



THE 2ND CONCESSION PROJECT

Sustainable, Context Sensitive Infrastructure for a Growing Region

Supporting Document 2018
The Regional Municipality of York
Transportation Services



“Congratulations on the pace and quality of work that we are seeing on the bridge, pedestrian walkways and reservoir features. We are thrilled with the potential for this conservation area to be enjoyed by many who will no doubt want to visit here to experience the remarkable transformation that your team is delivering.”

N.M., a long-time resident living in the project corridor

“Yesterday was the first time we took our dogs for a walk along 2nd Concession. The view from the bridge is amazing. The viewing platforms on the bridge are a nice touch. The boardwalk for the trail blends in well with the environment. You and your staff have done a wonderful job on this project.”

R.W., a long-time resident living in the project corridor

The 2nd Concession Project was featured in a presentation and paper at the 2014 Transportation Association of Canada (TAC) Annual Conference in Montreal, Quebec, Canada, September 2014.

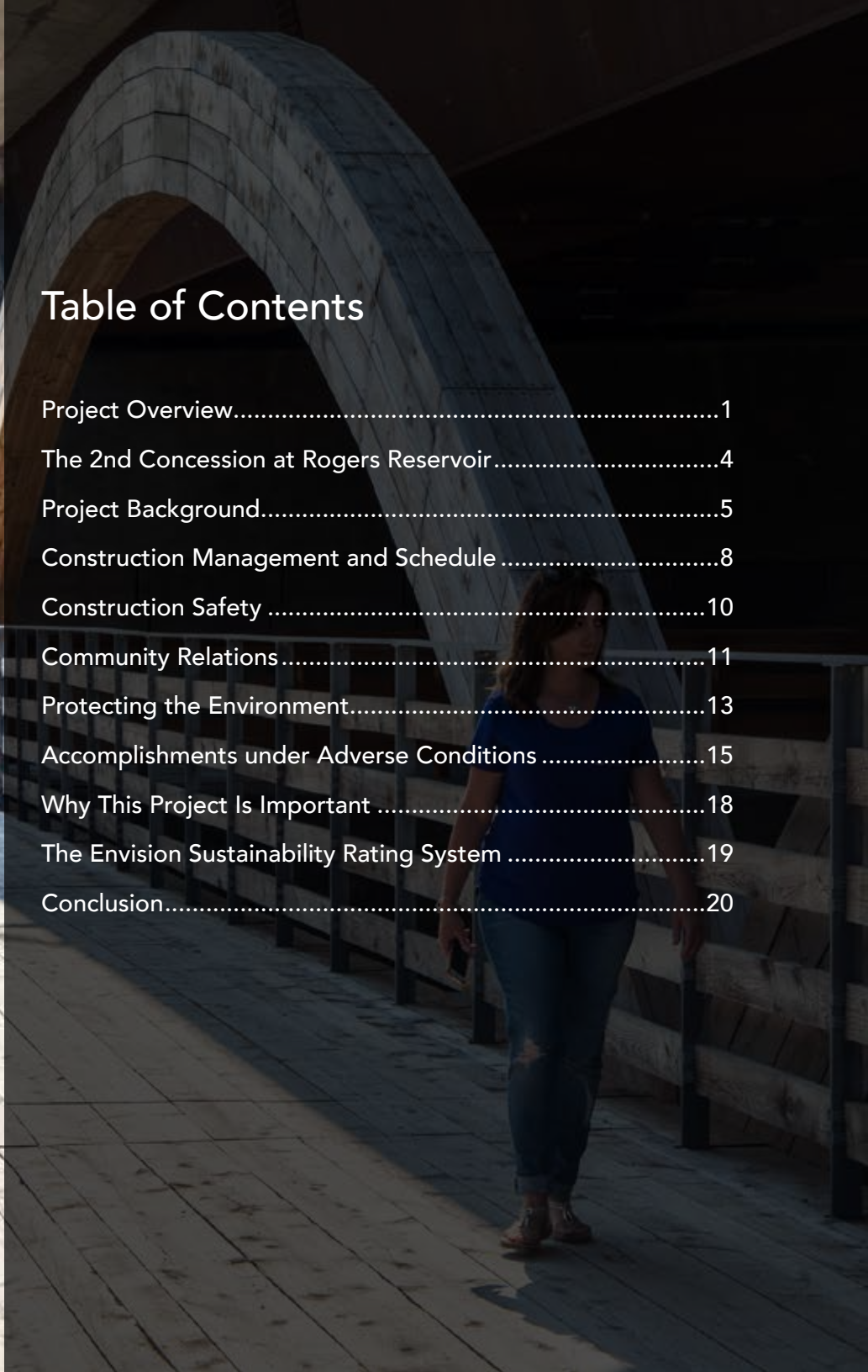
The 2nd Concession Project was named 2017 Project of the Year by the Ontario Public Works Association (Transportation, Greater than \$50 Million Category), and 2017 Project of the Year by Professional Engineers Ontario (PEO), York Chapter (Large Company Category).

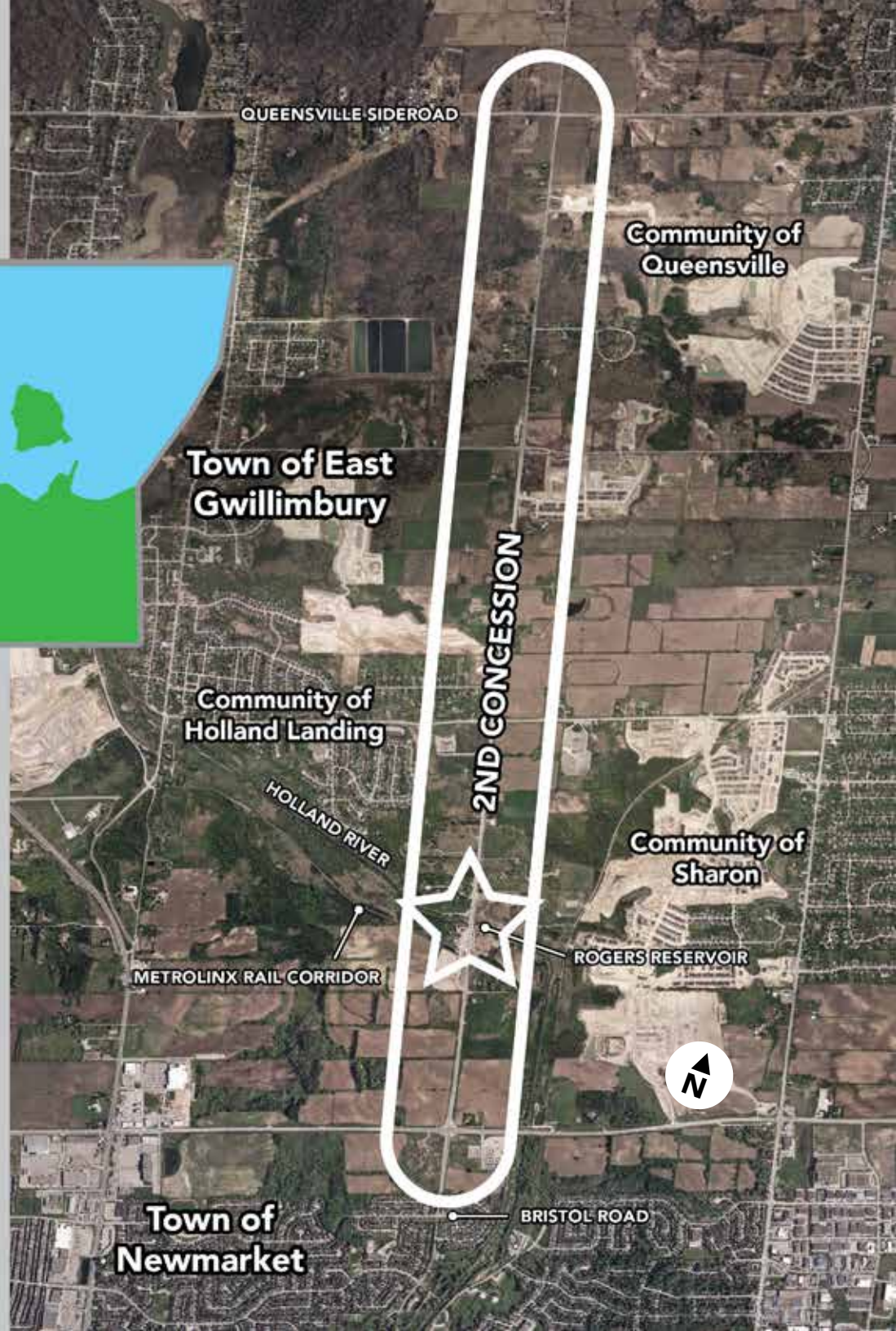
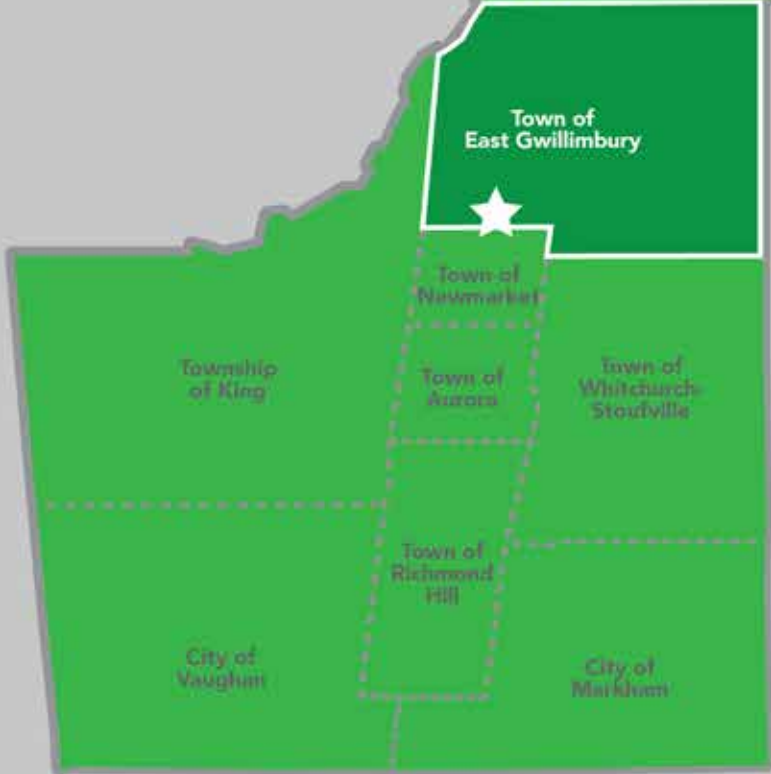
The 2nd Concession Project was also awarded the 2018 Ontario Professional Engineers Engineering Project or Achievement Award by PEO and the Ontario Society of Professional Engineers (OSPE), and the Transportation Association of Canada (TAC) 2018 Environmental Achievement Award.



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Project Overview

The 2nd Concession is a major north-south arterial corridor under the jurisdiction of The Regional Municipality of York (York Region). Located in the Town of East Gwillimbury, Ontario, Canada, the corridor crosses a popular conservation area and recreational trail, situated in the watershed of the East Holland River which is managed by the Lake Simcoe Region Conservation Authority (LSRCA).

York Region and the Town of East Gwillimbury are undergoing tremendous growth in population and employment. The 2nd Concession Project improves mobility and enhances the environment with sustainable, context sensitive infrastructure in response to growth.

This project includes an elevated wooden boardwalk through wetlands and marshes connecting forests with growing residential communities. There are benches, bike racks and a flagstone meeting area. The wooden-clad pedestrian bridge in the conservation area known as Rogers Reservoir, allows an estimated 30,000 annual visitors to stand directly above the historic canal and lock system which the project protected.

Bridges spanning an active rail corridor and the Holland River lift the widened and reconstructed 2nd Concession out of the valley. The environmental footprint of the roadway is further minimized through curvilinear and terraced tree-patterned retaining walls. At road level, cyclists arrive on dedicated cycle tracks (a first for York Region), and can stop at lookouts on the bridges for unobstructed views of the reservoir and wildlife.

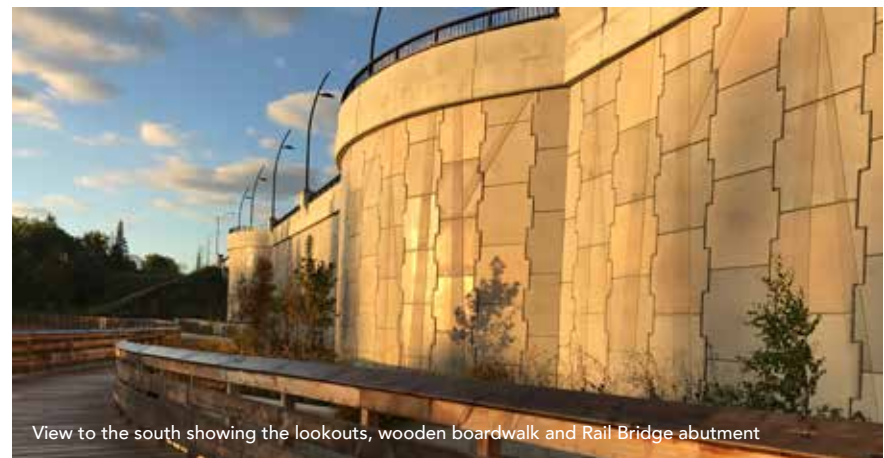
This six-kilometre corridor, extending from Bristol Road in the Town of Newmarket to Queensville Sideroad in the Town of East Gwillimbury, was transformed between May 2014 and August 2017 when the two-lane local road was widened to a four-lane urban arterial. With a high degree of community engagement, the project included road widening, trails, three bridges, retaining walls, active transportation infrastructure, stormwater management, gravity and large forcemain sanitary sewers and a watermain.



View to the north showing the flagstone meeting area and Pedestrian Bridge



View to the west showing the historic canal and lock system



View to the south showing the lookouts, wooden boardwalk and Rail Bridge abutment



View to the north showing the new corridor and the new Holland River Bridge

The 2nd Concession was the largest project ever tendered to date by York Region's Transportation Services Department. The 640 Working Day contract was tendered ahead of schedule in 2013 and working days began in May 2014. All milestones were met with no working-day extensions granted. The project was completed within budget. The construction schedule was controlled with Primavera P6 Project Management scheduling software. There were zero Lost Time Injuries. The Ministry of the Environment and Climate Change (MOECC) provided clearance to proceed without any conditions imposed. The project concluded with nearly 1000 community residents attending the official ribbon-cutting ceremony. The project's success ensured adjacent land development could proceed on schedule.



View to the north showing the old corridor, the at-grade rail crossing and the old Holland River Bridge

Schedule adherence, worker safety, community engagement, environmental protection and the provision of active transportation infrastructure were key project priorities. With a \$56 million (\$45 million USD) transportation component, the 2nd Concession team capitalized on opportunities that arose from the project's unique and challenging features:

The corridor needed significant upgrades

Tremendous growth in population and employment required upgraded transportation and servicing infrastructure. The Metrolinx GO Barrie rail corridor (Metrolinx) crossed 2nd Concession at-grade. The 2nd Concession was narrow with an undulating profile and steep grades of up to 12 percent. There were multiple conflict points between vehicles, cyclists, pedestrians and trains.

The Rogers Reservoir Conservation Area is a popular destination

The 2nd Concession runs directly through the Rogers Reservoir Conservation Area (Rogers Reservoir) where it crosses the Holland River at the old canal and lock system which was built at the turn of the century. The corridor also crosses the Nokiidaa Trail, a multi-use path within Rogers Reservoir that is part of the 121 kilometre "Lake to Lake Cycling Route and Walking Trail" connecting Lake Ontario to Lake Simcoe. Environmental constraints in this area include impacts to plants and wildlife and timing restrictions on in-water, near-water and tree clearing activities.



View to the east showing the wooden boardwalk through Rogers Reservoir

Multiple projects in the area required a high degree of coordination

The primary project required extensive coordination between multiple and overlapping projects including trunk sanitary sewers and a watermain which were part of the construction contract. Adjacent projects under separate contracts included two sanitary pumping stations with infrastructure connections to the 2nd Concession, a Paramedic Response Station, a public school, and land development including subdivision construction. Adjacent projects involved multiple stakeholders including developers, other York Region departments and local municipalities.

These challenges provided the project team with opportunities:

- Engage all stakeholders to improve mobility for all corridor users including pedestrians and cyclists
- Support a growing region with upgraded transportation and servicing infrastructure that is cost effective
- Enhance the environment with a sustainable, context sensitive design

Strong vision, senior management support, and leadership throughout the process helped the team achieve significant accomplishments and meet milestones under adverse conditions.

Lessons learned have been implemented as best practices on other Regional projects.



The 2nd Concession at Rogers Reservoir



Project Background

York Region, located in the heart of the Greater Toronto Area in Southern Ontario, Canada, is comprised of nine local municipalities covering approximately 1,700 square kilometers. The Region has grown from 160,000 residents in 1971, to over 1.18 million residents, and continues to grow.

The Town of East Gwillimbury, one of York Region’s northern municipalities, is expected to triple in size to 86,500 residents by 2031. The 2nd Concession is an important corridor in the Town because it connects three growing communities: Queensville, Holland Landing and Sharon. Growth, and the importance of this corridor, were the main reasons behind the 2nd Concession Project.



View to the south showing the old Nokiidaa Trail and the at-grade rail crossing

In 2006 when it was still under the jurisdiction of the Town of East Gwillimbury, the 2nd Concession was a two-lane north-south road with a rural cross-section carrying 12,000 vehicles per day. The right-of-way was 20 metres wide and posted speeds were 60 to 70 kilometres per hour. There were two very steep hills, and at the bottom of the hill near Rogers Reservoir, there was an at-grade Metrolinx rail crossing carrying eight commuter trains during the day, as well as three to four freight trains per week at around 1 a.m.. Plans to increase train service with double tracking and electrification were underway.

Growth in the area is the direct result of the *Growth Plan for the Greater Golden Horseshoe (2006)*, which mandates where and how growth can occur in the province of Ontario. This legislation represents a planning vision for growth that will result in 1.5 million York Region residents by 2031. In addition to the Queensville Community Plan which borders 2nd Concession, the two other approved Secondary Plans in the area are the Sharon and Holland Landing Community Plans. Population and employment adjacent to 2nd Concession have already begun to increase as a result of these plans, where there is approved growth of 30,000 residents in Queensville, 12,000 residents in Sharon and 20,000 residents in Holland Landing.

Recognizing the transportation need in this area resulting from planned and approved population and employment growth, York Region’s Transportation Master Plan (2002) established the importance of the corridor within the overall transportation network to the year 2031, and recommended the corridor be further reviewed.



Town of East Gwillimbury Urban Structure showing the communities of Queensville, Holland Landing and Sharon surrounding the 2nd Concession corridor

York Region assumed jurisdiction over the 2nd Concession from the Town of East Gwillimbury in 2006, and initiated the 2nd Concession Improvements Class Environmental Assessment Study (Class EA Study) in November 2008. The study was conducted in accordance with Schedule 'C' of the Municipal Class Environmental Assessment (2007) process, which is approved under the Ontario *Environmental Assessment Act*.

The Class EA Study considered existing conditions, future growth, the need to improve mobility, opportunities to promote active transportation and enhancements to Rogers Reservoir. The study proposed the following Problem/Opportunity Statement:

The project will address the existing and future transportation needs for 2nd Concession between Bristol Road and Queensville Sideroad, accounting for future land-use in the Queensville, Sharon and Holland Landing communities, while improving roadway operating conditions in the corridor. In addition, York Region is incorporating opportunities to encourage non-motorized modes of transportation to promote recreational activities in the area such as the Nokiidaa Trail and the Rogers Reservoir Conservation Area.



To enhance the Class EA Study process, property owners in the corridor were invited to an evening meeting in November 2008 to meet the project team. Aerial plans were rolled out and residents used markers to indicate areas of special interest. A correspondence binder was created and used by the project team to record and track action items and discussions with residents.



The Class EA Study ended in 2011 and identified the need to widen 2nd Concession from two to four lanes in a context sensitive manner. Detailed design followed, including property acquisition, permitting and utility relocation. Planning and design phases were completed in five years, which is remarkable for a project of this size. Construction began in May 2014 and Total Performance occurred in August 2017.

Project success was due in part to early and consistent stakeholder engagement. The same York Region team oversaw planning, design, property acquisition and construction, and many external team members were involved from start to finish. Success was also due in part to early buy-in from stakeholders and local residents. Projects that do not have early buy-in often extend over many years as stakeholders require additional time and effort to resolve issues. The early identification of enhancements and commitments

undertaken during the Class EA Study significantly shortened the project timelines and resulted in saved tax dollars. In addition, York Region was able to proceed with building the infrastructure that was needed to support planned development, when it was needed.

The 2nd Concession Project improves mobility for all corridor users including pedestrians and cyclists

The project improves mobility for all corridor users through increased road capacity, improved trail connections, sidewalks, and dedicated and illuminated cycling facilities separating vehicles from cyclists. The new grade separation eliminates vehicle/train conflicts.



View to the north showing the new corridor and the pumping station access road



View to the south showing the flagstone meeting area

The 2nd Concession Project supports a growing region with upgraded transportation and servicing infrastructure that is cost effective

Combining a needed road widening project with sewer and watermain works into one contract minimized the overall construction cost and shortened the period of public disruption.



View to the south showing forcemain sanitary sewer construction

The 2nd Concession Project enhances the environment with a sustainable, context sensitive design

The bridge parapet walls have architectural insets and a distinctive railing inspired by the patterns of cattails in the reservoir. The light standards are also slightly curved to frame the road and complement the natural context. In the valley, a range of natural colours integrate the reservoir's spirit into the infrastructure, and branch relief patterns scale down the visual height of the retaining walls. A curvilinear boardwalk and terraced planter walls visually ground the bridge structure. The flagstone meeting area is ideal to catch the morning sunrise. The pedestrian bridge structure is human scaled with beautifully constructed wooden arches framing views to the reservoir. The end product is form marrying function in a unique context which is valued added.

Construction Management and Schedule

Schedule control was a critical project priority. York Region's 2008 10-Year Roads and Transit Capital Construction Program allocated funds to tender the contract and begin construction in 2014. The 2nd Concession contract was tendered ahead of schedule in 2013, with contract working days beginning on May 6, 2014. The construction schedule was controlled with Primavera P6 Project Management scheduling software. Construction was completed on-time and all schedule milestones were met, including the commissioning of servicing infrastructure to allow housing construction to proceed. Total Performance was reached on August 1, 2017, with no working-day extensions granted.



View to the north showing retaining wall and Rail Bridge construction

Project teams are supported by Transportation Services' Project Management Office which maintains stringent and robust processes for implementing the Capital Construction Program. Project teams report monthly to senior management on all project aspects including schedule and cost, health, risks and issues.

Schedule control was critical because the construction contract included environmental servicing infrastructure with in-service milestone dates. By the start of detailed design, three Draft Plans of Subdivision had already been approved within the corridor, and a fourth application was under review. Trunk sanitary sewers and a watermain, included in the 2nd Concession contract, had to be operational by 2015 to meet Town/developer commitments. The project resulted in no delays to land development activities.

The 2nd Concession Project is unique in its complexity and size because it also includes road and active transportation works, landscaping, streetscaping, and bridge and retaining wall works.

The project includes three new bridges, retained soil system and concrete cast-in-place retaining walls, concrete culvert headwalls and bridge removal. Architectural treatments of parapet walls, pilasters and lighting were included in the 2nd Concession bridge designs in an effort to humanize the scale of the bridges to better suit pedestrians and cyclists.

The 2nd Concession bridge over the Metrolinx corridor (Rail Bridge) on the Newmarket Subdivision rail line at Mileage 36.38, is a precast concrete girder structure with a 19.2 metre span. Provisions have been made for future electrification and double tracking.

The 2nd Concession bridge over the Holland River (Holland River Bridge) is a steel bathtub girder structure with a 57.5 metre span. Both 2nd Concession bridges include linear servicing infrastructure attached to the underside of the bridges.

The Nokiidaa Trail Pedestrian Bridge (Pedestrian Bridge) is located adjacent to the Holland River Bridge and is a four span pre-stressed concrete beam structure with an overall span of 36.6 metres. Bridge removal included the existing roadway bridge over the Holland River which was built over top of the original bridge that sat upon the Rogers Reservoir weir.

Construction management included the pre-qualification of General Contractors and sub-contractors. Following award, the General Contractor created and maintained a Primavera P6 schedule which tracked and informed the project as it met all essential milestones including opening the road to traffic use in November 2016. Bi-weekly construction meetings always began with a review and discussion of the construction schedule.

Construction management also included extensive coordination between multiple York Region departments including Transportation Services and Environmental Services, and staff from water resources, streetscaping, and active transportation. Other stakeholders included approval agencies, LSRCA, Metrolinx, other contractors working adjacent to the corridor and residents.

The Means and Methods component of the Metrolinx rail permit was extremely detailed to ensure no schedule delays arose from unforeseen events. The permit process required significant resources. To expedite construction, the rail permit was divided into seven phases to allow work on one phase to proceed while the details of others were developed and approved:

- Access and temporary shoring system installation
- Decommissioning of the existing railway crossing
- Abutments and retained soil system walls
- Open-cut culvert installation
- Girder installation and deck construction including roadworks
- Over-head duct crossings
- Removal of temporary crossing

Project team consistency also helped keep the project on schedule. Many staff remained dedicated to the project, including York Region's Project Manager who maintained direct project management responsibilities for the project's entire active life, from Environmental Assessment in 2008 to Total Performance in 2017.

The project overcame scheduling issues through teamwork and collaboration. The delayed opening of an adjacent Provincial transportation corridor postponed the scheduled closure of 2nd Concession by almost a full construction season. Construction activities were resequenced to meet project milestones.



View to the west showing Holland River Bridge construction



View to the east showing Rail Bridge construction



View to the east showing subdivision construction adjacent to the 2nd Concession

Construction Safety

The General Contractor, Aecon Construction and Materials Limited (Aecon), worked approximately 275,400 person hours with zero Lost-Time Injuries over the duration of the contract.

Construction safety was a priority, and every bi-weekly site meeting during the construction phase included a Safety Moment. A Safety Program was maintained by the General Contractor during construction. The General Contractor was the constructor and was responsible for managing and coordinating the subcontractors for the various trades including ensuring Health and Safety compliance.

Pre-qualification criteria used in the shortlisting of the General Contractors included a Health and Safety component. York Region has a formal, Council-approved Contractor/Constructor Safety Policy which promotes hazard awareness and outlines the Region's expectations for health and safety on construction projects.



View to the east showing Holland River Bridge construction

The Nokiidaa Trail through Rogers Reservoir was closed at the construction site limits. Fencing and signage was maintained during construction to ensure public safety. Measures were taken to isolate the site and restrict access to the public on-road and off-road. Traffic staging was implemented according to Book 7 of the Ontario Traffic Manual.

The contract identified potential risks and safety requirements when working adjacent to an active rail corridor. Sewer works required skilled workers trained in confined space entry.



View to the west showing retaining wall, Pedestrian Bridge and Holland River Bridge construction

Community Relations

Early and consistent community engagement resulted in many project benefits, including an accelerated land acquisition process that enabled utility relocation to occur on schedule with no delays to construction. The Class EA Study began with a non-mandatory Meet-and-Greet public open house event, attended by almost all the landowners and residents in the corridor. This established a high degree of trust, which accelerated the planning and design phases of the project, including property acquisition.

The purpose of the Meet-and-Greet was to introduce the Class EA Study and provide an opportunity for adjacent property owners and residents to meet the project team and discuss key issues. The event was held as an open house with an introduction by the Region. During the open house attendees could review display panels and discuss the Class EA Study with staff from the York Region and consultant project team. A large aerial map was made available, and residents identified key features of their properties, noting their concerns and visions for the 2nd Concession corridor. This first meeting helped establish long-term relationships that grew through the planning and design phases. Valuable information was collected on existing conditions, including the location of wells and septic beds. An issues log was created along with a binder containing a map and spreadsheet to record comments. The binder was an invaluable tool to maintain a record of communications, ensuring residents received customized service when dealing with York Region staff.

A Visioning Workshop was held in late 2009 following the first public open house event to discuss design criteria, cross-section

elements, stormwater management, trail linkages, and the rehabilitation of Rogers Reservoir. Attendees included York Region staff and consultants, and staff from the local municipalities and LSRCA.

In addition to the Meet-and-Greet, Visioning Workshop and two mandatory public open house events held during the Class EA Study, another non-mandatory public open house event was held during mid-construction to answer any questions prior to final construction and streetscaping. This helped the project move forward smoothly.

In 2013, York Region launched its “Great Streets: Building Roads that Build Community” branding initiative for construction projects. The initiative recognized that although beneficial in the long-run, construction can be frustrating for residents and travellers. As part of an ongoing commitment to engage the public before, during and after road construction, York Region developed and executed a new communication strategy informing the public about construction projects while managing expectations. The award-winning initiative replaced negative road construction perceptions with more positive emphasis on road improvements.

Throughout construction, 11 quarterly newsletters were distributed to more than 385 residents along the corridor and in close proximity to the project, and to additional stakeholders interested in the project.



Most residents living in the corridor had been there for many generations. The size of this project could have resulted in significant opposition, but keeping residents informed and building trust between the project team and residents resulted in little to no opposition to the project.

The following emails from long-time residents living in the project corridor are a testament to the excellent community relations developed and maintained throughout the project:

"First of all, congratulations on the pace and quality of work that we are seeing on the bridge, pedestrian walkways and reservoir features. We are thrilled with the potential for this conservation area to be enjoyed by many who will no doubt want to visit here to experience the remarkable transformation that your team is delivering. This area has been neglected for decades and we are fortunate to be nearby residents to witness not only the roadways being improved but also the tremendous leap forward in enhancements to the Rogers Reservoir Conservation Area. Similar to work on St. John's Sideroad in Aurora, this area will be showpiece for York Region. You appear to be delivering another great success here of combining the need for more roads with the pumping station and an overall and massive improvement for citizens to enjoy the conservation areas. Kind regards." N.M.

"Yesterday was the first time we took our dogs for a walk along 2nd Concession. The view from the bridge is amazing. The viewing platforms on the bridge are a nice touch. The boardwalk for the trail blends in well with the environment. You and your staff have done a wonderful job on this project." R.W.

"I wanted to say thanks again for coming by the house on Friday. We can always count on you!!" S.S.

"Thank you!! Your entire integrity on this project has been right from the start a calm for us and all I can say is Thank You for being there." V.A.

A further testament to the goodwill developed and maintained during the course of the project was the Re-Opening Street Festival organized by York Region and Town of East Gwillimbury, held in the summer of 2017 once the project was completed. This event was attended by approximately 1000 residents and corridor users and was a huge success. The event combined an official ribbon-cutting ceremony with a community barbeque, live entertainment and guided walking and cycling tours of the boardwalk and trail connections.



View to the north showing Re-Opening Street Festival, September 16, 2017



View to the south showing Re-Opening Street Festival



Official ribbon-cutting ceremony

Protecting the Environment

The project team was acutely aware of the need to protect all aspects of the environment during all phases of the project. The project was planned in accordance with the Ontario *Environmental Assessment Act*. All impacts to the natural environment (air, land, water, plant and animal life) and community environment (social, economic and cultural) were minimized to the greatest degree possible. The thoroughness of the Class EA Study was acknowledged by the MOECC in their June 2012 clearance letter to proceed without any conditions imposed.

The natural environment was protected through stormwater Quality Control (treatment train approach with oil grit separators and Secondary Treatment including constructed wetlands to provide enhanced water quality treatment, and outlet pools to provide erosion control), and Quantity Control through Super Pipes (oversized storm sewer systems to control the post-development condition flowrates to pre-development condition flowrates for two-year to 100-year storms). The project replaced a small, 40 metre bank-to-bank crossing of the Holland River with a 400 metre crossing of the entire valley. The bridges and retaining walls minimize the project's footprint through Rogers Reservoir and the surrounding wetlands which are home to associated Species at Risk including Least Bittern and Black Turn and many other wetland dependent species. Environmental benefits also include the removal of the at-grade road/rail crossing that required trains to blow their whistles in advance of the crossing.

Adjacent lands were enhanced by creating wetlands and wildlife habitat, including turtle nesting areas and snake hibernaculums. Wetland monitoring for performance will occur over a three year period beginning in 2017.

Ecologically sensitive erosion and sediment control measures to limit carbon footprint included biodegradable filter socks rather than the traditional methods of rock check dams and silt fence which would require removal and off-site disposal.

All construction activities were performed in accordance with environmental permits from the MOECC and LSRCA.



Archaeological, Built Heritage and Cultural Heritage Landscape investigations were conducted with clearance provided by the Ontario Ministry of Tourism and Culture.

To minimize impacts to Built Heritage, the Holland River Bridge was constructed to span not only the Holland River but the existing lock system as well. Walkways allow pedestrians to observe the heritage site from designated lookout areas beneath the new bridge.

The social environment benefits from a context sensitive design that provides architectural insets, distinct bridge railings, curved light standards, and branch relief patterns in the retaining walls.

The social environment also benefits from the project's active transportation infrastructure including cycling facilities, sidewalks, a wooden elevated boardwalk and hiking trails. Prior to construction, cyclists and pedestrians on the Nokiidaa Trail crossed the 2nd Concession at-grade. The new pedestrian and cyclist crossing passes under the Holland River Bridge and provides direct access to the Nokiidaa Trail. The wooden boardwalk through Rogers Reservoir prevents visitors from entering the rail corridor.

During the Class EA Study and detailed design phases, the project team met regularly with residents to discuss property requirements and impacts to their properties including driveway treatments and grading. Eight full property buy-outs were required, as well as thirty-three strips of property from frontages. There were no Hearings of Necessity, a testament to the relationships created during the project between the team and local residents.

All intersections were made accessible to comply with the *Accessibility for Ontarians with Disabilities Act (AODA)*.

The cycle tracks are the first of their kind for York Region, separating cyclists from vehicles with a half metre mountable curb. The cycle tracks are two metres wide on either side of the road and are fully illuminated.



Accomplishments under Adverse Conditions

The project team’s accomplishments are two-fold: providing sustainable, context sensitive infrastructure to serve the needs of a growing region, while incorporating opportunities for non-motorized modes of transportation and recreational activities in the area.

Impacts to Rogers Reservoir and the historic canal and lock system were minimized

The project avoided impacting the canal and locks at Rogers Reservoir. Their history dates back to the early 1900’s when construction began on the Holland River Diversion, a proposed extension of the Trent Canal System from Lake Simcoe to the Town of Aurora. A lack of water supply for the proposed lock system required the project engineers to construct reservoirs, including Rogers Reservoir, to retain the water from the spring

freshets. The construction of the canal was cancelled after six years of work, leaving a series of unused locks and swing bridges along the Holland River between the Town of Newmarket and the community of Holland Landing. The design not only protected the existing lock system, but incorporated the locks into the project by creating viewing galleries.

The Nokiidaa Trail Pedestrian Bridge was constructed to enhance the existing lock system by utilizing the existing piers to provide support to the new structure. Care had to be taken when constructing the pier caps to avoid any unnecessary modifications but through careful design considerations and successful execution by the Contractor, the bridge looks natural in the environment and enhances the area, all the while preserving the natural beauty of the existing locks.

ADVERSE CONDITIONS	ACHIEVEMENTS
Trail connections were poor with no sidewalks or cycling facilities	The project’s cycle tracks are seamlessly integrated into the boardwalk and Nokiidaa Trail system and provide direct access to the East Gwillimbury GO Transit commuter station.
The old trail crossed the road at-grade	The new trail crosses underneath the Holland River Bridge and eliminates trail user/vehicle conflicts.
There were concerns with impacts to Rogers Reservoir	Retaining walls minimize the project’s footprint through the reservoir and enhanced trail connections including a wooden boardwalk encourage active transportation and an appreciation of the environment.
Train whistles blew in advance of the at-grade crossing	To eliminate the need for train whistling the option of providing access to the pumping station underneath the rail bridge was abandoned for a more sophisticated solution providing access from 2nd Concession.
Utility relocation (hydro) was required through the reservoir	The overhead hydro wire relocation strategy included a full relocation to the west side of the corridor in the vicinity of the pumping station to avoid interfering with the views of the reservoir from the new lookouts on the east side of the bridges.
The area was prone to vandalism	Anti-graffiti coating was applied to bridge abutments and thorny native species will be planted at the base of the retaining walls. To encourage walking and cycling to the site and deter vandalism, the old parking lot at Rogers Reservoir was not replaced. Vehicle parking lots are provided a few kilometres in either direction along the Nokiidaa Trail.
The historic canal and lock system had to be protected	The new Holland River Bridge spans the old bridge abutments to eliminate in-water works and minimizes impacts to both the old bridge sub-structure and historic canal and lock system.

An adjacent infrastructure project was delayed

When project planning began in 2008, construction was to begin in 2014. The year was selected, in part, to capitalize on the use of an adjacent Provincial transportation corridor already under construction to carry the majority of 2nd Concession traffic once the 2nd Concession was closed to through traffic. A delay in the completion of the adjacent transportation corridor resulted in the Town's request to postpone the planned closure of 2nd Concession. While construction began in May 2014, as planned, the 2nd Concession closure began in September 2014 once the adjacent corridor was completed. The General Contractor worked with the Region to modify the schedule to ensure that the first working season was maximized. The 2nd Concession road closure lasted two years.



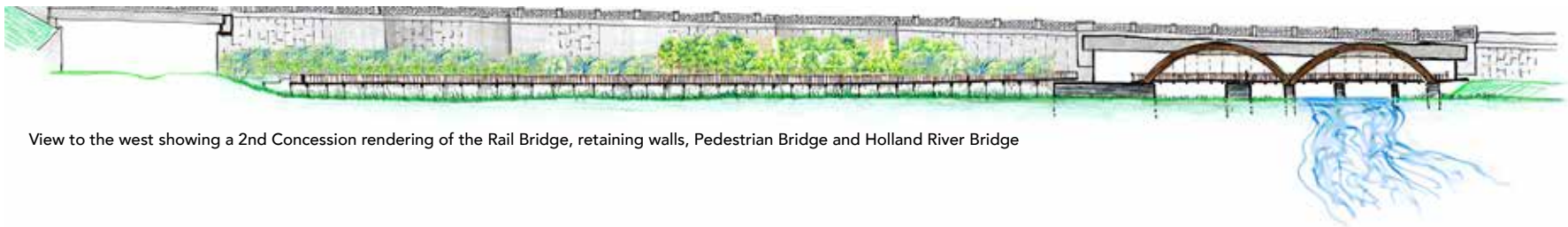
View to the west showing a 2nd Concession rendering developed during the planning phase

Potential opposition to the project

Given the size of this project and its rural setting, there was huge potential for opposition from the community. The buy-in achieved and maintained during the course of the project was due in part to early and consistent stakeholder engagement and was a remarkable achievement. Engagement included presentations to Regional and local councils, kitchen table discussions with residents, site visits, public open house meetings and newsletters. Renderings developed during the Class EA Study helped stakeholders provide input and also helped the project team develop and share the vision for the corridor.



View to the west showing a 2nd Concession rendering of the retaining wall, curvilinear planting bed and boardwalk



View to the west showing a 2nd Concession rendering of the Rail Bridge, retaining walls, Pedestrian Bridge and Holland River Bridge

Multiple projects in the area required a high degree of coordination

The complexity of the project was greatly increased by the inclusion of linear servicing infrastructure. Nearly 25 kilometres of trunk sanitary sewers and watermain were constructed as part of the 2nd Concession Project. The works included:

- Watermain
5,000 metres of 400 mm diameter watermain
- Sanitary Forcemains
4,500 metres of twin 762 mm diameter forcemains
1,370 metres of 373 mm diameter forcemains
4,250 metres of 293 mm diameter forcemains

- Sanitary Gravity Sewer
1,050 metres of 900 mm diameter sanitary
3,130 metres of 450 mm to 600 mm diameter sanitary

Included in these works were 640 metres of micro-tunnelling and 1690 metres of 2000 mm diameter tunnelling.

In addition to the road, bridge, trail and environmental servicing works included in the 2nd Concession project, extensive coordination was required with multiple agencies and groups while other construction projects occurred simultaneously adjacent to the 2nd Concession corridor. These included two pumping stations, a new public school, a Paramedic Response Station and subdivision construction.

ADVERSE CONDITIONS	ACHIEVEMENTS
Tremendous effort was required throughout the entire construction period to address multiple projects in the immediate vicinity of 2nd Concession	Bi-weekly meetings involved staff from multiple York Region departments, and regular coordination meetings were held during construction to discuss week-to-week activities and their impacts on other projects.
Servicing infrastructure including multiple gravity and forcemain sanitary sewers and a watermain were built in unison with the road and bridge work, adding complexity to the overall project	Combining road works and servicing infrastructure into one contract reduced overall construction cost and duration, dramatically reducing impacts to residents.



View to the north showing sewer construction



View to the west showing the new French Public School



View to the west showing the new Paramedic Response Station

The corridor needed significant upgrades

ADVERSE CONDITIONS	ACHIEVEMENTS
The corridor provided poor operating conditions	The re-profiled road improved operating conditions for motorists and cyclists.
The old road crossed an active rail corridor at grade	A road/rail grade separation was introduced. The rail permit process was grouped into phases to allow portions of the work to proceed while the details of other phases were finalized.
An incredible amount of growth is forecasted to occur in this area	Many of the residents had been living in the corridor for generations. This project was the first real indication of imminent growth. Early and consistent stakeholder involvement enabled the project to proceed largely unopposed and provided the team with the input needed to create active transportation infrastructure that the community wanted.
Corridor widening resulted in property impacts	Eight full property buy-outs were required, as well as numerous strips of property from frontages. The Region’s Realty Services staff attended all public meetings, where the relationships forged with residents helped all parties during the property negotiation phase. There were no Hearings of Necessity.

Why This Project Is Important

The 2nd Concession Project is important because it improves mobility for all corridor users including pedestrians and cyclists

The 2nd Concession Project improves the mobility of an important corridor in York Region undergoing tremendous growth. By making community engagement a priority, the project team identified enhancements and achieved buy-in early in the planning phase which resulted in shortened project timelines and less disruption to residents.

The 2nd Concession Project is important because it supports a growing region with upgraded transportation and servicing infrastructure that is cost effective

The 2nd Concession Project provides a growing region with roads, bridges, sewers and water ahead of build-out.

The 2nd Concession Project shows how costs can be minimized by combining a needed road widening project with sewer and watermain works into one contract, reducing overall construction

cost, duration and impacts to the local and travelling public. Shortened project timelines also resulted in saved tax dollars. York Region’s policy to have growth pay for growth ensured 90% of all project costs were funded through development charges.

The 2nd Concession Project is important because it enhances the environment with a sustainable, context sensitive design

The 2nd Concession Project provides context sensitive infrastructure including enhanced trails, state of the art cycling facilities, vistas and meeting areas for a popular destination. Rogers Reservoir is affectionately referred to as a diamond in the rough, and the LSRCA estimates that this location draws 30,000 visitors each year. The Nokiidaa Trail connects communities and forms part of the “Lake to Lake Cycling Route and Walking Trail” connecting Lake Ontario to Lake Simcoe.

The Envision Sustainability Rating System

The 2nd Concession Project is registered with the Institute for Sustainable Infrastructure (ISI) and has undergone its first of two scheduled reviews for sustainability using the Envision Rating System (Envision). Envision reports on 60 sustainability credits, each with multiple sustainability criteria and metrics, organized into five categories. Points are awarded based upon the level of achievement within each credit. The score is currently under verification by a third party, and the project is expected to achieve a “Silver” score.

The 2nd Concession Project is anticipated to score well within Envision because project planning, design and construction were driven by York Region’s Sustainability Principles, namely providing quality communities, an enhanced environment, infrastructure for a growing community and engaged communities. The anticipated Envision score demonstrates a project that performs beyond the industry norm across a range of sustainability indicators. The following summarizes where the 2nd Concession Project excels in each category:

CATEGORY	DETAILS
Quality of Life	This is the highest achieving category, driven by an extensive and empowering consultation with a range of stakeholders through the planning, design and construction phases. The project significantly improves community attractiveness through the elimination of train whistles and crossing signal noise, reduced traffic congestion, and improved access by bike or car to the GO Station and to the Nokiidaa Trail system. The project encourages the use of transit and active transportation. The project protects and enhances both natural and cultural resources through a context sensitive design, such as through incorporating the historic lock system into the experience of trail users.
Leadership	Sustainability is a core value of the Regional Municipality of York. Meaningful revisions were made to the project design as a result of stakeholder input. The project planning integrated a variety of systems, including land use planning, transportation projections, servicing, hydro, rail use, active transportation systems, GO Metrolinx stations, and natural heritage. The project was planned and designed to meet various existing community plans.
Resource Allocation	60% of materials by volume were recycled content. The project team undertook a cut-fill balance to maximize the reuse of materials on site.
Natural World	A 0.09 hectare (0.22 acre) wetland was created in the location of a previous parking lot, enhancing floodplain infiltration, providing a net cut to increase floodplain storage, providing a new hydrologic connection to groundwater, and providing quality habitat especially for amphibians. Both watercourse crossings enhanced terrestrial connectivity. An extensive compensation planting plan was implemented.
Climate and Risk	The project achieved a top score under the credit “prepare for short term hazards” by designing all crossings for at least the 100 year storm, expanding flood storage through a fill cut, and improving wetland habitat within the floodplain.

Conclusion

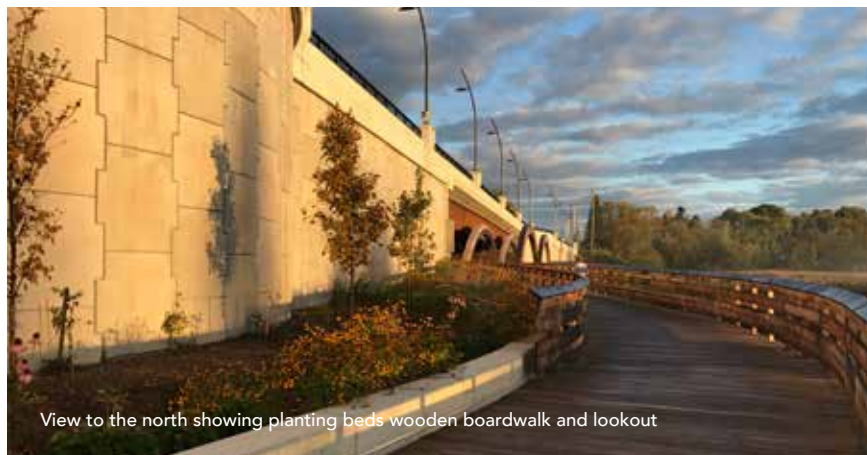
The 2nd Concession Project improves mobility, supports growth and enhances the environment with sustainable, context sensitive infrastructure.

The project was planned, designed and built within nine years, within budget, and included road and bridge construction, active transportation infrastructure and sewer and watermain works.

Measured against the key project priorities of schedule adherence, worker safety, community engagement, environmental protection and the provision of active transportation infrastructure, the project was a success.

Factors that contributed to the project’s success have been implemented as best practices on other Regional projects:

LESSONS LEARNED	BACKGROUND
Quotes	Quotes were used during the Class EA Study to remind participants the project was more than just road widening: "All truly great thoughts are conceived while walking," and "challenged by growth, but motivated by a richly imagined future." These quotes appeared on the title pages of public open house presentations and were catalysts for generating discussions and ideas.
Suspend belief in constraints	The Class EA Study process must be open and transparent and one that investigates and evaluates all options. This fulfills the requirements of the <i>Environmental Assessment Act</i> , and also provides an opportunity to uncover the unseen benefits of alternatives. For instance, the need for train whistle blowing was eliminated by providing pumping station access off of 2nd Concession.
Early engagement	The non-mandatory Meet-and-Greet public open house meeting at the start of the Class EA Study set the stage for the project. The purpose was to demonstrate York Region’s commitment to collaborating with the community. It also allowed the team to gain insight into the thoughts and concerns of stakeholders.
Consistent engagement	Staff continuity throughout resulted in a high degree of trust with stakeholders which resulted in shortened project timelines.
Build a great team	The Region’s prequalification process for consultants and contractors helped ensure great teams were engaged.



View to the north showing planting beds wooden boardwalk and lookout



View to the east showing the sunrise from the Pedestrian Bridge

GREAT STREETS

Building Roads that Build Community

Update #11: Fall 2017



2nd Concession Road Improvements
Bristol Road in Newmarket to Queensville Sideroad in East Gwillimbury

The Regional Municipality of York has completed improvements to 2nd Concession for motorists, pedestrians and cyclists. This newsletter provides a final update on construction.

2nd Concession has been transformed!

2nd Concession road improvements are substantially complete and the road was opened to four lanes earlier this year.

New features include:

- Road widened to four lanes with curbs and storm sewers
- Rebuilt bridge over the Holland River and a new bridge over the GO Barrie rail corridor
- New pedestrian bridge over the Holland River, eliminating the need for pedestrians and cyclists to cross at street level
- New street lighting
- New cycling facilities
- Boardwalk through the Rogers Reservoir
- Improved water and sewer infrastructure

The bridges and retaining walls were designed to blend in with the historical and natural features of Rogers Reservoir.



Thank you for your patience

We recognize construction can be disruptive and we thank all residents, motorists and local businesses for their patience and understanding throughout the construction period.

Please join York Region on Saturday, September 16, 2017 as we celebrate the re-opening of 2nd Concession / Main Street North from Bristol Road in the Town of Newmarket to Queensville Sideroad in the Town of East Gwillimbury.

2ND CONCESSION RE-OPENING

STREET Festival

YORK REGION AND THE TOWN OF EAST GWILLIMBURY
INVITE YOU TO A CELEBRATION

Saturday, September 16, 2017

OPENING CEREMONY AT 11 A.M. WITH EVENTS FROM 11 A.M. TO 2 P.M.
ON 2ND CONCESSION BRIDGE AT ROGERS RESERVOIR

COMMUNITY BBQ | CYCLING AND WALKING TOURS
VEHICLE DISPLAYS | LIVE MUSIC

Parking at East Gwillimbury GO Station with shuttle service to event

Project completed in partnership with





We're here to answer your questions. Accessible formats of this newsletter or communication supports are also available upon request. Please contact us for more information.

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View to the east showing the Nokiiäa Trail under the Holland River Bridge



View to the west showing the historic canal and lock system



View to the north showing the Pedestrian Bridge and flagstone meeting area



View to the south showing Rogers Reservoir



View to the south showing the lookouts, wooden boardwalk and Rail Bridge abutment



View to the north showing the planting beds, wooden boardwalk, and lookout



View to the north showing the Pedestrian Bridge and lock system



View to the south showing the Pedestrian Bridge



View to the north showing the wooden boardwalk, retaining walls, Pedestrian Bridge and Rogers Reservoir



View to the east showing the wooden boardwalk



View to the west showing the rail corridor, Rogers Reservoir, wooden boardwalk and trail



View to the east showing the wooden boardwalk and one of the constructed wetlands



View to the north showing retaining wall and Rail Bridge construction



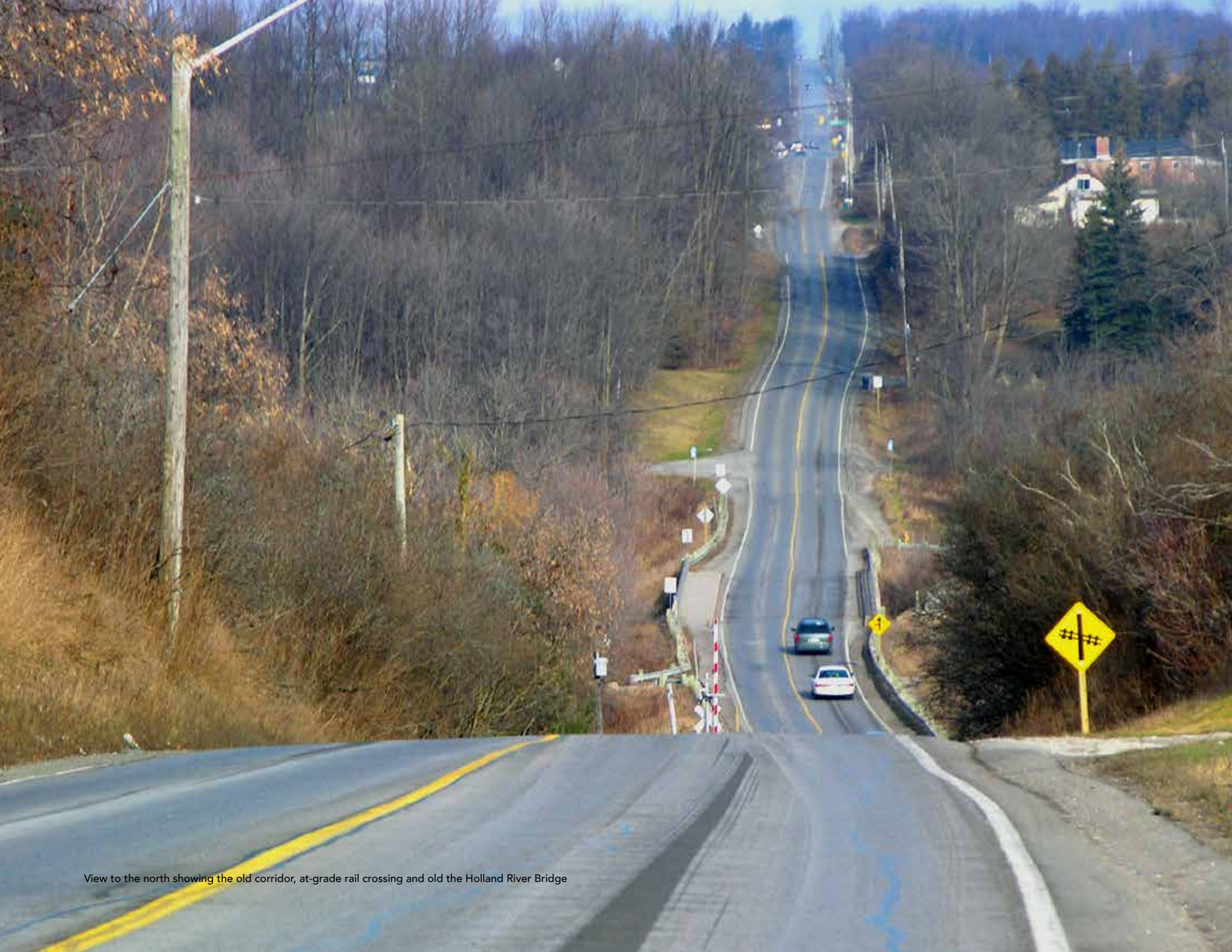
View to the north showing Holland River Bridge construction



View to the south showing Holland River Bridge construction



View to the south showing Pedestrian, River and Rail Bridge construction with servicing infrastructure



View to the north showing the old corridor, at-grade rail crossing and old the Holland River Bridge



View to the north showing the new corridor and the new Holland River Bridge



View to the west showing the 2nd Concession corridor pre-construction



View to the west showing the widened and reconstructed 2nd Concession corridor



View to the north showing the new corridor and the pumping station access road



View to the east showing lookout and Rogers Reservoir



View to the west showing the boardwalk, Rail Bridge and retaining wall



View to the west showing the Rail Bridge



View to the north showing the boardwalk, retaining wall and Rogers Reservoir



View to the south showing the Pedestrian Bridge



View to the south showing the retaining wall



View to the south showing the Pedestrian Bridge



View to the north showing the Pedestrian Bridge, wooden boardwalk and flagstone meeting area



View to the south showing the flagstone meeting area



View to the north showing the boardwalk and Rogers Reservoir

ACKNOWLEDGEMENTS

The Regional Municipality of York
recognizes the following for their contribution to this project's success:

The Town of East Gwillimbury
The Town of Newmarket
Lake Simcoe Region Conservation Authority
WSP Canada
Aecon Construction and Materials Limited
EXP Services Inc.
Metrolinx
The Ministry of the Environment and Climate Change





SUPPORTING DOCUMENT 2018

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