



Photo credit: Tom Reiter

# The cutoff wall: St. Anthony Falls' hidden hazard

When the Army Corps of Engineers built an underwater concrete wall just upstream of St. Anthony Falls, the structure had one primary purpose: Hold up the falls to prevent another collapse of the riverbed, a potentially catastrophic outcome for the city. That was in the 1870s.

The cutoff wall is still in place today, supporting the iconic falls and safeguarding vital water levels. Worryingly, nobody knows what condition the wall is in or when it was last maintained or even inspected. And it's unclear who or what agency is responsible for ensuring it's not on the verge of failure.

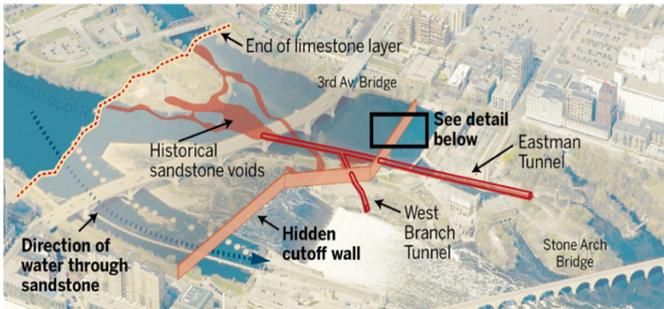
### History of the cutoff wall

The cutoff wall is the result of a failed attempt to tunnel through the Mississippi River's fragile bottom. In 1869 this in-progress tunnel collapsed, creating a swirling whirlpool in the middle of downtown Minneapolis.

This prompted the U.S. Army Corps of Engineers to step in and stabilize the riverbed.

The visible part of that project is the concrete apron that St. Anthony Falls now runs over. What isn't visible is the cutoff wall located just upstream, which starts at the river bottom and plunges 40 feet underground. Built with concrete, the structure is 1,850 feet long and as much as 6 feet thick.

If this cutoff wall did not exist, the river's rushing water would erode the last few remaining feet of the limestone river bottom, causing the falls to collapse once again.



Graphics: Mark Boswell, Star Tribune, August 14, 2021

### Wall failure would affect water supply, bridges

The consequences of a cutoff wall failure and falls collapse would be dramatic.

Upstream water levels could drop too low to supply crucial water supply intakes that serve Minneapolis, St. Paul and several suburbs. The water supply for 1 million Twin Cities residents, hospitals, schools, the airport and even fire hydrants could dry up within a few days.

The river bottom's collapse would also threaten roads and bridges, including MnDOT's Third Avenue bridge, which sits just upstream of the falls near the edge of the limestone layer. Should the structures holding up the falls fail, the collapsing falls would erode away these last feet of limestone.

The water supply for **1 million Twin Cities residents**, hospitals, schools, the airport, and even fire hydrants **could dry up within a few days.**

The cutoff wall underneath St. Anthony Falls is a critical piece of infrastructure. You wouldn't know it by how the wall is inspected and maintained.

That's because it's not inspected and maintained. At all.

## A wall without an owner

No one knows who owns the cutoff wall. No party, including the Army Corps (which constructed it in 1876), will take responsibility. It's also not clear when in the wall's nearly 150-year history it was last inspected or maintained, despite signs this type of work might be needed.

Within a year of initial construction, the river began breaching small portions of the cutoff wall. This may still be occurring today. Many geologists who have reviewed the area's geology and history have told said that it's very possible — perhaps even likely — that the river's water is currently carving its way over, under, and through the cutoff wall, destabilizing the structure.

Climate change only increases the risk. An extreme flood event could put unique pressure on river infrastructure and increase the odds of failure.

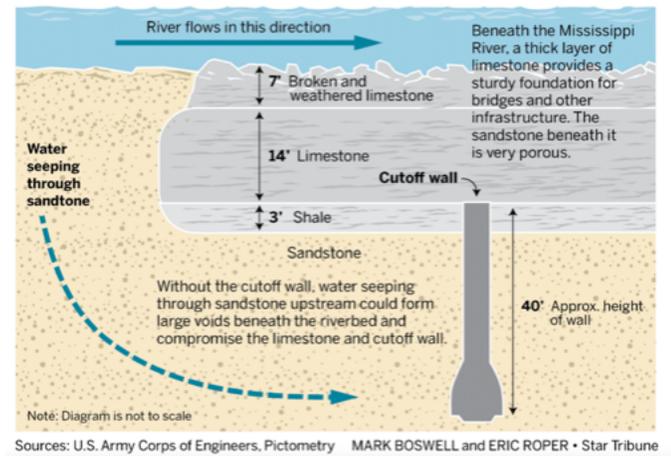
## Inspection is long overdue

So far, no party or government agency accepts responsibility for owning or maintaining the wall, though many agree that continuing to ignore it could be dangerous. We need a study to assess the wall's condition and the risks and consequences of a wall failure.

A study would include:

- A geophysical study of the wall's condition using cutting-edge, non-invasive survey techniques;

- Assessing the geologic condition of the surrounding riverbed; and
- A Hazard Assessment examining the risks and consequences of a geologic or structural collapse of the cutoff wall and associated St. Anthony Falls infrastructure.



Contact: Colleen O'Connor Toberman  
Land Use & Planning Director  
ctoberman@fmr.org 651.222.2193 x29

