SAUK RIVER DAM AT COLD SPRING

FEASIBILITY STUDY FACTSHEET

BACKGROUND

The Cold Spring Dam is located on the Sauk River in Cold Spring, Minnesota. The dam establishes the water level for the Sauk River Chain of Lakes, which is a series of 14 lakes having a combined surface area of over 2,800 acres. The dam was initially built in 1856 and was used for milling. Cold Spring Granite Company assumed ownership of the site in 1917. Major reconstruction and additional modifications were made to the dam and powerhouse between 1917 and 1970. The Cold Spring Granite Company gifted the Dam to the State of Minnesota in 1977. In 1980, the State completed an extensive repair/rebuild of the dam, which consisted of removing the Powerhouse and constructing a new wall in place of powerhouse. In 2008 the remainder of the plant building was demolished, and in 2015 the Cold Spring Granite Company gifted the West portion of dam to the State of Minnesota. This final gift in 2015 gave the State complete and clear ownership of the entire dam.

WHY IS A FEASIBILITY STUDY NEEDED?

Dams similar to the Cold Spring Dam typically have an anticipated design life of approximately 50 years before major repairs or replacement may be needed. The last major repair to the Cold Spring Dam was completed in 1980.

The DNR is in favor of modifying the Cold Spring Dam to a structure that allows for aquatic organism passage. The most commonly used approach for aquatic organism passage while maintaining a legal runout elevation in Minnesota is the installation of rock arch rapids (RAR). It's not known if a RAR can be constructed at this site due to a variety of factors. The bedrock features, bridges, city infrastructure, and the historic significance of the site all play a role in what can and can't be done at this location.

Funding timelines also play a role in the need for a feasibility study at this site. If funding for an entire project, including design and construction, was secured initially, those funds would come with a limited timeframe. That timeframe may not be sufficient to analyze all feasible alternatives while providing ample opportunity for local stakeholder engagement. If the study shows that it is feasible to build a RAR at this site, this phase of the study allows for public input and engagement before trying to secure additional funds for design and construction.

WHAT IF NOTHING IS DONE AT THE SITE?

If no action is taken, the dam will continue to age and eventually will require repair or replacement in the future. Evaluating alternatives now allows the State and local stakeholders to plan before urgent action is needed. A dam failure would result in significantly lower lake elevations upstream. A failed or damaged dam can take years to rebuild or repair, and public input may be more limited due to cost, timelines, or other factors within the process.

WHAT THE FEASIBILITY STUDY REQUIRES

- Collect field and desktop data
- Investigate up to four potential locations
- Evaluate and compare the alternatives
- Recommend a preferred alternative, if feasible
- Complete 30% preliminary design and a cost estimate, if feasible
- Prepare a final Feasibility Report

The initial data collection taking place in the fall of 2026, involves a survey of the site to collect information on the elevation of the dam, elevation of the sediment in the reservoir, elevation of the bedrock, and a variety of other data to develop alternatives.

HOW THE FEASIBILITY STUDY WILL BE EVALUATED

Does it work - The study will determine whether a RAR can maintain the existing runout elevation while allowing upstream water levels to respond to changing river flows in a manner similar to the existing dam. This includes rainfall, snowmelt, and drought conditions. The study will also determine whether the structure can meet the fish passage criteria associated with the project funding.

Can it fit and be constructed - Bedrock, infrastructure, bridge considerations, access, staging, and preliminary cost.

Can it be permitted - DNR, USACE, MPCA, wetlands, floodplain, and cultural resource requirements.

Is there public support to move forward - Present study findings and potential proposals to local government units, collect public comments, and request letters of support from local government units.

WHY EXPLORE A ROCK ARCH RAPIDS?

A rock arch rapids is being evaluated as one potential option. No preferred location or design has been selected. Due to the age of the dam, it is appropriate to evaluate potential long term alternatives.

Rock arch rapids have been used widely throughout Minnesota and are an established approach for replacing a dam or water control structure while reconnecting aquatic habitat. When appropriately designed for a site, rock arch rapids can provide a safer option to a traditional dam, improve fish and aquatic species passage, improve watershed connectivity, and support long term habitat restoration. The feasibility study will determine whether these benefits can be achieved at the Sauk River in Cold Spring while maintaining the existing runout elevation and allowing upstream water levels to respond to changing river flows in a manner similar to the existing dam.

Reconnecting aquatic habitat is important when seeking funding through the Lessard-Sams Outdoor Heritage Council. The Minnesota DNR Fisheries and River Ecology Unit has been successful in securing funding for dam modification projects involving aquatic habitat and river connectivity. Standard state owned dam repairs and replacements typically compete for General Fund bonding dollars which is highly competitive and often hard to receive funding for.

GLOSSARY

100-Year Flood - A flood that has a 1% chance of occurring in any given year.

30% Preliminary Design - An early level of design used to define the general layout, major features, and estimated cost before final design.

Feasibility Study - A study used to determine whether a potential project can work at a specific site and identify a feasible alternative, if one exists.

Fish Passage - Conditions that allow fish and other aquatic species to move upstream and downstream without barriers.

FEMA No-Rise - A floodplain standard requiring hydraulic analysis to demonstrate that a project will not increase the regulated flood elevation.

Ordinary High Water Level (OHWL) - An elevation that defines the regulatory boundary of a public water, based on the long term water levels and evidence on the landscape.

Rock Arch Rapids - A series of rock structures that provide a gradual transition between upstream and downstream water elevations while allowing fish and other aquatic species to move upstream and downstream.

Run-of-the-River Dam - A dam that passes river flows downstream without actively storing and releasing water for flood control or water supply.

Runout Elevation - The lowest controlling outlet elevation at which water can flow downstream.

Vertical Datum - A reference system used to measure elevations. NGVD 29 and NAVD 88 are two commonly used vertical datums, and the same location can have different elevation values depending on the datum used.

PUBLIC PARTICIPATION

Review study information and updates, share local knowledge and concerns, and provide input.

Study website: https://engage.hei.mysocialpinpoint.com/cold-spring-dam-feasibility-study

STEARNS CONSERVATION DISTRICT

HOUSTON engineering, inc.

DEPARTMENT OF NATURAL RESOURCES