

Pakenham Stone Arch Bridge Rehabilitation: Heritage Analysis

Presentation by

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Matrix Heritage

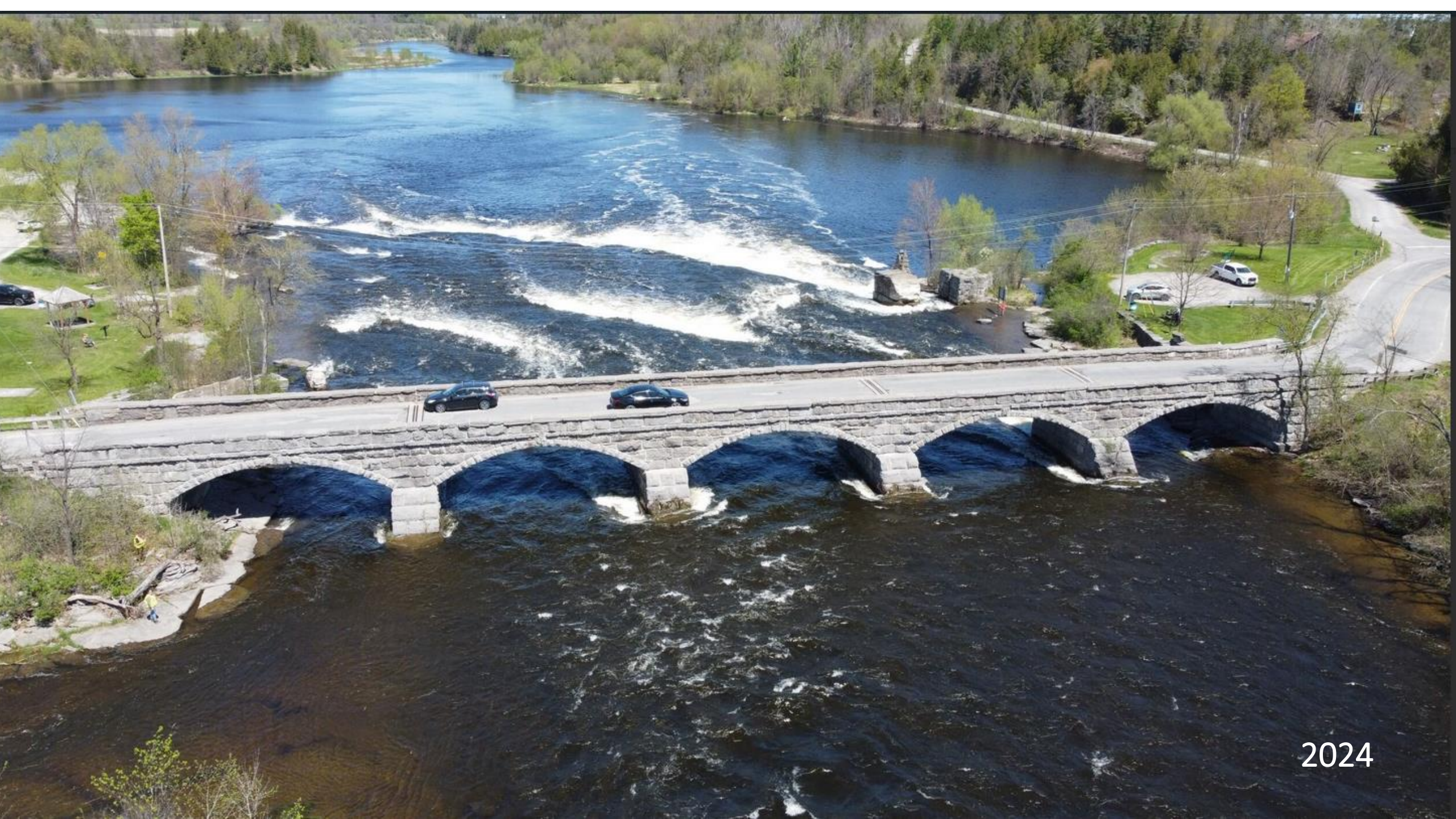
Presentation to

Mississippi Mills Municipal Heritage Advisory Committee

Meeting 21 August 2024



Matrix



2024

Description

Project Name: Pakenham Stone Arch Bridge Rehabilitation, Municipal Class EA

Municipality: Mississippi Mills

Address: 4916 Kinburn Side Road, Mississippi Mill, ON K0A 2X0

Owner: County of Lanark

Date of Construction: 1901 (major repairs and widening in 1984)

Date of Designation: 1984 (County of Lanark)

Date of Ontario Heritage Trust Easement and Amendments: 1985 and 2010

Date of Proposed Work: 2025

Cultural Heritage Requirements (Built Heritage and Cultural Heritage Landscapes)

- Heritage Impact Assessment as per the Municipal Class EA
- Review of the proposed project by the Ontario Trust
- Input from the municipality's heritage committee
- Archaeology conducted separately

History of the Pakenham Stone Arch Bridge

Built in 1901

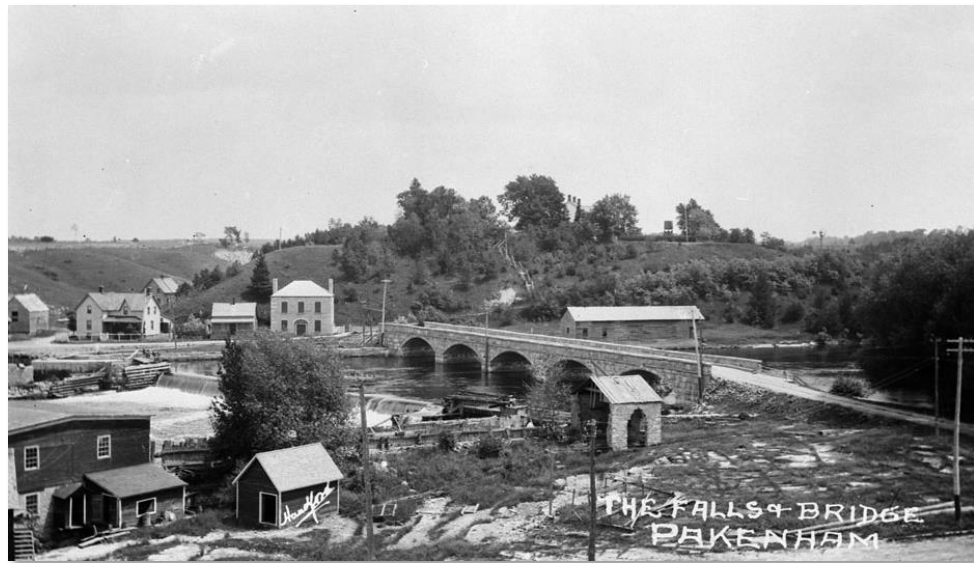


Photo c. 1905-10

Quarry on Kinburn Side Road



Photo 2023

Recent History

1984 Changes



— Wanita Bates, Citizen

Stone from bridge will be returned after reinforcing

Work begins to reinforce, widen Pakenham Bridge

Construction has started on a \$450,000 project to reinforce the historic Pakenham bridge.

The work, which is being funded by provincial and local taxpayers as well as \$150,000 contribution from the National Capital Commission, is to be completed by August 30.

A catwalk has been constructed for pedestrians but

vehicles will have to use to a detour while the work is in progress.

The architectural significance of the structure won't be altered by the construction and the bridge will be retained as a single lane bridge.

Built in 1901, the structure is the only five-span arched bridge in North American.

Ottawa Citizen,
31 July 1984

Current State



Photo 2024

Heritage Designation

- Designated in 1984 by Lanark County through By-law No. 84-36. By-law states:

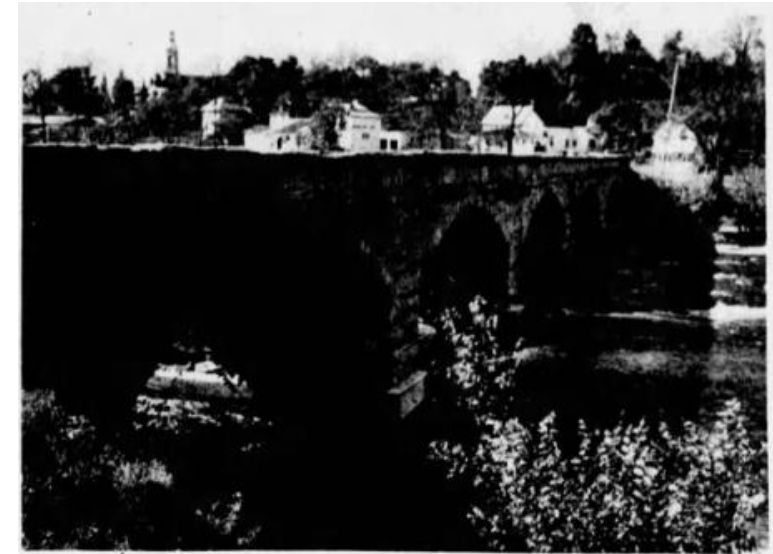
The following property is hereby designated to be of historic or architectural value or interest

Description: Pakenham Stone Arch Bridge, Lot 11, Concession XI, Township of Pakenham.

Owner: Corporation of the County of Lanark.

Reason for Designation: The bridge consisting of 5 stone arches was erected in 1901 and is unique in North America. The bridge possesses five masonry arches and was an essential element in the transportation network west of the Mississippi River.

- The designation by-law remains with the County.



Historic Pakenham bridge needs work

Scenic bridge in danger

PAKENHAM (Special) — The famous five-span stone bridge at Pakenham looks like it should stand forever but its very foundation may be threatened, says an engineering report.

Fast currents, time and modern traffic have all battered the foundations of this structure at Pakenham's entrance. Some residents say heavy trucks may be a major problem and feel tonnage limits are not being strictly observed.

The engineer's study indicates "pressure grouting" could save the bridge at a cost of about \$350,000.

Duncan Abbott, head of the Pakenham District Historical Society, and a local councillor, says there may not be much help from the Ministry of Transport and Communication since that body is in the business of maintaining modern structures, while the Pakenham bridge is anything but modern.

About 30 members of the Pakenham

Historical Society met Thursday to see what they could do to save the bridge. Researchers were appointed to investigate the bridge's history and determine what approaches can be taken.

Reeve Charlie Gillan said earlier there has been too much panic expressed in some of the reports to the township.

"All bodies who should know, do know," he said.

The engineer's study indicates there is ample time to act, Gillan said.

In reply to criticism that tonnage limits are not being observed, the reeve warns that care should be taken.

"Several companies have been issued permits to cross the bridge," he said, and are acting within the prescribed limits. The reeve said he will be keeping a close watch on the situation, and working with the various government agencies to find a solution.

Ottawa Citizen, 3 Dec 1982, p. 34

Ontario Heritage Trust Easement

- Easement signed after widening was approved
- Part of an agreement between the County and OHT for the OHT to contribute \$25,000 to retain the bridge
- Key clause in the agreement:
The county shall not, ..., without prior approval of the Foundation, undertake or permit any demolition, construction, alteration, remodelling, or any other thing or act which materially affect the appearance or construction of the bridge.
- Update to the easement agreement in 2010 highlighted using proper techniques for repointing mortar joints and applying the *Standards and Guidelines for the Conservation of Historic Places in Canada*



— Wanita Bates, Citizen

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Ottawa Citizen, 31 July 1984, p. 3.

Statement of Cultural Heritage Value (Draft for Review)

Description

The Pakenham Stone Arch Bridge consists of five limestone arches crossing the Mississippi River between County Road 29 and Kinburn Side Road in the former village of Pakenham village, now part of the Municipality of Mississippi Mills, Ontario. The bridge was built in 1901 by O'Toole & Keating, two Scottish masons from Ottawa, with engineer Robert Surtees directing the work. The heritage recognition applies to the property owned by the County of Lanark, which includes the bridge and its approaches. In 1984, the bridge was modified by adding a concrete distribution slab on the deck, widening the bridge to two lanes, and rebuilding the stone parapet walls with concrete cores clad with salvaged stones.

The surroundings of the Pakenham Stone Arch Bridge include the Dickson Store/Post Office located at 4883 Kinburn Side Road, the remains of a roller mill and dam on the east bank of the river, and a stone wall on the west side of the river. The Pakenham Stone Arch Bridge is visible from all directions.

Summary of Cultural Heritage Value or Interest

The Pakenham Stone Arch Bridge is of cultural heritage value or interest due to its history, design and context. It is unique in being a load-bearing stone arch bridge with five spans and is likely the only example of a five-arch bridge of its type in Canada and the United States.

The Bridge is associated with the history of the former village of Pakenham, engineer Robert Surtees, and masons O'Toole and Keating.

The Pakenham Stone Arch Bridge is part of a set of heritage resources (including mills, mill ruins, historic views, and stopping places) along the Mississippi River that are a key part of the identity of both the village of Pakenham and the Municipality of Mississippi Mills.

The Pakenham Stone Arch Bridge is among the best-known landmarks in the National Capital Region outside the urban centre.

Statement of Cultural Heritage Value (Draft for Review)

Heritage Attributes

Key elements to be conserved to retain the historical value of the Pakenham Stone Arch Bridge include:

- Its stone construction and five-arch configuration, which is evocative of late 19th and early 20th century bridges and engineering
- Its setting along the Mississippi River that continues to feature historic buildings near the Bridge and on the hill above the village.

Key elements to be conserved to retain the design value of the Pakenham Stone Arch Bridge include:

- Its load-bearing stone bridge construction and massive stone piers
- Its stone pattern, arranged primarily in coursed ashlar with some random ashlar in parts of the spandrels
- The composition of the Bridge with five stone arches, which is either unique or very rare in North America, and low stone parapets
- Its limestone construction, consisting of five stone arches with stone piers, stone-clad parapets and cap stones
- Stones sourced locally from a former quarry on Kinburn Side Road, located just a few hundred metres away from the bridge.

Key elements to be conserved to retain the contextual value of the Pakenham Stone Arch Bridge include:

- Its close physical relationship to the quarry on the north side of the Bridge used to source its stones
- Its position on a narrow point in the Mississippi River just upstream from the site of former water-powered mills located on both sides of the Mississippi River
- Its close physical relationship to the Dickson Store/Post Office, which creates an historic landscape that contributes to the historic characters of both Pakenham and the Mississippi River
- View of the bridge from all sides and angles.