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**Subject:** Update - Extension of Regional Road 57 (Thorold Stone Road),  
Niagara Falls

**Report to:** Public Works Committee

**Report date:** Tuesday, January 30, 2018

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## Recommendations

1. That the Thorold Stone Road Extension (Stage 2) Feasibility Review of Alternative Alignments Report prepared by CIMA Canada Inc., January 4, 2018, **BE ACCEPTED.**
2. That staff **BE AUTHORIZED** to proceed forthwith with the detailed design of Stage 2 “preferred design solution” as outlined in the Thorold Stone Road Extension Class EA (February 2009).
3. That staff **BE AUTHORIZED** to enter into negotiations with property owners to finalize Agreements of Purchase and Sale and compensation packages for the necessary land acquisitions related to the Stage 2 works.
4. That the Commissioner of Public Works **BE AUTHORIZED** to approve full buyout property acquisitions above the limit of current Delegated Authority of \$100K to a ceiling of \$750K per transaction up to an initial budget of \$2,875,000 and report back to Council.
5. That the Commissioner of Public Works **BE AUTHORIZED** to execute all necessary documents, subsequent licenses and agreements, satisfactory to the Director, Legal and Court Services to complete the land acquisition transactions and report back to Council

## Key Factors

- This report is a follow-up to Report PW 25-2017 (September 5, 2017) and provides Committee Members and Regional Council with an update on the Thorold Stone Road Extension Project (Stage 1 and 2).
- The report elaborates on the progress of the Stage 1 work, the findings of CIMA Canada Inc.’s review of alignment alternatives and the future property requirements for Stage 2 of the project.
- Delegation of authority to the Commissioner of Public Works to execute all licenses and agreements subject to satisfaction of the Director , Legal and Court Services to

complete land acquisition transactions to a ceiling of \$750K on behalf of the Niagara Region associated with the extension of Regional Road 57 (Thorold Stone Road) – Stage 2.

## **Financial Considerations**

Niagara Region, through Reports PW 51-2014 and PW 81-2014, entered into two separate agreements with Cytec Canada Limited (Cytec) and Falls Community Developments (FCD). As outlined in these agreements, the extension of Thorold Stone Road, including intersection preparation and road extension/servicing, is being undertaken by FCD's contractor. Niagara Region has agreed to share in the cost of the construction of the road extension to a maximum of \$4.5 million with the City of Niagara Falls contributing \$2 million for its share of the cost of municipal servicing. Given that the Stage 1 work is now complete, Niagara Region, upon satisfactory submission of sign-offs, CPU and SGWMP filing and approval, and proof of balance of payment for the work to contractor by FCD, shall release the balance of the agreed funding contribution and all securities and holdbacks, estimated at \$408,933.95, to FCD.

As per By-law 2017-105, approved by Council on December 7, 2017, funding in the amount of \$3,600,000 has been approved in the 2018 Roads Capital Budget for Project 10RC0816, Thorold Stone Road Extension. This funding will be utilized to commence engineering (detailed design), and property acquisition related to the Stage 2 work of the road extension. Please refer to Appendix 1 – Total Project Budget Summary.

Financial figures outlined in this report are committed and anticipated expenditures related to total budget approved to date. Additional funding requirements will be determined through detailed design process and considered by Council during future budget deliberations.

## **Analysis**

### **6. Road Extension – Stage 1**

With the exception of some minor deficiencies, the Stage 1 work per Memorandum of Understanding (MOU) dated September 1, 2017, is now complete. In accordance with the original Construction and Conveyance Agreement (May 2015) and MOU, the Region shall, upon receipt of Project Engineer/Qualified Person, sign-off that the project is complete, assume the Stage 1 right-of-way and road. The Region expects receipt of the Certificate of Completion by the spring of this year. Following receipt of all sign-offs, evidence of CPU and SGWMP document submission and approval, conveyance of RO and proof of balance of payment for the work to contractor, the Region shall release all securities and holdback monies associated with Stage 1 of the project. In addition, as identified in Report CSD 39-2015, the Region shall convey and transfer to the developer, Falls Community Development (FCD), the tri-angular surplus land parcel

fronting the intersection of Thorold Stone Road and Stanley Avenue. The Region shall also convey and transfer the construction easement south of the right-of-way on the south side of the Stage 1 road extension up to the Gale Centre entranceway/turning circle.

## **7. Road Extension – Stage 2**

Report PW 25-2017, September 5, 2017, identified a need to review forecasted transportation needs due to circumstances involving the proposed purchase of CNR land that abut the Stage 2 road extension and its potential remediation risks and costs, reduced activity through the Canadian National Railway (CNR) corridor immediately east of the former Cytex Canada industrial lands and further, the imminent arrival of GO train service to Niagara Falls. The firm of CIMA Canada Inc. was retained to re-evaluate the recommended planning alternative solution/preferred design concept outlined in the Thorold Stone Road Extension Class Environmental Assessment (Class EA) to determine if the preferred design is still relevant today.

CIMA's feasibility review looked at the implications of a change in alignment from the recommended preferred design (Appendix 2) including property impacts and cost estimates. The alternative alignment, CIMA Concept 1 (Appendix 3), provides for a roadway extension of Thorold Stone Road directly east over the CN rail tracks with profile grades of a maximum of 6% rising over the tracks and down towards Victoria Avenue and an approach grade of 2% for approximately 50m metres to the Victoria Avenue intersection.

In addition to the general description above, CIMA's review notes the following information pertaining to the consideration of the alternative concept:

1. A local access roadway would also be required for proposed access to future brownfield development lands, which would require a new intersection just east of the Gale Centre access and generally following the previous EA preferred alignment but with connection to First Avenue. Revision to the Gale Centre parking and replacement parking utilizing the existing Fourth Avenue right-of-way is also required subject to approvals from City of Niagara Falls.
2. *Property Requirements are Extensive* for the full extent of the Concept 1 works. Properties on the easterly extension include the CN crossing lands, J. Dasilva lands, Lococco property, other private property on the north side of the Lococco building, and CN lands (part of decommissioned landfill area). In addition, properties to the south of the current roadway alignment include: City of Niagara Falls Gale Centre property portion for a new local road and a portion of Fourth Avenue for parking replacement area, brownfield (CYTEC) development lands, City of Niagara Falls (former CP lands) adjacent to CN lands, a portion of the CN

(Pork Chop) lands, and other miscellaneous portions as needed. Please refer to Appendix 4 for plan and property details.

3. *A Class EA amendment is required* in order to progress Concept 1 forward at this time. A previously approved Class EA was completed in 2009 and Stage 1 of those works has been completed based on the preferred design. The Concept 1 design is noted as a substantive change to the approved EA design plan and will require review of the original study fundamentals, review of the proposed alternative concept with the public, and the filing of an amendment to the Class EA. Timeline for the required activities would be expected to be in the order of 12 months following engagement of a consultant.
4. *Impacts at Gale Centre are noted* for the additional fill required for grading of Thorold Stone Road as it rises over the CN tracks and also for construction of a local access roadway for the brownfield development lands (CYTEC lands) connecting to First Avenue. Parking replacement is proposed for the area on the Fourth Avenue right of way subject to agreement with the City of Niagara Falls.
5. *Impacts on available development of Brownfield lands* are noted due to the expanded roadway footprint required for the Concept 1 works. Approximately 0.6 ha of additional property will be required for the roadway as compared to the Class EA property needs.
6. *A Connection to First Avenue* will be needed for local access to future development lands requiring the existing local street reconstruction in cooperation with the City of Niagara Falls.
7. *Traffic Connectivity to Downtown Area and the Niagara Parkway* would be good, but indirect with a new signalized intersection at Victoria Avenue and the existing signalized intersection at Bridge Street to remain. This routing is not considered as desirable as the Class EA Preferred Design, with direct connection to a roundabout at the Bridge and Victoria Avenue intersection.
8. *A Metrolinx train lay-by location along the Rail corridor* has not yet been decided; however, Regional staff understand that the area adjacent to the Thorold Stone Road extension crossing is currently of prime consideration. A lay-by area in parallel to the active tracks would require an extended structure length for Concept 1 and it would result in unacceptable geometrics for approach to Victoria Avenue. This connection alternative would not be viable for safety reasons.
9. *Geotechnical conditions and the extent of soil contamination is not known* for the possible Thorold Stone Road extension over the CN tracks and immediately east of the active tracks. Contamination of soil is expected; however the nature and extent is unknown.

10. *Total cost for Concept 1 would be much higher than the Class EA preferred design.* Total construction cost is estimated to be in the order of \$25.7 million, compared to the Class EA (2009 Adjusted to 2017) cost of \$4.9 million.

Note: The \$4.9 million amount for road construction only is a high-level estimate based on the original Class EA. Further work must be undertaken to refine the estimate and also determine ancillary costs associated with property, environmental remediation and potential City of Niagara Falls infrastructure improvement requirements.

The high level Concept 1 cost estimate is generally broken down as follows:

- Road Works and Fill	\$ 4,600,000
- CN Crossing Structure	\$ 13,200,000
- Local Road and Infrastructure Connection to First Ave	\$ 2,400,000
- Gale Centre Parking Revisions	\$ 200,000
EA, Design and contingencies (Utilities, other)	<u>\$ 5,300,000</u>
<b>Total estimated Cost</b> (not including HST)	<b>\$ 25,700,000</b>

Note: The costs for property, disposal of contaminated soils and/or special geotechnical conditions are not known and are not included in these high-level estimates and would likely be similar in scope and cost for both the Class EA preferred design and Concept 1.

11. Timelines expected for the implementation of Concept 1 would be extensive in nature and generally as follows:
- Class EA Amendment approximately 12 month duration
  - Property Acquisition 12 to 18 month duration
  - CN Agreement for Construction 12 month duration (may be concurrent with Property Acquisition)
  - Detailed Design and Construction approximately 30 month duration

Total timeline would be in the order of 60 months (5 years) for completion of Concept 1 works which may impact the opening of GO.

Based on the results of the comparative evaluation (Appendix 4) it is recommended that the Niagara Region proceed with implementation of the Class EA (2009) Preferred Design Solution for Stage 2 works. The Stage 2 work includes the extension of the 4-lane roadway cross section easterly and southeast along the CN tracks to tie into Bridge Street at Victoria Avenue with a roundabout.

The following key activities required to proceed with Stage 2 basically involve:

1. Proceed with design as per Class EA recommendations
2. Update Traffic Analysis as required for current area activities
3. Confirm exact property needs through design refinements and purchase where required
4. Complete all site assessment requirements for contaminated soils associated with the project area
5. Proceed with construction with timing compatible with other area projects

In reference to point #3 above, Region staff has re-activated its discussions with Canadian National Railway representatives (CNR) for the sale of the land parcel, formerly developed as a CN Railway spur and yard, which fronts Stage 2 of the Thorold Stone Road extension project given the information pertaining to its sale recently obtained through our meeting with CNR. As recommended in the Thorold Stone Road Extension EA, a portion of this land, which is located northwest of the intersection of Victoria Avenue and Bridge Street, is required for the purposes of road construction, as illustrated in Appendix 5. Notwithstanding the environmental risks associated with the site as previously noted in Report PW 43-2016, the sale of the parcel to third party interests could lead to expropriation of lands required for Stage 2 works and potentially delay future efforts to move the project forward. It is, therefore, imperative that Niagara Region Real Estate Officer(s) proceed with negotiation. The preliminary estimate of the purchase of the CNR land parcel is \$625,000, excluding taxes. This includes consulting, appraisal, survey and legal fees, and property costs including compensation for lost revenue associated with the advertising billboards that are currently on the parcel. Staff, including Region's Real Estate Officer(s), will be seeking input from the Director, Legal and Court Services on the land purchase and sale, its remediation, environmental risks and the potential future sale or transfer of the remnant parcel for other land uses. Staff recommend that Region Real Estate Officer(s) be authorized to finalize negotiations and conclude the transfer of CNR land parcel to the Region. In addition, the proposed preliminary EA preferred design identifies three additional full buy-out properties. Staff recommends that the Commissioner of Public Works be granted the authority to approve full buyout property acquisitions up to a ceiling of \$750K to facilitate timely acquisition for the required lands. In the event where negotiation is unsuccessful, staff will report back to Council with individual recommendations to utilize the municipality's authority granted under the *Expropriations Act* to secure lands necessary to proceed with the Stage 2 work.

## **Alternatives Reviewed**

Staff and its consultant, CIMA Canada Inc., have re-examined the planning alternatives recommended in the Thorold Stone Road Extension Class EA and have determined that the original preferred design is still relevant today.

## **Relationship to Council Strategic Priorities**

Thorold Stone Road Extension connecting to Victoria Avenue has been factored into the transportation analysis work (*Draft Niagara GO Hub and Transit Stations Study - Integrated Mobility Assessment - Dillon Consulting June 2017*) prepared for the Niagara GO Station land use plan and transit station design work. The *Integrated Mobility Assessment* report identified Thorold Stone Road extension as the only major connectivity need of the area.

The extension provides a key connection to the QEW; an improved east/west linkage to the city's downtown area and Niagara River Parkway; and further encourages redevelopment of and economic stimulus for high priority brownfield lands within the City of Niagara Falls. The initiative is very closely tied to Council's Strategic Priorities 1 and 2, "Moving people and goods" and "Fostering innovation, investment and entrepreneurship."

With improved transportation connectivity and the introduction of GO service to Niagara Falls Downtown, there is an opportunity to leverage and enhance the land uses to ensure that it is an attractive arrival point for commuters and visitors/tourists.

## **Other Pertinent Reports**

- CSD 65-2017, 2018 Capital Budget, October 12, 2017
- PW 25-2017 - Update - Extension of Regional Road 57 (Thorold Stone Road) In the City of Niagara Falls, September 5, 2017
- PW 43-2016 - Update - Extension of Regional Road 57 (Thorold Stone Road) In the City of Niagara Fall, November 8, 2016
- PW 7-2016 – 2014-T-115 (Contract RN 14-15) Reconstruction of Regional Road 102 (Stanley Avenue) From Thorold Stone Road to Valley Way And Extension of Regional Road 57 (Thorold Stone Road) In the City of Niagara Falls, February 16, 2016
- PW 51-2014 – Thorold Stone Road Extension – Stage 1 Stanley Avenue to Gale Centre in the City of Niagara Falls, April 1, 2014
- PW 75-2014 – Tender Award of 2014-T-115 (Contract RN 14-15) – Reconstruction of Regional Road 102 (Stanley Avenue) from Thorold Stone Road to Valley Way in the City of Niagara Falls, July 15, 2014

- CSD 61-2014 – Public Works Funding Request – Roads Rehabilitation (Phase 2) and Stanley Avenue Reconstruction (Phase 3)
- PW 81-2014 – Thorold Stone Road Extension - Construction Agreement Signing Authority, July 24, 2014

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**Recommended by:**

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**Submitted by:**

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Chief Administrative Officer

*This report was prepared in consultation with John Rizzo, Project Manager Transportation Engineering and reviewed by Brian McMahon, Program Financial Specialist, Beth Brens, Manager Program Financial Support, Matt Robinson, Director, GO Implementation, Sterling Wood, Director Legal and Court Services and Carolyn Ryall, Director, Transportation Services.*

## **Appendices**

Appendix 1	Total Project Budget Summary
Appendix 2	Preferred Design – Thorold Stone Road Extension
Appendix 3	CIMA - Concept 1 Alternative
Appendix 4	CIMA – Evaluation of Alternatives
Appendix 5	EA Preferred Plan – Property Requirements – Stage 2
Appendix 6	CIMA – Executive Summary, Thorold Stone Road Extension Feasibility Review of Alternative Alignments Report (January 2018)



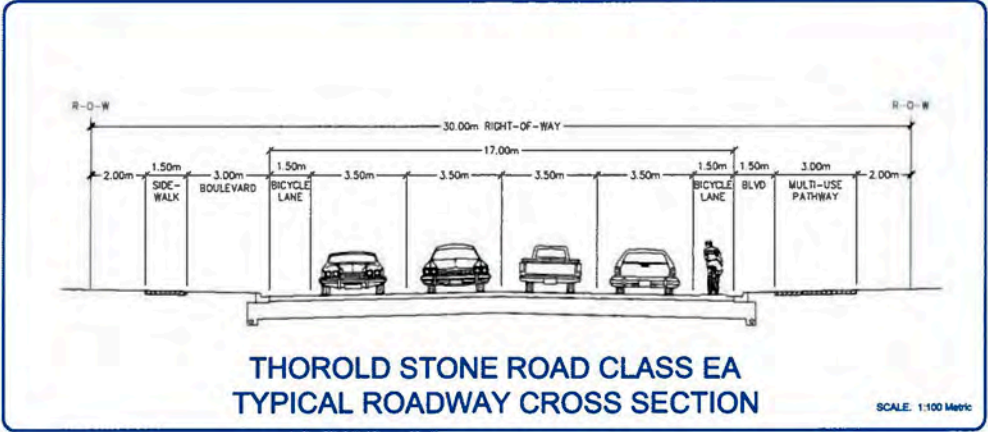
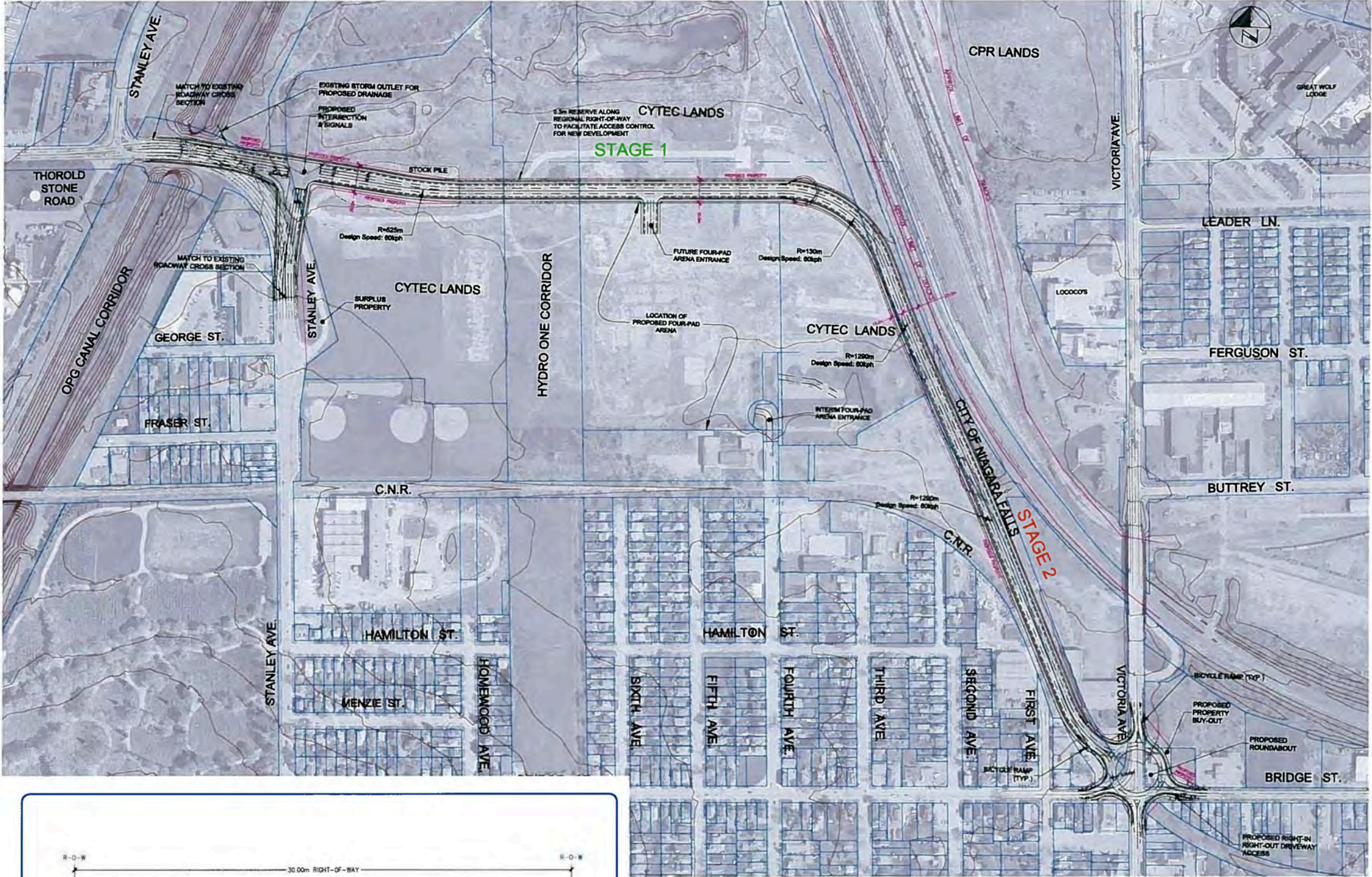
**PW 4-2018 Appendix 1 - Total Project Budget Summary**  
**Total Project Expenditures to Date (as of December 31, 2017)**

	Approved Budget	Actuals	Committed & Forecasted to End of Project	Total Estimated Cost	Budget Remaining
<b>Expenditures</b>					
Construction	8,015,355	7,500,285	2,126,467	9,626,752	(1,611,397)
Property Acquisition	2,957,000	19	2,800,000	2,800,019	156,981
EA & Pre-Design / Design Work	1,050,578	33,092	400,000	433,092	617,486
Geotechnical & Environmental Engineering	773,337	16,158	409,979	426,137	347,200
Planning Review	150,000		-	-	150,000
In House Project Management	77,000	10,452	-	10,452	66,548
Utility Relocates	-		-	-	-
Decommissioning of sewer	35,000		-	-	35,000
Misc.	241,730	3,548	-	3,548	238,182
<b>Total Gross Expenditure</b>	<b>13,300,000</b>	<b>7,563,554</b>	<b>5,736,446</b>	<b>13,300,000</b>	<b>-</b>
<b>Revenue</b>					
Town of Niagara Falls	(4,000,000)	(1,706,118)	(2,293,882)	(4,000,000)	-
<b>Total Revenue</b>	<b>(4,000,000)</b>	<b>(1,706,118)</b>	<b>(2,293,882)</b>	<b>(4,000,000)</b>	<b>-</b>
<b>Net Cost after Cost Sharing</b>	<b>9,300,000</b>	<b>5,857,436</b>	<b>3,442,564</b>	<b>9,300,000</b>	<b>-</b>

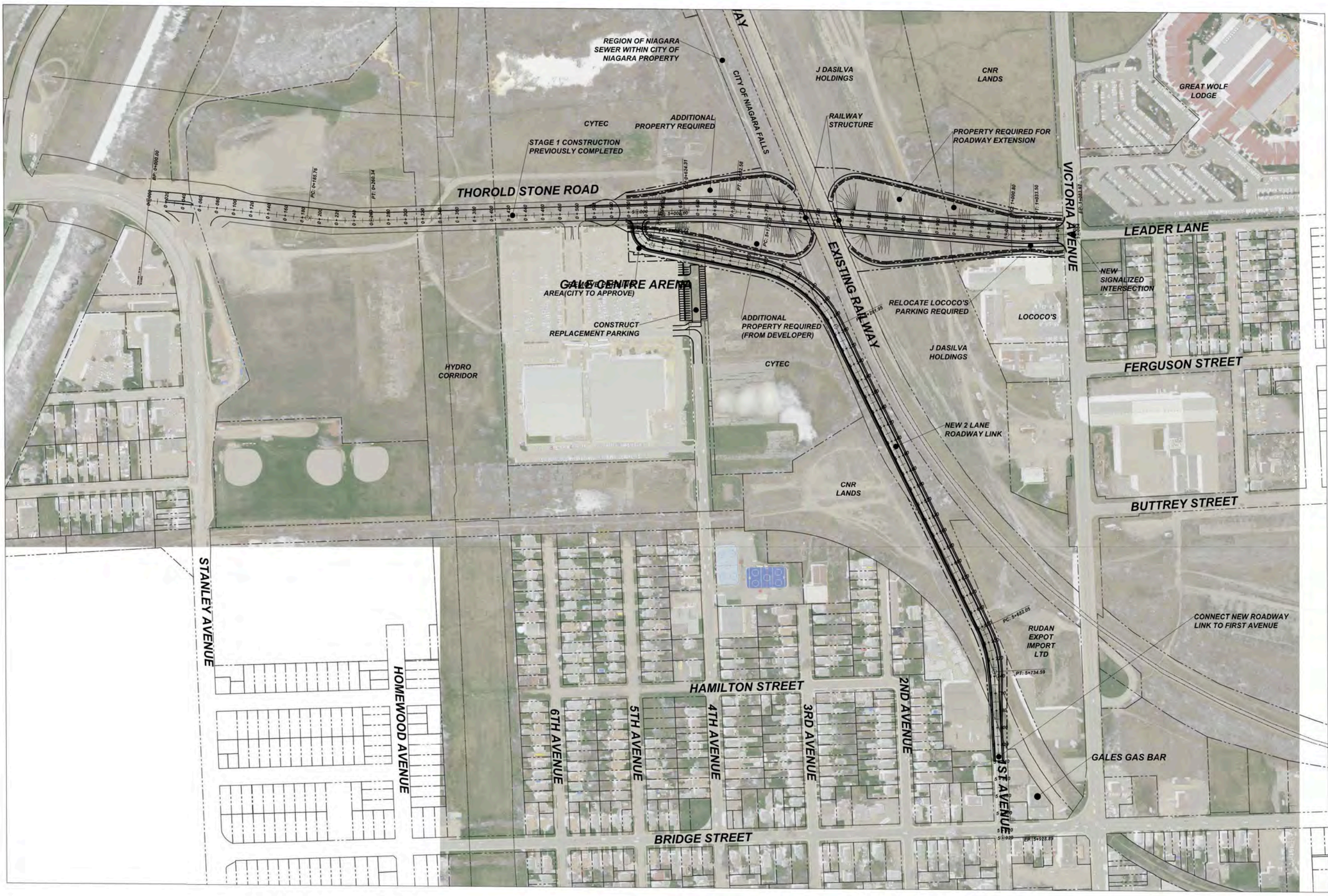
Note: Table above includes both Stage 1 and Stage 2 total project budget to date. Additional funding will be required in the future and will be considered by Council via budget deliberations.



**PREFERRED DESIGN - ROUNDABOUT WITH CONSTRUCTION STAGING**  
Roundabout at the intersection of Bridge Street and Victoria Avenue for free flow of all five intersecting roadways with construction staging.









Evaluation of Alternatives

The evaluation of alternatives summarized as per the following:

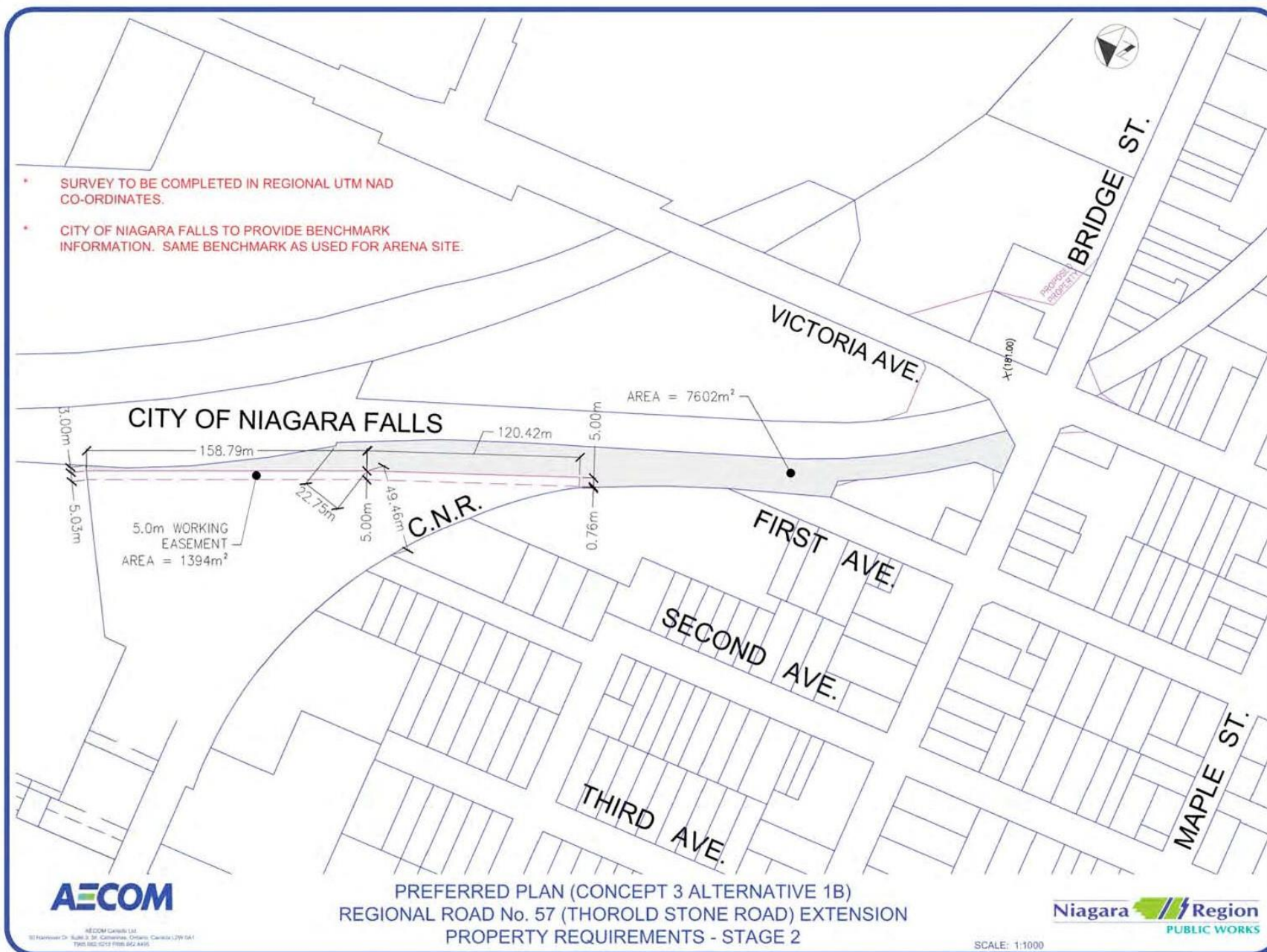
Least Preferred 1	Less Preferred 2	Preferred 3	More Preferred 4	Most Preferred 5
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Assessment Criteria	Measure	Class EA	Concept 1
		Preferred Plan	Extend Over CN to Victoria
TRANSPORTATION	Ability to improve traffic operations and safety for all roadway users (motorists, cyclists and pedestrians).	<ul style="list-style-type: none"><li>Results in roundabout 5 leg two lane intersection at Victoria Ave/Bridge Street Intersection</li><li>New roadway link with bikeway and pedestrian linkage improvements.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Results in standard 4-leg intersection at Victoria Avenue with steep grades (+/-6%) which may impede safety.</li><li>New Local roadway link from First Ave to Thoroldstone</li></ul> <b>PREFERRED - 3</b>
	Ability to provide access to Brownfield lands in order to encourage revitalization.	<ul style="list-style-type: none"><li>Provides most access to adjacent Brownfield lands of all alternatives.</li><li>Encourages the development/revitalization of Brownfield lands.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Provides access with additional local road.</li><li>Less land available</li><li>Encourages Brownfield lands development</li></ul> <b>MORE PREFERRED - 4</b>
	Ability to accommodate future travel demands.	<ul style="list-style-type: none"><li>Provides opportunity to accommodate future 2021 traffic demands.</li><li>More direct route to Downtown area and Niagara Parkway.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Accommodates future demands for 2021 traffic</li><li>Not as direct to downtown area.</li></ul> <b>PREFERRED - 3</b>
	Relative impact to network connectivity.	<ul style="list-style-type: none"><li>Improved connectivity and provides best linkage to Downtown area of Niagara Falls and to the Niagara Parkway.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Better Connectivity than previous alternative connections to Victoria with connection to First Ave.</li><li>Not as good as Class EA preferred Design</li></ul> <b>MORE PREFERRED - 4</b>

Assessment Criteria	Measure	Class EA	Concept 1
		Preferred Plan	Extend Over CN to Victoria
SOCIO-ECONOMIC & CULTURAL	Impact to adjacent residential properties.	<ul style="list-style-type: none"><li>Reduced traffic on Bridge Street and Fourth Avenue due to alternate access to four-pad arena.</li><li>Bridge Street at Victoria Avenue changed with access via First Avenue results in less through traffic.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Reduced traffic on Bridge Street and Fourth Avenue due to alternate access to four-pad arena.</li><li>Bridge Street traffic and Fourth Avenue changed with access via First Avenue, results in less through traffic.</li></ul> <b>MORE PREFERRED - 4</b>
	Impact to adjacent businesses.	<ul style="list-style-type: none"><li>Some reduction in traffic on Bridge Street due to Bridge Street closure and new access on Frist Avenue.</li></ul> <b>PREFERRED - 3</b>	<ul style="list-style-type: none"><li>Better than Alignment 2 with First Avenue connection.</li></ul> <b>PREFERRED – 3</b>
	Ability to provide access to new recreational facility.	<ul style="list-style-type: none"><li>Provides most access to Arena on collector roadway.</li><li>Improved way finding from Stanley Avenue and Thorold Stone Road and Downtown area.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Linkage on First Ave not as good as the Class EA preferred</li><li>Improved wayfinding from Stanley Ave and Thoroldstone Road.</li></ul> <b>MORE PREFERRED - 4</b>
	Impact to heritage/archaeological resources.	<ul style="list-style-type: none"><li>No impact.</li></ul> <b>PREFERRED - 3</b>	<ul style="list-style-type: none"><li>No impact.</li></ul> <b>PREFERRED - 3</b>
	Ability to provide improved accessibility to Downtown Commercial District.	<ul style="list-style-type: none"><li>Most direct route from QEW to Victoria Avenue / Bridge Street and the Downtown area.</li></ul> <b>MOST PREFERRED - 5</b>	<ul style="list-style-type: none"><li>Not as good as Alignment #3.</li></ul> <b>PREFERRED - 3</b>

Assessment Criteria	Measure	Class EA	Concept 1
		Preferred Plan	Extend Over CN to Victoria
NATURAL ENVIRONMENT	Effect of removal of vegetation and/or wildlife habitat.	<ul style="list-style-type: none"><li>Minimal impact due to brush and vegetative cover removal.</li></ul> <p><b>PREFERRED - 3</b></p>	<ul style="list-style-type: none"><li>Minimal impact.</li></ul> <p><b>PREFERRED - 3</b></p>
	Impact to surface water/groundwater.	<ul style="list-style-type: none"><li>Area flows for surface of road corridor directed to OPG Canal.</li><li>Some surface drainage at east limit directed to existing storm system on Bridge Street.</li></ul> <p><b>PREFERRED - 3</b></p>	<ul style="list-style-type: none"><li>Harder surface.</li></ul> <p><b>LESS PREFERRED - 2</b></p>
	Impact to stormwater.	<ul style="list-style-type: none"><li>Road corridor flows and arena site flows directed to OPG Canal.</li><li>Some flows at east limit directed to existing storm system on Bridge Street and Victoria Avenue.</li></ul>	<ul style="list-style-type: none"><li>More flow.</li></ul> <p><b>LEAST PREFERRED - 2</b></p>

Assessment Criteria	Measure	Class EA	Concept 1
		Preferred Plan	Extend Over CN to Victoria
ENGINEERING	Ability to meet geometric standard and Regional design criteria.	<ul style="list-style-type: none"><li>Meets or exceed current geometric standards and criteria.</li></ul> <p><b>MOST PREFERRED - 5</b></p>	<ul style="list-style-type: none"><li>Better grades over RR.</li></ul> <p><b>MORE PREFERRED - 4</b></p>
	Relative impact to adjacent utilities.	<ul style="list-style-type: none"><li>Impact at Victoria Avenue and Bridge Street Intersection.</li><li>Potential impact on Hydro One corridor.</li></ul> <p><b>LESS PREFERRED - 2</b></p>	<ul style="list-style-type: none"><li>Impact at Victoria Avenue injunction and Frist Avenue at Bridge Street.</li></ul> <p><b>LEAST PREFERRED - 1</b></p>
	Property acquisitions and land costs.	<ul style="list-style-type: none"><li>Property required for roadway construction.</li><li>Buy-out of one business property at Victoria Avenue and Bridge Street intersection.</li><li>Some soil remediation expected on CYTEC and CNR lands.</li></ul> <p><b>LEAST PREFERRED - 1</b></p>	<ul style="list-style-type: none"><li>Most property with added development impact and soil remediation expected on CYTEC, CN and J Dasilva lands.</li><li>Impact on LOCOCO with relocation of parking area</li><li>Requires property from Gale Arena parking area and construction of replacement parking on Fourth Ave right-of-way.</li></ul> <p><b>LEAST PREFERRED - 1</b></p>
	Construction and Capital costs.	<ul style="list-style-type: none"><li>Moderate costs due to long roadway and reconstruction of Victoria Avenue/Bridge Street intersection with two lane roundabout.</li></ul> <p><b>LESS PREFERRED - 2</b></p>	<ul style="list-style-type: none"><li>Highest cost with New Bridge, and New Intersection at Victoria Ave and new local roadway from First Ave to Thoroldstone connection.</li></ul> <p><b>LEAST PREFERRED - 1</b></p>
	On-going maintenance costs.	<ul style="list-style-type: none"><li>Moderate cost due to adherence to design standards and improved network conditions.</li></ul> <p><b>LESS PREFERRED - 2</b></p>	<ul style="list-style-type: none"><li>High maintenance required.</li></ul> <p><b>LEAST PREFERRED - 1</b></p>
SUMMARY		<b>MOST PREFERRED</b>	<b>PREFERRED</b>
		<b>62</b>	<b>46</b>



# Thorold Stone Road Extension (Stage 2) Feasibility Review of Alternative Alignments

## Executive Summary

### Background

A Schedule “C” Class Environmental Assessment (EA) for the Thorold Stone Road Extension to Victoria Avenue was undertaken and completed in 2009 by the Region of Niagara. The preferred design was a 4-lane roadway with bike lanes and sidewalks from the intersection of Thorold Stone Road and Stanley Avenue easterly toward the CNR tracks and then bending southward and parallel to the rail right-of-way to a new intersection at Victoria and Bridge Streets with a 5-legged roundabout intersection at that location. Other alternatives evaluated included crossings of the Canadian National Railway (CNR), however, multiple rail tracks were in active use at the time, across the full width of the CNR corridor resulting in bridge spans of 115 metres being required.

Arising out of this 2009 EA Study, the first phase of construction has been completed recently with a new intersection at Stanley Avenue and the extension of Thorold Stone easterly to provide a new access to the Gale Centre arena complex, terminating just east of that access with a cul-de-sac bulb.

Prior to proceeding with the next project phase the Region has engaged CIMA to re-examine the possibility of a direct connection to Victoria Avenue crossing the CNR corridor. In this regard, it is noted that there has been reduced activity on the CNR corridor with a number of tracks apparently taken out of service meaning that any crossing may be shorter than originally envisioned (thereby significantly reducing cost). Conversely, there are current planning activities related to the expansion of GO Train service to Niagara Falls with both a layover and station planned for the area, which may increase track and general space requirements in the area.

The previous study terms considered a roadway to span the entire CNR corridor with a bridge span of some 115m, which resulted in unacceptable roadway geometrics at the Victoria Avenue intersection as well as extremely high construction costs. Should Metrolinx and CNR require a reduced number of working tracks with most of the rail activity on the west side of the lands, a reduced span (lower costs) and better roadway geometrics could be the result. Identifying the future rail requirements was a key component of this review in order that the previous rail crossing alternatives can be revisited. In this respect, consultation with CNR and Metrolinx was an essential part of this review.

## **New Options**

CIMA identified several new linkage concepts for direct connection to Victoria Avenue which crossed the CN tracks and connected to Victoria Avenue at Leader Lane as well as two other connection locations further north on Victoria Avenue. The three concepts and the original Class EA preferred design plan were reviewed directly with CN representatives. Property status was updated and active track information was provided regarding CN operations.

## **Screening of Options**

Following the input from CN regarding the status of land ownership and a noted pre-existing landfill site location (north of the Leader Lane concept alignment) Concepts 2 and 3 were reviewed and in both cases, the roadway lengths were greater than that of Concept 1 and the route of these concepts directly crossed the landfill area. The additional costs for site remediation are considered to be prohibitive when compared to the Concept 1 routing which is not directly crossing the landfill area (only a small triangular area at southwest of the landfill area is affected by this concept).

Based on the above information it was determined appropriate to proceed with consideration of the Concept 1 alignment only for comparison with the Class EA (2009) preferred alternative.

## **Evaluation**

Alternative Concept 1 is generally described as a roadway extension of Thorold Stone Road directly east over the CN rail tracks with profile grades of a maximum of 6% rising over the tracks and down towards Victoria Avenue and an approach grade of 2% for approximately 50 metres to the Victoria Avenue intersection. A local access roadway would also be required for proposed access to future brownfield development lands, which would require a new intersection just east of the Gale Centre access and generally following the previous EA preferred alignment but with connection to First Avenue. Revision to the Gale Centre parking and replacement parking utilizing the existing Fourth avenue right of way is also required subject to approvals from City of Niagara Falls. Details regarding the Class EA process requirements, property impacts, estimated costs, and implementation timelines are provided within the Final Report document.

In order to evaluate the Thorold Stone Road Extension over CN to Victoria Avenue (Concept 1) to the Class EA (2009) preferred design we have followed the methodology and criteria as established with the original undertaking. The factors considered include natural environment, socio-economic environment, cultural environment, transportation, engineering, operations and costs.



## **Conclusion**

The comparative analysis is very conclusive in identifying the preferred alternative as the Class EA (2009) Stage 2 Design Plan complete with roundabout intersection at the Bridge Street, Victoria Avenue intersection.

Based on the results of the comparative evaluation it is recommended that the Region of Niagara proceed with implementation of the Class EA (2009) Preferred Plan Stage 2 works. The work includes the extension of the 4-lane roadway cross section easterly and southeast along the CN tracks to tie into Bridge Street at Victoria Avenue with a roundabout.