



**King Street (Regional Road 81) EA
for Road and Drainage Improvements
(between Greenlane & Lincoln Avenue
in the Town of Lincoln)**

Project File Report

Final

October 24, 2024



Prepared for:



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RVA 237168

October 24, 2024

Niagara Region

**Attention: Stephanie Huppunen,
Manager, Capital Projects**

Dear Ms. Huppunen:

Re: King Street (Regional Road 81) EA for Road and Drainage Improvements
Project File Report

Please find enclosed the final Project File Report for the King Street (Regional Road 81) Class EA for road and drainage improvements in the Town of Lincoln, completed by R.V. Anderson Associates Limited.

If you have any questions, please do not hesitate to contact the undersigned by email or at 905-685-5049 ext. 4211.

Yours very truly,

R.V. Anderson Associates Limited
Andrew McGregor, MCIP, RPP
Senior Planner, EA & Approvals

**King Street (Regional Road 81)
EA for Road and Drainage
Improvements
(between Greenlane & Lincoln
Avenue in the Town of Lincoln)**

**Project File Report
Final**

Region of Niagara

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RVA 237168

October 24, 2024

REGIONAL ROAD 81 (KING STREET) EA FOR ROAD AND DRAINAGE IMPROVEMENTS

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EXECUTIVE SUMMARY

King Street (Regional Road 81) is a major roadway in the Town of Lincoln and as such, it supports a relatively high traffic volume. The portion of King Street studied for this Class Environmental Assessment (Class EA) is from Greenlane to Lincoln Avenue. The current roadway is a deteriorating asphalt road surface with a gravel shoulder. The corridor contains two vehicle travel lanes, with no bike lanes and a posted speed limit of 60km/h. The main objective of this study is to identify a preferred design for the road and drainage improvements along the King Street corridor.

The Niagara Region (Region) retained Kerry T. Howe Engineering Inc. (KTH) in 2016 to complete a Schedule 'C' Municipal Class Environmental Assessment (MCEA), which is an approved process under the *Environmental Assessment Act* for the King Street corridor. R.V. Anderson Associates Limited (RVA) was later retained to prepare and complete the Project File Report (PFR) in 2024. The process was initiated as a Schedule 'C' project due to the potential impact to the adjacent properties and environment, however, as the design proceeded, it was decided that due to physical constraints, the only feasible reconstruction option also minimized the impacts to the adjacent properties and environment. As such, the project was reclassified as a Schedule 'B' given the reduced impacts to the natural environment.

Various technical studies were completed to assess the existing conditions and potential impacts of the alternatives being considered. Studies included: Traffic Operation Analysis, Natural Heritage Assessment, Stage 1 Archaeological Assessment, Stage 2 Archaeological Assessment, Cultural Heritage Assessment, Geotechnical Investigation, and an Environmental Soils Investigation. The findings of these studies were incorporated into the evaluation of alternative solutions and are summarized in this Project File Report (PFR).

In accordance with Phase 1 requirements of the MCEA process for a Schedule 'B' project, a "Problem and Opportunity Statement" was prepared following the assessment of existing conditions within the Study Area to identify the various problems and opportunities to be addressed throughout the study. The Problem and Opportunity Statement for this Class EA study is summarized as follows:

The reconstruction of this section of King Street will improve traffic flow at the Thirty Road and King Street intersection and improve safety for motorist's, cyclists and pedestrians. It will also improve accessibility, aesthetics and infrastructure in this corridor for many years in the future.

These improvements are required to address:

- › *Deteriorating condition of the roadway pavement surface;*
- › *Intersection safety and collision history within the corridor;*
- › *Intersection traffic capacity requirements;*
- › *Traffic shortcutting and neighborhood infiltration; and*
- › *Watermain and Drainage upgrades.*

Alternative solutions to improve accessibility, aesthetics, and infrastructure for the King Street corridor consisted of the following options:

- Alternative 1: Do Nothing
- Alternative 2: 8m Road
- Alternative 3: 10.6m Road
- Alternative 4: 13m Road

Alternative solutions to address traffic and safety concerns at the King Street and Thirty Road intersection consisted of the following options:

- Alternative 1: Do Nothing
- Alternative 2: Realign Road to 6m Southwest of Fence
- Alternative 3: Realign King Street to Property Edge at 4505 Thirty Road

Based on the comparative evaluation that was undertaken using criteria representing the broad definition of the environment as described in the EA Act and feedback from the public and agencies, the preferred solution was to reconstruct King Street as a 10m road with the corridor realigned to 6m southwest of the fence for the King Street and Thirty Road intersection.

The key impacts associated with the implementation of the proposed solution and general mitigation required have been identified. In addition to the mitigation measures identified in this report, additional work will be required to be completed prior to construction. During detailed design, findings from the Class EA will be confirmed through additional investigations, planning, and consultation with utilities, impacted properties, and technical agencies.

The preliminary cost estimate for the reconstruction of the King Street corridor and intersection improvements is \$7,906,075 excluding HST, with construction anticipated to commence in early-mid 2025.

1.0 INTRODUCTION AND BACKGROUND

1.1 Background

King Street (Regional Road 81) is a major roadway in the Town of Lincoln that supports a relatively high traffic volume. The portion of King Street studied for this Class Environmental Assessment (Class EA) is from Greenlane to Lincoln Avenue. The current roadway is a deteriorating asphalt road surface with a gravel shoulder. The corridor contains two vehicle travel lanes, with no bike lanes and a posted speed limit of 60km/h.

King Street is a rural road that affronts mostly agricultural land with several commercial and residential units. The King Street and Greenlane intersection is a newly constructed roundabout. King Street has three (3) other intersections that are unsignalized. These intersections are Lincoln Avenue, Thirty Road, and Mountainview Road. At King Street and Thirty Road the intersection contains a sightline concern due to the S-bend in King Street at this intersection.

1.2 Study Objectives

The goal of this Study was to identify a preferred design for King Street between Greenlane and Lincoln Avenue that achieves the Region's desired planning objectives while satisfying the concerns and issues of affected interested parties, interest groups, the general public, and elected officials. In particular, the key objectives of this Study include:

- Meet the requirements under the MCEA planning and design process;
- Identify existing and future operational and geometric deficiencies within the study corridor;
- Address safety concerns within the corridor (maximize clear zones etc.);
- Develop and consider a range of reasonable, practical, and feasible infrastructure improvements to address the existing and future needs of all road users within the study corridor;
- Identify and consider the 'net-effects' of each alternative on all aspects of the environment including, but not limited to, the natural, social, cultural, economic and built environment;
- Provide technical agencies, interested parties and groups, and the general public with opportunities to participate in the Study process to ensure sharing of ideas, education, testing of creative solutions, and development of alternatives;
- Document the scope and detail of the solution(s) along with associated timing/phasing requirements as part of the preferred design; and

- Provide the Region, Town of Lincoln Staff, and elected officials with a defensible and traceable need and justification for the preferred alternative.

1.3 Study Area and Context

The project limits extend along King Street (Regional Road 81) from Greenlane to Lincoln Avenue in the Town of Lincoln as shown in Figure 1.1 below. King Street is a major roadway that extends from St. Catharines to Grimsby and runs alongside the Queen Elizabeth Way. The land use within this Study Area is mostly farmland with several commercial and residential units. There are currently no cycling facilities or sidewalks within the Study Area.

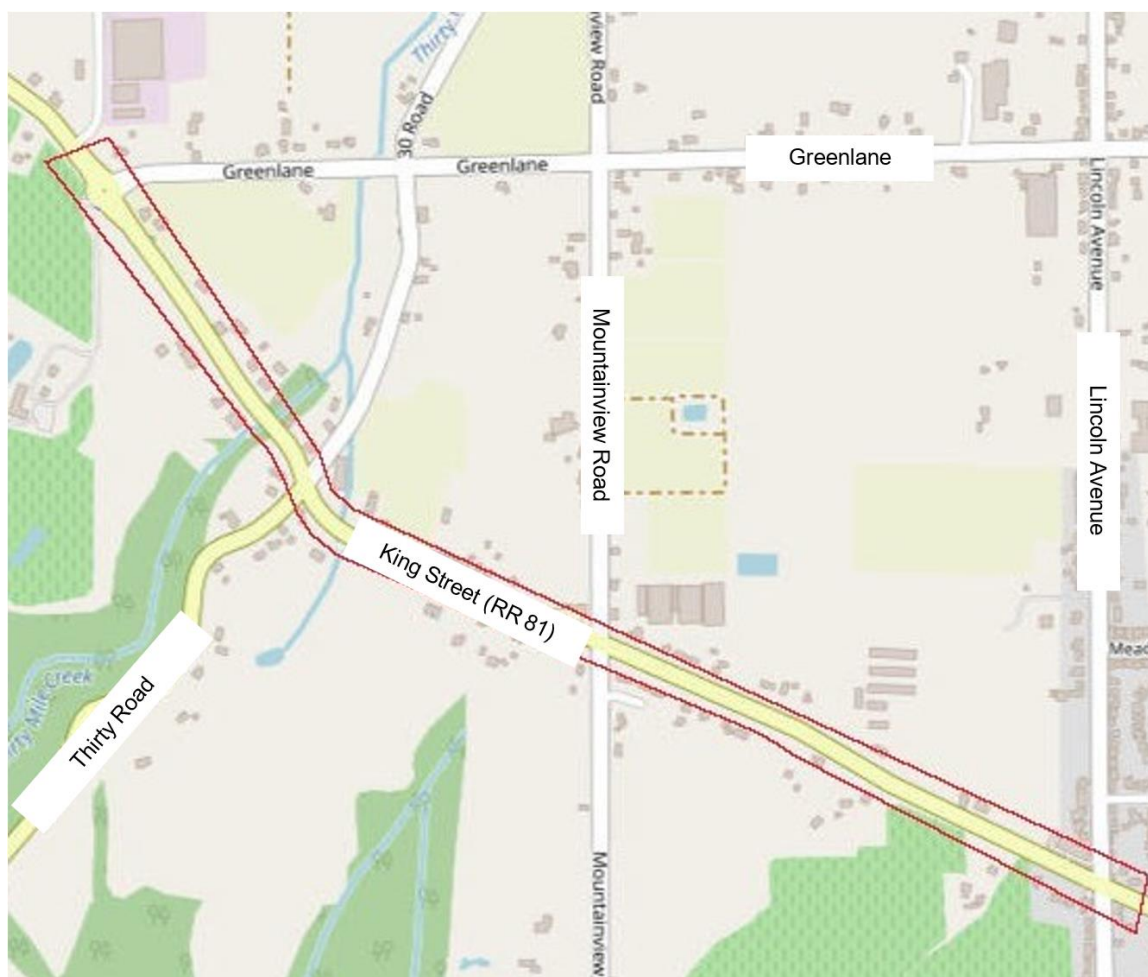


Figure 1.1 Study Area

1.4 Municipal Class Environmental Assessment Process

The study was initiated in accordance with the requirements of the Municipal Class Environmental Assessment (MCEA) Schedule 'C', which is an approved process under the

Environmental Assessment Act. The process was initiated as a Schedule 'C' project due to the potential impact to the adjacent properties and environment with the proposed additional centre turn lane and bike lanes. As the design proceeded, it was determined that due to physical constraints, the only feasible reconstruction option was to eliminate the centre turn lane, which would significantly reduce the impacts to adjacent properties and environment. As such, the project was reclassified as a Schedule 'B' given the reduced impacts. The project commenced in 2016, however numerous planning and design standards had to be reviewed and implemented resulting in increased budget reviews which delayed the completion of the EA until 2024.

The Class EA is broken down into phases, as follows:

- Phase 1 – Identify problem or opportunity;
- Phase 2 – Identify alternative solutions, evaluate, and select the preferred solution;
- Phase 3 – Identify alternative design concepts, evaluate, and select the preferred design concepts;
- Phase 4 – Complete the Environmental Study Report (ESR) and place it on the public record; and
- Phase 5 – Project implementation, which is to undertake the contract drawings and tender documents for the project and proceed to construction and operation of the project.

This Schedule 'B' study requires the completion of Phases 1 and 2 of the MCEA process, with the final deliverable documenting the planning process as provided in this Project File Report. The Project will then proceed to Phase 5.

Figure 1.2 illustrates the framework for the Class EA process which is a legislated planning process comprising of up to five phases with mandatory points of public contact. The focus of the framework is a comprehensive and transparent decision-making process.

1.4.1 Section 16 Order Requests

Anyone with concerns related to any aspect of the study may express such concerns in writing to the Project Manager at Niagara Region within the 30-calendar day review period following the Notice of Study Completion. All comments and concerns should be sent directly to Project Manager at the Niagara Region.

In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e., requiring an Individual / comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), **only on the grounds that the requested order may prevent,**

mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate, or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request.

The request should be sent in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Requests should also be sent to Niagara Region by mail or by e-mail.

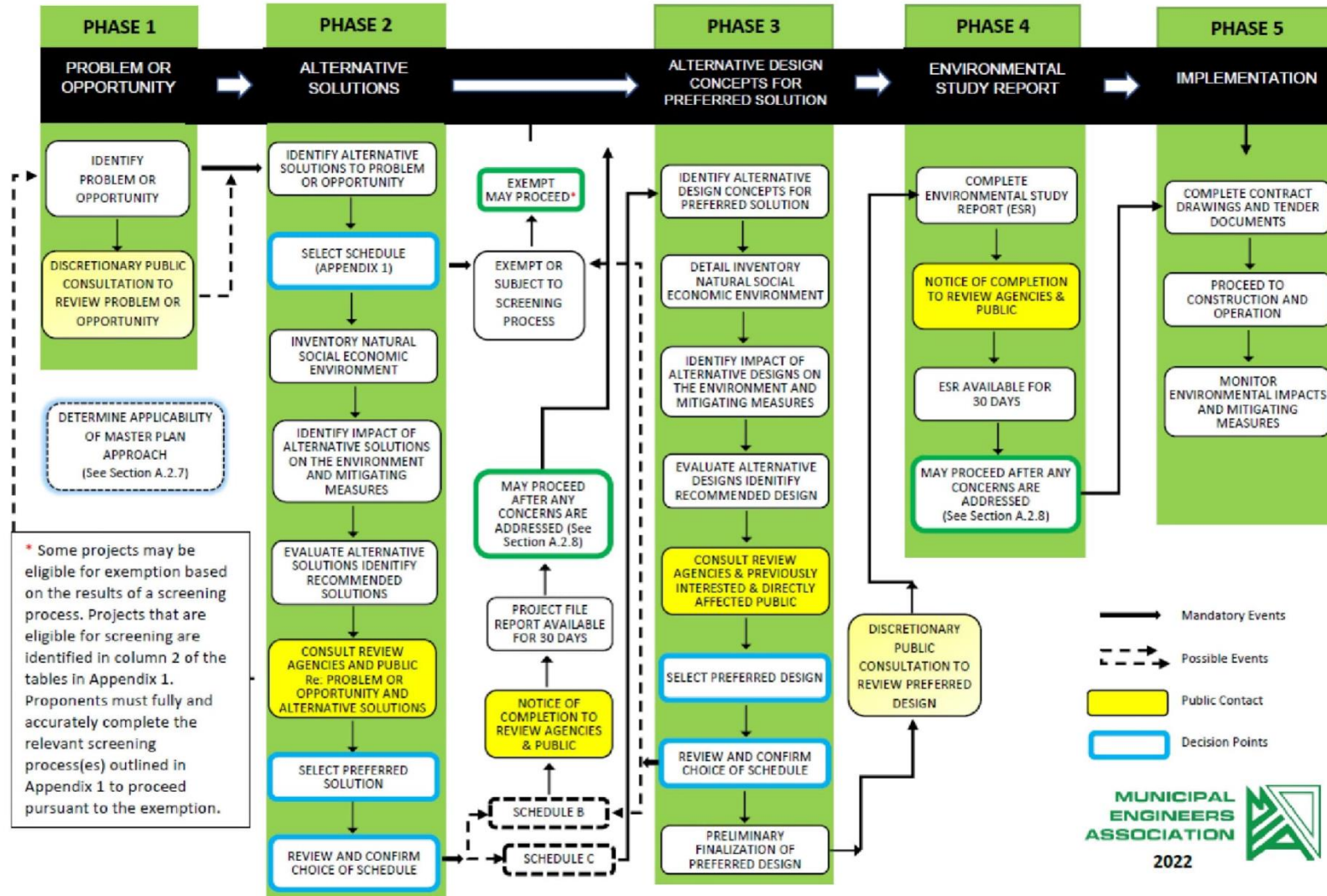


Figure 1.2 Municipal Class Environmental Assessment Process (Municipal Engineers Association, 2022)

1.5 Policy and Planning

1.5.1 Provincial Planning Documents

1.5.1.1 PROVINCIAL POLICY STATEMENT (2020)

The Provincial Policy Statement, 2020 (PPS, Ministry of Municipal Affairs and Housing (MMAH), 2020) sets the policy direction for regulating development and land use planning in the province. Both provincial and local land use planning decisions build on the PPS and its relevant policies. The policy works with land use planning systems to support the government's goals to increase housing, support jobs, and reduce red tape.

The proposed improvements within the Study Area align with the policies outlined in the PPS. Results from the Natural Environment Assessment Report indicate that no provincially significant wetlands (PSW), or Areas of Natural or Scientific Interest were identified in the Study Area. Significant importance was also given to natural environment features when evaluating alternative solutions, ultimately recommending the solution with minimal negative impacts, and thus in line with Section 2.0 Wise Use and Management of Resources of the PPS.

1.5.1.2 A PLACE TO GROW: GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2020)

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020 sets out planned designs to promote economic growth, increase housing supply, create jobs, and build communities within the Greater Golden Horseshoe area.

Recommendations from this EA study align with policies in A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020 such as Section 3.2.2, Article 2b “offer a balance of transportation choices that reduces reliance upon the automobile and promotes transit and *active transportation*”. The preferred design concept includes a paved shoulder with buffer to accommodate cyclists, thus promoting active transportation.

1.5.1.3 GREENBELT PLAN (2017)

The Greenbelt Plan, 2017 sets out policies to protect agricultural lands, water resources and natural areas in Ontario's Greater Golden Horseshow region.

Lands to the north of King Street are identified as Niagara Peninsula Tender Fruit and Grape Area, falling within the Protected Countryside and lands to the south fall within the Niagara Escarpment Plan Area, both falling within the Greenbelt Area (O. Reg. 59/05) under the Greenbelt Plan, 2017. Infrastructure works are permissible within Greenbelt Lands subject

to the adherence of Section 4.2.1 of the Greenbelt Plan, 2017 that includes minimizing the amount of Greenbelt Lands occupied by infrastructure and minimizing the impacts to identified natural heritage features.

1.5.2 Regional Planning Documents

1.5.2.1 NIAGARA OFFICIAL PLAN (2022)

The Niagara Official Plan, 2022 is a long-term land use planning document that sets out lands to protect, where and how the region will grow, and policy tools for success.

Policies in the Niagara Official Plan, 2022 were reviewed and considered when conducting the Natural Environment Assessment for the Study Area. Key sections considered including Section 3.1 The Natural Environment System and Section 5.1 Multimodal Transportation System.

1.5.2.2 NIAGARA REGION TRANSPORTATION MASTER PLAN (2017)

The Region's Transportation Master Plan (TMP), 2017 is a strategic planning document that defines policies, programs, and infrastructure improvements required to address transportation and growth needs from today through to 2041. This TMP identified that King Street, between Durham Road and Lincoln Avenue, should undergo road reconstruction as part of the Road Rehabilitation Program.

1.5.2.3 NIAGARA REGION COMPLETE STREETS DESIGN GUIDELINES (2017)

The Region has developed Complete Streets Design Guidelines that support land use and transportation planning and supports Smart Growth. Complete Corridors are roads and adjacent lands planned with the future context in mind. The public right-of-way and adjacent lands are designed to support all mobility modes, based on context, and to assist people of all ages and abilities in travelling throughout the Region equitably and efficiently.

The alternative solutions developed in this EA study incorporate Rural Complete Streets Design principles as described in the Guideline.

1.5.3 Local Planning Documents

1.5.3.1 TOWN OF LINCOLN OFFICIAL PLAN (2018)

The Official Plan sets out the long-term vision for the future. The Official Plan contains goals, objectives and policies to guide future land use, physical development, growth and change within the Town of Lincoln.

1.6 Study Organization

The Class EA Study was carried out by a consulting team led by Kerry T. Howe Engineering Ltd., the Region's Prime Consultant, on behalf of Niagara Region and with assistance from the Town of Lincoln. The study team is outlined below:

Niagara Region:

- Graeme Guthrie, C.E.T. – Transportation Engineering, Public Works
- Melissa Tomascik, C.E.T. – Transportation Engineering, Public Works
- Stephanie Huppunen, C.E.T. – Transportation Engineering, Public Works
- Chris Latham, C.E.T. – Transportation Engineering, Public Works
- John Rizzo (Reitred) – Transportation Engineering, Public Works

Consulting Team:

- Kerry T. Howe Engineering Ltd. – Lead Consultant
- Parsons – Traffic Analysis
- New Directions Archaeology Ltd. – Archaeological Assessment
- Amec Foster Wheeler Environment & Infrastructure – Geotechnical Investigation
- Wood Environment & Infrastructure – Environmental Soils Investigation
- Coleville Consulting Inc. – Natural Heritage Summary Report
- WSP – Cultural Heritage Report
- R.V. Anderson Associates Limited – Project File Report

1.7 Consultation Overview

Public consultation is a key feature of environmental assessment planning projects. Input received from the public and interested groups, potentially affected Indigenous Communities, provincial ministries, technical agencies, and authorities help generate meaningful dialogue between project planners and the public.

Various Indigenous Communities, government agencies, authorities, and interest groups were informed of the Class EA Study Commencement, Public Information Centres (PICs), and Notice of Study Completion, through local newspaper notices and direct paper and electronic mailings to interested parties and agencies.

A complete list of technical agencies, special interest groups, and Indigenous Communities that were contacted as part of the study is provided in **Appendix 9-2** of this report.

1.7.1 Contact with Interested Parties and Indigenous Communities

As per the Class EA requirements, notifications to the public and interested parties of study commencement is required, as well as notifications of PICs. The Notification of Study Commencement, Notification of PICs, and Notice of Study Completion (forthcoming) was provided through several different methods and media, as outlined below.

- General public:
 - › Relevant notices were published in the newspaper and on the Region's project webpage.
- Residents and businesses within the study area:
 - › All abutting landowners received hand delivered notices distributed by Niagara Region.
- Technical agencies, local interest groups, and Indigenous communities:
 - › The Notice of Study Commencement was sent via direct mail.
 - › All subsequent notices were sent via email.

2.0 PROBLEM AND OPPORTUNITY STATEMENT

Per Phase 1 requirements of the Municipal Class Environmental Assessment process for a Schedule 'B' project, a "Problem and Opportunity Statement" was prepared to identify in detail the various problems and opportunities to be addressed by the study. In essence, the Problem Statement outlines the need and justification for the overall project and establishes the general parameters, or scope, of the study.

The problem and opportunity statement for this Class EA study is summarized as follows:

Improvements to King Street (Regional Road 81) between Greenlane & Lincoln Avenue are required to address:

- › *Deteriorating condition of the roadway pavement surface;*
- › *Intersection safety and collision history within the corridor;*
- › *Intersection traffic capacity requirements;*
- › *Traffic shortcutting and neighborhood infiltration; and*
- › *Watermain and Drainage upgrades.*

The reconstruction of this section of King Street will improve traffic flow at the Thirty Road and King Street intersection and improve safety for motorists, cyclists and

pedestrians. It will also improve accessibility, aesthetics and infrastructure in this corridor for many years in the future.

3.0 EXISTING CONDITIONS

3.1 Transportation

A Traffic Operation Analysis study was completed by Parsons to review intersection operations within the study area and determine the need for improvements to accommodate existing and future traffic demands. Findings of the analysis are summarized in the sections below. The full report is provided in **Appendix 1**.

3.1.1 Existing Traffic Conditions

King Street is a two-lane major rural roadway in Lincoln. It does not have any bike lanes or walkways for pedestrians. There is a new roundabout intersection at King Street and Greenlane and there are three (3) unsignalized intersections along King Street at Thirty Road, Mountainview Road, and Lincoln Avenue. From the Traffic Operation Analysis, it was concluded that all of the unsignalized intersections within the Study Area are operating well with no critical movements or volume to capacity (V/C) ratio issues.

Level of service is a standard method of describing the efficiency of an intersection by reflecting the average delay experienced by vehicles. The highest rating is LOS "A", under which the average delay is less than 10 seconds. When the average delay exceeds 50 seconds at the unsignalized intersection, or 80 seconds at signalized intersections, the movement is classified as LOS "F". Volume to Capacity (V/C) Ratio reflects quality of travel of a roadway by identifying the number of vehicles divided by the capacity of the roadway. A V/C of 1.00 indicated the roadway facility is operating at its capacity. Critical movements are movements with V/C ratios greater than 0.90.

Results of the capacity analysis completed for the existing (2016) Weekday AM and PM peak hours are provided in Table 3.1 below for the Study Area Intersections.

Table 3.1 Existing (2016) Weekday AM and PM Intersection Operational Performance

INTERSECTION/ MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
	LOS [DELAY (S)*]	V/C	95TH TILE QUEUE (M)*	LOS [DELAY (S)*]	V/C	95TH TILE QUEUE (M)*
RR81 (King St.) & Greenlane (Roundabout)	A [8]	-	-	A [7]	-	-
EBL&T&R	A [9]	0.48	3	A [8]	0.46	3
WBL&T&R	A [7]	0.34	2	A [6]	0.28	1
NBL&T&R	A [5]	0.00	0	A [5]	0.01	0
SBL&T&R	A [6]	0.12	0	A [5]	0.06	0
RR81 (King St.) & Thirty Rd. (Unsignalized)	[4]	-	-	[5]	-	-
EBL&T&R	A [0]	0.01	0	A [0]	0.01	0
WBL&T&R	A [1]	0.04	1	A [3]	0.08	2
NBL&T&R	C [19]	0.34	11	C [18]	0.33	11
SBL&T&R	C [18]	0.08	2	C [22]	0.19	5
RR81 (King St.) & Mountainview Rd. (Unsignalized)	[1]	-	-	[1]	-	-
EBL&T&R	A [0]	0.01	0	A [0]	0.01	0
WBL&T&R	A [0]	0.01	0	A [0]	0.01	0
NBL&T&R	C [17]	0.05	1	C [18]	0.10	2
SBL&T&R	B [14]	0.06	1	C [17]	0.10	2
RR81 (King St.) & Lincoln Ave. (Unsignalized)	[3]	-	-	[3]	-	-
EBL&T&R	A [1]	0.04	1	A [1]	0.03	1
WBL&T&R	A [1]	0.02	0	A [1]	0.03	1
NBL&T&R	C [16]	0.13	3	A [17]	0.13	3
SBL&T&R	C [20]	0.24	7	A [23]	0.20	5

* rounded values.

3.1.2 Future Traffic Conditions

3.1.2.1 LEFT TURN LANE WARRANT ANALYSIS

Currently, Regional Road 81 (King Street) has shared single lane approaches to each of the unsignalized intersections analyzed as part of the study area. As part of this traffic study,

Parsons reviewed the need for dedicated left turn lanes for the eastbound and westbound approaches at each intersection.

Table 3.2 presents the results of the Left Lane Warrant Analysis for each intersection under future (2026) traffic conditions.

Table 3.2 Left Turn Warrant Requirements Based on Future (2026) Traffic Conditions

INTERSECTION	DIRECTION	LEFT TURN LANE WARRANTED	REQUIRED MINIMUM STORAGE LENGTH (M)
Regional Road 81 (King St.) & Thirty Rd.	Eastbound	Yes	15
	Westbound	Yes	25
Regional Road 81 (King St.) & Mountainview Rd.	Eastbound	No	-
	Westbound	No	-
Regional Road 81 (King St.) & Lincoln Ave.	Eastbound	Yes	15
	Westbound	Yes	15

Based on the left-turn lane warrant analysis, exclusive left turn lanes with a minimum storage of 15 metres in the eastbound direction and 25 metres in the westbound direction are warranted at the intersection of King Street and Thirty Road. Left turn lane warrants for the intersection of King Street and Lincoln Avenue indicate that exclusive left-turn lanes with a minimum storage of 15 metres are warranted in both the eastbound and westbound directions. No left-turn lanes are warranted in either the eastbound and westbound directions at the intersection of King Street and Mountainview Road.

3.1.3 Signal Warrant Analysis and Future Intersection Operations

As part of the Traffic Operations Analysis, Parsons performed signal warrant analyses using the Ontario Traffic Manual (OTM) Book 12 guidelines for the three minor street stop-controlled intersections under future (2026) traffic conditions. The OTM Book 12 suggests that the signal warrant for the future year required to be met to 120% in the case of existing intersections. The results of the signal warrant analysis are presented in Table 3.3.

Table 3.3 Future (2026) Traffic Conditions - Signal Warrant Analysis Summary

INTERSECTION	% COMPLIANCE		SIGNAL WARRANTED
	WARRANT 1	WARRANT 2	
Regional Road 81 (King St.) & Thirty Rd	78%	76%	No
Regional Road 81 (King St.) & Mountainview Rd.	23%	34%	No
Regional Road 81 (King St.) & Lincoln Ave.	76%	17%	No

Based on the signal warrant results presented in Table 3.3, none of the stop-controlled intersections are warranted for signalization under future total 2026 traffic conditions.

Based on the OTM Book 12 guidelines, under a Restricted Flow Condition (i.e., roads with posted speeds less than 70km/h), none of the existing stop-controlled intersections are warranted for signalization under future total (2026) traffic conditions. Previously, King Street between Lincoln Ave and Greenlane had a posted speed limit of 70km/h during which time the Niagara Region undertook a warrant analysis. Under this Free Flow Condition, the intersection of King St and Thirty Rd met the lower threshold to warrant the installation of traffic signals. In July 2022, Regional Council passed a motion to reduce the speed limit to 60km/h which was then implemented. Under a Restricted Flow condition, the Thirty Rd intersection does not meet the warrant for signalization. Taking into consideration strong lobbying by Town of Lincoln Council and staff, The Niagara Region has made the decision to proceed with installing traffic signals at Thirty Rd.

The southbound shared left, through and right approach lane at King Street and Lincoln Avenue is forecast to operate with a level of service (LOS) 'F' with V/C ratio of 0.80 during the PM peak hour. This performance is not uncommon for minor street approaches entering a major roadway. A signal warrant analysis conducted for this intersection indicates a traffic signal is not warranted. However, based on the results of a Sightline Assessment Study (**Appendix 12**) conducted for the King Street and Lincoln Avenue intersection in 2024, the intersection currently exhibits a skewed alignment and also contains physical sightline obstructions in all four (4) corners of the intersection. The Sightline Assessment Study concluded that drivers situated at the stop bar along the minor approaches are not provided sufficient sight distances, and therefore a traffic signal is warranted to improve traffic operations and safety at this intersection.

All other study area intersections are forecast to operate satisfactory under future (2026) traffic conditions.

3.2 Socio-Economic Environment

3.2.1 Land Use

As previously identified in the Greenbelt Plan (2017), lands adjacent to the south edge of King Street are part of the Niagara Escarpment Plan Area. As per the Town of Lincoln's Official plan, land adjacent to the north edge of King Street is a mix of agricultural and natural environment land uses. The eastern boundary of the Study Area is adjacent to an urban area, Beamsville, Ontario.

Specifically, the small natural environment land use area is identified as an *Environmental Conservation Area*, and the remaining agricultural lands are classified as a "*Specialty Agricultural Designation*". The environmental conservation area is further classified as "Significant Woodlands" and "Significant Valley Lands".

Within the lands adjacent to the south edge of King Street within the Study Area, the Niagara Escarpment Plan Area classifies portions of the land as Escarpment Protection Area, Escarpment Natural Area, and Escarpment Rural Area.

3.3 Natural Environment

A Natural Heritage Summary Report was prepared by Colville Consulting Inc. to inventory and describe natural heritage features within and adjacent to King Street and determine the extent of any significant natural areas and assess any impacts that may result from the proposed road and drainage improvements. Findings of their report are summarized in the sections below. The full report is provided in **Appendix 2**.

3.3.1 Vegetation and Woodlands

A single large contiguous woodland is located on and adjacent to the Study Area. As part of the assessment, Colville Consulting screened for tree species at risk however, none of these species were observed within or adjacent to the Study Area. Through the Study area there is one large continuous woodland that encroached into the Study area at three locations. In addition to the 3 locations mentioned above, intermittent trees parallel King Street on both sides within the Study Area. These trees are not considered to be providing significant habitat for species in the Niagara Region.

3.3.1.1 TREE INVENTORY

A tree inventory was conducted by the Niagara Region Forestry department for the Study Area, and it was concluded that no provincially rare or locally rare plants were observed. The dominating species consisted of Norway Maple and Manitoba Maple.

No Areas of Natural and Scientific Interest (ANSI) are located on or adjacent to the Study Area.

3.3.2 Wildlife and Wildlife Habitats

Species at Risk (SAR), Species of Conservation Concern, and Significant Wildlife Habitats were screened for as part of the Natural Environment Assessment. Results of this assessment can be summarized as follows:

- A total of five (5) species of birds were observed or heard on or above the Study Area.
- Incidental wildlife observations including signs were recorded during both breeding bird survey visits. Observations within the Study Area were limited to the Grey Squirrel.
- No Endangered or Threatened Species were documented within the Study Area.
- No Species of Special Concern were documented during our field surveys and no typical habitat of any Special Concern Species known to occur in the Town of Lincoln is thought to be present in the Study Area.
- No seasonal concentrations of animals were observed or documented.
- No rare or specialized habitat was identified in the Study Area.
- No natural heritage features within the Study Area are providing migration function for wildlife.
- It does not appear that the natural heritage features are providing migration function for wildlife within the Study Area.

3.3.3 Wetlands

There are no Provincial Significant Wetlands (PSW) present on or within 120m of the Study Area.

3.3.4 Watercourses

Natural heritage mapping indicated that several watercourse features traverse King Street. When watercourse conditions were assessed, four (4) survey sites were identified: a main

channel of Thirty Mile Creek, a tributary to Thirty Mile Creek, a main channel of Lake Ontario tributary 24, and a tributary to Konkle Creek.

Based on observations made during field work, it was concluded that the watercourse features within the Study Area are not considered sensitive habitat or suitable for aquatic dependent wildlife due to fluctuating water levels and thick vegetation. Adequate fish habitat was not observed within any of the watercourse features within the Study Area. Any fish habitat associated with the watercourses is likely intermittent and found in areas of the watercourses that provide more suitable conditions. Therefore, any servicing or redirection of water required as part of the reconstruction work will not impact the function of any of the four watercourse features.

3.3.5 Source Water Protection

Under the MECP 2006 Clean Water Act, municipalities are required to conform to Source Protection Plans (SPPs) to protect surface and groundwater sources to municipal drinking water systems. The Study Area for this project is under the jurisdiction of the Niagara Peninsula Source Protection Area. The Niagara Peninsula SPP identifies where there is potential for significant threat to the quality and quantity of groundwater through delineation of Wellhead Protection Areas (WHPAs), Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), and Intake Protection Zones (IPZs).

Within the Study Area, there are no WHPAs, or IPZs. Based on Ontario's Source Protection Information Atlas for the Niagara Peninsula, there is an HVA through majority of the Study Area and SGRAs in a few locations. There are also several wells within the vicinity of the Study Area, some of which may be decommissioned or are monitoring wells.

3.4 Cultural Heritage Environment

This section describes the existing conditions of the cultural heritage component of the environment. Cultural heritage resources include archaeological resources, built heritage resources, and cultural heritage landscapes.

3.4.1 Archaeological Resources

A Stage 1 Archaeological Assessment (under Project Information Form number (PIF) P018-0813-2016) of the Study Area was completed on January 3, 2017 by New Directions Archaeology Ltd. Stage 1 AA consists of a review of geographic, land use and historical information for the property and the relevant surrounding area, and contacting the Ministry of Citizenship and Multiculturalism (MCM) to find out whether, or not, there are any known

archaeological sites on or near the property. Its purpose is to identify areas of archaeological potential and further archaeological assessment (e.g., Stage 2-4) as necessary.

After conducting background research, it was determined that the late nineteenth century and twentieth century development of the study corridor has led to extensive and deep land alterations that have removed archaeological potential within a portion of the study corridor (73.91%). The disturbance observed is related to the construction of King Street, its cross streets, residential development, and related utility infrastructure. The remaining 26.09% of the study corridor retains archaeological potential. As such, it was determined that the remainder of the study area (26.09%) requires a Stage 2 archaeological assessment, all of which is located on manicured lawns and the ROW and cannot be ploughed.

A Stage 2 Archaeological Assessment (under PIF P018-0901-2017) was completed within the Study Area on October 14, 2017, by New Directions Archaeology Ltd. The Stage 2 archaeological assessment was completed between September 25 and 27, 2017. Visual, test pit, and combination surveys were completed throughout the study corridor. No archaeological resources were encountered. Therefore, no further archaeological assessments of the Study Area are required.

The complete Stage 1 and Stage 2 reports are provided in **Appendices 3 and 4**, respectively.

3.4.2 Built Cultural Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment was completed by WSP in May 2024 to assess potential heritage impacts associated with the Project. The Cultural Heritage Study Area considered properties located within a 25-metre buffer of the EA Study Area.

Results concluded that the majority of the properties within the Cultural Heritage Study Area are 40 years or older. Of these properties 40 years or older, 22 properties were identified as known or potential heritage properties:

- Nine (9) properties within the Cultural Heritage Study Area are listed on the Town of Lincoln's heritage register,
- Five (5) properties as part of the Beamsville Heritage Conservation District, and
- Eight (8) potential heritage properties.

The complete Cultural Heritage Report is provided in **Appendix 5**.

3.5 Geotechnical Investigation

A geotechnical investigation was undertaken by Amec Foster Wheeler in September 2016 to obtain subsurface information relating to the project site by means of sampled boreholes and provide geotechnical engineering recommendations. The fieldwork was conducted in July 2016 with 20 boreholes advanced using truck mounted drilling equipment designed for soil sampling purposes. The complete Geotechnical Investigation report is provided in Appendix 6.

3.5.1 Pavement Structure and Fills

For the pavement structure, the hot mix thickness encountered from the borehole investigation ranged from 230mm to 300mm, underlain by 200mm to 510mm of granular fill. Fills were encountered underlying the pavement structure in all the boreholes and they extended to depths ranging from 0.8m to 2.7m below the existing grade. Fills were comprised of brown silty sand fill and dark brown clayey silt fills. Laboratory moisture contents were between 3 % and 21 %.

Reddish brown clayey silt till was encountered underlying the fills in all of the boreholes. This deposit extended to a minimum depth of 1.4 m and to the borehole termination depth of 5.2 m in boreholes BH-1 to BH-3. The clayey silt till contained traces to some gravel and sand. Natural moisture contents for the clayey silt till samples were between 10 % and 25 %.

Reddish brown weathered shale was encountered underlying the clayey silt till in most of the boreholes with natural moisture contents between 4% and 14%.

3.5.1.1 PAVEMENT CONDITION SURVEY

As part of the geotechnical investigation, a visual pavement condition survey was completed for signs of distress. Overall, the existing asphaltic concrete surface was in 'Poor to Fair Condition'. The pavement condition reflects its age and lack of recent routine/systematic maintenance that has resulted in the pavement condition progressively deteriorating with time.

3.5.2 Groundwater Observations

All boreholes were open and dry upon completion, except for borehole BH-11, where the water level was at 6.3 m below road grade upon completion of drilling. No piezometers were installed in the boreholes. It should be noted that the groundwater table is expected to fluctuate seasonally and in response of weather events.

3.5.3 Environmental Soils Investigation

An Environmental Soils Investigation was conducted by Wood Environment & Infrastructure Solutions in September 2019 as part of the Geotechnical Investigation completed by Amec Foster Wheeler. The purpose of the investigation was to confirm the initial environmental sampling results from 2016 to provide updated disposal options for excess soil to be generated during construction on King Street.

The geology of the soils noted is between 230 to 300 millimetres (mm) of asphalt underlain by 200 mm to 510 mm of granular. This pavement structure was underlain by fill consisting of silty sand and clayey silt fills to depths of 0.8 to 2.7 mbgs underlain by a clayey silt till which was terminated by shale bedrock in a majority of the boreholes.

No evidence of negative environmental impact including staining and odours was observed during the drilling program. Petroleum-like odours were noted in most of the boreholes but inferred to be attributed to the shale. Results of the screening program for the samples suggest a low potential for the presence of combustible soil headspace vapour levels in the soil/fill samples collected.

The complete Environmental Soils Investigation Report is provided in **Appendix 7**.

3.6 Servicing, Utilities, and Facilities

3.6.1 Utilities

The following utilities are present in the immediate vicinity of the King Street corridor:

- Bell Canada – utility poles within the Study Area
- Enbridge Gas – gas lines along the corridor
- Cogeco –infrastructure that runs along NPEI utility poles within the Study Area
- Niagara Peninsula Energy Inc. (NPEI) –local utility poles long the corridor
- Niagara Region Broadband Network (NRBN) –infrastructure that runs along NPEI utility poles
- Niagara Region Wind Farm –underground transmission lines crossing the Study Area

3.6.2 Drainage and Stormwater Management

The existing drainage network consists of roadside ditches and cross culverts and overland through private property draining into approximately ten (10) drainage courses, seven (7) of which are under NPCA jurisdiction.

There is no existing stormwater management infrastructure within the Study Area.

4.0 ALTERNATIVE SOLUTIONS (PHASE 2)

Under Phase 2 of the Class EA process, all reasonable solutions to the problem are identified and described, including the “Do Nothing” alternative. After general inventories of the technical, natural, social, cultural, and economic environments are prepared and potential environmental impacts are determined for each alternative, the net positive and negative effects are identified, and the alternatives are evaluated resulting in a recommended solution. The recommended solution is then presented to the public, interested parties, and agencies to solicit input into the selection of the “preferred solution”.

4.1 Assessment Criteria

The Project Team considered criteria that represent the broad definition of the environment as described in the Environmental Assessment Act to comparatively evaluate the alternative solutions. The general evaluation criteria used in evaluating the alternative solutions and design concepts are outlined in the table below.

Evaluation Criteria	Description of Evaluation Criteria
Technical / Transportation	• Roadway performance & safety • Pedestrian & Cyclist Accommodations • Commercial Vehicles • Emergency Vehicles • Network Continuity
Socio-Economic Environment	• Property Impacts • Compatibility with Area Land Use • Property Access • Illumination Impact • Visual / Aesthetic Impact • Construction Impact
Natural Environment & Climate Change	• Vegetation Impact • Wildlife & Habitat Impact • Special Designation Areas • Groundwater Impacts • Surface Water Impacts • Air Quality
Cultural Heritage Resources	• Will the alternative impact archaeological resources?
Costs	• Will the alternative impact cultural heritage landscapes of built heritage resources? • Property Costs • Utility Relocation Costs

4.2 King Street Corridor Alternative Solutions and Evaluation

This section describes the alternatives identified and evaluated for the King Street corridor.

4.2.1 Description of Alternative Solutions for the King Street Corridor

4.2.1.1 ALTERNATIVE 1: DO NOTHING

The Do Nothing option means no improvements are made to the King Street corridor, drainage system or watermain. This alternative does not address the Problem & Opportunity Statement but is required to be considered as part of the EA planning and design process to serve as a baseline comparison for all other alternatives.

4.2.1.2 ALTERNATIVE 2: 8M ROAD

In this alternative, the road design is the same as the original design there will be two lanes and a gravel shoulder. Sections of roll over curb and gutter will also be required to accommodate for drainage. There will be drainage improvements by replacing existing culverts and adjusting some existing ditches. The Town watermain has already been replaced in 2020.

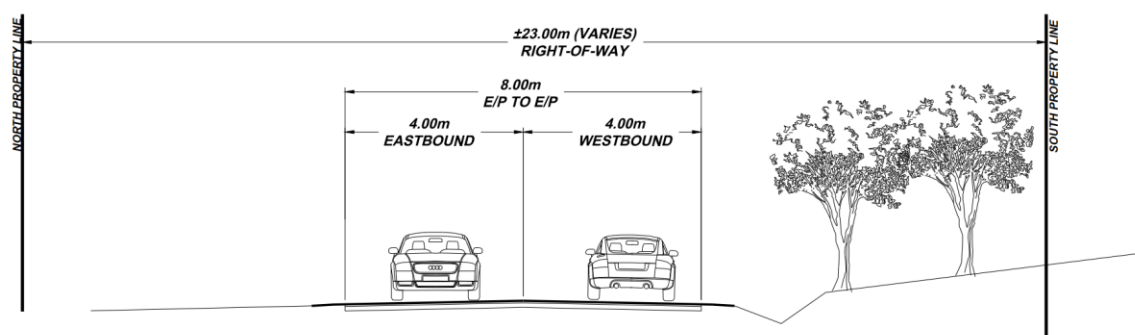


Figure 4.1 Alternative 2: 8m Road Cross-Section

4.2.1.3 ALTERNATIVE 3: 10.6M ROAD

The road will be widened to accommodate multi-modal transportation. The road will have two 3.3m wide lanes, with a 1.5m paved shoulder and 0.5m buffer on both sides. Sections of roll over curb and gutter will also be required to accommodate for drainage. There will also be drainage improvements made by adjusting existing culverts and ditches. The Town watermain has already been replaced in 2020.

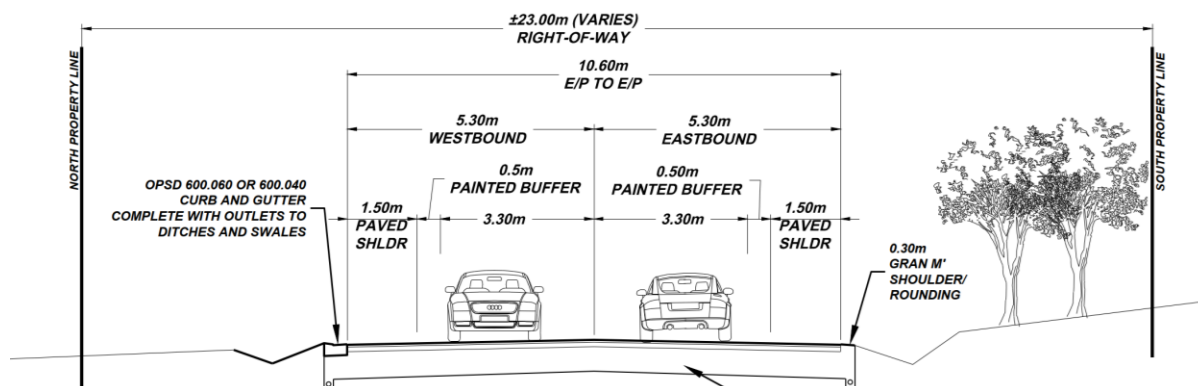


Figure 4.2 Alternative 3: 10.6m Road Cross-Section

4.2.1.4 ALTERNATIVE 4: 13M ROAD

The road will have three lanes, with a paved shoulder. The extra lane will be used as a continuous turning lane. There will also be sections of roll over curb and gutter to accommodate for drainage. The widening of the road means that retaining walls will be required in certain areas and a significant number of trees will have to be removed. The drainage system will also be improved by adjusting culverts and ditches. The Town watermain has already been replaced in 2020.

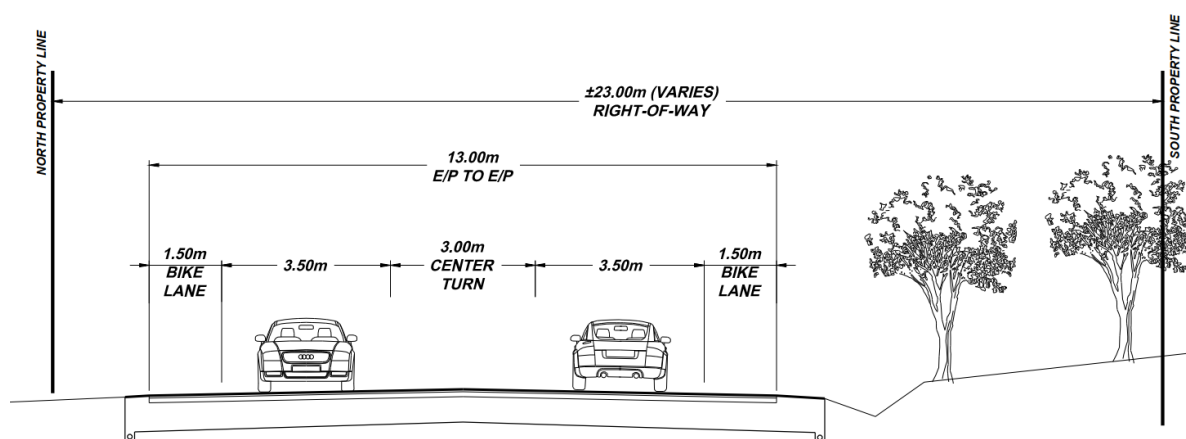


Figure 4.3 Alternative 4: 13m Road Cross-Section

4.2.2 Evaluation of Alternative Corridor Solutions

Table 4.1 summarizes the evaluation of alternative solutions for road reconstruction and improvements to the King Street corridor based on the assessment criteria presented in Section 4.1.

Table 4.1 Evaluation of Alternative Solutions for King Street Corridor (Phase 2)

Evaluation Criteria	Alternative 1: Do Nothing		Alternative 2: 8m Road		Alternative 3: 10.6m Road		Alternative 4: 13m Road	
Technical	✗	No paved shoulder, resulting in danger to cyclists and pedestrians. Increased risk of rear-end collisions without turning lanes.	✗	No paved, resulting in danger to cyclists and pedestrians. Increased risk of rear-end collisions without turning lanes.	✓	Added paved shoulders with buffer improve the safety of cyclists. Addition of left-turn lanes at Thirty Road and Lincoln Avenue.	✓	Added paved shoulders improve the safety of cyclists. The continuous turning lane reduces the risk of rear-end collisions.
Socio-Economic Environment	—	No impact to the adjacent properties	✓	Minor construction disruption for road reconstruction. Minor impacts to adjacent properties for access.	✓	Minor construction disruption for road reconstruction. Minor impacts to adjacent properties for access.	—	Some impacts to properties due to road widening. Disruption for road reconstruction.
Natural Environment	✓	No impact to the natural environment.	✓	Minimal impact to natural environment due to construction.	—	Minor impacts to natural environment as road widening may require vegetation removal.	✗	Moderate impacts to natural environment due to vegetation removal for road widening.
Archaeological / Cultural Heritage Resources	✓	No impacts to archaeological or cultural heritage resources.	—	No impacts to archaeological resources. Potential indirect impacts to 4 known cultural heritage properties, can be mitigated by conducting a Zone of Influence study and vibration monitoring.	—	No impacts to archaeological resources. Potential indirect impacts to 4 known cultural heritage properties, can be mitigated by conducting a Zone of Influence study and vibration monitoring.	—	No impacts to archaeological resources. Potential indirect impacts to 4 known cultural heritage properties, can be mitigated by conducting a Zone of Influence study and vibration monitoring.
Cost	✓	No construction costs.	—	Moderate capital costs.	—	Moderate capital costs.	✗	Higher capital costs.
Evaluation Summary	Not Recommended		Not Recommended		Recommended		Not Recommended	

4.2.3 Preferred Corridor Solution

The preferred solution is Alternative 3 – 10.6m Road. This alternative improves the safety of cyclists with the addition of bike lanes, which was a significant factor in the evaluation as this section of King Street was identified as a potential connection in the 2017 TMP – Strategic Cycling Network. This alternative also has minimal impacts to surrounding properties and natural environment in comparison to other alternative solutions. Drawings for the preferred corridor solution are provided in **Appendix 8**.

4.3 King Street and Thirty Road Intersection Alternative Solutions and Evaluation

This section describes the alternatives identified and evaluated for the King Street and Thirty Road intersection. Illustrations of all intersection configurations can be found in **Appendix 11**.

4.3.1 Description of Alternative Solutions for the Intersection

4.3.1.1 ALTERNATIVE 1: DO NOTHING

The Do Nothing option means no improvements are made to the King Street and Thirty Road intersection to address sightline concerns. However, additional illumination will be added to the intersection in this alternative. This alternative does not address the Problem & Opportunity Statement and is required to be considered as part of the EA planning and design process and serves as a baseline comparison for all other alternatives.

4.3.1.2 ALTERNATIVE 2: REALIGN ROAD TO 6M SOUTHWEST OF FENCE

This alternative involves realigning the intersection to be 6m southwest of the chain-link fence located at 4505 Thirty Road. This will eliminate the sight line concerns at the intersection. This alternative also includes a 25m left-turning lane in the westbound direction and a 15m left-turning lane in the eastbound direction. Traffic signals will also be implemented at the intersection.

4.3.1.3 ALTERNATIVE 3: REALIGN KING STREET TO PROPERTY EDGE AT 4505 THIRTY ROAD

This alternative involves realigning the southwest edge of King Street to the chain-link fence at 4505 Thirty Road. This will address the sightline concerns at the intersection. This alternative will include a 25m left-turning lane in the westbound direction, a 15m left-turning lane in the eastbound direction, and traffic signals at the intersection. It is anticipated that this alternative will require the removal of trees and a garden within the Study Area.

4.3.2 Evaluation of Alternative Intersection Solutions

Table 4.2 summarizes the evaluation of alternative solutions for the traffic operations, safety, and intersection improvements at Thirty Road and King Street based on criteria presented in Section 4.1.

4.3.3 Preferred Intersection Solution

Alternative 2 – Realign Road to 6m Southwest of Fence is the preferred solution for the King Street and Thirty Road intersection. This solution will eliminate sightline concerns on the northeast side of Thirty Road. Traffic signals will also be implemented at the intersection as part of this solution. Drawings for the preferred intersection solution are provided in **Appendix 8**.

No property impacts are anticipated as a result of this preferred intersection configuration. The property located at 4505 Thirty Road, Jah-Jireh Seniors Ministry Association, will be able to maintain their fence and garden that is located on Regional property. This solution minimized impact to vegetation as only a few trees will need to be removed compared to other alternatives evaluated.

Table 4.2 Evaluation of Alternative Solutions for King St & Thirty Rd Intersection (Phase 2)

Evaluation Criteria	Alternative 1: Do Nothing		Alternative 2: Realign Road to 6m Southwest of Fence		Alternative 3: Realign Road to Property Edge	
Technical	✗	Sightline Concern when turning left from northeast side of Thirty Road and King Street intersection.	✓	Intersection is realigned to eliminate sightline concern on Thirty Road.	✓	Intersection is realigned to eliminate sightline concern on Thirty Road.
Socio-Economic Environment	✓	No impact to surrounding properties and no construction disruption.	✓	No property acquisitions will be required. The Seniors Home will still have use of their fence and garden area currently located on Regional property.	✗	Seniors Home will be required to move the existing fence back to the property line and the raised garden beds will be removed.
Natural Environment	✓	No impact to the environment.	—	Minimal impact to trees and other vegetation.	✗	Greater impacts to trees and drainage course to the east.
Archaeological / Cultural Heritage Resources	✓	No impacts to archaeological or cultural heritage resources.	✓	No impacts to archaeological or cultural heritage resources.	✓	No impacts to archaeological or cultural heritage resources.
Cost	✓	Minimal construction costs.	—	Moderate capital costs.	—	Moderate capital costs.
Evaluation Summary	Not Recommended		Recommended		Not Recommended	

5.0 DESCRIPTION OF THE PREFERRED SOLUTION

The preferred solution involves widening the King Street corridor to 10.6m and adding bike lanes to improve the safety of cyclists. The King Street and Thirty Road intersection will also be improved by realigning King Street 6m southwest of the fence located at 4505 Thirty Road. This realignment of King Street will eliminate sightline concerns on the northeast side of Thirty Road. Traffic signals will also be implemented at the intersection as part of this solution.

The intersection of King Street and Mountainview Road will also be upgraded to include oversized STOP signs with flashing beacons. The intersection of King Street and Lincoln Avenue will be upgraded to include traffic signals.

Drawings of the preferred solutions are provided in **Appendix 8**.

5.1 Design Criteria

Design criteria used to develop the preliminary design include Regional Standards, MTO Book 18, TAC Manual, Geotechnical report, traffic analysis and warrants, and Niagara Region's Complete Streets Design Manual.

Table 5.1 Design Criteria

Classification	Existing Condition	Design Standards	Proposed	Reference
Road Classification (Rural Arterial)	RAU80	RAU80	RAU80	TAC Table 2.6.2
Posted Speed (km/h)	60km/h	60km/h	60 km/h	
Design Speed (km/h)		70 km/h	70 km/h	TAC Table 2.6.4
Heavy Vehicle Usage	Truck Route		Truck Route	
Design Vehicle	Unknown		Wb-19	TAC Table 2.4.4
Normal Crown (-0.02 m/m) Rmin (m)		1680	N/A	TAC Tables 3.2.3 and 3.2.4
Curve Radius with Superelev. Rmin for e = 0.04 (m)		200	280	
Reverse Crown (+0.02 m/m) Rmin for e = 0.04 (m)		290	1000	
Stopping Sight Distance (m)		105	105	
Minimum "k" Factor		Crest: 17 Sag: 23	Crest: 26 Sag: 12	TAC Tables 3.3.2, 3.3.4 and 3.3.5
Left Turn Taper without Auxiliary Lane		15:1 - 42:1	15:1 - 42:1	TAC Table 9.17.1 & RMN Standards
Left Turn Taper with Parallel Lane		10:1 - 18:1	10:1 - 18:1	TAC Table 9.17.2 & RMN Standards
Through Lane (m)		3.30 - 3.70	3.30	TAC Table 4.2.3
Left Turn Lane (m)		3.25 - 3.50	3.30	TAC Section 4.3.2.3
Paved Shoulder with Marked Buffer - Width (m)		1.50-2.00 with 0.50 - 1.00 Buffer	1.50 with 0.50 marked Buffer	OTM Book 18 Table 4.11 & RMN Complete Streets Guidelines
Sidewalk Width (m)		1.50 - 2.30	1.50 & 1.80	TAC Section 4.6.1
Clear Zone Distances (m)		>6000ADT	5.50m	TAC Table 7.3.1
Tangent Section Cross Fall		2- 4%	2-4%	
Sidewalk Cross Fall		2%	2%	TAC Section 4.6.1
Driveway Grades (max)		8%	8% or Match Existing	TAC Figure 8.9.4
Maximum Grade (%)			5.85%	
Minimum Grade (%)			0.14% (on ditched sections), and 0.50% along curb sections	RMN Roadway Design Guidelines
Minimum Daylighting Triangle			5m X 5m	#5196 King St.

5.2 Geotechnical Recommendations

It is recommended that the Niagara Region Roadway Design Standards be used for pavement reconstruction for King Street within the study area. The complete recommendation for pavement reconstruction of King Street between Greenlane and Lincoln Avenue is provided in the complete report in **Appendix 6**.

5.3 Drainage Improvements

The proposed drainage network follows the existing with improved roadside ditches and replacement of eight (8) culverts as well as the addition of sections of curb and gutter to curtail the road drainage from draining on to private property where no roadside ditches exist.

The addition of paved shoulders replacing the existing granular shoulder will have a nominal effect on drainage. The culverts are being replaced with a new culvert with better hydraulics and generally of the same size. The ditches that are improved will continue to provide capacity and quality enhancement once established prior to outletting to their existing drainage courses.

There are no storm sewers being constructed so no additional quality enhancements (i.e. oil grit separators etc.) are proposed. In the interim, silt control devices (i.e. silt sacks), silt fencing, and improved erosions materials (i.e. riprap gabions) at the cross culverts will be installed to reduce erosion in the upstream and downstream drainage courses.

5.4 Preliminary Cost Estimates

The preliminary cost estimate for the reconstruction of the King Street corridor and intersection improvements is \$7,906.057 excluding HST.

Table 5.2 Preliminary Cost Estimate

Item	Cost
General	\$1,634,400
Roads	\$5,988,095
Storm	\$119,030
Watermain	\$16,250
Provisional Items	\$148,300
Total	\$7,906,075

5.5 Preliminary Construction Timelines

Construction works for this Project is anticipated to commence in 2025.

6.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

6.1 Natural Environment Impacts

It is anticipated that potential direct impacts associated with the reconstruction of this portion Regional Road 81 (King Street) will be limited to the removal of vegetation. For the purpose of this assessment, it is assumed that the majority of vegetation within the road allowance will be removed or impacted to facilitate the reconstruction of the road and relocation of services.

Indirect impacts associated with road construction works can include stressors such as increases in light and noise. Since this project involves the reconstruction of an existing roadway within an urbanized area, and the wildlife species documented in the Study Area are adapted to urban land uses, it is not anticipated that any increase in noise and ambient light will impact species utilizing vegetation communities within the Study Area.

The sections below summarize potential impacts to the natural environment. The complete report is provided in **Appendix 2**.

6.1.1 Vegetation and Woodlands

Multiple trees will need to be removed to facilitate the road reconstruction. Information provided in the tree inventory indicates that several trees can be retained if properly trimmed. By elevating the crowns of these trees, road function will not be impeded and impacts to the trees will be greatly reduced. To eliminate safety hazards, dead and dying trees within the Study Area should be removed. Additionally, results indicate that wildlife utilizing trees within the Study Area are common to the Niagara Region. It is expected that these species will continue to use the trees that remain within the Study Area post-construction and their required habitat will not be impacted by this project.

It was also determined that trees within the Study Area were not considered part of any sensitive habitat. It is anticipated that healthy trees removed will be either individuals or

trees part of a small cluster and therefore not expected to impact ecological function of remaining trees within the Study Area.

6.1.2 Wildlife and Wildlife Habitats

The anticipated removal of vegetation has the potential to impact habitats of wildlife species using this portion of the Study Area. Lands within and adjacent to the Study Area appear to be providing habitat for several wildlife species that are common within urban areas in this portion of the Niagara Region. Since the removal or alteration of vegetation in this area is anticipated to be relatively minor and the wildlife species in the area are adapted to the current lands uses in the study area, it is not anticipated that re-construction of King Street will impact wildlife species in the area.

6.1.3 Watercourses and Drainage

It is understood that the widening of the road will require a readjustment to existing culverts that may involve alteration to the watercourses. This will require vegetation removal and potential disturbance to the watercourse banks and substrate. This has the potential to alter the drainage patterns and overall hydrology of the watercourse in addition to impacting habitat of wildlife species. As indicated above, wildlife species will adapt to the vegetation loss and therefore it is concluded that the installation of new or additional culverts will not impact these species. In terms of altered drainage and overall hydrology, if the mitigation measures are followed, impacts related to construction will be negligible.

6.1.4 Source Water Protection Areas

As per the Geotechnical Investigation Report, it is not anticipated that a dewatering system is required during construction. As such, there are no impacts anticipated to the HVA within the Study Area or wells within the vicinity.

6.1.5 Groundwater

Provided groundwater conditions during construction are similar to those encountered during the investigation, no major groundwater problems are anticipated for the construction that is proposed. Some inflows may occur from water perched within the granular base, or from more permeable seams within the clayey silt till and weathered shale deposits. It is not anticipated that the inflows will be severe enough to necessitate the installation of dewatering system. Furthermore, the expected inflows will gradually decrease as the perched water drains from the granular fills.

6.1.6 Mitigation

It is recommended that the following mitigation measure be implemented during planning, design and reconstruction of King Street:

- A sediment and erosion control plan should be established and implemented prior to any site alteration to prevent off-site movement of soil material during excavation and grading.
- Any stockpiled materials should be stored and stabilized in an area that will not impact trees outside of the work area.
- Vehicle and equipment re-fuelling and maintenance should be conducted in a manner to prevent petroleum-based fluids from entering a watercourse.
- Any trees to remain adjacent to the reconstructed road should be clearly marked and protected by limit of work fence to minimize the potential for incident harm during construction.
- Any required vegetation removal should be conducted in a manner to avoid impacts to nesting birds that may be utilizing habitats within the Study Area. The breeding bird period for this area is generally March 15 to August 31. A survey for active bird nests should be conducted prior to any vegetation removal or site alteration planned to occur during this window.
- Where possible, retain trees adjacent to the road and elevate crowns to enable normal road operations.
- Any required tree removal be completed by a qualified arborist or tree management contractor to ensure trees to be retained will not be injured or impacted.
- Any tree roots encountered during excavation works should be cut flush with a sharp tool to encourage new root growth.

A field review of the site will be undertaken prior to construction to confirm the findings of the natural environment assessment and whether any additional items need to be addressed on site.

6.2 Climate Change

Project impacts and resiliency to climate change were taken into consideration during the Study and will be carried forward into design. Considering how a project contributes to climate change, through greenhouse gas emissions or its effects on the natural environment is important to the planning process as it allows proponents to consider climate mitigation measures that will avoid and/or minimize such effects. Furthermore, considering how climate change may affect a project is critical to the planning process as it enables

proponents to make informed decisions to increase infrastructure resilience and adapt to changing environmental conditions.

Climate change was an important factor in determining the corridor improvements for King Street. Impacts to the natural environment were also a significant factor in evaluating the alternatives for intersection improvements at King Street and Thirty Road. The preferred solution for the corridor and intersection minimizes impacts to surrounding natural and agricultural areas in comparison to other alternatives. The addition of bike lanes in the corridor also promotes active modes of transportation, thus reducing the number of automotive vehicles and working towards reducing greenhouse gas emissions.

6.3 Socio-Economic Impacts

6.3.1 Property Requirements

The avoidance of significant property requirements was a key criterion in the identification and evaluation of alternative solutions by the project team. There are several properties that were impacted by all the alternative configurations.

As part of this Project, the Region has already acquired sufficient frontage from the properties noted below in Table 6.1.

Table 6.1 Property Impacts and Requirements

Property Address	Estimated Area
5196 King Street	11.27m ²
5253 King Street	167.90m ²
Farm Property between 5253 and 5297 King Street	648.8m ²
5297 King Street	560.1m ²

The Region will confirm the property requirements and consult all impacted property owners during detailed design.

6.3.2 Vibration Monitoring During Construction

A Zone of Influence (ZOI) study will be added to tender documents as part of vibration monitoring and will be completed prior to construction.

Construction activities have the potential to result in limited and temporary adverse vibration impacts to adjacent properties, including cultural heritage resources. To ensure the properties adjacent to the ROW are not adversely impacted during construction, a qualified

engineer should undertake a condition assessment of the structures within the vibration zone of influence and repair any damages caused by vibrations.

6.4 Cultural Heritage Resources

6.4.1 Impacts to Archaeological Resources

The Stage 1 archaeological assessment for this project was conducted by NDA in August 2016 (NDA 2017, P018-0813-2016). Detailed documentary research and a property inspection were completed and resulted in the identification of several features of archaeological potential within and immediately adjacent to the current study area. While most of the study corridor was visually determined to be disturbed, portions of the study area were noted as containing archaeological potential, and these areas were recommended for further assessment. NDA was contracted by Kerry T. Howe Engineering Ltd. on behalf of the Regional Municipality of Niagara to conduct this Stage 2 archaeological assessment. The Stage 2 archaeological assessment was completed between September 25 and 27, 2017. Visual, test pit, and combination surveys were completed throughout the study corridor. No archaeological resources were encountered.

Based on the above information, it is recommended that no further assessment of the study corridor is required and therefore, there are no impacts anticipated to archaeological resources. Further details are provided in the Stage 2 Archaeological Assessment Report in **Appendix 4**.

6.4.2 Impacts to Built Heritage Resources and Cultural Heritage Landscapes

The preliminary Cultural Heritage Impact Assessment determined that potential indirect impacts are anticipated to four (4) known heritage properties: 5545 King Street, 5515 King Street, 5196 King Street, 5195 King Street and therefore, the following mitigation measures are recommended:

- Continued avoidance of the known and potential heritage properties;
- Consult a qualified vibration specialist to complete a complete Zone of Influence (ZOI) study and where applicable, provide mitigation measures for the three buildings situated 15 metres or less from areas of construction: 5545 King Street (CHR-2), 5515 King Street (CHR-4), and 5196 King Street (CHR-15). The ZOI Study will be added as an item to tender documents as part of vibration monitoring and will be completed prior to construction.
- Consult a qualified heritage professional if construction is required within 15 metres of 5195 King Street (CHR-16); and

- Should additional staging or construction areas be required, then a qualified heritage professional must be consulted to confirm the impact assessment presented in this Cultural Heritage Report.

Various construction activities may result in limited and temporary adverse vibration impacts to identified cultural heritage resources. To ensure the identified cultural heritage resources adjacent to the ROW are not adversely impacted during construction, a qualified engineer should undertake a condition assessment of the structures within the vibration zone of influence and repair any damages caused by vibrations.

Further information is provided in the Cultural Heritage Report in **Appendix 5**.

6.5 Servicing, Utilities, and Facilities

6.5.1 Utilities

Based on the EA and recommended improvements, utility infrastructure conflicts are expected and will require relocations to implement the preferred solution as described in the table below. All utility impacts, including location, depths, and relocation requirements are to be confirmed prior to construction, in direct consultation with the affected utility companies. New utility installations will be coordinated as required.

The following utility impacts are anticipated:

- Enbridge Gas underground gas lines are to be replaced intermittently.
- NPEI utility poles are to be relocated throughout the Study Area.
- NRBN and Cogeco infrastructure that runs along impacted NPEI utility poles to be relocated with NPEI utility pole relocations.
- Bell utility poles need to be relocated to west of the roundabout for the multi-use path trail leading to the new high school.

Correspondence between the Project Team and utilities is provided in **Appendix 9-3**.

Further coordination with utilities will be conducted during detailed design.

7.0 MONITORING

Following the completion of Detail Design, contract drawings and specifications will be developed to allow the project to be tendered for construction. During construction, the on-site Contract Administrator will confirm that implementation of environmental mitigation measures and key design features are consistent with the contract and that commitments made in this EA document as well as conditions outlined in environmental permits and

approvals are adhered to. In addition, the effectiveness of the environmental mitigation measures shall be assessed to confirm that the measures are providing the expected control and/or protection. Regular inspection of measures shall be undertaken to confirm they are maintained, functioning and effective and that any necessary repairs are completed expeditiously. For any unanticipated environmental issues that may arise during construction, the Contract Administrator will confirm that additional mitigation measures are provided, as required.

An Environmental Inspector will also visit the site on a regular basis to confirm that the environmental protection measures are functioning and effective, that permits and approvals are adhered to, and to provide recommendations for additional environmental mitigation measures, as necessary. In the event problems develop, appropriate Regional and external representatives will be contacted to provide additional input and to address specific notification requirements as may be required.

8.0 CONSULTATION PROCESS

Schedule 'B' EA projects are subject to the first two phases of the planning process, in accordance with the Municipal Class Environmental Assessment (October 2000, amended in 2007, 2011, 2015). As such, public and technical agency consultation plays a key role in developing the study recommendations.

Per the MCEA, notification to the public, interested parties, and Indigenous Communities was provided in advance of key consultation opportunities. Copies of notices are provided in **Appendix 9-1**.

8.1 Interested Parties and Technical Agencies

Various government agencies, authorities, utility companies, interested parties and groups were informed of the Class EA Study commencement and Public Information Centre (PIC) through direct mail and email. A complete list of interested parties who were contact is provided in **Appendix 9-2**. During the course of the EA study, correspondence was received from various technical agencies, as outlined in Table 8.1 and included in **Appendix 9-3**.

Table 8.1 Comments Received from Technical Agencies

Agency / Group	Summary of Comments Received	Date Received	Consideration of Comments in Class EA
Ministry of Environment, Conservation and Parks (MECP)	MECP acknowledged that the EA study was downgraded from Schedule 'C' to a Schedule 'B' EA. MECP requested that notices be sent via email to the West Central region's inbox.	August 1, 2023	The Project Team forwarded all notices to MECP on August 1, 2023.
Ministry of Environment, Conservation and Parks (MECP)	MECP acknowledged that the EA study is following a Schedule B EA process. MECP provided an "Areas of Interest" document, highlighting factors to take into consideration when identifying and evaluating alternative solutions. MECP's Areas of Interest include: Planning and Policy, Source Water Protection, Climate Change, Air Quality, Dust and Noise, Ecosystem Protection and Restoration, Species at Risk, Surface Water, Groundwater, Excess Materials Management, Contaminated Sites, Servicing, Utilities and Facilities, Mitigation and Monitoring, and Consultation.	October 23, 2023	The Project Team reviewed MECP's "Areas of Interest" document and addressed those areas in this PFR.
Ministry of Environment, Conservation and Parks (MECP)	In response to the submission of the draft PFR, the MECP provided the following comments: - Section 8.0 of the Report is currently titled "Public Consultation". Given that this section includes descriptions and records of consultation undertaken with review agencies and Indigenous communities in addition to the public, it would be more appropriate for this section to have a broader title such as "Consultation". - The ministry seeks to confirm whether the Niagara Peninsula Conservation Authority (NPCA) has submitted any comments regarding the project, as their approval is necessary. If such comments have been provided, the proponent is required to ensure that these records are included in the project file report. - Section 5.3 of the Report states, "There are no storm sewers being constructed so no additional quality enhancements (i.e., oil grit separators etc.) are proposed." Section 5.1 of the Appendix 6 Geotechnical Investigation Report states, "At the time of writing the report, the inverts for the watermain and storm sewer were not available. For the purpose of this report, it is assumed that the invert of the watermain will be at 1.7 m below existing grade, and the inverts for the storm and sanitary sewers will be approximately 3.0 m to 3.5 below existing grade..." The ministry recommends providing further clarification to determine whether the construction of the storm sewer is included in the proposal, as well as addressing the accommodation for potential increases should there be no additional measures for water quality control.	October 8, 2024	- The Project Team updated the title of Section 8.0 to "Consultation Process". - The NPCA provided comments on the preliminary design. Their comments are summarized in Table 8.1 and included in Appendix 9-3-9. - The Project Team noted that there are no storm sewers, only culverts and catch basins. The existing ditch storm conveyance system will be maintained so no change to existing water quality is required. When initial geotechnical report was completed drainage details were not complete therefore report contained recommendation if storm sewers were needed. A watermain was previously installed by the Town of Lincoln in 2020 at the minimum 1.7m cover.
Ministry of Citizenship and Multiculturalism (MCM)	MCM responded to the Notice of PIC #2. MCM provided guidance on how archaeological and cultural heritage resources should be identified and protected and how results of cultural heritage studies should be addressed in the EA documentation.	August 16, 2023	The Project Team completed the necessary archaeological and cultural heritage studies. Results of the studies and any potential impacts have been addressed in this report.
Ministry of Citizenship and Multiculturalism (MCM)	In response to WSP's request for information regarding provincial heritage properties within the Study Area, MCM provided the following comments: - To date no properties have been designated by the Minister as being of cultural heritage value or interest. - MCM is not aware of any cultural heritage property within or adjacent to the Study Area. MCM indicated that any cultural heritage assessments completed as part of this Study should be sent to the Ministry for review.	April 22, 2024	The Project Team completed a Cultural Heritage Report and sent it to MCM for review on May 23, 2024.

Agency / Group	Summary of Comments Received	Date Received	Consideration of Comments in Class EA
Niagara Peninsula Conservation Authority (NPCA)	• Please note that depending on the scope, nature, and location of the proposed works, more fulsome technical comments and additional information may be requested at a later time. • The project area contains lands regulated by NPCA, as it is traversed by multiple watercourses including Thirty Mile Creek and its tributaries, with their associated flooding and erosion hazards. • All work done within a NPCA Regulated area will require a NPCA Permit, and must be in conformance with NPCA's 2022 Policy Document, specifically Sections 2.5 Environmental Assessments; 5 Confined River and Stream Valleys; 6 Unconfined River and Stream Valleys; 9 Watercourses; and 10 Policies for Infrastructure, 10.1 General Infrastructure, and 10.3 Transportation Infrastructure: https://npca.ca/images/uploads/common/NPCA_Policy_Document_-_Nov_18_2022_Office_Consolidation.pdf. • NPCA will require detailed a Site Plan, Grading Plan, and Erosion and Sediment Control Plan. • Engineering comments: ○ Please ensure that any road widening work crossing the valleys and watercourses will be stable and will not impact the surrounding slopes. ○ Regarding culvert replacements, please ensure that they are the same size or larger than existing. • Planning Ecology comments: ○ Please provide a detailed description of the proposed works, impact assessment, and recommendation measures to avoid and/or mitigate impacts as well as applicable monitoring to be submitted to NPCA staff to review and comment. ○ Please identify the full extent of the work area including all material/equipment lay down/storage areas on the appropriate drawing(s). The applicant would need to ensure that access routes and material/equipment lay down/storage are selected which minimize impacts to the surrounding ecology. ○ If trees and vegetation are anticipated to be removed within NPCA's regulation limit, NPCA will require a Tree Preservation Plan and Restoration Plan. ▪ For more sensitive areas that would require vegetation clearing to complete the proposed works, a one-season vegetation survey will be required to characterize the area. ○ NPCA staff recommend that work be carried out during dry conditions. ○ If in-water works are anticipated, Planning Ecology will require the applicant to identify how the proposed works is to be isolated from the watercourse so as to work-in-the-dry to ensure no negative impact to the aquatic life and habitat. ○ If in or near water works are anticipated especially in areas of eco-hydrological sensitivity (e.g. Thirty Mile Creek, MNRF Type I Fish Habitat), turbidity monitoring maybe required to ensure water quality conditions are being maintained. ○ Culvert Construction: ▪ If closed bottom culverts are to be used, NPCA staff request the closed bottom culvert to be embedded (sunk into the stream) by at least 10 percent of the height of the culvert if there is no substrate (engineered material) incorporated into the design. If a design substrate is proposed, please consider embedment of the culvert equivalent to two times the depth of the substrate above the base of the closed bottom culvert. This is to ensure safe passage for aquatic life. ▪ The culvert must not be perched, to allow for safe passage of aquatic wildlife. ▪ Natural bottom substrate should be used within the crossing, and it should match the upstream and downstream substrates. ▪ The substrate and design should resist displacement during frequent floods and maintain an appropriate bottom during normal flows. ▪ At low flows, water depths and water velocities must be the same as they are in natural areas upstream and downstream of the crossing and be suitable for aquatic species movement.	August 16, 2023	The Project Team will address these comments during detailed design through permits required for the culvert extensions and/or replacements.

Agency / Group	Summary of Comments Received	Date Received	Consideration of Comments in Class EA
	▪ For further information on culvert designs and substrate within crossing structures, the NPCA recommends the applicant to refer to the following links: • Culvert Design: Technical Guideline for Watercourse Crossings Version 1.0 (CVC, September 2019) https://files.cvc.ca/cvc/uploads/2019/10/CVCCrossingGuidelines_2f_20191025.pdf • BMPs for Fish and Wildlife Crossings: Fish and Wildlife Crossing Guidelines (CVC, 2017) https://files.cvc.ca/cvc/uploads/2017/05/CVC-Fish-and-Wildlife-Crossing-Guidelines-final-web.pdf • Guidance and information regarding the sizing and design of substrate through a proposed crossing and information regarding crossing openings: Fluvial Geomorphic Guidelines (CVC, 2015) https://files.cvc.ca/cvc/uploads/2015/05/CVC-Fluvial-G-Guide_April-2015.pdf ○ Planning Ecology advisory notes (not requirements for a NPCA permit): ▪ NPCA staff advise the applicant that the MNRF has identified in-water restricted timing windows for the Lake Ontario Tributaries as follows: Spring Season, March 1st to June 30th and Fall Season Sept 1st to Nov 30th (no in-water works to occur between these dates). ▪ Any vegetation removal should comply with the Endangered Species Act 2007, Migratory Birds Convention Act 1994 and all other relevant legislation. In order to comply with the Migratory Birds Convention Act 1994, any tree removals completed between April 1 and August 31 must have pre-disturbance nest sweeps completed by a qualified biologist to ensure nests are not impacted. ▪ This area may contain Species at Risk. The permittee should contact the Ontario Ministry of Environment, Conservation and Parks (MECP) to ensure that no damage to Species at Risk or their habitat will result from the proposed work. Please send your request to SAROntario@ontario.ca and a MECP staff person will screen the information and provide a response.		

8.2 Indigenous Communities Engagement

Various Indigenous Communities were notified of the study, to identify any potential issues or concerns regarding possible impacts to Aboriginal and Treaty Rights, or any other interests or questions that the community may have regarding this study. The following Indigenous Communities were notified of the study:

- Haudenosaunee Development Institute / Haudenosaunee Confederacy
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River

Table 8.2 below provides a summary of communications between the Project Team and Indigenous Communities. The complete list of Indigenous Communities engaged is provided in **Appendix 9-2**, while copies of the correspondence and notifications sent are provided in **Appendix 9-4**.

Table 8.2 Consultation Log of Communications with Indigenous Communities

Indigenous Community / Organization	Date of Communication Issued	Notification Sent to Community / Organization	Comments Received	Date Comments Received	Response to Comments Received
Haudenosaunee Development Institute / Confederacy	April 19, 2023	Stage 2 Archaeological Assessment Report for review	No comments received	N/A	N/A
Haudenosaunee Development Institute / Confederacy	July 11, 2023	Notice of PIC #2	No comments received	N/A	N/A
Haudenosaunee Development Institute / Confederacy	July 18, 2023	Notice of Postponement of PIC #2	No comments received	N/A	N/A
Mississaugas of the Credit First Nation	April 19, 2023	Stage 2 Archaeological Assessment Report for review	No comments received	N/A	N/A
Mississaugas of the Credit First Nation	July 11, 2023	Notice of PIC #2	No comments received	N/A	N/A
Mississaugas of the Credit First Nation	July 18, 2023	Notice of Postponement of PIC #2	No comments received	N/A	N/A
Mississaugas of the Credit First Nation	April 19, 2023	Stage 2 Archaeological Assessment Report for review	No comments received	N/A	N/A

Indigenous Community / Organization	Date of Communication Issued	Notification Sent to Community / Organization	Comments Received	Date Comments Received	Response to Comments Received
Mississaugas of the Credit First Nation	July 11, 2023	Notice of PIC #2	No comments received	N/A	N/A
Mississaugas of the Credit First Nation	July 18, 2023	Notice of Postponement of PIC #2	SNGR acknowledged receipt of the notice and indicated they have interest in the study.	July 18, 2023	N/A

8.3 Public and Residents

Residents within and adjacent to the study area received hand delivered notices, while members of the general public were invited to participate in the Study through publication of notices on the Niagara Region website. Key opportunities for residents and general public input to the study included two Public Information Centres (PIC) and one online information package as described below. Refer to **Appendices 9-5** and **9-6** for copies of the materials from PIC #1 and PIC #2 made available for comment.

8.3.1 Public Information Centre #1

The PIC was held on Wednesday, November 29, 2017, from 6:00pm to 8:00pm at the Royal Canadian Legion in Beamsville, Ontario. The purpose of this PIC was to introduce the study to the public, background information, and describe the Class EA process being followed. Since this was an introductory PIC, no alternative solutions were presented. An information package and comment form were distributed to all PIC attendees during the session. A total of eight (8) PIC attendees submitted comments. A summary of their comments is provided in Table 8.3 and provided in **Appendix 9-5**.

8.3.2 Public Information Centre #2

A second PIC was held on September 6, 2023, from 7:00pm to 9:00pm at the Royal Canadian Legion in Beamsville, Ontario. The purpose of this PIC was to present the evaluation of alternative solutions and the preliminary design of the preferred solution. Comment sheets were made available to PIC attendees so they could provide feedback on the materials presented.

A total of seven (7) PIC attendees submitted comments. A summary of their comments is provided in Table 8.4 below and provided in Appendix 9-6. After the PIC, presentation materials were published on the Region's project website and made available for several days after the PIC so that those unable to attend PIC #2 were able to participate in the Study and provide their comments.

8.3.3 Project Website

In addition to the formal consultation described above, contact information of the Project Manager, including email, telephone and mailing address were available to the public on the Region's project website at <https://niagararegion.ca/projects/king-st-improvements/>, and was included in all public notices distributed. This provided an ongoing opportunity for members of the public to submit their questions, concerns, and/or comments regarding the study to the project team at any time during the study. General comments and questions received during the PIC and via email are summarized in Table 8.5 and is available in **Appendix 9-7**.

Table 8.3 Comments Received During PIC #1

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
PIC #1 Attendee - Comment Form	Concerns over potential acquisition of property	November 29, 2017	Upon review by the project team the centre lane alternative was removed limiting property acquisition
PIC #1 Attendee - Comment Form	Attendee agrees with King St improvements & Thirty Rd intersection improvements. Truck Traffic on Thirty Rd - should be local traffic to/from Smithville Trees that overhang on King should be trimmed	November 29, 2017	Regional Roads are designed for truck traffic. Region arborist reviewed tree trimming requirements for sightlines with Project team
PIC #1 Attendee - Comment Form	Visibility improvements required at King and Lincoln intersection. Speed limit a factor Want pylon to support sign at corner of lot during repaving Minimize impact to pk lot and entrances to August restaurant during construction.	November 29, 2017	King /Lincoln intersection to have traffic signals installed. Existing signage and entrance to parking lot to be maintained throughout construction.
PIC #1 Attendee - Comment Form	Bike & Walkways No Centre Lane Need to slow traffic by Thirty Rd.	November 29, 2017	Upon review by the project team the centre lane alternative was removed
PIC #1 Attendee - Comment Form	Speed Limit coming out of roundabout 50 to 70 kms concern for children in area Blind spots where road dips at Legion Autistic children in area where speed limit increases Water line not properly done - check property line	November 29, 2017	Speed limit reduced to 60km/hr on this section lowered towards school at west of project limits to 50km Alignment reviewed and adjusted to meet standards in this section

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
			Watermain/service reviewed in correct location
PIC #1 Attendee - Comment Form	Lower speed limit to 50km/h Concerned about driveway slope, would like it lowered to prevent issues in icy conditions Willing to work with Town re extra costs if any.	November 29, 2017	Speed limit reduced to 60km/h. Blended gravel dr/w at 8% max into steep slope per request
PIC #1 Attendee - Comment Form	Concerns with option 3 and widening road on north side Likes wide shoulders on option 2 Thirty Rd intersection needs improvements Continuous turning lane is not necessary	November 29, 2017	Upon review by the project team the centre lane alternative was removed Option 2 is preferred alternative Thirty Rd intersection improvements made
PIC #1 Attendee - Comment Form	View to west from Thirty Rd is obstructed	November 29, 2017	Thirty Rd intersection improvements made

Table 8.4 Comments Received During PIC #2

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
PIC #2 Attendee – Comment Form	A resident requested a barrier between motorists and cyclists	September 6, 2023	The Project Team is moving forward with their preferred design concept which includes paved shoulders and buffer.
PIC #2 Attendee – Comment Form	A resident expressed concerns about poor sightline issues at the King Street and Thirty Road intersection.	September 6, 2023	The Project Team noted that this intersection is being reconfigured and realigned to improve sightline issues.
PIC #2 Attendee – Comment Form	A resident requested a separate cycling facility be accommodated.	September 6, 2023	The Project Team is moving forward with their preferred design concept which includes dedicated bike lanes.
PIC #2 Attendee – Comment Form	A resident expressed concerns about existing issues with gravel/sand washing down their driveway from the shoulder. The resident also expressed concerns about the culvert crossing.	September 6, 2023	The Project Team noted the resident's concerns; to be addressed during detailed design.
PIC #2 Attendee – Comment Form	A resident requested a pedestrian crosswalk be implemented at the King Street and Lincoln Avenue intersection.	September 6, 2023	The Project Team proceeded with the preferred design concept as is. The signalized intersection at Lincoln Avenue will address the pedestrian crossing.
PIC #2 Attendee – Comment Form	Resident lives near Thirty Road and requested a privacy fence be implemented for their property. The resident also suggested a culvert across the entire frontage of their property.	September 6, 2023	The Project Team noted that the Region will not provide a privacy fence, however there may be opportunity to provide trees if they do not

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
			cause sightline concerns or conflicts with utility infrastructure.
PIC #2 Attendee – Comment Form	A resident requested that the guiderail is according to standards for cyclists where required along the corridor.	September 6, 2023	The Project Team noted that traffic signals and pedestrian facilities are warranted at the King Street and Thirty Road intersection.

Table 8.5 Comments Received from Residents and Public

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
Website Inquiry	Resident was interested in receiving updates regarding this Study and how the plans for reconstruction would impact their property.	March 13, 2023	The Project Team responded by sending a pdf drawing at the Resident's location and that the Website will provide updates as they become available.
Email	A resident expressed concerns regarding utility pole relocations in front of their property and the impacts it would have on their property.	June 6, 2023	The Project Team responded noting the resident's concerns will be forwarded to NPEI to request accommodation of better turning movements for the property owner.
Email	The resident expressed interest in having accommodation on the roadway for cyclists. The resident suggested that bike lanes or at least paved shoulders be implemented.	June 8, 2023	The Project Team responded, confirming that paved shoulders will be included in the new cross-section.
Phone Call	A resident expressed concern regarding truck traffic, use of engine breaks and the smell of diesel fumes if stopped at the lights. The resident would like truck traffic to be re-routed or a privacy wall put up. The resident does not want lights from traffic and signals coming in through their window.	June 13, 2023	The Project Team responded, tree planting would be considered on west property line along Thirty Road to dampen noise and provide privacy.
Email	A resident inquired about the impacts to their property as a result of the proposed works as they recently completed landscaping work on their front lawn including an irrigation system. The resident noted that a portion of their frontage is owned by the Region, but the property owners maintain it as it directly impacts their curb appeal.	June 20, 2023	The Project Team noted that the irrigation system on Regional property should be marked or staked for construction purposes. Any damage to the irrigation system identified on Regional properties will be replaced/repared by the Contractor. Any damage to the irrigation system not

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
			identified on Regional property will be the responsibility of the property owner.
Phone Call	A resident is concerned about sight lines when leaving their driveway as it's hidden from trees.	June 26, 2023	The Project Team noted that the corridor is being moved north, providing the resident with 2m of extra space and a paved shoulder, thus improving sight lines.
Email	The resident would like to work together and develop a plan with signage for traffic management and detours when construction commences. The resident noted that the area is a huge tourist destination and construction within the area would impact the Beamsville Bench group of wineries.	July 14, 2023	The Project Team noted that one lane of traffic will be kept open during construction with adequate signage so businesses can remain open. It was noted that any detour routes (if necessary) will be pre-determined with a traffic management plan and coordination with the Region and Contractor.
Email	Resident requested a separate bike lane be installed connecting Beamsville and Grimsby school students to the school. Resident indicated that the bike lane should be protected from traffic and no barriers would pose a safety concern.	August 29, 2023	Project Team will be adding a multi-use path from the roundabout at Greenlane, west to the new high school as part of this project. A new separate sidewalk has also already been installed on the south side which connects St. John Catholic Elementary to the Grimsby boundary. For the road design East of the roundabout to Lincoln Ave., the Project Team has incorporated on street cycling facilities via a paved shoulder and painted buffer. This portion of road is not part of either the Town of Lincoln or Regional Bike Routes.

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
Email	Resident has been seeing a few articles on the King St. improvements that are currently in the planning and design stages. Seems like the area is being built up with new homes and the new school and now these changes are making it's way further down King Street. Resident is seeing these 'Hands off Thirty' signs as well. Not sure what it means but just wondering how this affects other roads/areas, for example the resident lived on Thirty Road and know a lot of the homes are on a septic bed. Does the design and drainage improvements include Thirty Rd and other roads off of King Street? Will homes that are on a septic bed be updated to town sewer eventually?	August 30, 2023	The Project Team provided a link to PIC #2 materials for the resident's reference. The Project Team described the scope of the project in their response to the resident.
Online Comment Form	Resident agreed with improvements shown at PIC #2, particularly the addition of a paved shoulder/bicycle lane. Stop lights and turning enhancements at the intersection of 30 Rd are most urgently required due to additional traffic, mainly; school busses to the new Secondary School and the heavy commercial redirects from the Ontario St. truck ban. My only negative comment: why this takes nearly 10 years from start to completion and how can this project which lies mainly within Lincoln Ward 2 go ahead with little or no coordination between The Town of Lincoln and Niagara Region.	September 12, 2023	The Project Team spoke with the Resident in person on this subject at PIC #2.

Group / Medium	Comment Summary	Date Received	Consideration of Comments in Class EA
Online Comment Form	A Jah-Jireh Retirement Home representative requested for the Project Team to conduct a site visit to show the Home exactly how the proposed road reconstruction will affect the south end of their property. The Home is aware that their fence and gardens will be impacted but unclear as to what extent.	September 14, 2023	The Project Team provided via email, a link to the PIC #2 presentation and preferred design plans and summary information.
Email Comments	Projected schedule and timeline concerns	November 30, 2023	The Project Team to confirm schedule upon completion of the EA and Funding.

9.0 ADDITIONAL WORK AND APPROVALS

9.1 Permits and Approvals

- MECP
 - › If proposed activities have potential to have an impact or are uncertain about the impacts to SAR, SAROntario@ontario.ca will be contacted to undergo a formal review under the ESA.
- MCM
 - › Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the Ontario Heritage Act.
 - › The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.
- NPCA
 - › NPCA requires permits for culvert crossings. There are seven (7) crossing stations that will require permits: 1+645, 2+020, 2+270, 2+560, 2+650, 2+820, and 2+880.

9.2 Distribution of Notice of Study Completion and Project File Report

In accordance with the requirements of the Municipal Class Environmental Assessment (MCEA) – Schedule 'B', a Notice of Study Completion is anticipated to be issued in **Fall 2024**. Through issuance of the Notice of Study Completion, this Project File Report (PFR)

documenting the planning process undertaken, details of the study recommendations, and potential impacts and mitigation measures will be placed on the public record for the mandatory 30-day review period.

The Notice of Study Completion will also advise the public that during the 30-day review period, a request may be made to the Ministry of the Environment, Conservation and Parks (MECP) for an order requiring a higher level of study (i.e., requiring an individual/comprehensive EA approval before being able to proceed), or that condition be imposed (e.g., require further studies), on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and Treaty rights.

Following the close of the 30-day public review period, the MECP has an additional 30 days to consider the project and review any potential Section 16 Order requests submitted during the 30-day public review period. The Niagara Region may not proceed with the project for at least these 30 days of the MECP review period.

Following the 30-day MECP review period, the project may proceed to detailed design and construction provided the ministry is not reviewing Section 16 Order requests related to the project and subject to any other permits and approvals that may be required.