# WELCOME

## Brantford Ice Jam
## Mitigation Feasibility Study

## VIRTUAL

## Public Information Centre No. 1

**PLEASE FILL OUT A COMMENT SHEET**

Grand River Conservation Authority

ecosystem recovery inc.
PROFESSIONAL ENGINEERS

# The Purpose of this Information Centre

- ❑ Provide information on the study purpose and background
- ❑ Describe the process that will be followed for the study
- ❑ Indicate work in progress
- ❑ Provide an opportunity for your input

# Background

## Study Purpose

Ecosystem Recovery Inc. (ERI) has been retained by the Grand River Conservation Authority (GRCA), in partnership with the City of Brantford, to undertake a feasibility study for the development and refinement of alternative mitigation measures to reduce ice jam potential in Brantford.

The intent of this feasibility study is to lay the groundwork for future Environmental Assessment (EA) studies to further evaluate alternatives and select a preferred management strategy.

# Background

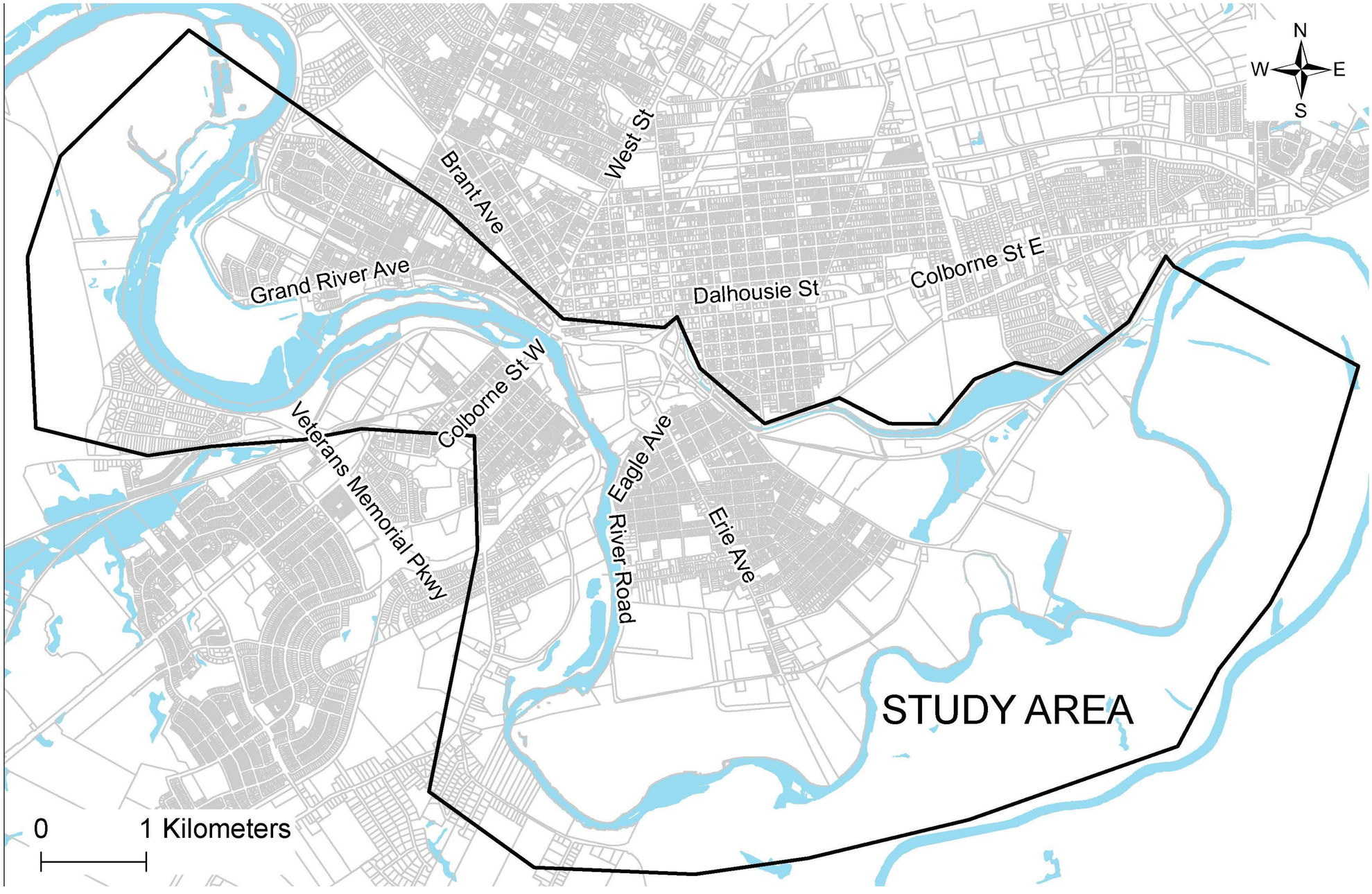
**Why Now?**

A significant and damaging ice jam event occurred in 2018.

In 2019, KGS completed a Brantford Ice Jam Study for the GRCA which included a history of ice jams in Brantford, meteorological conditions contributing to the 2018 ice jam, a description of the 2017-2018 winter ice jam, river ice analysis, and potential ice jam mitigation options.

The GRCA has funding to develop concepts, estimate costs for potential mitigation measures and damages prevented, and suggest implementation strategies.

# Study Area

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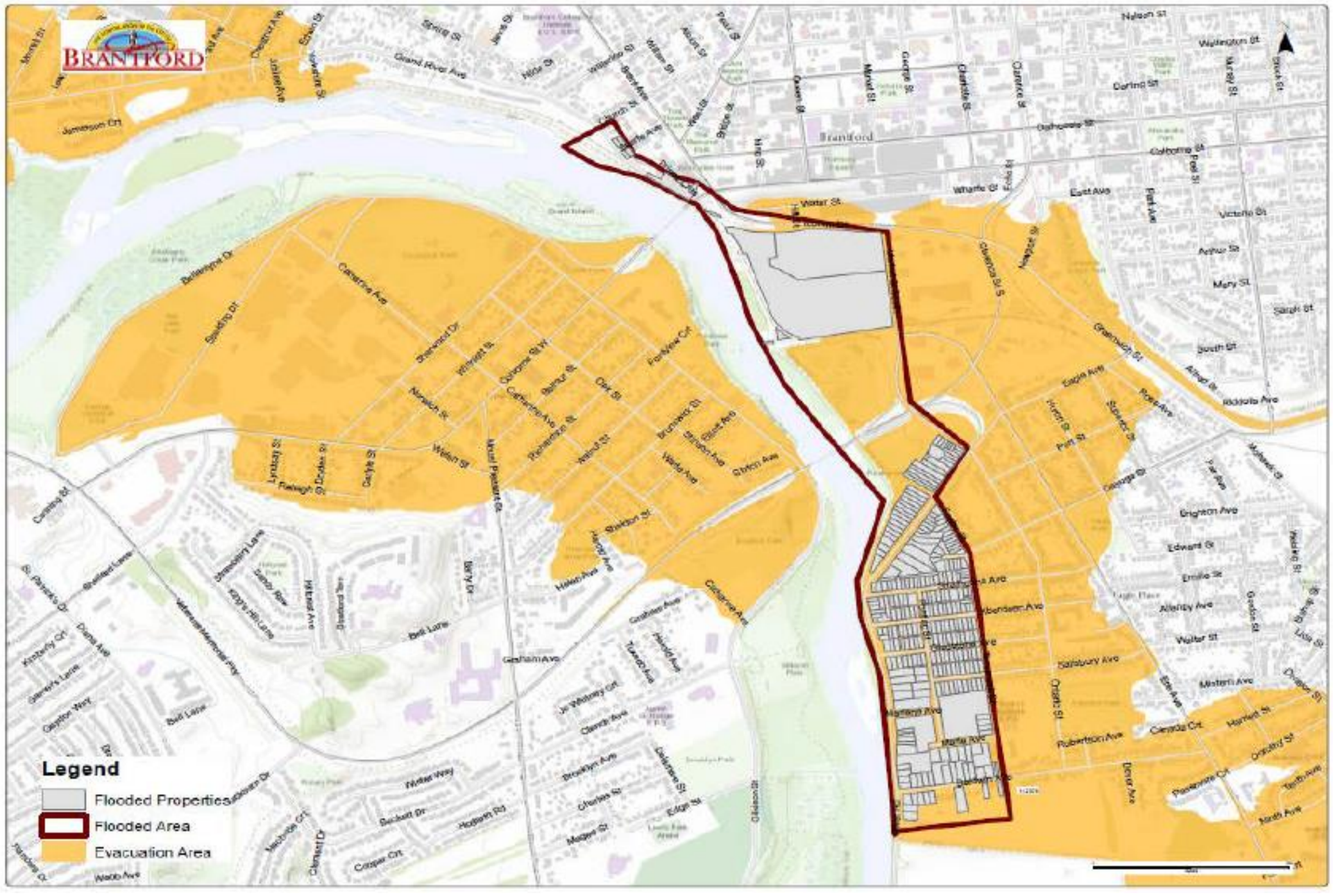
# 2018 Ice Jam – Evacuation and Flooded Areas

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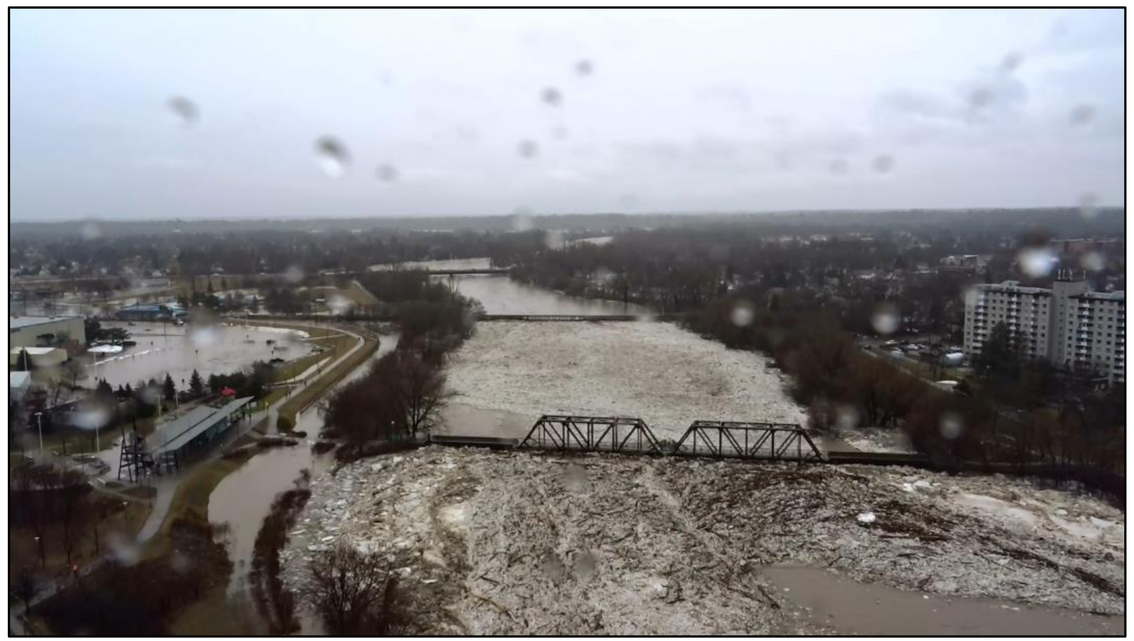
# 2018 Ice Jam – Breaking the Banks

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# 2018 Ice Jam - Cleanup

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# Recently Completed and Ongoing Projects

## Floodwall Assessments and Repairs

- River Road
- Ballantyne Floodwall

## Dike Gap Completion

- Civic Centre Gap
- Grand River Avenue Gap

## Dike Slabs Remediation and Sediment Bar Removal

- Eagle Street
- Gladstone Street


## Three Bridges Class EA (ongoing)

- Lorne Avenue Bridge
- CN Railway (pedestrian)
- TH&B Crossing

# Planned Work

## Hydraulic Analysis

- Develop 2D hydraulic model
- Model no dikes scenario
- Model existing conditions
- Model various mitigation options

## Flood Damages

- Determine flood damages from 2018 event
- Determine theoretical flood damages for no dikes scenarios
- Determine flood damages under various mitigation options.

## Fluvial Geomorphological Assessment

- Establish understanding of existing conditions, implication of alternatives on the river, erosion hazards

## Develop and Evaluate Mitigation Options

- Overbank relief
- Flow regime modification
- Dike/floodwall protection
- Flood forecasting / monitoring improvements
- Pre-emptive weakening of the component ice
- Ice breaking
- Excavation of ice,
- Ice control structures
- Channel modifications

# Potential Future Work

## Natural Heritage

- Review background information and conditions, including sources such as the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO), Natural Heritage Information Centre (NHIC) Biodiversity Explorer, GRCA reports and mapping, wildlife database records, and natural feature mapping
- Field surveys will consist of Ecological Land Classification (ELC), vegetation inventory, aquatic habitat assessment, breeding bird survey, tree inventory, bat cavity tree assessment, and Species at Risk survey and Significant Wildlife habitat verification

## Cultural Heritage

- Complete a Cultural Heritage Evaluation Report for all locations, which includes review of background information, a site visit, historical overview and description of the property, the current heritage status of the subject property, evaluation of heritage value of the property.

## Archaeology

- Stage 1 Archaeological Assessment to analyze the archaeological potential.

## Class Environmental Assessment

- Consultation
- Evaluation of Alternatives
- Selection of Preferred Management Strategy

# Next Steps

- ❑ Complete the characterization of existing conditions
- ❑ Develop alternative solutions
- ❑ Finalize evaluation criteria
- ❑ Conduct evaluation of alternatives
- ❑ Public Information Centre #2 (Winter 2021)
  - Summarize characterization of existing conditions
  - Present alternative solutions and evaluation
  - Present draft preferred solution
  - Receive public input on alternative solutions

# Consultation

Please complete a comment sheet and return it to BrantfordIceStudy@grandriver.ca by January 8, 2021.

Should you have any questions or concerns at any time during the project, please contact either of the following people:


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