WELCOME

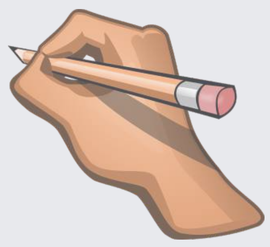
Replacement of the Argyle Street Bridge in Caledonia

Class Environmental Assessment
Detailed Design

COMMUNITY INFORMATION SESSION

October 10, 2019
4:00 - 8:00 p.m.

Please sign in at the front desk



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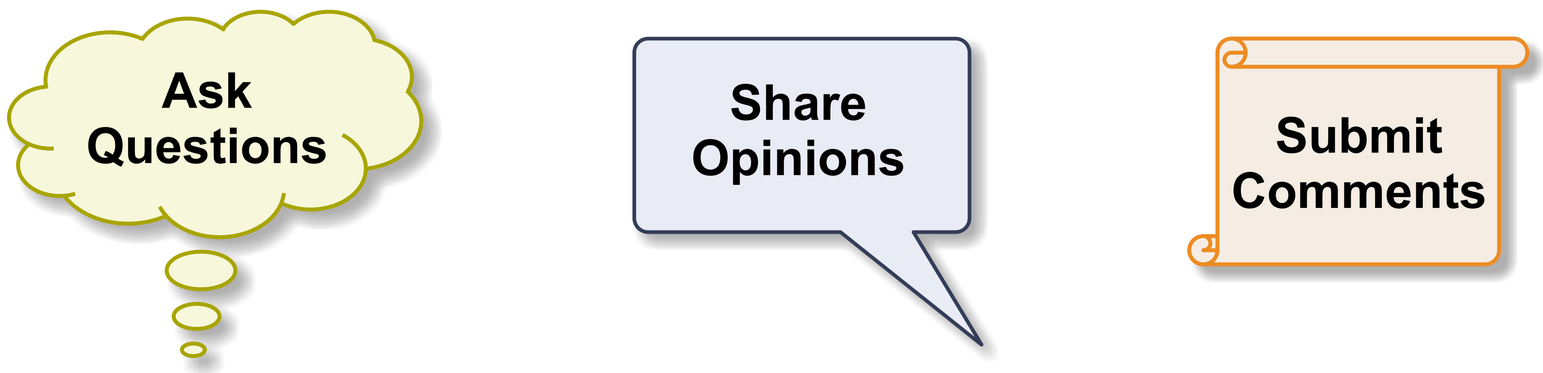
PURPOSE OF CIS

The purpose of this Community Information Session (CIS) is to discuss the project and share information on:

- The Study Background;
- Outcome from the Bridge Design Features and Heritage Setting Enhancements Workshop in 2014;
- Built Heritage Enhancements;
- Traffic Management During Construction;
- Proposed Construction Staging;
- Environmental Effects and Mitigation; and
- Next steps.

Project Team representatives are available to discuss the project with you.



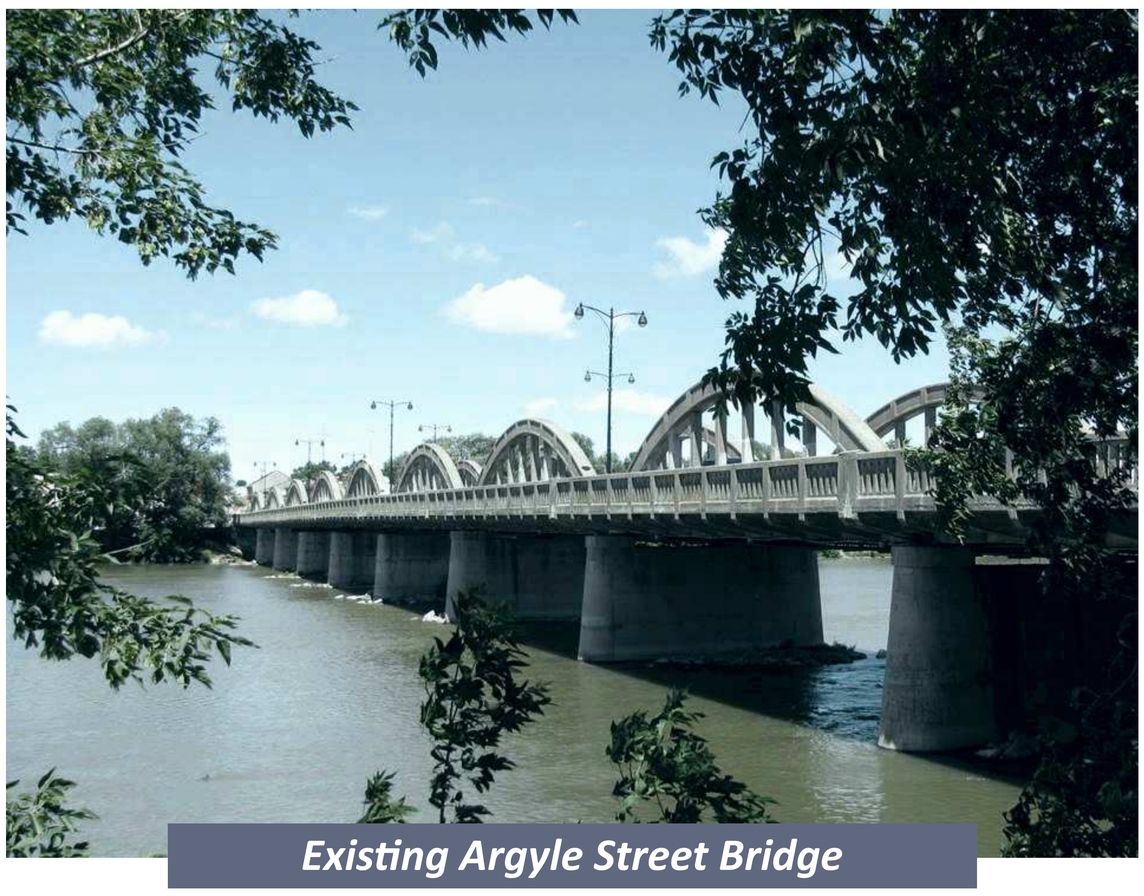
Your participation is important and appreciated.

Information presented today will also be available online at:

www.argylebridge.ca

STUDY BACKGROUND

2002	MTO initiated a Preliminary Design Study to identify a long-term strategy to address the structural and operational deficiencies of the existing bridge on Argyle Street. Both rehabilitation and replacement alternatives were evaluated.
October 2009	A Transportation Environmental Study Report (TESR) was prepared to document the comprehensive evaluation of rehabilitation and replacement alternatives, stakeholder input, and the recommended long-term strategy to replace the existing Argyle Street Bridge with a wider, 5-span, steel arch "signature" bridge.
December 2009	Provincial Class EA approval for the replacement of the Argyle Street Bridge.
2013	WSP was retained by the Ontario Ministry of Transportation (MTO) to undertake the Detailed Design and Class Environmental Assessment Study (Class EA) for the replacement of the Argyle Street Bridge over the Grand River in Caledonia, Haldimand County.
2019	**Load Posting Reduction** In January 2019, signs were installed to advise that the load restriction on the bridge was reduced to 8 tonnes. Trucks are no longer permitted on the bridge and a signed truck route has been established using the Highway 6 By-Pass. **Traffic Signal Installation** Traffic signals have been installed at both ends of the bridge to allow for the safe passage of emergency vehicles. To support signal operations, access from Forfar Street onto Argyle Street is closed to traffic. However, access from Argyle Street onto Forfar Street remains open to traffic. **Repair Work** Additional repairs have been made to the bridge to ensure the bridge remains safe and reliable for use by the travelling public, pedestrians and emergency responders.



Existing Argyle Street Bridge

CLASS ENVIRONMENTAL ASSESSMENT

This Detailed Design study is being completed in accordance with the provincial *Environmental Assessment Act,* RSO (1980), and requirements of the *Class Environmental Assessment for Provincial Transportation Facilities,* (2000) for a Group "B" project. Provincial Class EA approval for the replacement of the Argyle Street Bridge was obtained in 2009 at the completion of the Preliminary Design, allowing the Detailed Design to proceed.

This Detailed Design study will build on the information collected during Preliminary Design and documented in the 2009 Transportation Environmental Study Report. A Design and Construction Report (DCR) will be prepared to summarize the results of the detailed design study investigations; provide an overview of consultation conducted; and present any mitigation measures selected during Detailed Design. The DCR will be made available for a 30-day public review period and will be announced through a "Notice of Study Completion/Submission of DCR".

BUILT HERITAGE AND CULTURAL LANDSCAPES

1843-1865	• A crossing of the Grand River at Argyle Street has been in place for over 175 years. The first bridge was erected in 1843 to provide permanent and unimpeded passage on the plank road between Hamilton and Port Dover. • This bridge consisted of six fixed spans and one moveable span to allow for the passage of barges and vessels on the Grand River Navigation Canal. • The Caledonia bridge was destroyed during a flood in the spring of 1861 and a ferry was used until the bridge was rebuilt
1865-1875	• In 1865, the Caledonia bridge was rebuilt. • Two spans of this new bridge were destroyed in 1870 and subsequently replaced.
1875-1927	• In 1875, a six-span iron bridge replaced the 1865 structure. The bridge remained in place until August 1925 when a truck carrying a load of stone caused the collapse of one of the bridge spans. The span was replaced with a temporary trestle.
1927-today	• Demolition of the iron bridge and completion of the present-day bridge was undertaken during the 1927 construction season. The bridge is 200 m long and comprised of 9 concrete bowstring arches and is the longest of similar construction built in Ontario in the mid to late 1920's. • In recognition of its importance within the community, its distinctive and graceful design, and its age and rarity as one of the few remaining concrete bowstring arch bridges in the province, the Argyle Street Bridge is listed as a Heritage Structure with the Ministry of Tourism, Culture and Sport. The bridge crosses the Grand River, which is a designated Canadian Heritage River. • A 3D high definition laser scan recording of the bridge for archival purposes was completed as part of this Detailed Design Study. These documents will be placed in the County of Haldimand Public Library System and the Heritage and Culture Division of Haldimand County.

HERITAGE ENHANCEMENTS WORKSHOP

In order to fulfil the commitment to address heritage-related issues, a Bridge Design Features and Heritage Setting Enhancement Workshop was held February 11 and 12, 2014. The purpose of the workshop was to explore potential bridge design features and heritage setting enhancements that would reflect, respect and respond to the local heritage setting. Representatives from Haldimand County, the Ministry of Tourism, Culture and Sport, Six Nations, heritage stakeholder organizations, and local citizens were in attendance.

The following heritage aesthetic enhancements and treatments were considered:

- Traffic barrier / handrail design;
- Heritage commemoration / interpretation opportunities;
- Viewing opportunities;
- Structure lighting; and
- Other design opportunities.

Photo source: Edinburgh Square Heritage & Cultural Centre

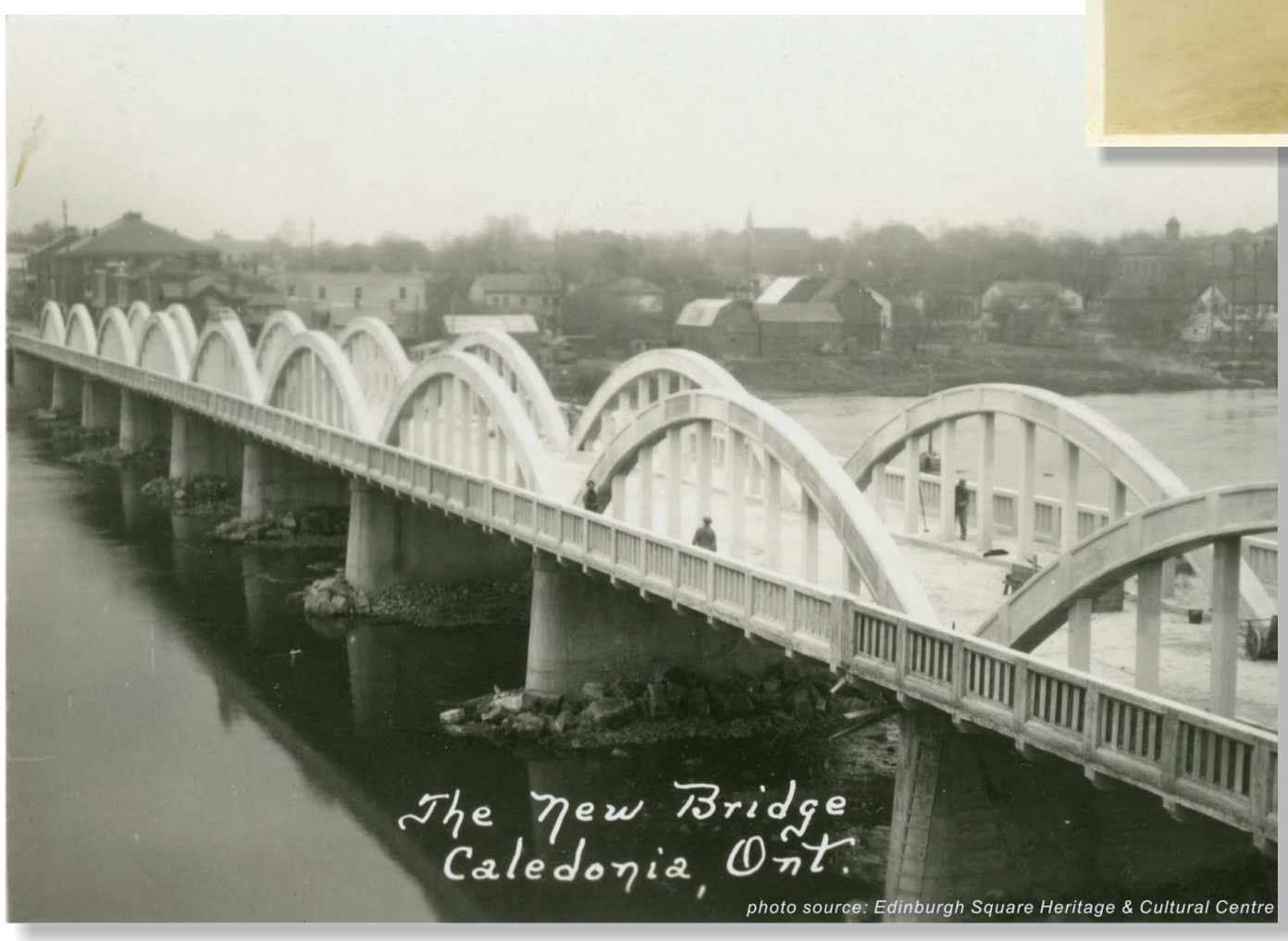


photo source: Edinburgh Square Heritage & Cultural Centre

BRIDGE HERITAGE ENHANCEMENTS

Following the Bridge Design Features and Heritage Setting Enhancement Workshop, the Project Team carried out an assessment and evaluation of enhancement options for the replacement bridge. The selected heritage enhancements are shown below.

The alternatives were evaluated based on the following criteria:

- Aesthetics
- Durability
- Quality Control
- Design/Constructability
- Maintenance
- Premium Cost
- Consistent with Class EA Commitments
- Consistent with Workshop Direction

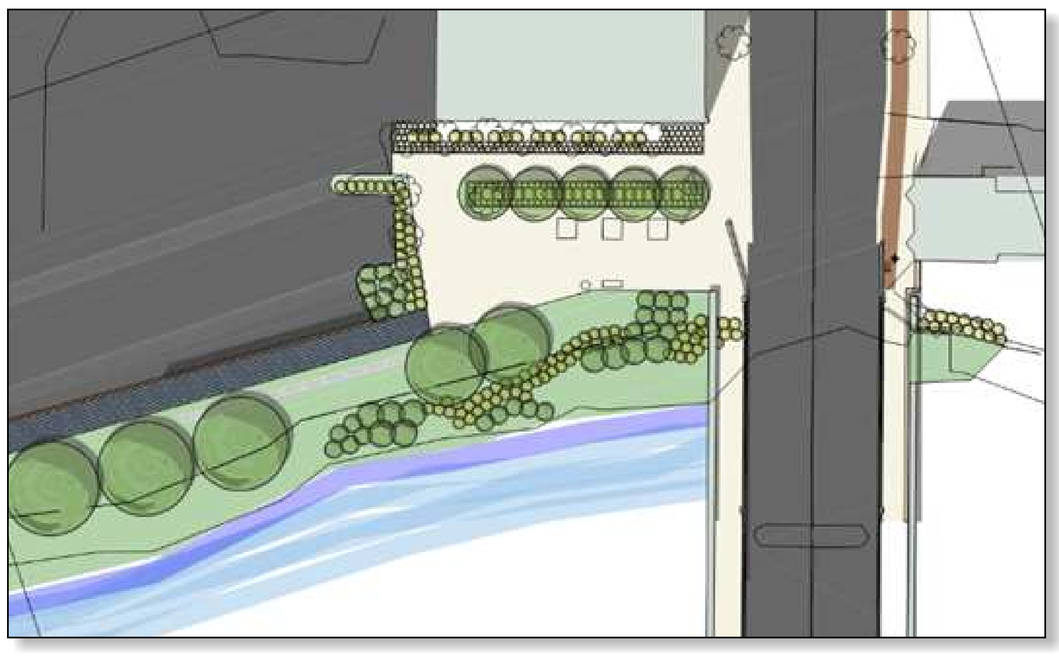
Inner Barrier Wall with Outer Pedestrian Railing

Light Fixtures and Bridge Accent Lighting

Lookout Areas: 3 hanger bays on each side of the new bridge (6 lookout locations)

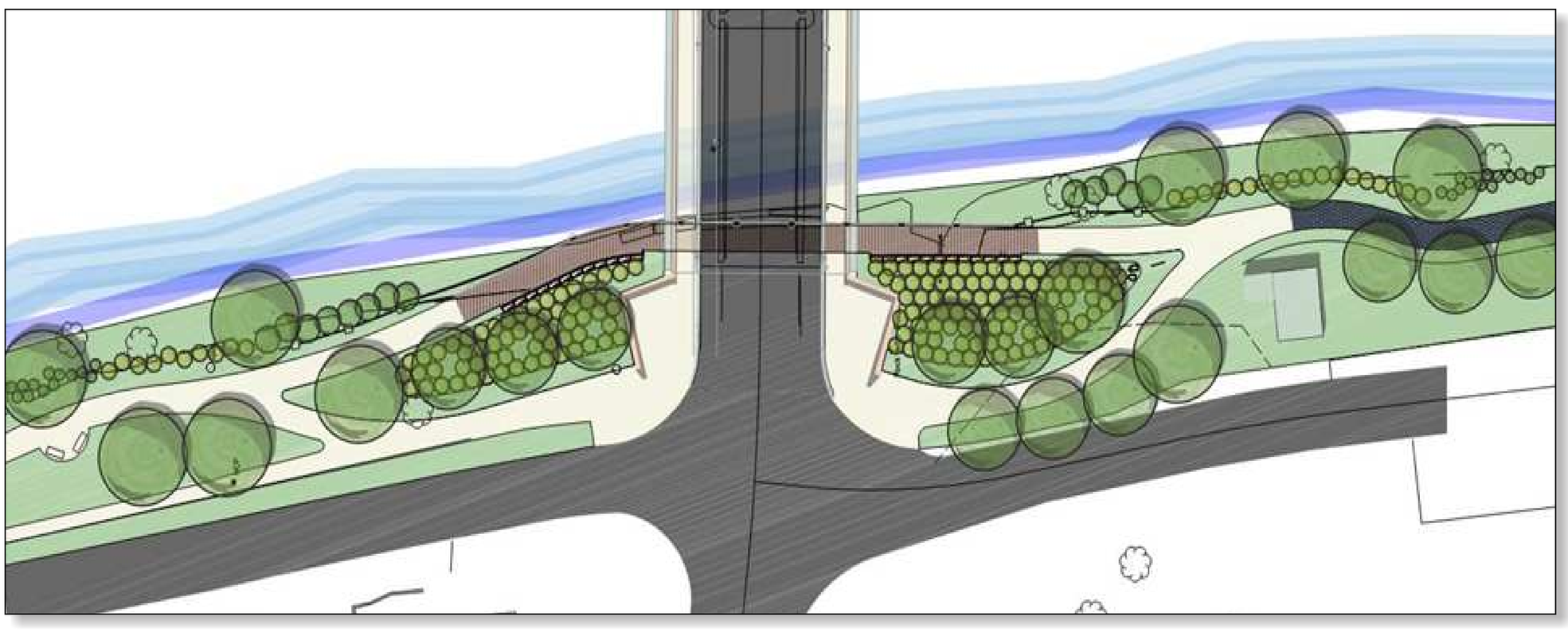
BRIDGE HERITAGE ENHANCEMENTS

Other selected design opportunities include:



The design of the northern bridge approach

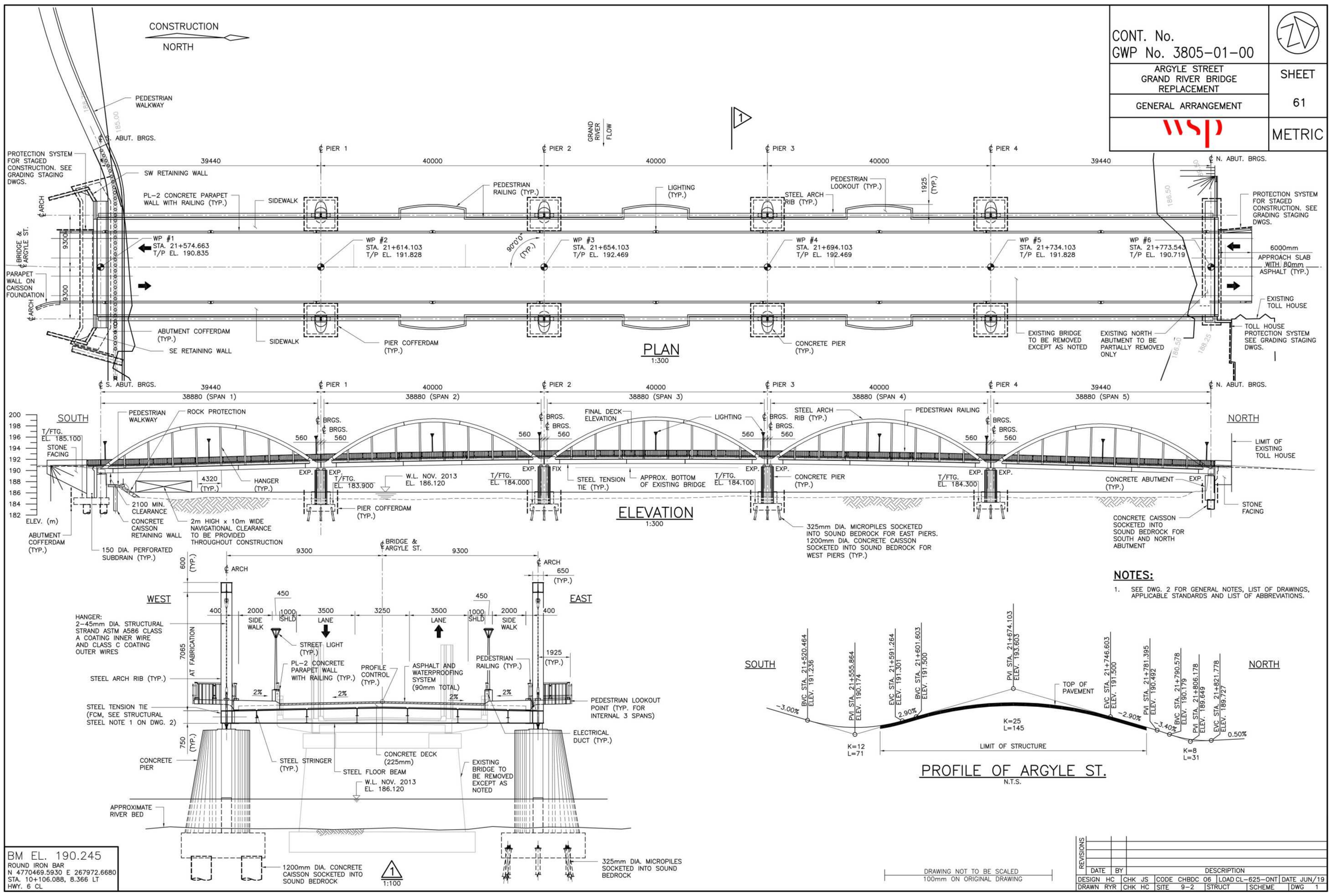
Landscaping along the southern bridge approach



Consideration of bridge pier shape

Paint colour for arches, light posts, and railing posts

GENERAL ARRANGEMENT



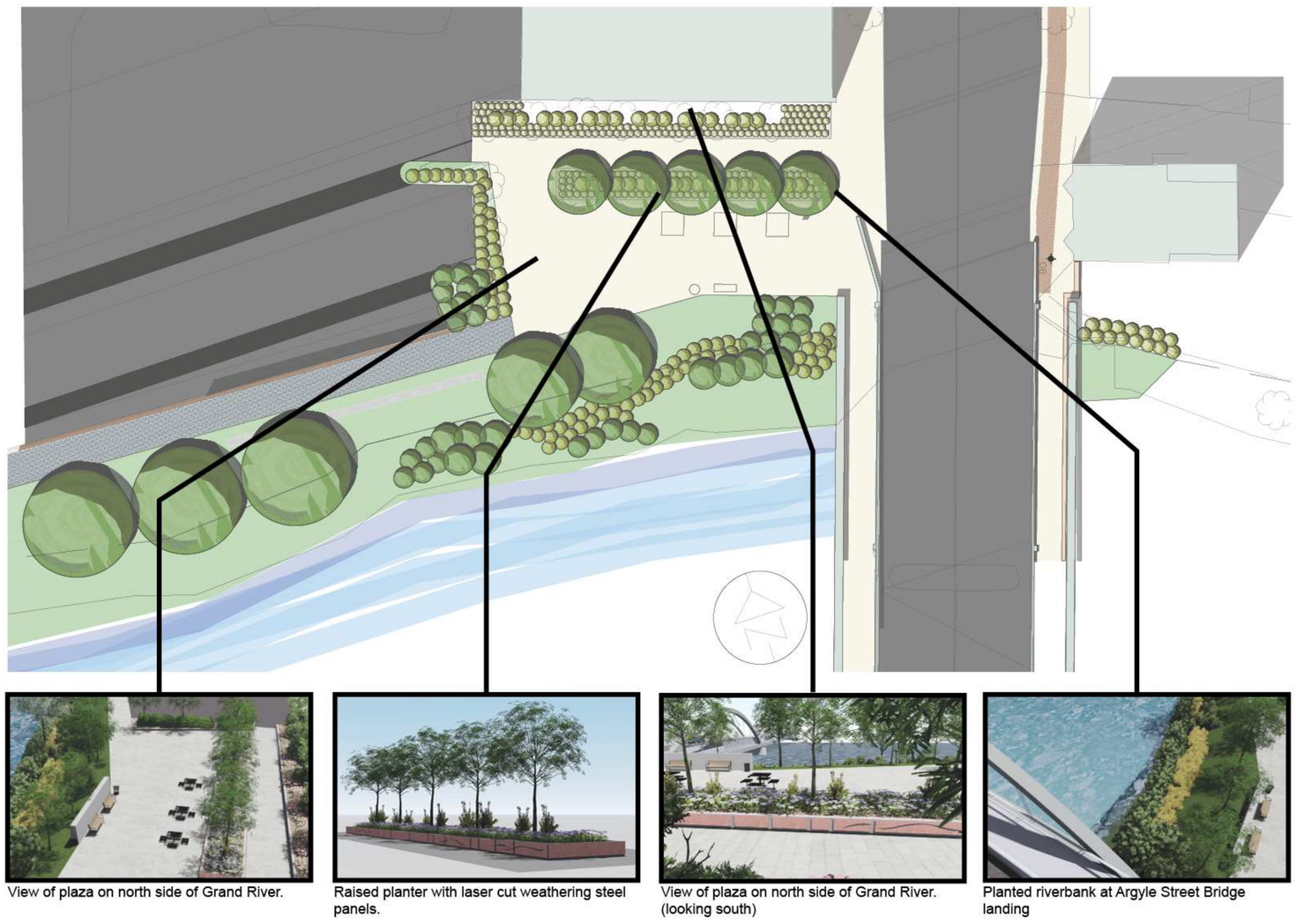
NOTES:

1. SEE DWG. 2 FOR GENERAL NOTES, LIST OF DRAWINGS, APPLICABLE STANDARDS AND LIST OF ABBREVIATIONS.

LANDSCAPE DESIGN CONCEPT

Landscape design plans are being developed with input from Haldimand County to restore and enhance the landscape elements disturbed by construction. The design will recognize the landmark and gateway status of the Argyle Street Bridge and the heritage attributes of the site.

NORTH BRIDGE LANDING



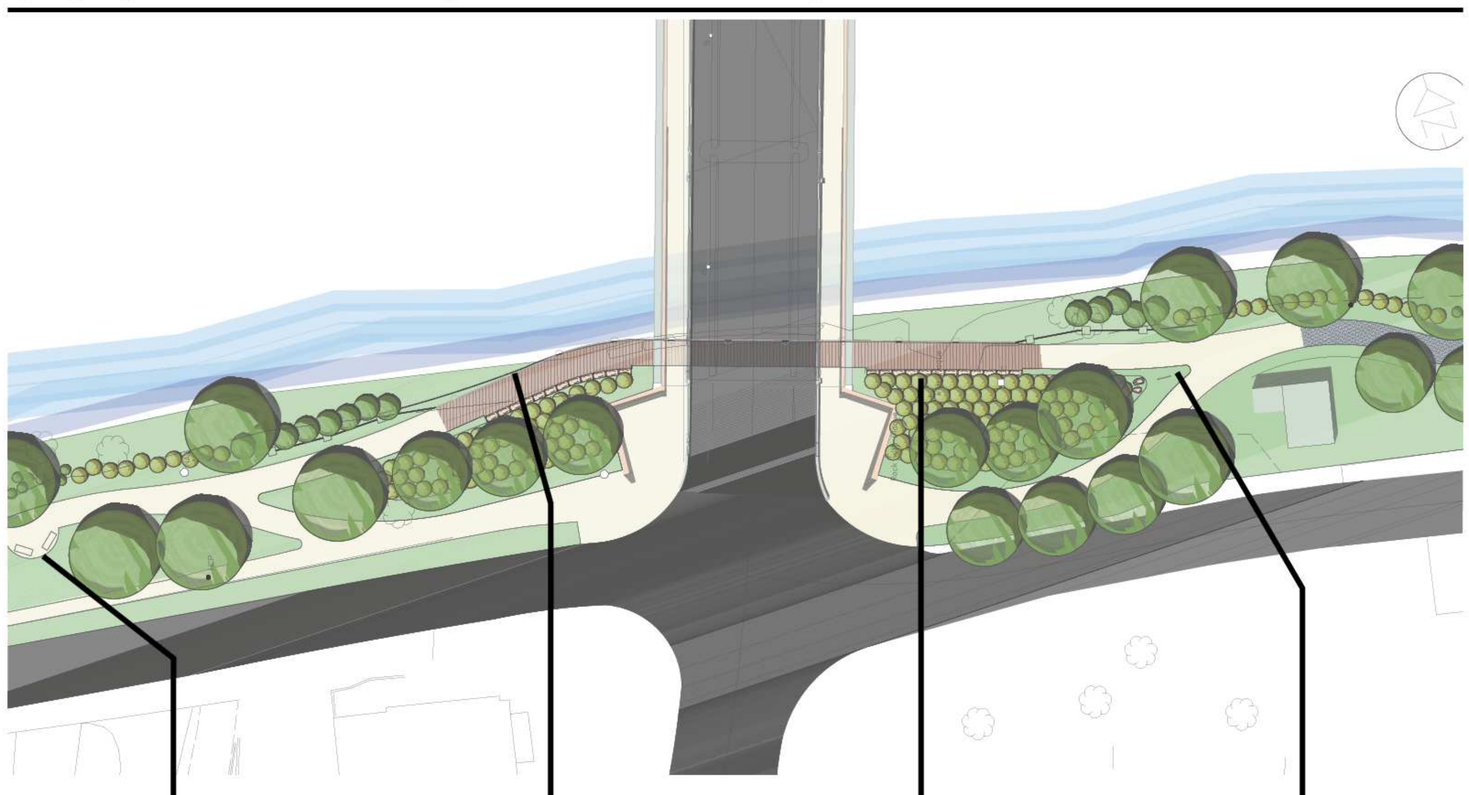
View of plaza on north side of Grand River.

Raised planter with laser cut weathering steel panels.

View of plaza on north side of Grand River. (looking south)

Planted riverbank at Argyle Street Bridge landing

SOUTH BRIDGE LANDING



Seating in rest node along trail.

Pedestrial railing along edge of Grand River (Aegis Plus Majestic By Ameristar)

Seat wall overlooking Grand River.

View of trail along south side of Grand River.

CONCEPTUAL AERIAL IMAGES

North Approach – 2-lane and 3-lane configurations

South Approach – 2-lane and 3-lane configurations

Overhead Aerial – 2-lane and 3-lane configurations

RECOMMENDED TRAFFIC MANAGEMENT DURING CONSTRUCTION

Approved in 2009:

- Build a 2-lane temporary modular bridge (Bailey Bridge) beside (upstream) the existing bridge.
- Provide northbound and southbound traffic for vehicles and pedestrians on the temporary bridge through a single lane with a temporary traffic signal.

Problem:

- A new Traffic Analysis Study shows problems with the 2009 approved traffic management plan, including significant queuing and delays across the temporary bridge, and a significant impact to the operation of the intersection at Caithness Street and Argyle Street during the morning and afternoon peak periods.

Solution:

Recommended New Traffic Management Plan:

- Construction of the new bridge on a temporary detour alignment beside and upstream of the existing bridge. Requires removal of the west sidewalk from the existing bridge.
- Northbound and southbound traffic remains on the existing bridge with traffic signals for emergency vehicles. All truck traffic to use the Highway 6 By-Pass.
- In the 3rd year of construction, there will be an anticipated nine-month detour (April – November / December) of the northbound and southbound passenger cars, buses and emergency vehicles to the new bridge on its temporary detour alignment. All trucks will be detoured to the Highway 6 By-Pass. Pedestrian traffic will be accommodated over the new bridge on its temporary detour alignment.
- Once the existing bridge is removed, the new bridge will be jacked and slid to its new permanent alignment.

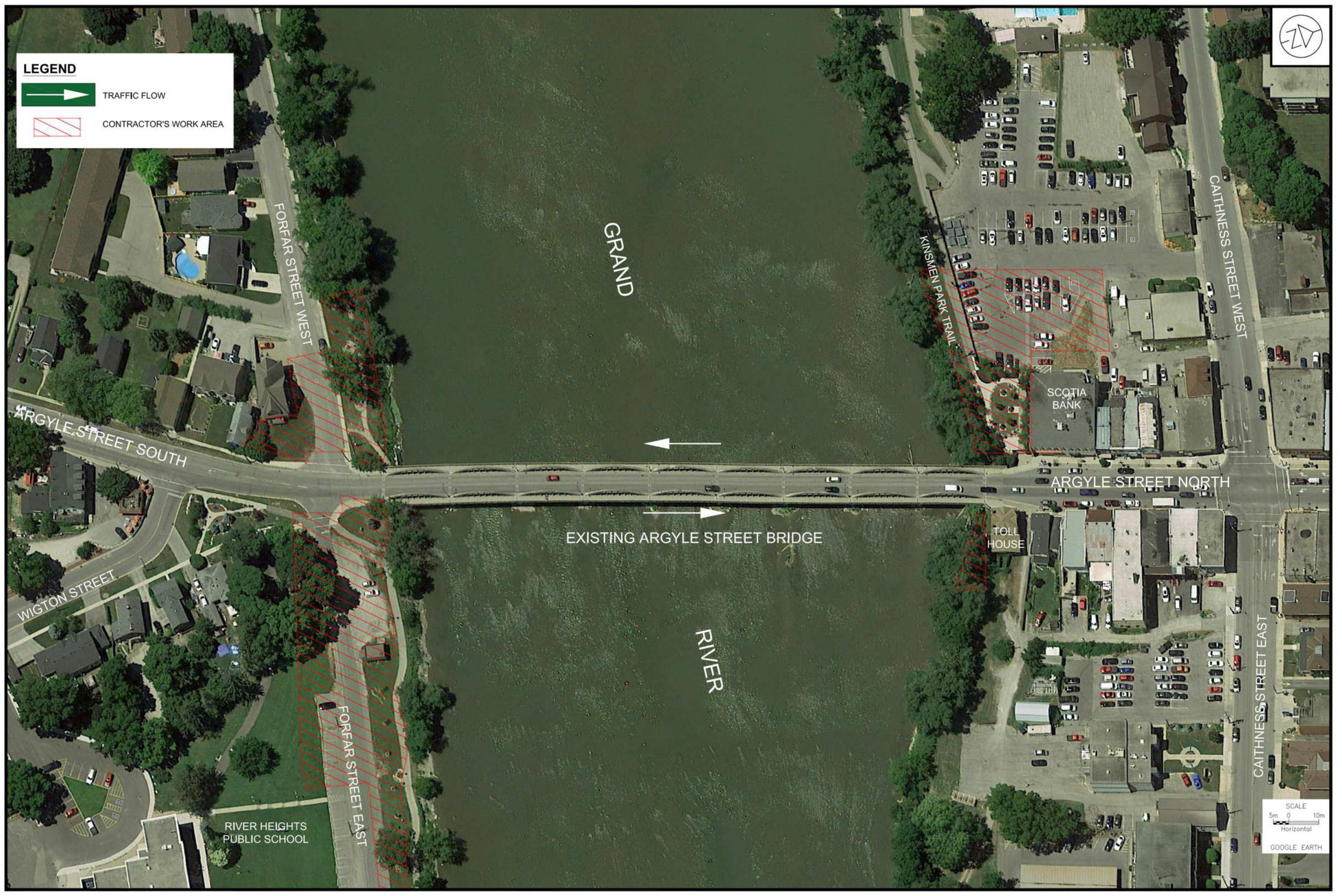
Rationale:

- Provides better traffic management during construction.
- In line with the community needs as documented in the project planning phase.

The overall construction is anticipated to be 4 years in duration.

PRE-CONSTRUCTION STAGE

- Periodic bridge closures are required to:
  - Confirm design assumptions and complete investigations
  - Enable utility companies to relocate their infrastructure, etc.



THROUGHOUT BRIDGE CONSTRUCTION

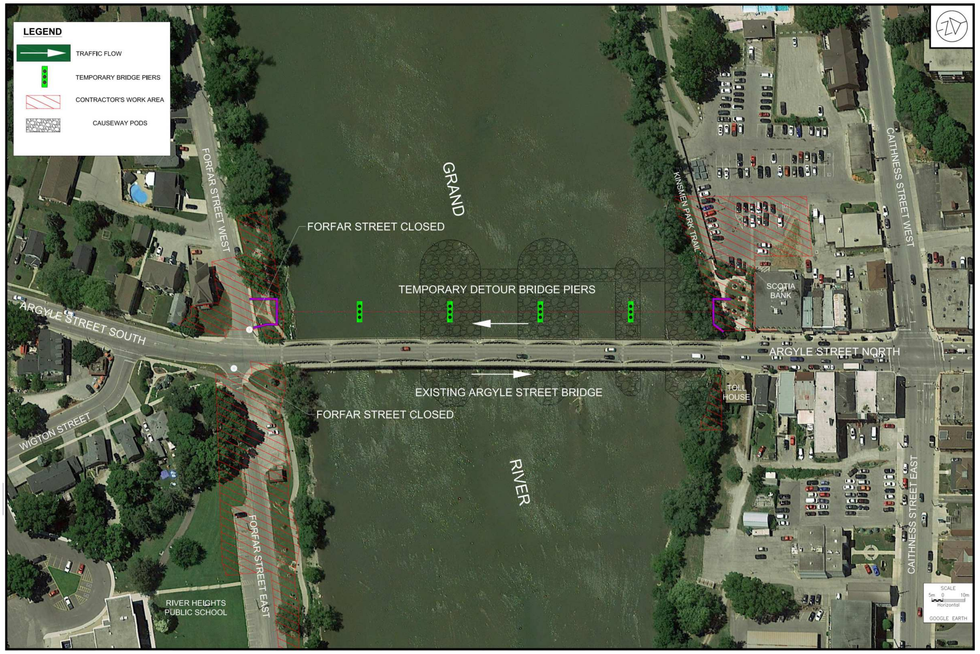
- The existing trails under the bridge, including access to the River Walk beside Scotiabank, will be closed for the duration of construction.
- Forfar Street at Argyle Street will be closed for the duration of construction (4 years).
- Trucks will continue to use the Highway 6 By-pass until the new bridge is placed on the final alignment.

CONSTRUCTION MANAGER GENERAL CONTRACTOR (CMGC)

MTO has implemented a new project delivery model for the Detailed Design and construction of the project known as CMGC (Construction Manager General Contractor), under which MTO 'partners' with both a design consultant (WSP) and a Contractor (Dufferin Construction) to develop the final design and implement construction of the project. The focus of this approach is to minimize project risks, improve construction schedules, and promote innovation, while maintaining reasonable construction costs.

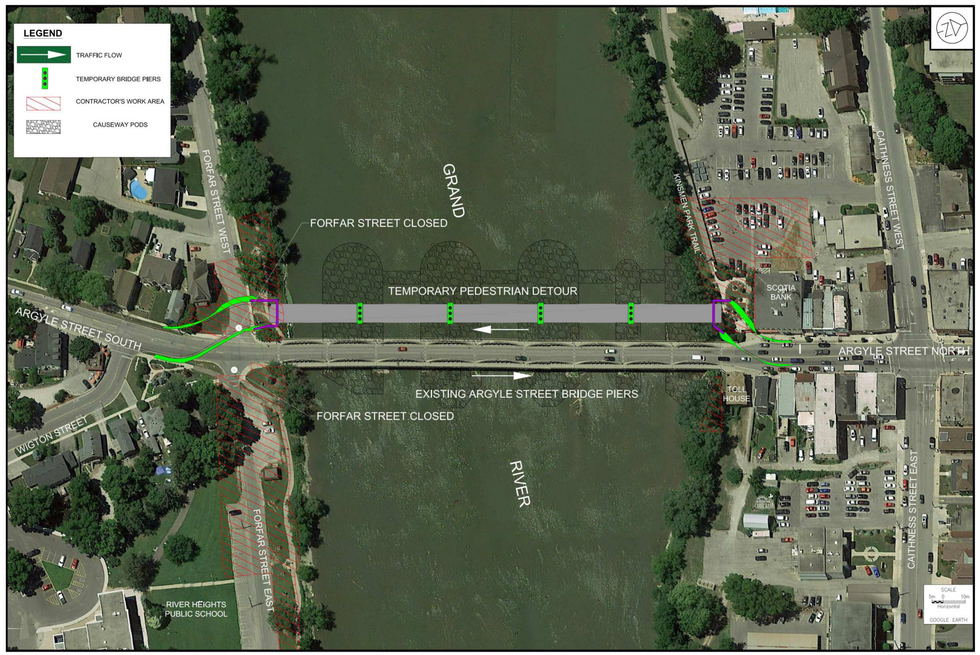
CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 1

Construction Stage	Construction Access	Traffic Management
– Relocate mussels – Build river access and causeway pods to build bridge piers – Construct new and temporary bridge pier footings – Bridge girder erection and span construction on detour alignment	- NW shore - From municipal parking lot behind Scotiabank - SW shore (Forfar Street)	- Non-truck traffic will continue to use the existing bridge in both directions. - Pedestrian access will be open on the east side of the existing bridge but closed on the west side - Traffic signals for passage of emergency vehicles



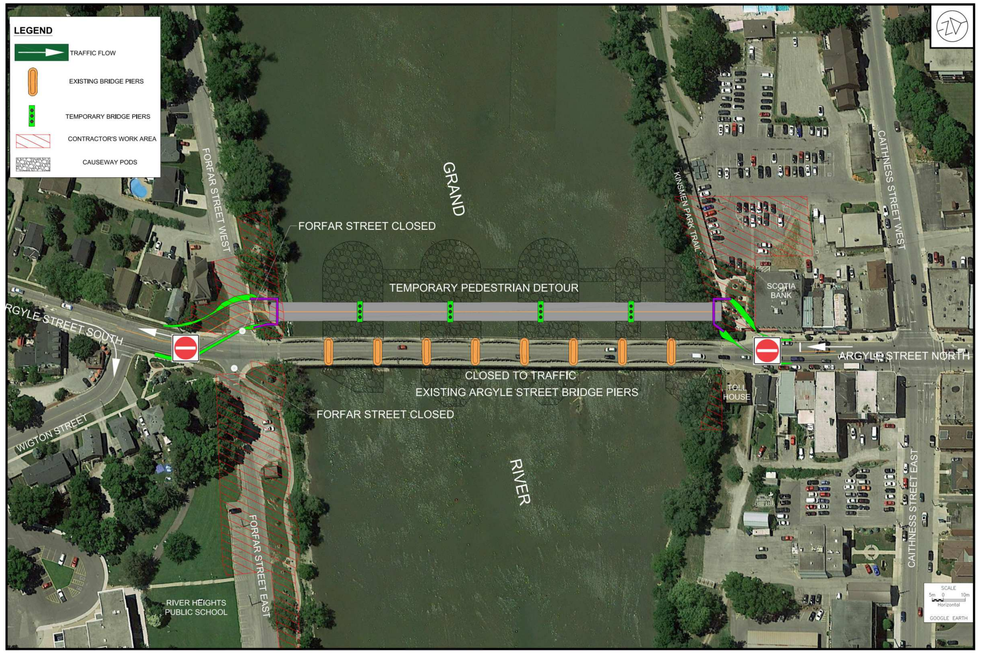
CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 2

Construction Stage	Construction Access	Traffic Management
– Continue construction of new bridge on detour alignment	- NW shore - From municipal parking lot behind Scotiabank - SW shore (Forfar Street)	- Non-truck traffic will continue to use the existing bridge in both directions - Pedestrian access will be open on the east side of the existing bridge but closed on the west side - Traffic signals for passage of emergency vehicles



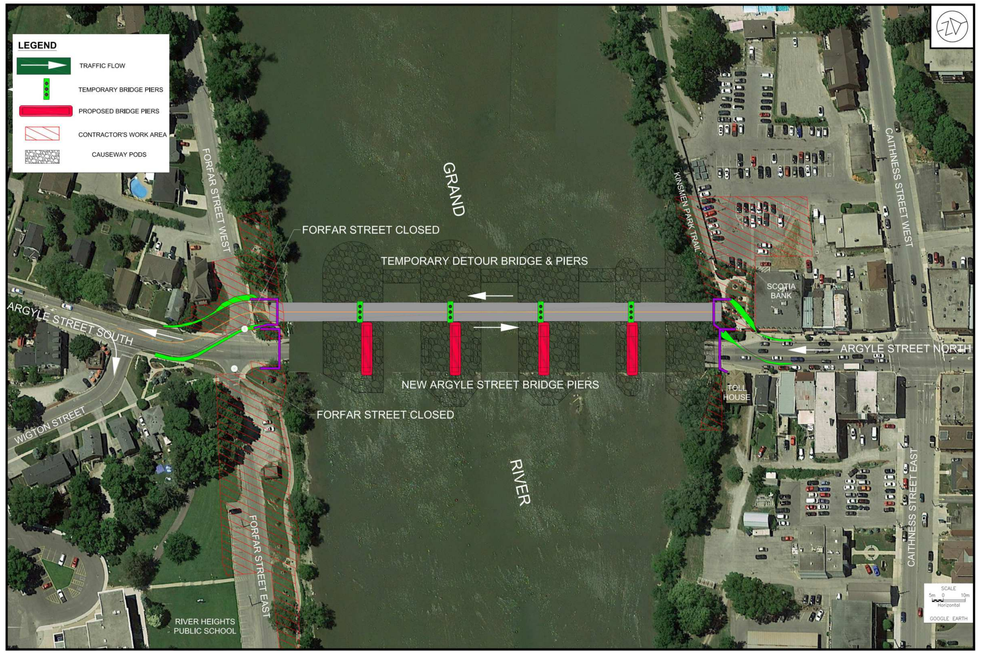
CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 3

Construction Stage	Construction Access	Traffic Management
– Complete storm sewer and sanitary sewer work on Argyle Street. – Complete on-site detour tie-ins to Argyle Street	- Access from Argyle Street	– Argyle Street Bridge closed for approximately 2 weeks. All traffic detoured to Highway 6 By-pass. – Pedestrian traffic provided on either the east side of the existing bridge or the west side of the new bridge on the temporary detour alignment – Emergency vehicles will be placed temporarily on both sides of the river to maintain response times



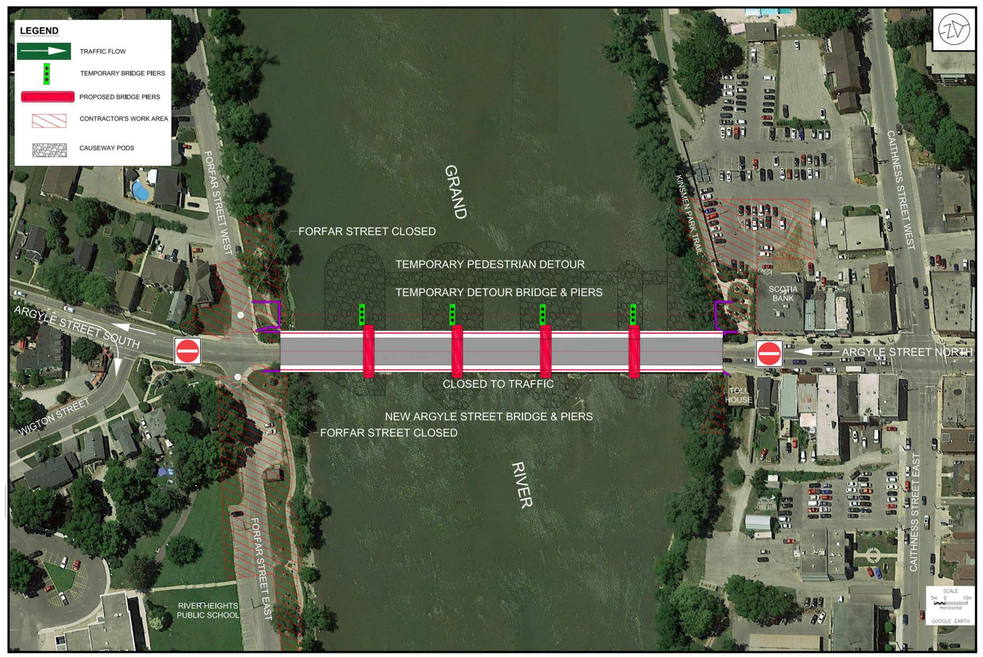
CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 4

Construction Stage	Construction Access	Traffic Management
– Remove existing bridge – Complete north and south abutments – Install systems to jack and slide new bridge onto permanent	– From the closed portion of Argyle Street to the north and south shores	– Non-truck traffic will use Argyle Street and cross the new bridge on the detour alignment – Traffic will use new bridge in both directions – Pedestrian traffic maintained on the west side of the new bridge on the detour alignment



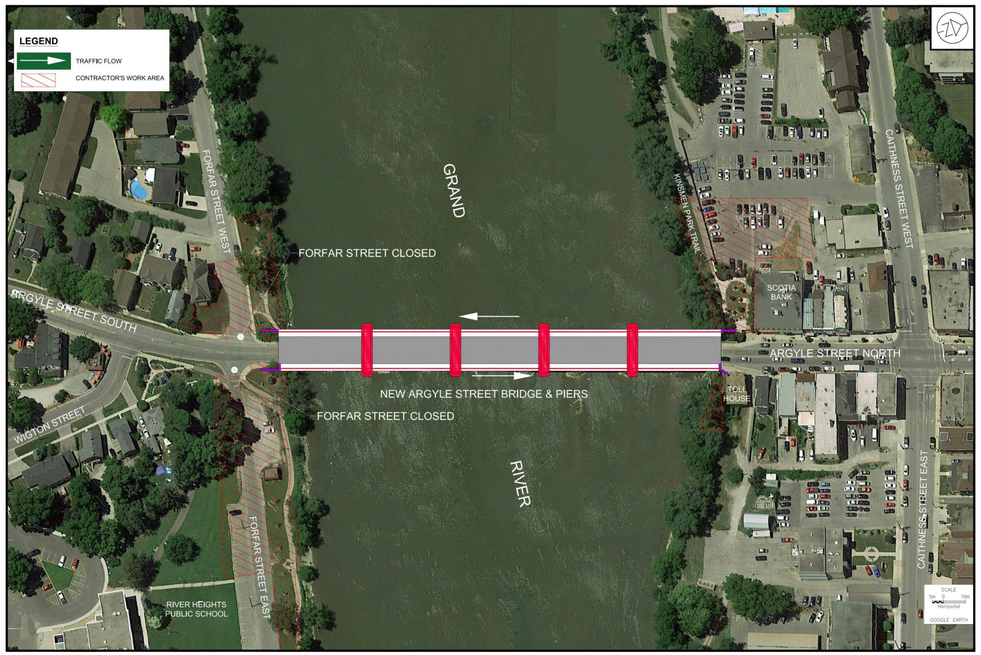
CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 5

Construction Stage	Construction Access	Traffic Management
– Complete jacking of new bridge from temporary detour alignment to permanent alignment – Complete link slabs construction at piers	– Access from Argyle Street	– Argyle Street Bridge closed for approximately 3 weeks. All traffic detoured to Highway 6 By-Pass – Pedestrian traffic closed for the jacking and the link slab construction (5 days) – Emergency vehicles will be placed temporarily on both sides of the river to maintain response times



CONSTRUCTION STAGING AND TRAFFIC MANAGEMENT – STAGE 6

Construction Stage	Construction Access	Traffic Management
– Open new bridge – Complete streetscaping /landscaping – Remove temporary abutments and piers – Remove causeway pods	– NW shore from municipal parking lot behind Scotiabank – SW shore (Forfar Street)	- All traffic (emergency vehicles, cars and trucks) will use the new bridge, both directions – On the north side of the bridge, the River Walk gateway will be reinstated and reopened. Stairs and access to the river will be removed – On the south side, the regraded trail system will be re-opened - Pedestrian access will be provided on both sides of the new bridge



ENVIRONMENTAL CONSIDERATIONS

DETAILED DESIGN ENVIRONMENTAL CONSIDERATIONS	
Archaeology	• A Stage 1-2 Archaeological Assessment is being completed for the study area beyond those areas surveyed during Preliminary Design.
Emergency Access	• Notify OPP, Haldimand County and emergency services of construction staging, start of construction, etc. to maintain effective emergency response times during and after construction. • Emergency vehicles will be placed on both sides of the bridge to maintain response times during closures.
Heritage	• Heritage enhancements are being incorporated into the detailed design of the new bridge. • The 2009 Cultural Heritage Resource Documentation Report has been updated and will be distributed to the local museum as a cultural heritage resource record of the bridge site. Full recording and documentation of the existing bridge will be completed. • A Built Heritage Enhancements Technical Memo will be prepared to summarize the heritage features considered and selected at the 2014 Bridge Design Features and Heritage Setting Enhancement Workshop. • Details regarding the use of one or more of the existing bridge's arches as a memorial to the existing bridge will be determined in consultation with Haldimand County. • Built in 1875, the Toll House was designated a historic site in 1988 by the Town of Haldimand and added to the Canadian registry of historicsites in 2009.
Natural Environment	• All required permits and approvals will be obtained from external agencies prior to construction (i.e. Fisheries, Species at Risk, Permits to Take Water, etc.). • Timing constraints will be applied to avoid any in-water work during sensitive life history periods for fish, turtles and mussels. • Structure works will be designed and constructed to minimize impacts to fish habitat and fish passage. • Where tree removal cannot be avoided, the Ministry will endeavour to install replacements as part of the landscape plan. • Completion of all works in accordance with the Migratory Birds Convention Act (i.e. avoid destruction of active nests). • An Erosion and Sediment Control Plan will be implemented during construction.
Navigation	• Requirements for navigation will be addressed in accordance with the Canadian Navigation Protection Act and a navigable opening will be provided on the south side of the bridge during construction. • Anchors and cables for construction equipment will be marked.
Noise / Vibration	• Extended hours will be required during construction, including overnight and weekend work during critical schedule construction activities. • The Contractor will be required to maintain equipment in good operating condition to prevent unnecessary noise and restrict idling of equipment to the minimum necessary to perform the work. • There will be vibration monitoring to ensure protection of sensitive receptors.
Property	• Property acquisition is required for the construction activities.
Traffic Disruption / Staging	• Temporary traffic closures will be required during construction to permit traffic and bridge transitions at key points of the construction. Closures will be limited in duration and will occur during low traffic periods. In addition to short-term closures during low traffic periods, the Argyle Street Bridge will be closed for approximately 2 weeks in the spring and 3 weeks in the fall during the 3rd year to facilitate the demolition of the existing Argyle Street Bridge and the lateral slide of the new Argyle Street Bridge.
Utilities	• Relocation strategies are being developed for utilities impacted by the proposed works. • Utility companies will be completing relocation work to facilitate the bridge replacement.

NEXT STEPS

After this Community Information Session, the following activities will be carried out:

- Review and address comments received and respond to any questions.
- Continue to engage Indigenous Communities and Haldimand County in the project.
- Continue consultation with property owners.
- Continue consultation with external agencies regarding permits.
- Refine and document environmental impact mitigation.
- Finalize Detailed Design plans for the Argyle Street Bridge replacement.
- Prepare a Design and Construction Report for public review, currently anticipated for Winter 2019/2020.
- Finalize contract package for Construction, anticipated to begin as early as Summer 2020.

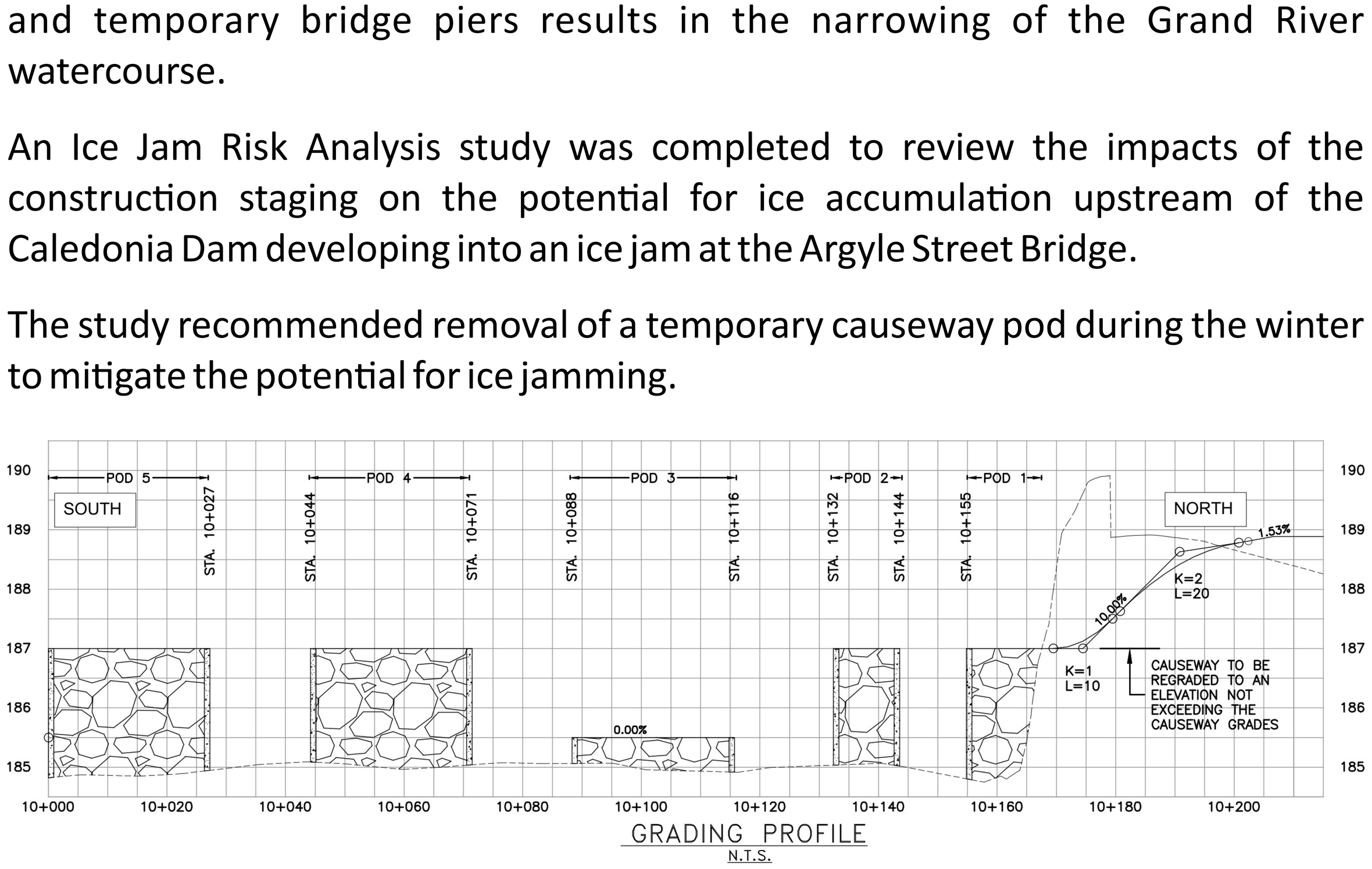
WATER FLOW / ICE JAMMING

Grand River Ice Accumulation

Construction staging with temporary causeway pods for the construction of new and temporary bridge piers results in the narrowing of the Grand River watercourse.

An Ice Jam Risk Analysis study was completed to review the impacts of the construction staging on the potential for ice accumulation upstream of the Caledonia Dam developing into an ice jam at the Argyle Street Bridge.

The study recommended removal of a temporary causeway pod during the winter to mitigate the potential for ice jamming.



GRADING PROFILE
N.T.S.

OVERALL BENEFIT TO SPECIES AT RISK

- The Ontario Endangered Species Act (ESA) prohibits the harm and harassment of protected species and damage or destruction to their habitat, while the federal Species at Risk Act (SARA) protects endangered or threatened organisms and their habitats while also managing species which are not yet threatened, but whose existence or habitat is in jeopardy.

- To address impacts associated with permanent impacts to fish and mussel habitat associated with the construction of new bridge piers within the Grand River, mitigation measures are being developed in coordination with the Ministry of the Environment, Conservation and Parks and the Department of Fisheries and Oceans. The mitigation measures will offset impacts to the Species at Risk and ensure an overall benefit to them and their habitat throughout and after construction.

- All required permits will be obtained prior to construction.

CONTACT US

We welcome your comments on the material presented. Please feel free to ask questions and fill out a comment sheet.

Completed sheets can either be dropped in the box provided or submitted by mail or email to any of the following Project Team members:

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Please provide comments by <u>Friday November 1, 2019</u>.

Thank you for attending!

Information presented today will also be available online at:
www.argylebridge.ca

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Comments and information regarding this study are being used to assist the Ministry of Transportation (MTO) in meeting the requirements of the Provincial Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in the study documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act and the Access to Information Act. With the exception of personal information, all comments will become part of the public record.

ACCESSIBILITY

Under the *Integrated Accessibility Standards Regulation* (2011), the Ministry of Transportation, Ontario (MTO) is committed to excellence in serving all customers and to ensuring the Class Environmental Assessment process is accessible to all participants. This Community Information Session incorporates the following accessibility features:

- Accessible location, including ramps, accessible washrooms and parking
- For people requiring assistance, project team members will:
  - Verbally explain presentation board content
  - Assist with written submission of comment forms
- Reading aids are available, including magnifying glasses
- Presentation boards and displays printed in large, legible font
- Materials are available in print and electronic format, upon request
- We welcome people with disabilities and their service animals

We welcome your feedback related to the accessibility of this event. Please speak to one of the project team members, call 519-200-4604 or email graydon.botsford@ontario.ca with your comments.