

Lake Shamineau Lake Improvement District

High-Water Outlet Project

Background

Lake Shamineau is a 1434-acre lake located in Central Minnesota. It is home to approximately 100-year-round residents, 285 seasonal residents, and 4 commercial properties. Lake Shamineau water levels have been rising, causing shoreline erosion, loss of trees, wildlife habitat destruction, loss and/or changes of aquatic vegetation, reduced water clarity, flooding of properties, challenging water quality, and causing millions of dollars of property damage and loss.

The increased water level has resulted in flooded and uninhabitable homes and property. Recreational traffic has been affected by the imposition of a 300' No Wake Zone and due to the large number of trees that have fallen into the lake. The purpose of this project is to lower and maintain the water level in Lake Shamineau at an elevation that protects adjacent property.

Nature of Flooding

Lake Shamineau is in a closed watershed basin. The total contributing drainage area to Lake Shamineau is approximately 11.91 square miles. Lake Shamineau has had increasing lake levels during the last several years and now is over 1.5 feet above the Ordinary High-Water Level (OHWL). A natural outlet does not exist for Lake Shamineau, so the lake relies on groundwater movement and evaporation to maintain or lower the Water Surface Elevation (WSE).

A review of the historic and recent problems appear that the cause is a wet hydrologic cycle and the lake not having an outlet. Since 1962 the water has risen approximately 7 feet. During the more recent wet hydrologic cycle, inflows from runoff and groundwater have exceeded outflows and have caused the sustained WSE to rise. Beginning in the early 1990's, higher than normal precipitation in the region has occurred and the WSE has been rising above the OHWL (Ordinary High-Water Level) since early 2000's. The WSE has been consistently above the OHWL since 2013 and the recorded reading by the DNR in September 2020 was 2.42 feet above the OHWL. Even though 2021 was one of the driest years in our history, we are still far above the OHWL as of the fall of 2022.

High-Water Project

The proposed project is located at and near Lake Shamineau in Morrison County in Central Minnesota. The purpose of this project is to establish a maximum operating level of Lake Shamineau for economic and natural resource benefits. The proposed project involves the construction of a permanent outlet for Lake Shamineau to manage the high-water levels of Lake Shamineau at an elevation that protects adjacent property owners and sustains healthy natural vegetation and wildlife habitat. The Lake Shamineau Lake Improvement District members voted overwhelmingly to plan, develop, and construct an outlet that will transfer water from Lake Shamineau to Fish Trap Creek.

The High-Water Outlet Project plan includes construction of a lake outlet structure and pumping station adjacent to the shoreline at the west end of the lake. From the pumping station the water will proceed westerly along the Aztec Road and continue along Highway 10 to the south side of County Road 203. Flowage will then continue through a recently cleaned drainage ditch that passes through US Highway 10 before flowing west into Todd County and eventually reaching Fish Trap Creek, which becomes part of Ditch 41 at the properties adjacent to the railroad bridge and continues to the Long Prairie River. This route was chosen to accommodate landowners.

The Lake Shamineau Lake Improvement District (LID) is the responsible Local Governmental Unit (LGU) and has contracted with Houston Engineering to manage and oversee the engineering, design, permitting and construction of the project. The project will be funded through charges and assessments to Lake Shamineau property owners. In addition, funding has been received through the MN DNR Flood Hazard Mitigation Grant funds to offset some of the planning costs. The cost estimate for the project is \$6,000,000.

Following are several project features:

- The project will include a maximum pumping rate of 10 cubic feet per second (cfs).
- The project will include pumping approximately 9 months per year.
- The project will lower the lake level down to the OHWL.

- The project includes a mechanical filter to prevent infiltration of Eurasian Water Milfoil (EWM) per MN-DNR guidelines and approval.
- With the above pumping rate and time periods, pumping will primarily occur for 2 to 3 years.
- Future pumping, after the initial period, would only be needed if the lake level increases.
- The LSLID have worked with property owners along the route for flowage easements and letters of support.
- As a permitting condition, an operating and maintenance plan has been developed to include guidelines to balance the need to lower the lake while minimizing the impact on downstream property owners.

Status

At the August 2022 Annual meeting, the project received a positive vote from the property owners to fund the project and continue with construction of the High-Water Outlet. In October 2022, Morrison County approved the LID budget, including the assessments for the High-Water Project which can be used for matching State Grant funds. The LID has received approved permits from the DNR, MN DOT and Morrison County for the project. The LID has signed agreements with all landowners for the use of their property required for the route. Houston Engineering is working on finalizing the project design for the route. The LID and Houston are preparing for the Assessment Hearing to determine the assessment methodology and maximum amounts for the assessments for the project.

Next Project Steps

Houston Engineering will be working to develop construction plans to include the final design of key project features and will continue to explore cost savings and ways to mitigate lead times on materials. The LID will be finalizing any remaining approvals from key agencies. Other tasks include continued outreach with landowners, agencies, and the public. Upon completion of these tasks, the project will be ready for developing bid and contract documents, issuing bids, and selecting the contractor for construction.

State Bonding Proposal

The Lake Shamineau Lake Improvement District is requesting \$3 million in state general obligation bonds to support the public nature of the High-Water Outlet Project. State bond funds will be matched with non-state funds which have been approved by lake property owners through a vote in August 2022.

High-Water Outlet Project Schedule:

Following is an estimated timeline for project completion:

	Project Task	Description	Est. Completion
1	Finalize approvals and Right of Way	Finalize approvals from all agencies; prepare ROW documentation.	Spring 2023
3	Detailed Design, Finalize Right of Way	Plans, bid and contract documents	Spring 2023
4	Assessment Hearing	Hold Assessment Hearing for Project Approval	Spring 2023
7	Bidding and Final Approvals	Issue bidding document and select contractor	Spring/Summer 2023
8	Financing	Finalize financing for the project	Summer 2023
9	Construction	Start construction of High-Water Outlet	Summer/Fall 2023
10	Pumping Begins	Testing and Pumping	TBD

The above dates are estimated and the final timeline for construction will depend on lead times for construction materials.

For More Information

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Pictures of Lake Shamineau Flooding:



Example of flooding at Augers Resort and destroyed cabin.



Cabin destroyed (and now removed). Many homes have water in their lower levels and basements.



Spring flooding makes roads impassable and getting to cabins can be difficult.

Route Map:



Media Reports:

<https://www.brainerddispatch.com/news/4833059-As-high-water-floods-homes-on-Lake-Shamineau-residents-hopeful-for-solution>

<https://www.fox9.com/video/618901>

<https://minnesota.cbslocal.com/2020/04/08/lake-shamineau-floodwater-swallows-37-homes-and-cabins/>

https://www.hometownsource.com/morrison-county-record/lake-shamineau-s-rising-water-levels-a-living-nightmare-for/article_39ac4cee-fc3d-11e9-8335-237794eafbd6.html