Lake Dam was determined eligible, the potential architectural significance was not addressed; however, the Corps now acknowledges the dam's criterion C associations for design and construction values. More specifically, the Corps identifies the following main features of significance to be considered for undertakings that may affect the dam's architectural significance:

1) Dam layout, configuration, height, dimensions, and profile,

2) Arcaded gate bays on the downstream side, design and dimensions; and,
3) Lock house constructed in 1914

The second historic property within the APE is the Big Sandy Lake Dam Site, 21AK11 (Figure 2 & 3). This is a multi-component site recommended eligible to the National Register in 1985 for its high degree of preservation and archaeological significance (Harrison 1985).

The Corps has determined the proposed undertaking would not alter or remove character defining features that convey the dam's historical associations or architectural value. Proposed design features for the undertaking include upstream apron replacement, lock curtain wall replacement, concrete repair work, upstream pier reconstruction, log sluice modifications, new gates, and electrical upgrade. One design feature captured within the 65% plans and specs included downstream pier extensions (Drawing S-504). Upon further review of this design, it was determined to remove this design feature from any further consideration. Additional descriptions are provided below for design features included in the undertaking. In addition, the proposed work within the archaeological site boundaries would be within previously disturbed areas. The Corps has determined the project to have no adverse effect on the qualities that support the National Register listing for both Sandy Lake Dam and archaeological site 21AK11.

We look forward to your review and comments. If you have any additional questions, please contact Vanessa Alberto, archaeologist, at (651) 290-5388 or Vanessa.J.Alberto@usace.army.mil.

Sincerely,

SOBIECH.JONATHAN.JOSEPH.1258320596 Digitally signed by SOBIECH.JONATHAN.JOSEPH.1258320596 Date: 2020.03.31 14:26:02 -05'00'

Jonathan J. Sobiech
Deputy Chief, Regional Planning and
Environment Division North

Enclosure (1)
MEMORANDUM FOR: CEMVP-PD-C: Sandy Lake Rehabilitation, Reconstruction of Upstream Pier Extensions

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

October 26, 2018

Terry Birkenstock
Regional Planning and Environment Division North
U.S. Army Corps of Engineers
180 5th Street E, Suite 700
St. Paul, MN 55101-1678

RE: Proposed Sandy Lake Dam Rehabilitation Project
T50 R24 S25, Libby Twp, Aitkin County
SHPO Number: 2019-0032

Dear Mr. Birkenstock:

Thank you for initiating consultation on the above project. Information received in our office on 26 September 2018 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

We appreciated the opportunity to visit this site with members of your staff on October 4, 2018. We have reviewed the documentation included with your September 24, 2018 submittal. Our comments are provided below.

Define Undertaking and Area of Potential Effects
As we understand it, the U.S. Army Corps of Engineers, St. Paul District, is proposing to complete various repairs to the Sandy Lake Dam. These repairs include removing the existing upstream timber apron and replacing it with a reinforced concrete apron with integrated sheet pile cutoff; removing the existing 1971 concrete lock curtain wall and replacing it with three stoplog bays and a new underwater concrete sill; repairing the concrete on the dam; replacing existing 1958 wooden stoplogs with a full-width, dual leaf motorized slide gate; refurbishing the existing slide gates with mechanized equipment; rehabilitating the existing upstream stoplog guides and providing new wooden stoplogs; adding a reinforced concrete extension to the downstream pier with stoplog guides to allow for the dewatering of individual sluice gate bays; installing a new onsite electrical system for gate operators, lighting, and other powered facilities on the dam - including manual local/remote controls for the gates; extending 3-Phase power to the dam; and modifying the existing pumphouse to provide an enclosure for the electrical service panel and supplemental controls. While your agency has provided a preliminary discussion of the (APE) for the Federal undertaking, the specific route for the proposed electrical service to the dam has not been decided, therefore an APE for the project as a whole cannot be established at this time. We look forward to further discussions regarding the APE, once the project design has been completed and an APE for the project as a whole has been defined.

Identification of Historic Properties
Archaeological Resources
According to your submittal, one archaeological site has been identified within the preliminary APE for this project, 21AK0011, the Big Sandy Lake Dam site. This site has been determined eligible for listing in the National Register of Historic Places (NRHP).

History/Architecture Properties
Your agency has also identified one history/architecture property within the preliminary APE for this project, the Big Sandy Lake Dam, which has also been determined eligible for listing in the NRHP. We have reviewed the preliminary discussions regarding the proposed dam repairs and provide the following comments:

There is not enough information at this time to make an informed decision. Construction plans/drawings for the proposed dam modifications will be necessary to understand where the proposed changes are to take place, as well as their size and scope compared to the relative size of the dam. The provided photos are not sufficient for us to gain an understanding of

the project in its entirety or the effects of the proposed repairs to the specific dam elements. We will need additional detail and overall photos of the dam as well as construction drawings that will help us understand the dam in its entirety and to be able to understand the effects of the proposed repairs.

At this point we are unable to understand what damage will be done to the historic dam, and how the dam will be modified in order to install the lock curtain walls, log sluices and slide gates. There is also no information regarding any alternatives that may have been discussed that might be less obtrusive. As of now, it appears as though the proposed changes would significantly alter the appearance of the dam. We would encourage your agency to look at a number of options that emphasize repairs with the least obtrusive changes that will also accomplish operational goals. With operations that only occur occasionally, perhaps less obtrusive options could be used. The operations that occur regularly may warrant more significant changes.

We look forward to further consultation regarding this project once the electrical route has been identified and the construction plans and drawings are developed.

Please contact Kelly Gragg-Johnson, Environmental Review Specialist, at 651-201-3285 or kelly.graggjohnson@state.mn.us if you have any questions regarding our review of this project.

Sincerely,

Sarah J. Beimers
Environmental Review Program Manager

cc: Vanessa Alberto, USACE Archaeologist

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

24 September 2018

Regional Planning and Environment Division North

SUBJECT: Initiating Consultation for the Proposed Sandy Lake Dam Rehabilitation Project.

Ms. Sarah Beimers
State Historic Preservation Office
Administration Building #203
50 Sherburne Avenue
Saint Paul, MN 55155

Dear Ms. Beimers:

The U.S. Army Corps of Engineers, St. Paul District (Corps) is proposing to complete necessary repairs of the Sandy Lake Dam located at the outlet of Big Sandy Lake, near McGregor, Minnesota, Township 50N, Randy 24W, Section 25 (Figure 1). We are contacting your office to initiate consultation under Section 106 of the National Historic Preservation Act of 1966, as amended, and it's implementing regulation 36 CFR 800.

Background

The Sandy Lake Dam was put into operation in 1895. The original 160-foot dam consisted of five timber sluice gates, one log sluiceway, and one lock chamber. A navigation lock was finished in 1896. The timber structure showed deterioration by 1904 and reconstruction began in 1908. The new concrete structure was completed in 1909. The lock was reconstructed between 1909 and 1911 and the bridge over the dam and operating machinery adjacent to the dam were installed in 1912. Today the Sandy Lake Dam is a concrete control structure with six five-foot wide sluice gates, one log sluiceway, and an abandoned lock bay. This concrete control structure is supported by its original timber pilings. In addition, the upstream spillway timber apron has not been replaced. The timber pilings and timber apron are not visible from the surface.

Throughout its history, Sandy Lake Dam has undergone a series of modifications, repairs, and periodic inspections. Table 1 identifies these modification and repairs.

Table 1: Modification and Repairs of Sandy Lake Dam

Year	Description of Modification or Repair
1912	Dam reconstruction
1958-1959	Navigation lock closed and converted into a spillway with H-beams that provide five additional sluiceways controlled by wooden stoplogs.
	The timber aprons downstream of the operating bays and lock floor were replaced with concrete.

1971	Steel slide gates and electric service to the gates were installed. Electric service included the construction of the existing pumphouse.
	A concrete lock curtain wall was added across the lock to replace the timber bulkheads.
1979	Dam improvements including concrete wall on the lock curtain wall
2002	The upper sections of the bridge were removed and replaced with a new bridge deck. Bridge is currently restricted to pedestrian and maintenance vehicle use.

Proposed Repair Project

A series of inspections were conducted from 2011 to 2016 and it has been determined that the dam has several features in need of repair. The latest inspection identified features that had deteriorated to a point that repair or replacement is necessary to maintain the long-term stability of the structure (Table 2). A significant concern and need of repair is the upstream apron; however, proposed repairs would also be included to improve worker safety and operability. Additional detail for each design feature can be found in Attachment 1.

Table 2: Deficiencies Highlighted in Corps' 2016 Inspection Report

Design Feature	Condition	Recommendation
Upstream Timber Apron and Cutoff	Poor or unknown condition	Replacement
Lock Curtain Wall	Poor condition	Replacement or repair
Concrete	Areas of poor condition	Repair
Log Sluice Bay	Stoplogs in poor condition and difficult to operate	Replacement
Slide Gates	Operable but nearing end of service life	Replacement

A preliminary engineering report was recently completed to develop a rehabilitation plan with preliminary cost estimates for the proposed repairs. That rehabilitation plan addressed repairs to the deteriorated design features as well as the Secretary of Interior Standards for Treatment of Historic Properties. Table 3 provides a summary of the recommendations from the rehabilitation plan.

Table 3: Proposed Design Features of Recommended Rehabilitation Plan

Design Features	Work Item	Visibility
Upstream Apron	Remove existing timber apron and replace with a reinforced concrete apron with integrated sheet pile cutoff.	No visible change (underwater)

Lock Curtain Wall	Rehabilitate deteriorating concrete lock curtain wall constructed in 1971 by removing existing concrete walls and replacing with three stoplog bays that span the 30-foot width.	Visible change
	Construct a new concrete sill approximately 5.5-feet tall underwater to reduce the number of stoplogs required on top.	No visible change (underwater)
Concrete Repairs	Repair the deteriorated concrete, including cracks, delamination, exposed aggregate, spalling, erosion, abrasion, and concrete loss above, at and below the normal pool water line. Repair would be via overlay or cut/patch.	No visible change (in-kind repairs)
Log Sluice	Establish a more operable system by replacing existing wooden stoplogs from 1958 with a full width dual leaf slide gate that spans the 11-foot wide space. The slide gate would be motorized and have push button controlled electrically powered actuation.	Visible change
Slide Gates	Refurbish existing slide gates with mechanized equipment with push button controls operated from the bridge. Rehabilitate upstream stoplog guides and provide new wood stoplogs.	No visible change (in-kind replacement)
	Review the addition of reinforced concrete downstream pier extension with stoplog guides to allow for the dewatering of individual sluice gate bays.	Visible Change
Electrical	New onsite electrical system for gate operators, lighting, and other powered facilities on the dam, including manual local/remote controls for the gates. Extend 3-phase power to the dam and modify the existing pumphouse to provide enclosure for electrical service panel and supplemental controls.	Minimal visible change

Potential Effect on Historic Properties

The area of potential effects (APE) includes the areas where both direct and indirect effects would occur. In this case, the APE would be limited to the proposed work on the Sandy Lake Dam and the proposed electrical system upgrades (Figure 2). Proposed work on the dam would be within the channel. Construction access would be through existing boat ramps, and the staging areas would be located on the north side of the dam in the existing parking lot and basketball court directly adjacent to the dam. Construction would be performed in two phases; phase I would consist of work within the lock bay area and phase II would consist of work within the slide gate and log sluice area. Both phases of construction would use a dam dewatering system such as a cofferdam or porta-dam to allow work from within the channel. The Corps does not have sufficient information at this time to define the APE for the electric service route. We will define our electrical APE when this information becomes available.

Sandy Lake Dam with the original lock house dating back to 1914 is eligible for inclusion in the National Register of Historic Places (NRHP) (Harrison 1987). The dam site is within the limits of archaeological site (21AK0011), also eligible for the NRHP. All proposed work would be completed in a way that has no impacts to the lock house on the north side of the dam, and would avoid or minimize effects to the archaeological site on the south side of the dam. The Corps is currently refining the proposed repair designs for each feature. After the final design features identified in Table 2 are selected, the Corps will address how individual components of the Sandy Lake Dam may be potentially affected.

Although the exact electrical service route has not been selected, the installation of electrical lines and controls would be confined to areas that have been previously disturbed; i.e. along the existing water line and utility line corridors, within previous building construction areas, and along the existing road ways. In addition, service upgrade would be through directional boring, limiting the level of ground disturbance. The new electrical service and control equipment for the dam gates would be located in the well pumphouse which was constructed in the 1970s. Locating this equipment inside a building would allow for the use of indoor rather than outdoor equipment, and thereby provide for longer equipment life. This would also result in minimal to no ground disturbance.

Please review the information included in this email and provide your agency's initial comments on the proposed design features and APE. Once a proposed plan has been selected, the Corps will review and make our determination. We look forward to your review and comments. If you have any additional questions, please contact Vanessa Alberto, archaeologist, at (651) 290-5388 or Vanessa.J.Alberto@usace.army.mil.

Sincerely,

Terry J. Birkenstock
Deputy Chief, Regional Planning and
Environment Division North

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

May 11, 2020

REPLY TO THE ATTENTION OF:
Mail Code RM-19J

Eric Hanson
U.S. Army Corps of Engineers – St. Paul District
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101

RE: EPA comments – Draft Environmental Assessment: Big Sandy Lake Dam Rehabilitation; Aitkin County, Minnesota

Dear Mr. Hanson:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Assessment (Draft EA) for the Big Sandy Lake Dam Rehabilitation Project in Aitkin County, Minnesota. Big Sandy Lake Dam is located on the Sandy River in the northwest corner of Big Sandy Lake, approximately 1.25 miles upstream of the confluence of the Sandy River and the Mississippi River. This letter provides our comments on the Draft EA, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The St. Paul District of the U.S. Army Corps of Engineers (USACE) is proposing to rehabilitate the Sandy Lake Dam to preserve the integrity of the dam structure. Specifically, the purpose and need for the proposed rehabilitation work is to address a series of deficiencies identified during the last inspection and to prolong the life of the structure for the next 50+ years. The proposed work includes repairing deteriorating concrete, replacing wooden stoplogs with metal stoplogs, refurbishing existing slide gates, and replacing the existing timber apron and cutoff with concrete. USACE has determined in the Draft EA that minor temporary impacts on noise, recreational opportunities, public facilities and services, air and water quality, aquatic habitat, and biological productivity will occur during construction activities. All of these impacts would subside after the rehabilitation work is completed. Conversely, not conducting the rehabilitation could have substantial adverse impacts on recreational opportunities, public health and safety, property values, public facilities and services, flooding effects, aquatic habitat and biological productivity if the dam structure fails.

EPA has no substantive comments or recommendations to offer on the NEPA document. We concur with USACE's determination that rehabilitating the existing dam would have fewer long-term impacts and more long-term benefits overall than not performing the rehabilitation work.

Thank you for the opportunity to review and comment on this Draft EA. *Please send us a copy of the Final EA and the signed decision document for this project.* If you have any questions about this letter, please contact the lead NEPA reviewer, Ms. Liz Pelloso, PWS, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,

KENNETH WESTLAKE

Digitally signed by KENNETH WESTLAKE
Date: 2020.05.11 11:17:41 -05'00'

Kenneth A. Westlake, Deputy Director
Tribal and Multimedia Programs Office

cc (via email):
Nick Utrup, USFWS
Rian Reed, MnDNR

From: NOREPLY.MPARS.dnr@state.mn.us
To: Hanson, Eric R CIV USARMY CEMVP (USA)
Subject: [Non-DoD Source] [MPARS] Application 2020-0401
Date: Tuesday, March 10, 2020 3:31:45 PM

We have conducted an initial review of your DNR permit application 2020-0401 and determined that an Individual Public Waters Work Permit is required for the proposed activity. No application fees are due so review of your application will proceed.

For a permit of this type, the process typically involves:
* 30 day review by local government
* Technical and resource review by DNR staff
* Determination of any additional fees required
* Possible request for additional information from applicant

The process may also involve:
* Site visit by DNR or local government staff
* Site-specific technical study

It is expected that the permit review process generally takes 45 to 150 days. Please be advised that no activity proposed in the application may take place until a permit decision is reached and a permit is issued. You may not proceed with the work in anticipation of receiving a permit.

You may sign-in to the MNDNR Permitting and Reporting System (MPARS) using the link below anytime you would like to check the status of your application or send a message to your hydrologist. If you are using MPARS for the first time, you will need to create an account.

Blockedhttps://webapps11.dnr.state.mn.us/mpars/public/permits

If you have any questions, please contact Rian Reed at rian.reed@state.mn.us, 218-328-8815.

*** DO NOT REPLY TO THIS EMAIL ***

From: NOREPLY.MPARS.dnr@state.mn.us
To: Hanson, Eric R CIV USARMY CEMVP (USA)
Subject: [Non-DoD Source] [MPARS] Application 2020-0401 - Sandy Lake Dam Rehab Project - Application Received by DNR
Date: Monday, March 2, 2020 2:31:17 PM

Your DNR permit application has been successfully submitted and assigned application number 2020-0401. A DNR hydrologist will review yourapplication materials within the next 15 days to confirm that a permit is needed for the proposed activity. You will receive an email explaining next steps and instructions on how to pay any applicable application fees. Your permit application will not be considered complete or reviewed further until all applicable application fees have been paid. Please be advised that no activity proposed in the application may take place until a permit decision is reached.

You may sign-in to the MNDNR Permitting and Reporting System (MPARS) using the link below anytime you would like to check the status of your application or send a message to your hydrologist. If you are using MPARS for the first time, you will need to create an account.

Blockedhttps://webapps11.dnr.state.mn.us/mpars/public/permits

If you have any questions, please contact Rian Reed at rian.reed@state.mn.us, 218-328-8815.

*** DO NOT REPLY TO THIS EMAIL ***

From: Boyle, Jason (DNR)
To: Hanson, Eric R CIV USARMY CEMVP (USA); Lindgren, Heidi (DNR)
Cc: Dostert, Dana M (DNR); Zwilling, Dan R (DNR)
Subject: [Non-DoD Source] RE: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)
Date: Wednesday, January 22, 2020 9:34:13 AM

Thanks, Eric. A dam safety permit is not required. Thanks for including me, we often learn something both as a dam owner and as a regulator by looking at these bigger rehab projects.
Jason

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) [mailto:Eric.R.Hanson@usace.army.mil]
Sent: Tuesday, January 21, 2020 5:45 PM
To: Lindgren, Heidi (DNR) <heidi.lindgren@state.mn.us>; Root, Greg (DNR) <greg.root@state.mn.us>; Reed, Rian (DNR) <rian.reed@state.mn.us>
Cc: Smude, Janet <swcd@mlecmn.net>; aitkinpz@co.aitkin.mn.us; Tillma, Jeff S (DNR) <jeff.tillma@state.mn.us>; Boyle, Jason (DNR) <jason.boyle@state.mn.us>
Subject: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

Fellow Agency Partners,
The US Army Corps of Engineers is planning to do some rehabilitation work on the Dam Structure at the Big Sandy Lake Reservoir and I just wanted to do a little pre-coordination to let you know a little about the project for your awareness and solicit any general comments or concerns you might have with a proposed dam rehabilitation project. The bulk of the work includes repairing or replacing deteriorating structures or components of the dam and concrete repair. The proposed work would be divided into 2 phases whereby approximately 50% of the structure would be enclosed in a cofferdam (upstream and downstream) for each phase. Cofferdams would be sheet pile (in lieu of earthen or hybrid) to minimize environmental impacts to the aquatic environment and be capable of overtopping in case of really high water event. Phase 1 would transform the existing (decommissioned) lock chamber into a stoplog structure so that USACE staff and/or the contractor can manage water levels in the same manner as is occurring today while the gates are being replaced. New gates would be double-leaf and be capable of passing water either over or under depending upon needs/desires. A copy of our Preliminary Engineering Report outlining the work that needs to be done will be sent to each of you via email through our DOD SAFE file transfer platform. Please keep in mind that this is a preliminary study and final plans will likely vary from those included in here as more information becomes available and design details are finalized.

Also, separate from but related to this work is the initiation of a pilot study led by MN DNR and USACE staff to determine the feasibility of adding a fish passage structure to Sandy Dam. While the principal purpose of converting the existing (decommissioned) lock chamber into a stop log structure is to ensure water levels can be managed during Phase 2 of the rehab project, this conversion may provide flexibility for the addition of a future fish passage structure (depending upon the outcome of the feasibility study).

For the time being, I'd just like to put together a list of what permit types would be needed and who the Point of Contact(s) would be for the rehab project. I'm assuming a Public Waters Work Permit would be necessary, but not sure if Dam Safety would like to see the plans, or if Water Appropriations would need to authorize any pumping of water around the dam if needed at any stage/phase of the project. I would also assume that the MNDNR would be the RGU for EAW purposes, but don't know if an EAW is needed/warranted in this case. Total area for cofferdams would be less than the typical 1 acre threshold, but I'll defer to the EAW expert on this one. USACE will be preparing an EA to address Socioeconomic and Environmental impacts for the work, but I expect it to be relatively short because much of the work being performed is categorically excluded from NEPA and either exempt from Section 404 of the Clean Water Act or will qualify for a nationwide permit. The bulk of our review will be centered around the cultural resources component and public interest component.

Please let me know if you have a permit component for the proposed work; if you want to be on the email list for situational awareness; or if you'd rather not receive future emails about the proposed project.

Sincerely,

Eric R. Hanson
Sr. Ecologist/Environmental Planner
US Army Corps of Engineers
St. Paul District Work:
651-290-5386

From: Reed, Rian (DNR)
To: Hanson, Eric R CIV USARMY CEMVP (USA); Lindgren, Heidi (DNR); Root, Greg (DNR)
Cc: Smude, Janet; aitkinpz@co.aitkin.mn.us; Tillma, Jeff S (DNR); Boyle, Jason (DNR)
Subject: [Non-DoD Source] RE: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)
Date: Tuesday, January 28, 2020 1:32:08 PM

Eric,
Thanks for the initial heads up. Yes, from what I understand a public waters permit will be required for your project. I will be your contact for the Public Waters Permit.
Thanks,

Rian Reed, Area Hydrologist
Ecological and Water Resources
DNR Northeast Region
1201 East Hwy 2
Grand Rapids, MN 55744
218-328-8815

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Sent: Tuesday, January 21, 2020 5:45 PM
To: Lindgren, Heidi (DNR) <heidi.lindgren@state.mn.us>; Root, Greg (DNR) <greg.root@state.mn.us>; Reed, Rian (DNR) <rian.reed@state.mn.us>
Cc: Smude, Janet <swcd@mlecmn.net>; aitkinpz@co.aitkin.mn.us; Tillma, Jeff S (DNR) <jeff.tillma@state.mn.us>; Boyle, Jason (DNR) <jason.boyle@state.mn.us>
Subject: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Fellow Agency Partners,
The US Army Corps of Engineers is planning to do some rehabilitation work on the Dam Structure at the Big Sandy Lake Reservoir and I just wanted to do a little pre-coordination to let you know a little about the project for your awareness and solicit any general comments or concerns you might have with a proposed dam rehabilitation project. The bulk of the work includes repairing or replacing deteriorating structures or components of the dam and concrete repair. The proposed work would be divided into 2 phases whereby approximately 50% of the structure would be enclosed in a cofferdam (upstream and downstream) for each phase. Cofferdams would be sheet pile (in lieu of earthen or hybrid) to minimize environmental impacts to the aquatic environment and be capable of overtopping in case of really high water event. Phase 1 would transform the existing (decommissioned) lock chamber into a stoplog structure so that USACE staff and/or the contractor can manage water levels in the same manner as is occurring today while the gates are being replaced. New gates would be double-leaf and be capable of passing water either over or under depending upon needs/desires. A copy of our Preliminary Engineering Report outlining the work that needs to be done will be sent to each of you via email through our DOD SAFE file transfer platform. Please keep in mind that this is a preliminary study and final plans will likely vary from those included in here as more information becomes available and design details are finalized.

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Please let me know if you have a permit component for the proposed work; if you want to be on the email list for situational awareness; or if you'd rather not receive future emails about the proposed project.

Sincerely,

Eric R. Hanson
Sr. Ecologist/Environmental Planner
US Army Corps of Engineers
St. Paul District Work:
651-290-5386

CLASSIFICATION: UNCLASSIFIED

From: Hanson, Eric R CIV USARMY CEMVP (USA)
To: Coyle, Margi (Anne) (DNR)
Subject: RE: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

Date: Tuesday, January 28, 2020 2:43:00 PM

CLASSIFICATION: UNCLASSIFIED

Margi,
File uploaded. You should receive an email soon with instructions on how to download it. These plans are preliminary, but they are pretty solid. I only expect minor changes. Of note is that we have already decided to use sheet pile for the cofferdams to reduce the environmental impact. The PER investigated several cofferdam options, but we've since decide to use sheep pile. That's pretty much it. The rest is pretty straightforward. Please let me know your thought once you've had a chance to review the plans.

Thanks again!

Eric R. Hanson
Sr. Ecologist/Environmental Planner
US Army Corps of Engineers
St. Paul District Work:
651-290-5386

-----Original Message-----
From: Coyle, Margi (Anne) (DNR) [mailto:margi.coyle@state.mn.us]
Sent: Tuesday, January 28, 2020 2:38 PM
To: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Subject: [Non-DoD Source] RE: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

Great thank you so very much!

Anne Marguerite Coyle (Margi) PhD 218-
328-8826; Margi.coyle@state.mn.us

Culture of Respect:
"Expresses, demonstrates, and reinforces positive and professional workplace conduct. You deserve to work where you are valued, regardless of individual differences."

MN DNR Mission: "Our mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life." DNR's Conservation Agenda contains four goals.

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Sent: Tuesday, January 28, 2020 2:36 PM
To: Coyle, Margi (Anne) (DNR) <margi.coyle@state.mn.us>
Subject: RE: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

I do. Now that I have your email, I'll send you a link to download the preliminary plans. Also, I included a basic description of the project in my earlier email below.

From: Westlake, Kenneth
To: Hanson, Eric R CIV USARMY CEMVP (USA)
Cc: Kowal, Kathleen; Pelloso, Elizabeth
Subject: [Non-DoD Source] RE: Sandy Lake Dam Rehabilitation Project (UNCLASSIFIED)
Date: Monday, March 2, 2020 4:17:45 PM

Eric, thanks for your message. Please forward your EA to us for review when it is released for public comment. We review most of the EAs we receive from lead federal agencies.
Ken

Kenneth A. Westlake
Deputy Director, Tribal and Multimedia Programs Office Office
of the Regional Administrator
U.S. Environmental Protection Agency
77 W. Jackson Boulevard
Chicago, Illinois 60604
westlake.kenneth@epa.gov
312-886-2910

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Sent: Monday, March 02, 2020 3:18 PM
To: Westlake, Kenneth <westlake.kenneth@epa.gov>
Subject: Sandy Lake Dam Rehabilitation Project (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Ken,
USACE, St. Paul District is proposing to rehabilitate the Corps-owned Dam at the Sandy Lake Recreational Facility near Libby, MN. Reaching out to you in case EPA has any comments or would like to be included in future correspondence and/or decisions.

FYSA, here is a quick overview - We are planning to publish an EA for this project around the beginning of April due to the public interest surrounding Sandy Dam, but the work associated with the rehabilitation of the existing structure we believe is exempt from 404/401 requirements. However, we do intend to obtain a MN DNR Public Waters Permit for the proposed work and have already submitted a permit application.

I will forward copies of the pertinent docs to you shortly. You should receive an email from our SAFE file transfer site.

Sincerely,

Eric R. Hanson
Sr. Ecologist/Environmental Planner
US Army Corps of Engineers
St. Paul District Desk:
651-290-5386
Cell: 651-279-1121

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Sent: Tuesday, January 21, 2020 5:45 PM
To: Lindgren, Heidi (DNR) <heidi.lindgren@state.mn.us>; Root, Greg (DNR) <greg.root@state.mn.us>; Reed,

Rian (DNR) <rian.reed@state.mn.us>
Cc: Smude, Janet <swcd@mlecmn.net>; aitkinpz@co.aitkin.mn.us; Tillma, Jeff S (DNR) <jeff.tillma@state.mn.us>; Boyle, Jason (DNR) <jason.boyle@state.mn.us>
Subject: Big Sandy Lake Reservoir Dam Rehabilitation Project (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Fellow Agency Partners,
The US Army Corps of Engineers is planning to do some rehabilitation work on the Dam Structure at the Big Sandy Lake Reservoir and I just wanted to do a little pre-coordination to let you know a little about the project for your awareness and solicit any general comments or concerns you might have with a proposed dam rehabilitation project. The bulk of the work includes repairing or replacing deteriorating structures or components of the dam and concrete repair. The proposed work would be divided into 2 phases whereby approximately 50% of the structure would be enclosed in a cofferdam (upstream and downstream) for each phase. Cofferdams would be sheet pile (in lieu of earthen or hybrid) to minimize environmental impacts to the aquatic environment and be capable of overtopping in case of really high water event. Phase 1 would transform the existing (decommissioned) lock chamber into a stoplog structure so that USACE staff and/or the contractor can manage water levels in the same manner as is occurring today while the gates are being replaced. New gates would be double-leaf and be capable of passing water either over or under depending upon needs/desires. A copy of our Preliminary Engineering Report outlining the work that needs to be done will be sent to each of you via email through our DOD SAFE file transfer platform. Please keep in mind that this is a preliminary study and final plans will likely vary from those included in here as more information becomes available and design details are finalized.

Also, separate from but related to this work is the initiation of a pilot study led by MN DNR and USACE staff to determine the feasibility of adding a fish passage structure to Sandy Dam. While the principal purpose of converting the existing (decommissioned) lock chamber into a stop log structure is to ensure water levels can be managed during Phase 2 of the rehab project, this conversion may provide flexibility for the addition of a future fish passage structure (depending upon the outcome of the feasibility study).

For the time being, I'd just like to put together a list of what permit types would be needed and who the Point of Contact(s) would be for the rehab project. I'm assuming a Public Waters Work Permit would be necessary, but not sure if Dam Safety would like to see the plans, or if Water Appropriations would need to authorize any pumping of water around the dam if needed at any stage/phase of the project. I would also assume that the MNDNR would be the RGU for EAW purposes, but don't know if an EAW is needed/warranted in this case. Total area for cofferdams would be less than the typical 1 acre threshold, but I'll defer to the EAW expert on this one. USACE will be preparing an EA to address Socioeconomic and Environmental impacts for the work, but I expect it to be relatively short because much of the work being performed is categorically excluded from NEPA and either exempt from Section 404 of the Clean Water Act or will qualify for a nationwide permit. The bulk of our review will be centered around the cultural resources component and public interest component.

Please let me know if you have a permit component for the proposed work; if you want to be on the email list for situational awareness; or if you'd rather not receive future emails about the proposed project.

Sincerely,

Eric R. Hanson
Sr. Ecologist/Environmental Planner
US Army Corps of Engineers
From: Fairman, Kate (DNR)
To: Hanson, Eric R CIV USARMY CEMVP (USA)
Cc: Coyle, Margi (Anne) (DNR)
Subject: RE: Check in - thank you both! RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED)

Date: Monday, April 6, 2020 9:04:52 AM

Thank you for the confirmations, Eric. Based on your confirmations of my understanding of the project. It is my assessment that the proposed project as it currently stands does not appear to meet or exceed any environmental review thresholds under the Minnesota Environmental Policy Act for which the Minnesota Department of Natural Resources is responsible. Please let me know if the project scope changes as that could have implications for Minnesota environmental review requirements.
Thank you, Kate Fairman

Kate Fairman
Planning Director | Environmental Review Unit Minnesota Department of Natural Resources 500 Lafayette Road North Saint Paul, MN 55155 Phone: 651-259-5082
Email: kate.fairman@state.mn.us mndnr.gov

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil> Sent: Friday, April 03, 2020 1:33 PM
To: Fairman, Kate (DNR) <kate.fairman@state.mn.us>
Cc: Coyle, Margi (Anne) (DNR) <margi.coyle@state.mn.us>
Subject: RE: Check in - thank you both! RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED) CLASSIFICATION: UNCLASSIFIED
Kate,
Thanks for taking a look at this one for us. All of your assumptions are correct. See responses below.

-Correct. The proposed project involves repairs, restoration and rehabilitation of existing structures for the Sandy Lake Dam and does not include expansion or additional features that would alter public waters beyond what has already been built.

Correct. The proposed project requires a DNR work in public waters permit, but does not require other permits (Dam Safety, Water Appropriations, etc.).

Correct. The proposed project currently does not involve a fish passage project that would impact or alter public waters

-Correct. The electrical portion of the project will not exceed 70kV and will not exceed 20 miles in length.

Eric R. Hanson
Sr. Ecologist/Environmental Planner US Army Corps of Engineers
St. Paul District Desk: 651-290-5386
Cell: 651-279-1121

-----Original Message-----
From: Fairman, Kate (DNR) [mailto:kate.fairman@state.mn.us] Sent: Friday, April 3, 2020 12:04 AM
To: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil> Cc: Coyle, Margi (Anne) (DNR) <margi.coyle@state.mn.us>
Subject: RE: Check in - thank you both! RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED)

Hi Eric,
Thank you for your patience. I've reviewed the files that Margi has shared with me and here are my assumptions regarding the proposed project. If you could please confirm that these assumptions are correct, I can confirm that no MEPA environmental review would be required.

The proposed project involves repairs, restoration and rehabilitation of existing structures for the Sandy Lake Dam. The

project does not include expansion or additional features that would alter public waters beyond what has already been built.

The proposed project requires a DNR work in public waters permit, but does not require other permits (Dam Safety, Water Appropriations, etc.).

The proposed project currently does not involve a fish passage project that would impact or alter public waters. If this is not the case, please provide specific details on the acreage of public waters that would be impacted by the fish passage project.

The electrical portion of the project will not exceed 70kV and will not exceed 20 miles in length.
Please let me know if these assumptions are correct. If so, than it appears no state level environmental review is required. If the above assumptions are incorrect, please provide clarifying information and I will determine if that would have state level environmental review implications or not. Please note that the best way to communicate with me at the moment is email. Thank you,
Kate Fairman

Kate Fairman
Planning Director | Environmental Review Unit Minnesota Department of Natural Resources 500 Lafayette Road North Saint Paul, MN 55155 Phone: 651-259-5082
Email: kate.fairman@state.mn.us mndnr.gov

-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil> Sent: Wednesday, April 01, 2020 8:52 AM
To: Fairman, Kate (DNR) <kate.fairman@state.mn.us>
Subject: FW: Check in - thank you both! RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED) CLASSIFICATION: UNCLASSIFIED
Hi Kate,
Just checking in to see if you've had a chance to look at the information I submitted regarding the Sandy Lake Dam Rehabilitation Project. I took a look at state EAW requirements and don't believe that an EAW would be required for this project. If you agree, I could really use confirmation from you guys in the next day or two before I publish our environmental assessment for public review and comment.

This project does not have a lot of flexibility in the schedule and something like a last minute need to complete the state EAW process would be a significant burden, so it would be super helpful if you could let me know either way sooner than later. Thanks Kate! The help is very much appreciated.
Eric R. Hanson
Sr. Ecologist/Environmental Planner US Army Corps of Engineers
St. Paul District Desk: 651-290-5386
Cell: 651-279-1121

-----Original Message-----
From: Coyle, Margi (Anne) (DNR) [mailto:margi.coyle@state.mn.us] Sent: Wednesday, March 25, 2020 4:47 PM
To: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil>
Cc: Fairman, Kate (DNR) <kate.fairman@state.mn.us>; Reed, Rian (DNR) <rian.reed@state.mn.us>
Subject: Check in - thank you both! RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED) Thank you Eric I have moved this along to Kate F. and Rian Reed.
It is on her list; and our apologies for the delays, with the COVID 19 and other obligations we are having to adjust our work environment and schedules. However we are still trying to keep up with our services.

I have cc'd Kate so you two can communicate directly, Thank you stay well! margi

Anne Marguerite Coyle (Margi) PhD 218-328-8826; Margi.coyle@state.mn.us

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-----Original Message-----
From: Hanson, Eric R CIV USARMY CEMVP (USA) <Eric.R.Hanson@usace.army.mil> Sent: Wednesday, March 25, 2020 4:07 PM
To: Coyle, Margi (Anne) (DNR) <margi.coyle@state.mn.us>
Subject: RE: [Non-DoD Source] RE: [DoD SAFE] HANSON.ERIC.ROBERT has dropped off a file for you (UNCLASSIFIED) CLASSIFICATION: UNCLASSIFIED
Margi,
Just wondering if you had a chance to review and determine whether or not we need an EAW for this project.

Eric R. Hanson
Sr. Ecologist/Environmental Planner US Army Corps of Engineers
St. Paul District Desk: 651-290-5386
Cell: 651-279-1121