Morrow Hydroelectric Project
Spillway Gate Replacement Project Update

The installation of the new spillway gates at the Morrow Project is on schedule to be completed

STS is actively managing sediment transport downstream of Morrow Dam. As of November 12, 2020, a total of 8,350 feet of sediment control measures have been installed upstream and downstream of Morrow Dam (5,900 feet of shoreline containment and 2,450 feet of permeable containment checks). Two hundred (200) feet of coir logs have been installed upstream of Morrow Dam to stabilize the eroding shoreline. Based on current data from turbidity monitors installed upstream and downstream of the dam, the current sediment control measures are having a positive effect on the ongoing sediment transport and turbidity issues.

Shoreline protection installed along bank in Morrow Lake

STS Hydropower has made commitments to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to assess and appropriately mitigate impacts to aquatic resources resulting from the emergency reservoir drawdown. STS Hydropower is currently working with EGLE to finalize a draft *Field Investigation Plan* (FIP). The Plan describes the activities that STS Hydropower proposes to conduct in Fall 2020 to assess the volume, location, depth, and composition of sediments downstream of the dam that were mobilized by the drawdown of Morrow Lake. STS Hydropower is currently conducting a bathymetry survey (survey of the river bottom) downstream of the dam.

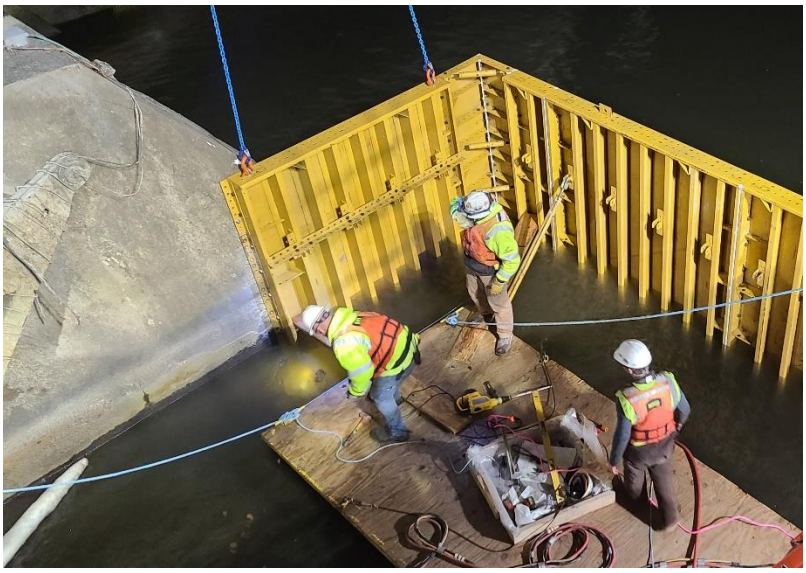
Fiber coir logs installed along bank in Morrow Lake

EGLE issued a conditional permit to STS Hydropower on October 23, 2020 that authorizes the removal of a limited quantity of sediment immediately upstream of the dam and three short term modifications of required minimum downstream flows. As part of the conditional permit issuance, STS Hydropower developed a Mitigation Plan that includes deployment of targeted sediment control measures and onsite monitoring of permitted activities by an environmental monitor. Strict stop-work orders are in place in the event any sediment transport or other environmental issues are identified by the environmental monitor.

In accordance with the EGLE Conditional Permit, STS Hydropower has dredged approximately 400 cubic yards of material from the concrete apron at the inlets of Bay 1 and Bay 2 and along the left wingwall of the dam. A turbidity curtain was installed to minimize siltation off-site. The dredged material was dewatered within uplands on site with containment to prevent runoff from entering a waterbody, wetland, or floodplain. The dredged spoils were then disposed of in a landfill in accordance with the EGLE Permit. During the dredging, run of river flows were maintained.

In accordance with the EGLE Conditional Permit, STS Hydropower implemented the first of three approved run-of-river flow modifications on November 3, 2020 to facilitate the installation of the bulkhead dewatering system and to ensure worker/diver safety. The second flow modification occurred on November 19, 2020. The third flow modification is expected to occur on December 8, 2020, subject to change.

The construction contractor is completing activities at Gate 3 and Gate 4 to prepare for replacement of the Tainter gates. After the dredging took place, a T-shaped concrete barrier was installed between Gates 3 and 4 using a crane and divers. The upstream and downstream cofferdam was also installed around Gate 4 to allow for installation of the new Tainter gate. Run of river flows were maintained except for two flow reduction periods while divers were in the water. Flows during this time were maintained at approximately 270-380 CFS throughout the day. One additional reduction of flow is scheduled during this work as well. Construction was completed at Gate 4 on November 18.

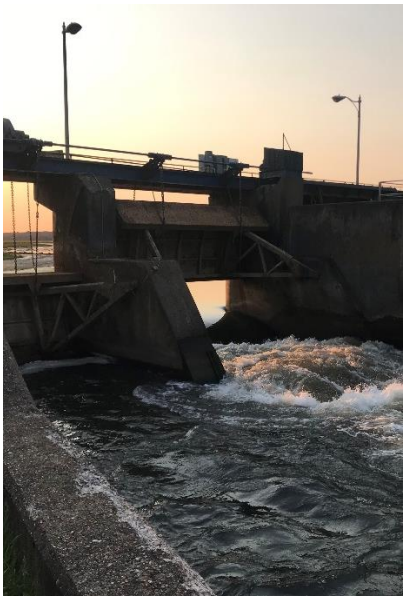


Construction crew installs cofferdam at Gate 4

Construction mobilization activities are complete and all major equipment for the gate replacement is onsite.

Construction of laydown area at Morrow Dam

Michigan Department of Natural Resources completed a review of STS Hydropower's proposal to initiate reservoir refill operations immediately upon completion of the gate replacement and determined that immediate commencement of refill operations would be appropriate. STS Hydropower expects that reservoir refill operations will occur over an approximate 30-day period beginning in December 2020.



Morrow Dam

QUESTIONS & ANSWERS

1. **What has been the time course of draw down, and are water level data for the reservoir available?**

   On October 31, 2019 STS Hydropower notified the Federal Energy Regulatory Commission (FERC) and Resource Agencies (U.S. Fish and Wildlife Service (USFWS), Michigan Department of Natural Resources (DNR), and Michigan Department of the Environment, Great Lakes, and Energy (EGLE)), of the intent to conduct an emergency controlled drawdown of Morrow Lake for dam and public safety reasons. STS Hydropower's plan for the drawdown was discussed with and approved by the FERC. The drawdown began on November 1, 2019. Originally, the plan was to draw the lake down 14-ft; however a final drawdown of approximately 9 feet by the end of November was determined to be appropriate after consultation with the agencies. The drawdown was originally anticipated to last at least for four months, but the scope and schedule changed when the project went from a gate repair to replacement. At this time, the lake will be down until the gate replacements are completed in the November – December 2020 timeframe. The reservoir refill will begin as soon as construction is complete.

2. **What sediment/silt mitigation measures have been taken and will be taken?**

   STS Hydropower consulted with the Resource Agencies in November 2019 regarding impacts of the drawdown. The lake was drawn down slowly, at a rate of 6 inches per 24-hour period, to minimize the resuspension and transport of sediments. Operators were and are on-site daily visually monitoring the conditions. More recently, STS Hydropower contracted erosion and control specialists to help us identify active sediment sources within the lake and recommend effective sediment controls. To date, STS Hydropower has installed 8,350 feet of shoreline protection and turbidity curtains upstream and downstream of the dam and 200 feet of coir logs along the shoreline near River Oaks County Park to reduce sediment transport and improve water clarity.

3. **Can you explain why gate maintenance became an emergency situation and when are the Tainter Gate repairs expected to be completed?**

   Morrow Dam is regularly inspected and maintained in accordance with FERC guidelines to ensure safe operation. In 2019 an inspection by an independent engineer identified areas in need of immediate repair for both of the spillway gates and the reservoir elevation was slowly lowered. After further investigation and engineering it was determined that the gates needed to be replaced to ensure safe operation. Gate replacement design plans have been approved by FERC. STS Hydropower plans to complete the gate replacements by the end of 2020.

4. **Morrow Dam is a FERC "exempt" dam. Explain what that means?**

Certain hydropower projects qualify for an exemption from standard FERC licensing requirements under Part 1 of the Federal Power Act. The exempted project remains subject to mandatory terms and conditions including periodic inspections, set by federal and state fish and wildlife agencies and by FERC.

5. **Please specify the conditions that warrant the High Hazard classification of Morrow Dam.**

The hazard potential classification for dams is a system that categorizes dams according to the degree of adverse incremental consequences of a failure or mis-operation of a dam. The hazard potential classification does not reflect in any way on the current condition of the dam (e.g., safety, structural integrity, flood routing capacity). There are three hazard potential classifications for dams: low, significant, and high. The classifications are defined as follows:

> *Low hazard potential – failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses.*
>
> *Significant hazard potential – failure or mis-operation results in no probable loss of hum life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns.*
>
> *High hazard potential – failure or mis-operation will probably cause loss of human life.*

Because Morrow Dam is classified as high hazard potential and because the spillway gates were showing signs of deterioration, it was imperative that STS Hydropower take immediate steps to cease operations and lower the lake to alleviate the water pressure on the spillway gates. STS Hydropower always prioritizes dam and public safety.

6. **What monitoring are you doing as warranted by the draw down; turbidity, sediment transport, wildlife impact?**

To mitigate potential impacts to fish and wildlife STS Hydropower worked closely with the Resource Agencies to protect natural, environmental, cultural, and recreational resources during the lake drawdown. This work included an extensive, 16-day field survey as we relocated aquatic organisms, mussels, fish, and other species stranded during the drawdown. Turbidity monitoring is ongoing and water quality data is shared regularly with the Agencies.

7. **A great deal of concern has been expressed about the ecological impact of the amounts of sediments being transported downstream. Sediment deposition, turbidity, etc. What is your response to this concern? What are your plans to address the impact that has occurred already as well as future impact?**

STS Hydropower shares this concern and is actively working to mitigate environmental impacts. Please see response to Question No. 2.

8. **There are concerns about legacy contaminants being mobilized with the reservoir sediments. What regulatory information do you possess regarding this issue?**

   STS Hydropower understands there are legacy sediment issues unrelated to the operation of the Morrow Project. We continue to consult with the Resource Agencies and will implement erosion and sediment control measures to minimize the resuspension and downstream transport of sediments.

9. **What is the status of coordination efforts with state agencies?**

   STS Hydropower is communicating with the Agencies regularly (at least weekly). We have also expanded our outreach and communications to a broader group of watershed stakeholders. STS Hydropower sends stakeholder updates out via email approximately every two weeks.