

# REVIEW PLAN

## Sturgeon Lake Prairie Island Indian Community Tribal Partnership Program

### St. Paul District

**MSC Approval Date:**

**Last Revision Date:**

APPROVAL  
RECOMMENDED  
BY:

Digitally signed by Michael J. Bart, PE  
Date: 2021.06.09 15:16:44 -05'00'

\_\_\_\_\_  
MICHAEL J. BART, P.E.  
Chief, Engineering and Construction Division,  
St. Paul District

\_\_\_\_\_  
DATE

ENDORSED BY:

\_\_\_\_\_  
AUGUST W. MARTIN, P.E.  
Chief, Engineering and Construction Division

\_\_\_\_\_  
DATE

APPROVED  
BY:

\_\_\_\_\_  
JAMES A. BODRON, P.E., SES  
Director, Regional Business

\_\_\_\_\_  
DATE



# **IMPLEMENTATION REVIEW PLAN**

## **Sturgeon Lake Island Erosion Study**

### **TABLE OF CONTENTS**

1. PURPOSE AND REQUIREMENTS
2. PROJECT INFORMATION
3. REVIEW MANAGEMENT ORGANIZATION (RMO)
4. DISTRICT QUALITY CONTROL (DQC)
5. BIDDABILITY, CONSTRUCTIBILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY (BCOES) REVIEW
6. AGENCY TECHNICAL REVIEW (ATR)
7. TYPE II IEPR/SAR
8. REVIEW PLAN APPROVAL AND UPDATES
9. REVIEW PLAN POINTS-OF-CONTACT

ATTACHMENT 1 - DQC TEAM MEMBERS AND SCHEDULE

ATTACHMENT 2 – BCOES TEAM MEMBERS AND SCHEDULE

ATTACHMENT 3 - ATR REVIEW SCHEDULE AND ATR MEMBERS AND EXPERTISE

ATTACHMENT 4 - COMPLETION OF AGENCY TECHNICAL REVIEW

ATTACHMENT 5 - CERTIFICATION OF AGENCY TECHNICAL REVIEW

ATTACHMENT 6 - RATIONALE NOT TO CONDUCT A TYPE II IEPR/SAR

ATTACHMENT 7 - REVIEW PLAN REVISIONS

## 1. PURPOSE AND REQUIREMENTS

1.1. **General.** This review plan defines the scope and level of review for implementation documents developed for the Sturgeon Lake Island Erosion Study, with the Prairie Island Indian Community. Reviews required to be performed for this project are discussed herein. The implementation documents to be reviewed under this review plan are the Design Document Report (DDR), Plans and Scope of Work.

1.1.1. Implementation Documents (Design Document Report and Plans and Scope of Work): A DQC will be completed on 65% documents and DQC and ATR would be completed on 95% documents for the Design Document Report and Plans and Scope of Work

Section 203 of the Water Resources Development Act of 2000, the Tribal Partnership Program provides authority (or the U.S. Army Corps of Engineers in cooperation with Indian nations to study and determine the feasibility of carrying out projects that will substantially benefit Indian nations. Activities may address projects from flood damage reduction, environmental reforestation, and protection and preservation of cultural and natural resources; watershed assessments and planning activities, and such other projects as the Corps, in cooperation with Indian tribes and the heads of other federal agencies, determines to be appropriate. This project will focus on environmental restoration.

### 1.2. References

- (1) Engineer Regulation (ER) 1165-2-217, Civil Works Review Policy, 1 May 2021
- (2) Engineer Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (3) Engineer Regulation (ER) 1110-1-12 Change 2, Quality Management, 31 Mar 2011
- (4) Engineer Regulation (ER) 415-1-11, Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Reviews, 01 Jan 2013
- (5) Engineer Regulation (ER) 1105-2-100, Planning Guidance Notebook, 22 Apr 2000
- (6) Engineer Regulation (ER) 5-1-11, USACE Business Process, 31 Jul 2018
- (7) Quality Management Plan (QMP) 22800-MVP, Quality Management Plan for St. Paul District, 2 July 2013

## 2. PROJECT INFORMATION

**2.1 Study/Project Description.** The study area (Figure 1), Sturgeon Lake, is a backwater lake in Pool 3 of the Upper Mississippi River. The lake is located about 12 miles southeast of Hastings, Minnesota. Lands owned by the Tribe include islands within and surrounding Sturgeon Lake, a backwater lake on the western side of the navigation channel. The project is an ecosystem restoration in Sturgeon Lake. Several problems were identified including loss of emergent and floating leaf aquatic vegetation, loss of quality and acreage of submersed aquatic vegetation: loss of island

habitat, and loss of floodplain forest habitat; and loss of/degradation of secondary and tertiary channels. Of particular importance within the study area is Buffalo Slough, which contains favorable riverine habitat that supports an abundant and species rich mussel bed of at least 16 live species of native mussels including six listed for protection in Minnesota. The habitat is unique for lower Upper Mississippi River (UMR) Pool 3 and provides an important refuge for native mussels. Recent and ongoing mussel monitoring has indicated that reproduction of mussels is occurring, and density and species richness has been maintained. Protection from stream bank erosion, increased siltation, and altered hydrology resulting in degradation of the riverine aquatic conditions native mussels rely upon is critical for conservation of one of the most imperiled fauna groups in the UMR and nationwide. Recent reintroduction efforts of the federally endangered Higgins eye pearly mussel (*Lampsilis higinssii*) are ongoing within the pool and its anticipated individuals of the species will naturally become established within the Buffalo Slough mussel bed as long as conditions support healthy riverine mussel populations.

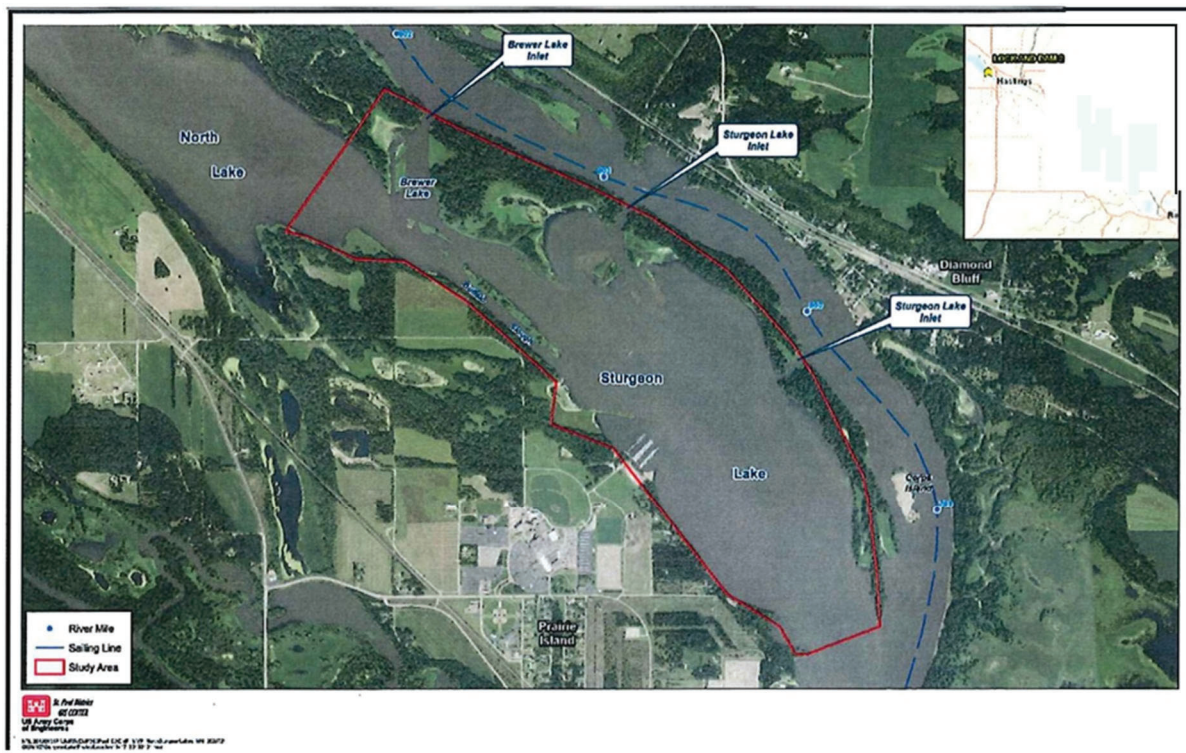


Figure 1. Sturgeon Lake Project Area

**2.2 Plan.** The design developed during the Feasibility Study (Figure 2) includes constructing a rock bullnose at the north end of the island to prevent erosion and rock vanes with an access berm along the eastern side of the island to minimize bank erosion and serve as nesting and shelter habitat for birds, reptiles, and mammals. In addition, the island will be raised in elevation by placing material dredged from the main navigation channel on the island and planting trees to eradicate the invasive reed canary grass, which would provide suitable elevation to encourage the growth of



native trees to support a floodplain forest habitat. Fine material will be used for topsoil on the island. The material will be dredged from behind the jetty near the Treasure Island Marina. The design preserves and restores the island and enhances the floodplain forest community that was once prevalent in this portion of the UMR.

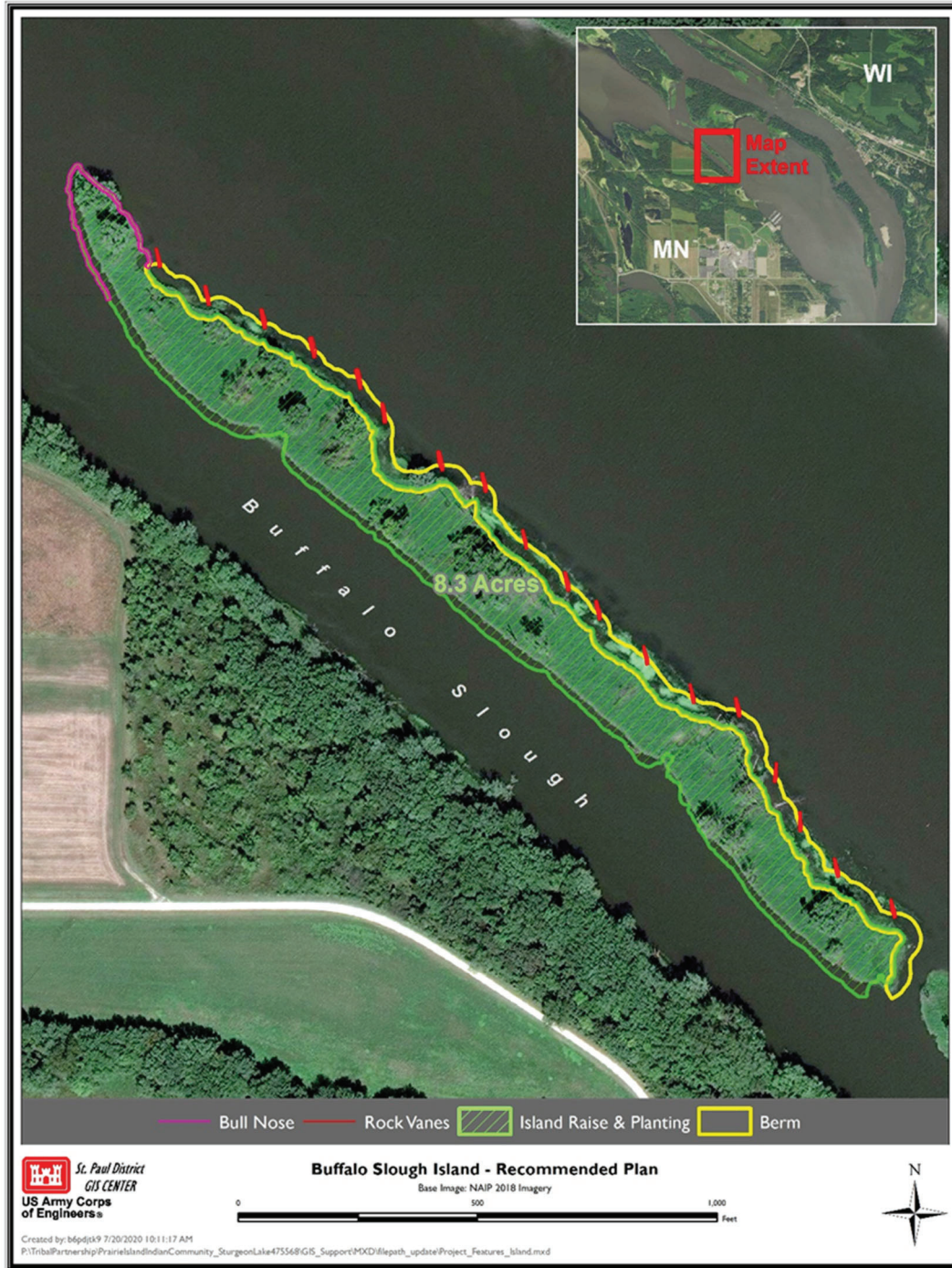


Figure 2. Sturgeon Lake Design Plan

### **3. REVIEW MANAGEMENT ORGANIZATION (RMO)**

The RMO for this project is the Mississippi Valley Division. The RMO will assure that an ATR team is assembled in accordance with this review plan. The RMO will review the ATR report and sign the accompanying completion statement at the completion of the ATR.

### **4. DISTRICT QUALITY CONTROL (DQC)**

4.1. **General.** The St. Paul District will manage the DQC reviews. The DQC reviews will consist of both informal quality checks from reviewers independent of the project delivery and more formal Project Delivery Team (PDT) reviews performed by members actively involved in the project delivery. All reviews will be performed and documented in accordance with ER 1165-2-217 and the district's quality manual. The independent quality checks reviews will not have a formal schedule but will be certified and documented. The independent quality checks reviewers are identified in Attachment 1. A sample certification sheet can be found in ER 1165-2-217. Technical supervisors will also conduct a review concurrent to the 95% DQC. The PDT reviews will be performed as shown in the schedule in Attachment 1. DrChecks comments and resolutions to the comments will serve as documentation for the PDT reviews. Comments and their resolutions will be provided to the ATR team so that the ATR team can determine whether an adequate DQC was performed.

4.2. **Required Disciplines and Expertise of PDT members.** Each PDT has been assigned a Technical Lead in accordance with ER 5-1-11 and a DQC Review Lead in accordance with ER 1165-2-217. The PDT team members and disciplines are shown in the tables in Attachment 1.

### **5. BIDDABILITY, CONSTRUCTIBILITY, OPERABILITY, ENVIRONMENTAL, AND SUSTAINABILITY (BCOES) REVIEW**

The St. Paul District Maintenance and Repair (M&R) crew will complete the construction of the Sturgeon Lake Island Erosion Project. A plan set and DRR will be prepared and a scope of work will be prepared rather than specifications. Therefore, a standard Biddability, Constructability, Operability, Environmental and Sustainability Review is not required.

Technical supervisors will also conduct a review concurrent to the 95% DQC. The review will be documented by a completed (signed) Statement of Technical Review and Certification, to which all review comments and resolutions will be attached. A BCOES signoff will verify that the project is constructable and that all environmental and real estate requirements are met.

### **6. AGENCY TECHNICAL REVIEW (ATR)**

6.1. **General.** The St. Paul District will contact the RMO as at least two weeks prior to the scheduled start of the ATR to assign an ATR Lead who will in turn assemble an ATR

team. The ATR team will perform and document the review in accordance with ER 1165-2-217. The ATR Lead is from outside MVD.

- 6.2. **Review Cost and Schedule.** The total anticipated cost of the ATR is approximately \$10,000. This includes all phases of the required reviews as shown in the review schedule in Attachment 3.
- 6.3. **ATR Report.** After the final ATR, the ATR Lead will produce an ATR Review Report in accordance with ER 1165-2-217. The report will be submitted to the RMO for review and signature of the accompanying Statement of Completion of ATR. The district will then complete and sign a Certification of ATR. Sample Statements of Completion and Certification of ATR are shown in Attachments 4 and 5.
- 6.4. **Required Disciplines and Expertise of ATR members.** ATR team members and their expertise that qualified them as ATR team members in their specific discipline are shown in Attachment 3.
  - 6.4.1. **ATR Lead.** The ATR team lead may be from outside the home MSC and have extensive experience in conducting ATRs, leading virtual team through the ATR process, and preparing ATR reports. The ATR lead may also serve as a reviewer for a specific discipline from those listed below.
  - 6.4.2. **Discipline 1.** Civil Engineering. The Civil Engineering reviewer should be a senior engineer with experience in ecosystem restoration project development and review.
  - 6.4.3. **Discipline 2.** Geotechnical Engineering. The Geotechnical Engineering reviewer should be a senior engineer with experience in ecosystem restoration project development and review.
  - 6.4.4. **Discipline 3.** Hydraulics and Hydrological Engineering. The Hydrology/Hydraulics reviewer should be a senior engineer with experience in ecosystem restoration project development, review, and familiar with HEC-RAS modeling.
  - 6.4.5. **Discipline 4.** Environmental. The Environmental reviewer should be a senior biologist/ecologist/forester/environmental scientist with experience in ecosystem restoration project development and review.

## **7. TYPE II IEPR/SAR**

The district's Chief of Engineering has determined that a Type II IEPR/SAR is not required for this project. The signed memo justifying the rationale not to conduct a Type II IEPR/SAR is shown in Attachment 6.

## **8. REVIEW PLAN APPROVAL AND UPDATES**

- 8.1. **Approval.** This review plan will be approved by the MSC Commander or a designated official. It will have the endorsement of the district, the RMO, and MVD Engineering



and Construction Division Chief prior to being submitted for approval.

- 8.2. **Updates.** This review plan is a living document and will be revised as necessary throughout the design phase. Minor revisions will not require reapproval and will be documented using the table in Attachment 7. If major revisions such as a change in scope of the project or change in the review levels are necessary, the review plan will be submitted for reapproval.

## **9. REVIEW PLAN POINTS-OF-CONTACT**

The following are the points-of-contact for this review plan:

Kimberly Warshaw, Project Manager, CEMVP-PM-A, (651) 290-5327

Ben Robinson, District Support Team, Mississippi Valley Division, (601) 634-5310

## ATTACHMENT 1 – DQC TEAM MEMBERS AND SCHEDULE

### DQC REVIEW SCHEDULE

ITEM	BEGIN DATE – END DATE
35% DQC Review for P&S, Feasibility Study	December 2019-November 2020
65% DQC Review for Plans, DDR, Scope of Work	3- May- 11 June 2021
95% DQC Review for Plans, DDR, Scope of Work	14- June-23 July 2021

## PDT MEMBERS AND EXPERTISE

PDT Members/Disciplines	Description of Credentials
Technical Lead Jim Ulrick	The Technical Lead is a senior engineer with a P.E. with 20+ years of experience in both the design and construction process for civil works and experience in ensuring the quality control procedures for design are followed.
DQC Review Lead Charles Boyd	The DQC Lead is a senior staff member who had no role in the production of the project with experience in the design and construction of civil works projects and experience in conducting reviews.
Project Manager Kimberly Warshaw	Project Management Professional, 4 years of project management experience in USACE, 20+ years of professional experience and the necessary skills to manage a team through DQC and ATR reviews.
Vanessa Alberto Cultural	Cultural resources expertise and the tribal liaison with knowledge of the Prairie Island Indian Community.
Dan Kelner Biologist	Senior biologist with experience in UMR biological resources, protected species and permitting and experience working with the Minnesota Department of Natural Resources.
Michael Snyder H&H	Hydraulic engineer, licensed Professional Engineer with five years of engineering experience and the skills necessary to assess and design civil works and ecosystem restoration.
Robert Latzke Geotech	Licensed Civil / Geotechnical Engineer (PE) with 40+ years of professional experience, including design and construction of site preparation, shore protection and grade raise projects in marine environments.
Travis Burrier Civil Engineering	A Professional Engineer with civil engineering experience in Microstation and InRoads.
Jim Ulrick Cost and Spec	A Professional Engineer and senior engineer with expertise in cost engineering, developing specifications and scopes of work.
Denita Wesley Real Estate	Senior level experience as a Right-of-Way Project Manager and Land Agent and Project Manager acquiring various property rights for land acquisition projects on behalf of local government agencies.
Paul Machajewski Channels and Harbors	Senior-level expertise in managing dredged material and dredging the 9-ft navigation channel.

**INDEPENDENT QUALITY CHECKS/DISTRICT QUALITY REVIEWERS AND  
EXPERTISE**

<b>Members/Discipline</b>	<b>Description of Credentials</b>
Civil Engineer Greg Fischer Eduardo Torrens-Bonano Paul Fleming	The Civil Engineering reviewers are senior engineers and technicians with experience in the design of ecosystem restoration projects and DQC reviews, as well as survey verification and CAD standards.
Geotechnical Engineer David Rydeen	The Geotechnical Engineering reviewer is a senior geotechnical engineer with experience in ecosystem restoration project development and review.
Hydrology/Hydraulic Engineering Charles Boyd	The Hydrology/Hydraulics reviewer is a senior engineer with experience in ecosystem restoration project development, review, and familiar with HEC-RAS modeling.

## ATTACHMENT 2 – BCOES TEAM MEMBERS AND SCHEDULE

BCOES Not Required (See Section 5 of Review Plan)

Members/Discipline	Description of Credentials



### ATTACHMENT 3

#### ATR REVIEW SCHEDULE

ITEM	DATE
35% ATR FEASIBILITY STUDY, PLANS, SPECS DDR,	Completed during Feasibility 11 June 2020
95% ATR DDR, PLANS, SOW	14-25 June 2021
100% ATR DDR, PLANS, SOW	12-23 July 2021

#### ATR MEMBERS AND EXPERTISE

ATR Team Members/Disciplines	Description of Credentials
ATR Lead	TBD
Civil Engineer	TBD
Geotechnical Engineer	TBD
Hydrology/Hydraulic Engineering	TBD
Environmental	TBD

## ATTACHMENT 4

### COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for Sturgeon Lake Island Erosion Study. The ATR was conducted as defined in the project review plan to comply with the requirements of ER 1165-2-217. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks<sup>sm</sup>

*SIGNATURE*

---

Name

ATR Team Leader

Office Symbol/Company

---

Date

*SIGNATURE*

---

Kimberly Warshaw

Project Manager

PM-A

---

Date

*SIGNATURE*

---

Name

Review Management Office Representative

Office Symbol

---

Date

## ATTACHMENT 5

### CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

*SIGNATURE*

---

Michael J. Bart, P.E.  
Chief, Engineering  
CEMVP-EC

---

Date

## ATTACHMENT 6

### RATIONALE NOT TO CONDUCT A TYPE II IEPR/SAR

A Type II Independent External Peer Review (IEPR) is conducted to ensure public health, safety, and welfare. The circumstances requiring a Type II IEPR are described in ER 1165-2-217. Each of those circumstances is explicitly considered in developing a risk-informed rationale for determining the appropriate level of review, including the need for a safety assurance review. This project is not anticipated to require Type II IEPR because it does not pose a significant threat to public health, safety, or welfare.

Risk Based Determination of Need to NOT conduct a Type II IEPR (aka Safety Assurance Review (SAR)).

Per ER 1165-2-217, two factors mandate a SAR, and three additional factors should be considered in determination whether or not a SAR should be conducted. These factors and their relevancy to this project are discussed below. If there is any lingering concern regarding the rationale presented in the following table a vertical team should be assembled upon request.

Factor		Relevancy to this Project
1) Is the project justified by life safety?	Mandate	It is the district's opinion that failure of the project would NOT pose a significant threat to human life.
2) Would the project's failure pose a significant threat to human life?	Mandate	No. See explanation below.
3) Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices?	Consider	No. Materials are dredged material, rock from approved source sites, and native trees and shrubs and island restoration construction is similar to other projects.
4) Does the project design require redundancy, resiliency, or robustness?	Consider	No, the design of the Sturgeon Lake Island Erosion Project does not require redundancy, resiliency, or robustness but will ultimately restore the overall redundancy, resiliency, and robustness of the system as a whole.
5) Does the project have unique construction sequencing or a reduced or overlapping design construction schedule?	Consider	No unique construction sequencing.

The Sturgeon Lake Island Erosion Project restores a culturally significant island for the non-federal sponsor, Prairie Island Indian Community. The project enhances the uninhabited island, removes invasive reed canary grass and restores the floodplain forest habitat.



## RECOMMENDATION REGARDING TYPE II IEPR (SAR)

Based on the above assessment, it is the risk-informed recommendation of the Project Delivery Team and the Chief of Engineering & Construction (or Engineering) that Type II IEPR (SAR) is NOT required for this project.

The decision to not conduct a Type II IEPR (SAR) is recommended by:

Digitally signed by Michael J. Bart, PE

Date: 2021.06.09 15:15:48 -05'00'

---

Michael Bart, PE

Chief, Engineering and Construction Division

9 June 2021

---

Date

## ATTACHMENT 7

### REVIEW PLAN REVISIONS

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page/Section Number</b>