

Eastern Bridge Project

Summary

Initial Project Description

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For Submission to the
Impact Assessment Agency of Canada



Public Services and
Procurement Canada

Services publics et
Approvisionnement Canada



NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

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Contributing organizations include:

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- Parsons
- Stantec
- Robinson Consultants
- CBCL Limited

Any errors or omissions in this document are the responsibility of PSPC and the NCC.

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Acronyms & Abbreviations

Acronym/Abbreviation	Defined
AANTC	Algonquin Anishinabeg Nation Tribal Council
AOO	Algonquins of Ontario
AOPFN	Algonquins of Pikwakanagan First Nation
ARTVS	<i>Act Respecting Threatened or Vulnerable Species</i> (Québec)
CAAQS	Canadian Ambient Air Quality Standards
CDPNQ	Centre de données sur le patrimoine naturel du Québec
CEAA	<i>Canadian Environmental Assessment Act</i>
CHRS	Canadian Heritage Rivers System
CIAR	Canadian Impact Assessment Registry
CMA	Census Metropolitan Area
CNEL	Climate, Nature and Economy Lens
CNWA	<i>Canadian Navigable Waters Act</i>
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPTED	Crime Prevention Through Environmental Design
CRD	Construction, Renovation and Demolition
CSA	Canadian Standards Association
CVRA	Climate Vulnerability Risk Assessment
CWS	Canadian Wildlife Service
dBa	A-weighted decibels
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
ESC	Erosion and Sediment Control
FLUDTA	Federal Land Use, Design and Transaction Approvals
FMZ	Fisheries Management Zone
FSDS	Federal Sustainable Development Strategy
GBA+	Gender-based Analysis Plus
GDP	Gross Domestic Product
GGs	Greening Government Strategy: A Government of Canada Directive
GHG	Greenhouse Gas
HOV	High Occupancy Vehicle
HHRA	Human Health Risk Assessment
IAA	<i>Impact Assessment Act</i>
IAAC	Impact Assessment Agency of Canada
IPD	Initial Project Description
IPP	Indigenous Participation Plan
IPT	Integrated Project Team
km	Kilometre
KERWN	King Edward-Rideau-Waller-Nicholas
KZA	Kitigan Zibi Anishinabeg First Nation
LSA	Local Study Area

Acronym/Abbreviation	Defined
LTICP	Long-term Integrated Interprovincial Crossings Plan for the National Capital Region
MBCA	<i>Migratory Birds Convention Act, 1994</i>
m	Metre
MCA	Multi-Criteria Analysis
MCC	Ministère de la Culture et des Communications du Québec
MECP	Ontario Ministry of Environment, Conservation, and Parks
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs du Québec
MNR	Ontario Ministry of Natural Resources
MNRF	Ontario Ministry of Natural Resources and Forestry
MTCG	Ontario Ministry of Tourism, Culture, and Gaming
MTO	Ontario Ministry of Transportation
MTMD	Ministère des Transports et de la Mobilité Durable du Québec
NAPS	National Air Pollution Surveillance Program
NCC	National Capital Commission
NCR	National Capital Region
NHIC	Natural Heritage Information Centre
NSA	Noise Sensitive Areas
O.Reg.	Ontario Regulation
OAAQC	Ontario's Ambient Air Quality Criteria
OD Survey	Origin-Destination Household Travel Survey
PA	Project Area
PAG	Public Advisory Group
PTTW	Permit to Take Water
PSPC	Public Services and Procurement Canada
QAQS	Québec Air Quality Standards
SACC	Strategic Assessment of Climate Change
SAR	Species at risk
SARA	<i>Species at Risk Act</i>
SCA	<i>Species Conservation Act, 2025 (Ontario)</i>
SGEC	Sir George-Étienne Cartier Parkway
SEEA	Strategic Environmental and Economic Assessment
SoCC	Species of conservation concern
STO	Société de transport de l'Outaouais
SWM	Stormwater Management
TAC	Transport Association of Canada
VC	Valued Components

Glossary of Terms

Term	Defined
Active Transportation	Walking, running, cycling, and other physically active modes of transport.
Fish	Organisms defined in s. 2.1 of the <i>Fisheries Act</i> , including fish, shellfish, crustaceans, and marine animals.
Fish habitat	Defined in s. 2.1 of the <i>Fisheries Act</i> as water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply, and migration areas.
Greenhouse Gas	Carbon dioxide (CO ₂), methane (CH ₄), and other gases whose emissions contribute to climate change.
Information and Management of Time Limits Regulations	Regulation under the <i>Impact Assessment Act</i> detailing the required content of the Initial Project Description.
Interprovincial	Connections and movement across the Ottawa River between Ontario and Québec.
Migratory bird	Bird species protected under the <i>Migratory Birds Convention Act, 1994</i> .
Monte Carlo Sensitivity Analysis	Statistical method used to evaluate project alternatives with a high level of confidence.
Noise Sensitive Area	Residential areas and other locations where excess noise may affect human health.
Local Study Area	The area encompassing all Project components plus a 300 m buffer to describe valued components and assess potential effects.
Species at risk	Species listed under Schedule 1 of the <i>Species at Risk Act</i> (SARA) or under the Ontario <i>Species Conservation Act, 2025</i> (SCA) as endangered or threatened, or under the Québec <i>Act respecting threatened or vulnerable species</i> (ARTVS) as threatened or vulnerable.
Species of conservation concern	Includes species listed under Schedule 1 of SARA as special concern; assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered, threatened or special concern but not yet listed under SARA; listed under the ARTVS as likely to be designated as threatened or vulnerable; and species considered nationally or provincially rare.
Valued component	Elements of the natural and human environments identified as being important during the impact assessment process and that may be affected by the Project.
Weighted factor	Environmental component considered in the evaluation of project alternatives

Part A: General Information

1 Project Overview

The NCR includes the cities of Ottawa (Ontario) and Gatineau (Québec) as well as several surrounding rural municipalities and covers an area of 4,715 square kilometres (km²) straddling the Ottawa River. In 2025, the region was home to approximately 1,700,014 people (Statistics Canada, 2025). The NCR operates as a single metropolitan area where residents may work and live in different provinces.

The NCR is in the traditional territory of the Anishinabe Algonquin Nation.

The Eastern Bridge Project is a transportation initiative that includes the planning, design, and construction of a new interprovincial bridge and corridor between Ottawa and Gatineau, spanning the interprovincial boundary on the Ottawa River (Figure 1-1). The Project also includes modifications to existing roads and intersections along the Montée-Paiement-Aviation Parkway corridor.

The Project areas shown in Figure 1-1 are defined as follows

Project Area (PA): Encompasses the anticipated area of physical disturbance associated with the construction and operation of the Project.

Local Study Area (LSA): Encompasses the PA, the area in which Project-related impacts or effects are anticipated to occur, with a 300m buffer surrounding it.

The selected corridor connects Autoroute 50 (Guy Lafleur Highway) via Montée-Paiement in Gatineau with highway 417 (Queensway) via the Aviation Parkway in Ottawa. It is planned to accommodate all modes of transportation including pedestrians, bikes, transit, private, and commercial vehicles.

The corridor is approximately 11 kilometres (km) long, including about 2 km of bridge spanning the Ottawa River. The Project is being conceived in segments to reflect the unique context, communities, and conditions and how they vary along the length of the corridor (see Sections 7 and 13 for details).

Project Location

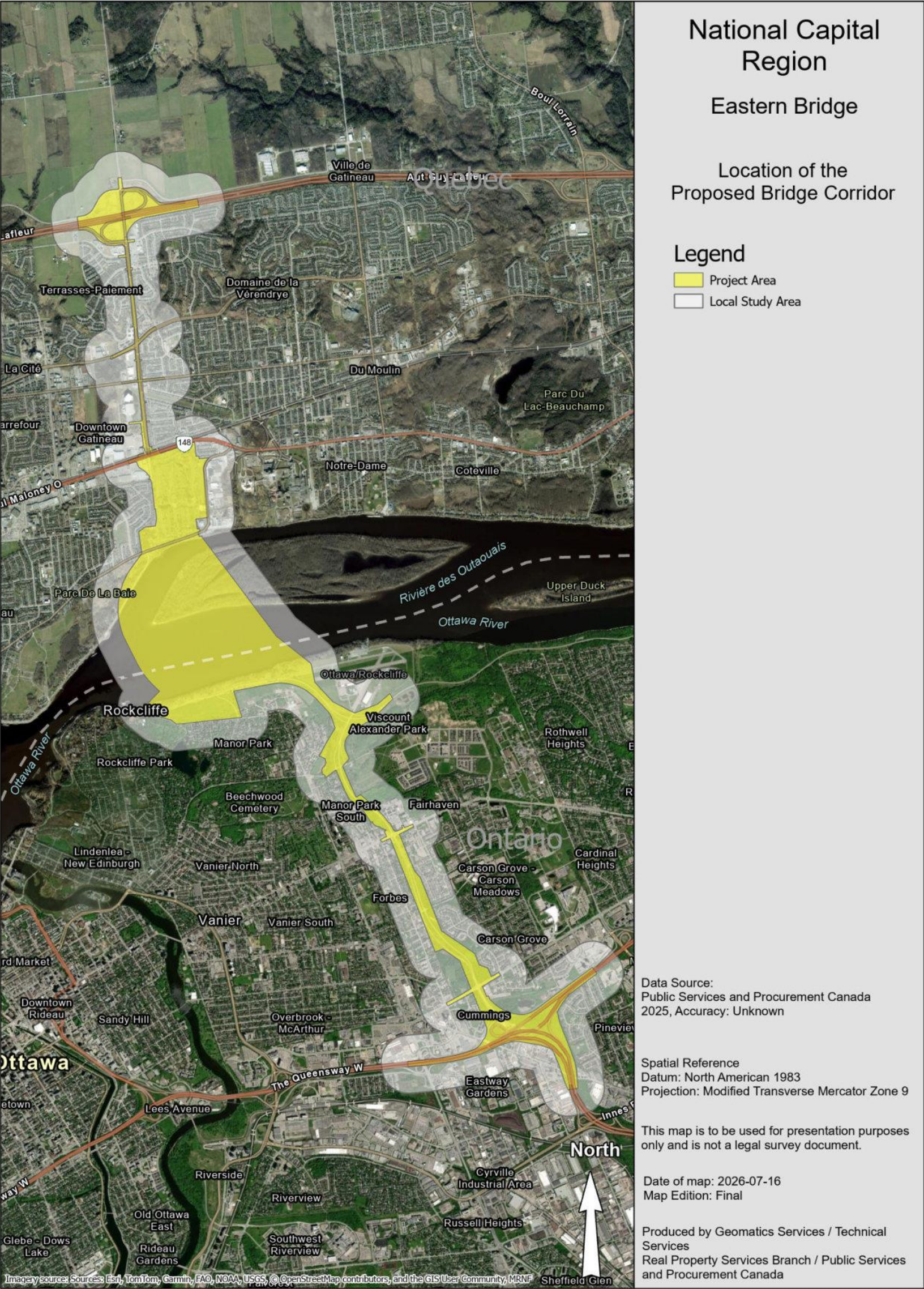


Figure 1-1: Location and Corridor Boundaries of the Eastern Bridge Project

1.1 Document Overview

This IPD structure reflects the requirements of Schedule 1 of the *Information and Management of Time Limits Regulations*. Table 1-1 provides an overview of the content and structure.

Table 1-1: Document overview

Section	Description of Content
1 - Project Overview	Overview of the Project, including the Project's name, type, proposed location, planning background, and a document structure.
2 – Proponent Information	The proponent's (IPT's) names and contact information and the names and contact information of their primary representatives for the purpose of the IPD.
3 – Summary of Engagement	A summary of public and stakeholder engagement undertaken, including a summary of the key issues raised and the results of the engagement, and a brief description of plans for future engagement.
4 – Summary of Indigenous Engagement	A list of the Indigenous groups that may be affected by carrying out the Project, a summary of any engagement undertaken with the Indigenous peoples of Canada, including a summary of key issues raised and the results of the engagement, and a brief description of plans for future engagement.
5 – Environmental Studies and Regional Planning or Assessment	A list and brief description of studies and plans that are relevant to the Project, that are being or have been conducted in respect of the NCR.
6 – Strategic Assessment	A brief description of strategic assessment(s) relevant to the Project that have been or will be carried out under section 95 of the IAA.
7 – Project Purpose and Need	A statement of the purpose of and need for the Project, including the regional planning context, potential benefits, and functional requirements.
8 – Provisions Describing the Designated Project	The provisions in the schedule to the <i>Physical Activities Regulations</i> describing the Project, in whole or in part.
9 – Project Infrastructure	A description of infrastructure, permanent or temporary structures, physical works, and activities that are included in and associated with the construction, operation, and decommissioning of the Project.
10 – Production Capacity	A description of projected traffic volumes and bridge capacity.
11 – Project Schedule	The anticipated schedule for the Project's construction, operation, decommissioning, and abandonment.
12 – Project Alternatives	An overview of the potential alternatives to the Project that have been considered and the potential alternative means of carrying out the Project that are being considered and that are technically and economically feasible.
13 – Project Location Information	A description of the Project's proposed location, including its proposed geographic coordinates, the proposed locations of major ancillary facilities, and a description of the spatial boundaries of the proposed study corridor. Maps that show the Project's proposed general location and the spatial relationship of the Project components.

Section	Description of Content
	A legal description of land to be used for the Project, including, if the land has already been acquired, the title, deed or document, and any authorization relating to a water lot. The Project's proximity to federal lands. The Project's proximity to residences and to the nearest affected communities. The Project's proximity to land used for traditional purposes by Indigenous peoples of Canada, First Nation land, and land that is subject to a comprehensive land claim agreement.
14 – Physical and Biological Environment	A brief description of the physical and biological environment of the Project location.
15 – Socio-Economic Environment	A brief description of the health, social, and economic context in the region where the Project is located.
16 – Federal Financial Support	A description of financial support that federal authorities are providing to the Project.
17 – Regulatory Jurisdiction	A list of any jurisdictions that have powers, duties, or functions in relation to an assessment of the Project's environmental effects.
18 – Potential Effects on the Environment within Federal Jurisdiction	A list of non-negligible adverse changes to the following components of the environment that are within the legislative authority of Parliament that may be caused by the carrying out of the Project: • fish and fish habitat, as defined in the <i>Fisheries Act</i> • aquatic species, as defined in the <i>Species at Risk Act</i> • migratory birds, as defined in the <i>Migratory Birds Convention Act, 1994</i> Adverse changes to the marine environment that are caused by pollution and that would occur outside Canada are not anticipated for this Project. Carrying out of the Project is not anticipated to cause non-negligible adverse changes to marine plants, as defined in subsection 2(1) of the <i>Species at Risk Act</i>.
19 – Potential Effects on the Environment	A brief description of non-negligible adverse changes to the environment including interprovincial waters that may be caused by the carrying out of the Project. This Project is to be carried out on federal and non-federal lands and is a federal undertaking. This section discusses adverse effects beyond those in typical areas of federal jurisdiction.
20 – Potential Impacts on Physical and Cultural Heritage of Indigenous Peoples	A brief description of non-negligible adverse impacts on physical and cultural heritage, the current use of lands and resources for traditional purposes or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance—with respect to Indigenous peoples of Canada and resulting from any change to the environment—that may be caused by the carrying out of the Project.
21 – Potential Impacts on Health or Socio-economic Conditions of Indigenous Peoples	A brief description of non-negligible adverse changes occurring to the health, social or economic conditions of the Indigenous peoples of Canada, that may be caused by the carrying out of the Project.
22 – Greenhouse Gas Emissions	An estimate of greenhouse gas (GHG) emissions associated with the Project.

Section	Description of Content
23 – Waste and Emissions	A list of the types of waste and emissions that are likely to be generated by the Project.
24 – Environmental Protection	A brief description of management plans that will be required for construction and operation of the Project.
25 – References	A list of cited references in the document.
Appendices	Additional information to support the IPD.

2 Proponent Information

The individuals identified in Table 2-1 below should be included in correspondence regarding this Project. Correspondence may be provided to the IPT in either official language.

Table 2-1: Proponent contact information

Proponent	Planning Collaboration
<u>Public Services and Procurement Canada</u> 165 Rue l'Hôtel-de-Ville, phase II, Place du Portage Gatineau (Québec) J8X 0A3 Tel: 1-800-926-9105 Email: questions@tpsgc-pwgsc.gc.ca	<u>National Capital Commission</u> 100-12 York Street Ottawa (Ontario) K1N 5S6 Tel: 1-800-465-1867 Email: info@ncc-ccn.ca
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3 Summary of Engagement

3.1 Institutional Engagement

Federal Departments

Introductory meetings were held with Fisheries and Oceans Canada (DFO) and Transport Canada as well as NCC's team overseeing the FLUDTA process to provide an overview of the Project and initiate discussions on regulatory requirements.

Fisheries and Oceans Canada (DFO) did not have issues of note during the meeting but wished to be informed regularly on Project updates to coordinate required approval details within the ongoing impact assessment.

Discussions with Transport Canada (TC), Nav Canada and the Ottawa/Rockcliff Airport sought to gather information related to airport and waterdrome operations as well as navigation channel constraints that must be considered in the design of the road leading up to as well as the bridge itself.

The alignment of the bridge must consider the preliminary obstacle limitation surface (OLS) for the Ottawa/Rockcliffe Airport (CYRO) which imposes height limitations on the main crossing superstructure. Further discussions will be required to address potential impacts to the waterdrome operations.

Two navigation channels were identified in the Project Area (PA). The main channel is in the wider portion of the river closest to the Ottawa shoreline while a secondary channel is between Kettle Island and the Gatineau shoreline. Further discussions will be required as the Project progresses to coordinate required information to support approvals.

Potential impacts to Species at Risk will be identified after the alignments have been selected and field studies completed for the entire corridor. This information will be essential to initiate discussions with Environment and Climate Change Canada (ECCC) regarding proposed mitigation strategies and potential permitting required under the *Species at Risk Act* (SARA).

Transportation Partners

Meetings with Ontario Ministry of Transportation (MTO), Ministère des Transports et de la Mobilité Durable du Québec (MTMD), City of Ottawa, and Ville de Gatineau were held to introduce the Project and begin discussions regarding potential impacts to municipal and provincial infrastructure. Also invited to these early discussions were both entities responsible for transit in Ottawa and Gatineau, OC Transpo, and the Société de Transport de l'Outaouais (STO).

Key takeaways include:

- Strong emphasis on collaboration across the IPT, provincial, and municipal levels. Notably, OC Transpo and STO asked for joint participation in transit-related meetings.
- Transit and infrastructure integration are central to the Project's planning, with ongoing coordination needed. A four-lane cross-section with improvements for sustainable transportation was discussed for Montée-Paiement.
- Concerns about trucking corridors (King Edward-Rideau-Waller-Nicholas and Montée-Paiement).

- Sharing of Project data and studies was emphasized to support the Project planning and coordination.
- Potential interactions between the Project and work planned by MTMDQ on the Montée Paiement-Autoroute 50 Interchange.
- Potential interactions between the Project and work planned by Ville de Gatineau to widen Boulevard la Vérendrye.
- Concern about congestion; wanted to know whether lanes reserved for public transit would be considered. Transit travel times/reliability are priority within STO.
- Encroachment permits, right-of-way approvals, and property access agreements will be required.
- Requests to stay involved throughout the Project lifecycle with opportunities to review the designs. MTO will participate in the design process once an agreement is in place.
- A concept design and design parameters are needed before drafting an agreement.
- Will need details on data/plans that will impact segments of Ottawa traffic, urban integration, transit systems.
- Sharing the forecast of construction projects for the City of Ottawa will contribute to opportunities for coordination.
- OC Transpo is looking for details on potential impacts on existing transit routes that the Project may create.

Municipal Departments

An introductory meeting was held with representatives from the Ville de Gatineau water treatment plant.

Key issues raised during the meeting included:

- Scenarios and assumptions used to select the corridor, if the water intake was considered in the analysis.
- Risks related to contaminants, spills, and hazardous materials. Bridge alignment alternatives within the corridor should consider the water source protection zone and associated vulnerabilities related to water quality.
- Need to establish mitigation measures, monitoring to address turbidity and sediments, including acceptable thresholds and containment measures during construction.
- Studies of raw water quality will be required prior to, during, and after construction.
- During construction and in preparation for operation of the bridge, a contingency plan, including alert mechanisms or work stoppage procedures will be required.
- It will be important to discuss the location of stormwater discharge outlets and the capacity of retention structures to take into consideration extreme scenarios such as spill of hazardous materials combined with heavy rainfall events.
- Protocols to manage emergencies that include response times and a system for communicating with the Ville de Gatineau will be required for decisions to shut down the intake.

Provincial Impact Assessment Offices

Introductory meetings were held with members of Québec's Ministère de la lutte contre les changements climatiques, la faune et les parcs (MELCCFP) and Ontario's Ministry of Environment, Conservation, and Parks (MECP) to provide an overview of the Project and determine if the provincial legislative process was triggered or applicable.

The road realignment along Montée-Paiement and the footprint of the works within the river area may require an impact assessment under Québec's legislation and further discussions will be required as the Project is better defined.

Changes to the highway 174/417 interchange could require an assessment under a Class Environmental Assessment, if the Project is undertaken by the MTO as a separate component. This will be determined in future discussions with MTO.

3.2 Stakeholder and Public Engagement

3.2.1 Previous Engagement

This section provides an overview of the engagement initiatives and outcomes that occurred prior to the Government of Canada Eastern Bridge announcement in January 2025.

Key issues that emerged from the previous public engagement processes included concerns about the study process, environmental and socioeconomic impacts, and the justification for a new crossing.

- **Study process**—Throughout Phase 1 and Phase 2A, members of the public expressed a strong desire to participate in the evaluation and had questions about the study methods, planning process, and consultation process. There were questions about the factors and subfactors being used in the evaluation and suggestions for new subfactors or changes in how subfactors should be evaluated. There was an overall desire for fairness and transparency in evaluation methods.
- **Natural and socioeconomic environmental impacts**—Participants expressed concerns about how a new crossing might impact the natural environment. Concerns about how increased traffic, noise, and reduced air quality could affect nearby residents were frequently heard from Ottawa residents. Some residents expressed concern about the potential impacts to residential land values. There were also some concerns about how increased traffic could affect schools, hospitals, community centres, and other institutions.
- **Need and justification for a new crossing**—Some members of the public requested details about why a new crossing was needed over improvements to public transit. Some opposition to any new crossing of the Ottawa River was encountered from Ottawa residents.
- **Cost**—Some participants emphasized the importance of fiscal restraint and suggested that the Project could be funded, or costs recouped, through bridge tolls.
- **Truck traffic**—Increases in truck traffic on roads approaching the new crossing were a frequent concern, especially for residents around Aviation Parkway, which is currently closed to trucks.
- **Design**—Participants expressed the importance of design aesthetics and making the bridge a “world-class” structure within the NCR.
- **Urban integration**—Some participants expressed the importance of integrating the Project with existing infrastructure and ensuring it improves, rather than impedes, community cohesion.
- **Expropriation criteria**—Landowners requested transparency in how lands to be expropriated, if any, would be identified and how compensation would be determined.

3.2.2 Recent Engagement

Public Advisory Groups (PAG)

Three Public Advisory Groups (PAG) were established.

- **Ontario PAG**—members of community associations and condo boards located on the Ontario side of the corridor were invited to participate to represent diverse interests with a focus along the Aviation Parkway portion of the Project.
- **Québec PAG**—members of community associations and housing communities located on the Québec side of the corridor were invited to participate to represent diverse interests with a focus along the Montée-Paiement portion of the Project.
- **Environment and Sustainable Transportation PAG**—members of environmental and transportation advocacy groups were invited to participate to represent diverse interests with a focus on the river and shoreline portions of the Project and connectivity to the transportation network. AOPFN and KZA have also expressed an interest in participating in this group.

Key questions, comments, and concerns raised by the PAGs included:

Procedural issues

- Suggest that the multicriteria assessment process used in the design selection framework prioritize socio-cultural as well as environmental criteria.
- Question regarding Project governance, costs, funding responsibilities, and the availability and transparency of technical studies and data used to inform decisions.

Environmental concerns

- Environmental concerns related to air quality, noise, induced traffic, energy consumption, and impacts to sensitive ecological features and species along the corridor.
- Significant concerns regarding potential impacts to Kettle Island, including its ecological value, protected status, and cultural significance, as well as request for transparency on bridge alignment, pier locations, and mitigation measures.
- Concerns on potential fragmentation of sensitive natural areas.

Community impacts

- Concerns regarding the volume of anticipated diversion of truck traffic, and whether the Project could shift impacts from the downtown core to neighbourhoods along the corridor.
- Concerns about increased traffic volumes, safety, and human health impacts, particularly near intersections, residential areas, and areas experiencing planned growth or constrained roadway geometry.
- Recommend strengthening principles that reduce environmental and community impacts, reinforce safety for vulnerable users, and better reflect the needs of dense residential areas such as Montée Paiement.

Sustainability concerns (climate change)

- Impacts of climate change on the structures.

Long-term mobility (induced demand, congestion)

- Questions about how the Project aligns with municipal and regional transportation plans, including transit service capacity, interprovincial goods movement, and connections to major highways and transit systems.
- Requests for greater clarity on active transportation infrastructure, including cycling and pedestrian facilities, shoreline connections, winter maintenance, and how active transportation users will be protected from adjacent heavy vehicle traffic.

The next round of PAG meetings on the alignment and early design concepts is anticipated for summer 2026.

Potentially Affected Stakeholders

The IPT is organizing meetings with potentially affected stakeholders to understand their specific concerns that may influence the design alternatives under consideration. Current outreach efforts include engagement with the Montfort Hospital, Canada Aviation and Space Museum, RCMP (Musical Ride), Tecumseh Golf Course, Ottawa/Rockcliffe Airport and Ottawa Flying Club, Library and Archives Canada, as well as various educational institutions, daycare facilities, and other establishments located within the Ontario and Québec segments of the corridor (Table 3-1).

The IPT will also carry out targeted outreach with representatives of the trucking industry to better understand the operational realities, challenges, and preferences of freight carriers operating between Ontario and Québec.

Table 3-1: Summary of meetings with Potentially Affected Stakeholders

Stakeholder	Key Issues Raised
Montfort Hospital	Emergency Access: Continued need to allow for access for emergency vehicles, even throughout construction. Redevelopment and Expansion: Montfort has plans for expansion over the coming years; would not want Project to impact construction. Land Acquisition: Current land acquisition for parcel on Aviation. Communication and Engagement: Requested continued updates and engagement throughout the Project lifecycle.
Collège La Cité	Public Transit & Accessibility: Ensure strong public transit connections with a stop near the entrance. Consider campus connectivity and the impact on access routes, including changes to dedicated transit lanes on Montreal Road and Ogilvie. Trucking Growth & Road Capacity: Determine if additional lanes are planned to accommodate intensified truck transport and ensure reasonable commute times and sufficient capacity for growing traffic demand. Student & Staff Accessibility: Many students prefer a quick Uber ride (20 minutes) over an hour on public transit. The college has over 8,000 students and 1,000 staff members.
Canada Aviation and Space Museum	Vibration Risks: Concerns were raised about increased vibrations affecting the museum's varied artifact collection, particularly floor vibrations. Noise Impact: Potential rise in noise levels could negatively affect the visitor experience. Traffic & Access Issues: Aviation Parkway is the sole access route; an off-ramp would improve access.

Stakeholder	Key Issues Raised
Rockcliffe Flying Club	Transit Gaps: Lack of bus service to the museum creates accessibility challenges. A connection to LRT or Rapibus would be highly beneficial. Runway Limitations: The Rockcliffe Flying Club emphasized that the existing short runway is critical for operations. They cannot function with a shorter runway and expanding East is considered impossible due to environmental constraints. Engine Failure Scenarios: Pilots taking off from runway 27 and experiencing engine failure currently have the RCMP stables field as an emergency landing option, which could be lost. Floatplane Operations: The bridge may interfere with the use of the water runway at the waterdrome for floatplanes.
Royal Canadian Mounted Police – The Musical Ride	Traffic & Access Concerns: RCMP emphasized the need to maintain emergency access near their Montreal Road campus during construction. Construction Uncertainty: Questions about off-site construction, blasting, and site access were raised. Bridge Alignment & Environmental Impact: Concerns about the bridge's alignment and its potential effect on horses at the campus were noted. Further studies on noise, vibration and environmental risks are planned to address these concerns.
Library and Archives Canada	Federal Approval & Process Clarity: Questions raised about whether federal approval means a further decision point or if the Project is still in pre-planning. Traffic & Environmental Impact: Concerns about truck traffic along the corridor, potential designation as a truck route, and effects on surrounding land and residents. Regulatory Approvals: Questions about FLUDTA approval for Aviation Parkway and other required approvals. Parking Concerns: Impact on employee parking needs verification; will be reviewed with technical specialists.
Nature Conservancy of Canada	Bridge Alignment & Environmental Impact: Concerns about the bridge's alignment and its potential impacts to the biophysical values protected under the Provincial <i>Nature Reserve on private lands</i> designation.
Navigation Canada	Assessment of approach procedures: NAV Canada would need to evaluate scenarios.

Public outreach

An initial public survey, open from June 19 to July 10, 2025, was conducted to collect public input on the Project's most important benefits and its potential impacts. The online survey received over 7,000 views and a total of 5,113 responses during this period. Understanding the public's perspectives and concerns will lay a strong foundation towards mitigation of potential negative impacts to adjacent communities.

In this first round, the public was invited to:

- identify the Project’s most important benefits from a community perspective;
- share their thoughts on the Project’s potential impacts on people, places, and the environment;
- propose mitigation measures; and
- help shape the initial planning and design principles that will guide the Project’s development.

Survey Findings

Transportation and Connectivity:

- Ranked as number “1” topic by 48.91% of respondents.
- Clearly the top priority for the majority of participants.

Community and Health Impacts:

- Strong presence across ranks 1 to 3.
- Ranked second by 26.81% of respondents.

Environmental Concerns:

- Most ranked as number “2” by 36.94% of respondents.
- Shows significant concern for environmental factors, though less often ranked as the top priority.

Economic Opportunities:

- Most frequently ranked as fourth by 48.51% of respondents.
- Generally considered less important compared to other topics.

Other (respondents were provided the opportunity to add topics of concern):

- Mostly ranked as #5 by 46.36% of respondents.
- Indicates that predefined categories captured most concerns.

A summary of key concerns raised to date is provided in Table 3-2.

Table 3-2: Summary of public concerns and planning considerations

Questions and concerns	Planning considerations
Traffic and Transportation	
Project justification • the need for the Project based on shifting travel in the core area to transit	Projections for interprovincial travel demand remains high. The long-term goal is to maintain lane capacity for general purpose vehicles while increasing lanes and capacity allocated to transit and high-occupancy vehicles, which are considered in the 50-year transportation plan.

Questions and concerns	Planning considerations
Traffic and congestion - the Project will not reduce congestion but simply relocate the problem to new areas - potential congestion in neighbourhoods	Section 7 – Project Purpose and Need provides details on the Project justification. The Project will seek to increase access for all modes while minimizing vehicular cut-through impacts to local residents as much as possible. It is also being developed in line with the LTIICP regional vision.
Regional transportation connectivity - integration of transportation modes including safe and accessible cycling and pedestrian routes - integration with municipal transportation plans - remove heavy truck traffic from downtown Ottawa - increased traffic near residential areas and at intersections where new developments are planned	The IPT is engaging with the cities on the design and are developing a set of project requirements that will guide the Project. An interprovincial truck strategy is being planned to develop recommendations to enhance interprovincial goods movement at the regional level while reducing and/or limiting impacts of truck traffic on adjacent communities. Active transportation options are part of the design. Multiple connection possibilities to regional networks are under consideration, with likely segregation of active transportation modes. Concerns related to efficient regional transportation management were noted and are a consideration as part of the development of the design.
Human Health Concerns	
Concerns regarding air and noise pollution for adjacent neighbourhoods.	This concern is being considered as part of the evaluation of various roadway and bridge design options. Further information on air quality is provided in Section 14.1 while potential effects are discussed in 19. This concern is being considered as part of the evaluation of various roadway and bridge design options. Further information regarding evaluation of alternative means of carrying out the Project are described in Section 12.2
Loss of greenspace and access to the river (loss of recreational/enjoyment opportunities).	
Community Concerns	
Concerns regarding community safety and human health due to the presence of trucks along the corridor.	These concerns are being considered as part of the evaluation of various bridge and roadway design options. Assessment of potential impact to community safety and human health are further discussed in Section 19.
Environmental Concerns	
Concerns for the protection of Kettle Island, the river's ecosystem integrity and greenspaces.	These concerns are being considered as part of the evaluation of various bridge alternatives and roadway design options.

Questions and concerns	Planning considerations
Concerns regarding minimizing the footprint of the bridge and using environmentally friendly construction practices. Loss of trees, vegetation, and scenic views along the Aviation Parkway and riverfront (loss of functional wildlife habitat).	An assessment of potential effects and mitigation strategies are discussed in Section 19.
Economic and Practical Considerations	
Concerns for property values and municipal taxes. Concerns about project delays, cost overruns, and fiscal responsibility.	This concern will be a consideration as part of the Project planning.

3.2.3 Plans for Future Engagement

Public and stakeholder engagement began in April 2025 and will continue through all phases of the Project, as required. Table 3-3 outlines the public consultation rounds currently planned and the approaches to be used.

Table 3-3: Public and stakeholder engagement plan for the Eastern Bridge

Round	Approaches
Round #2: Impact assessment process and early design concepts Fall 2026	Web update Project newsletter Partner and elected official engagement Public Advisory Group meetings Public online survey Targeted meetings with stakeholders GBA Plus outreach
Round #3: Design option refinement Winter 2027	Public participation summary report Web update Project newsletter Partner and elected official engagement Public Advisory Group meetings Public online survey Targeted meetings GBA Plus Outreach
Round#4: Reference concept 2027	Public participation summary report Web updates Project newsletters Partner and elected official engagement Public Advisory Group meetings Targeted meetings with stakeholders GBA Plus Outreach

4 Summary of Engagement with Indigenous Communities

4.1 Past Engagement

Five meetings were held with Indigenous communities in past engagement programs.

Key points raised included:

- Islands in the Ottawa River are of significance to Indigenous peoples.
- Importance of transparency and regular communication with Indigenous communities as the Project progresses.
- Financial resources are needed by Indigenous communities to meaningfully participate in consultation.
- Location and design of the new crossing should be based on archaeological studies.
- Fisheries and archaeological sites are of importance to Indigenous peoples.

4.2 Recent Engagement

Engagement with 15 communities and four (4) organizations was initiated to support several bridge related projects in the NCR over the last few years. For this Project, letters were sent on June 19, 2025 to all communities to advise them of the Project and to ensure that each community had the opportunity to identify how the community's Aboriginal rights might be affected, to provide input and express any concerns regarding the potential impacts of this Project on these rights and propose mitigation measures.

For this Project, a focused approach is being used to concentrate efforts on communities whose Indigenous rights could potentially be impacted by the Project. Based on active engagement with Bridges Program projects in the NCR, the IPT will continue to engage with Algonquins of Pikwakanagan First Nation (AOPFN) and Kitigan Zibi Anishinabeg First Nation (KZA). Moreover, it is noted that KZA has undertaken a Title Claim for a vast area that includes Kettle Island. Other communities and organizations will continue to receive regular updates on the progress of the Project. Table 4-1 provides a list of communities in each group.

Table 4-1: Indigenous communities and organizations to be engaged

Groups	Communities/Organizations
Primary groups: The Project is located within lands or within the territory where an Indigenous community, or Indigenous organisation representing communities, currently asserts rights and those rights could potentially be impacted by the Project.	• Algonquins of Pikwakanagan First Nation • Kitigan Zibi Anishinabeg (KZA)
Other communities: The Project is located within an area of interest of an Indigenous community or Indigenous organisation, and such interest could be impacted by the Project, which can include capacity to take contracts, and such contracts may be needed for the Project.	• Algonquin Anishinabeg Nation Tribal Council • Conseil de la Première Nation Abitibiwinni (Pikogan) • Algonquins of Ontario • Kebaowek First Nation • Nation Wendat • Communauté anicinape de Kitcisakik

Groups	Communities/Organizations
	• Long Point First Nation • Nation Anishnabe du Lac Simon • Apitipi Anicinapek Nation (formerly Wahgoshig First Nation) • Algonquin Nation Secretariat • Algonquins of Barriere Lake • Timiskaming First Nation • Wolf Lake First Nation • Métis Nation of Ontario • Mohawk Council of Kanesatake • Mohawk Council of Akwesasne • Mohawk Council of Kahnawà'ke

Collaboration Agreements

Funding is being made available by PSPC to ensure the Indigenous communities and organizations have the capacity to participate throughout the Project. Budget funds have been allocated over a multiyear period. The IPT began working with primary group Indigenous communities in 2025 to develop collaboration agreements that will include five- year budgets and work plans. These agreements will support the community's ability to plan and make commitments for activities. It is understood that the funding and work plans will be revisited as the Project evolves.

It is expected that regular meetings with primary group communities will occur once collaboration agreements are signed.

Indigenous Participation Plans

Support will be provided to Indigenous communities and organizations as they seek funding, collaboration, and other forms of support from other Government of Canada departments and agencies, other levels of government, training and educational institutes, unions, and contractors to increase the economic participation of their members.

4.3 Plans for Future Engagement

Planning & Impact Assessment

Discussions with Indigenous communities and organizations have taken place in the context of bridges projects across the NCR. A preliminary approach to continuing the conversation will be to validate with communities whether the cultural values and valued components that have been shared as part of other Bridges Program projects, such as the Alexandra Bridge Replacement Project, apply in this context as well.

Other activities include identifying community-led activities in support of information gathering for the Eastern Bridge Project. This involves confirming the budget and timing to arrange community activities, as well as undertake or participate in studies.

For the design of the new bridge, engagement involves initiating the conversation on alternative alignments and design principles, as well as identifying preliminary overarching interests regarding design elements. The IPT will seek input on the preliminary design, while continuing the conversation on valued components. These valued components will form part of the development of mitigation measures and follow-up programs for the construction

and operation phases of the Project. Early in the Project, discussions were initiated to identify overarching economic development opportunities of interest to Indigenous communities.

A workplan was included in the Collaboration Agreement with the Algonquins of Pikwakanagan First Nation (AOPFN) to ensure funding is available to support community engagement and to fund several studies that the community wishes to undertake to assess potential impacts to Indigenous rights. Efforts are underway to provide similar opportunities to Kitigan Zibi Anishinabeg (KZA) through the development of a Collaboration Agreement. Engagement and outreach will continue through all phases of the Project.

5 Environmental Studies, Regional Plans and Assessments

Plan for Canada's Capital 2017–2067

This plan (NCC, 2017) outlines a clearly defined framework to ensure that the capital continues to represent Canadians shared values, include the Indigenous peoples of Canada, and demonstrate a broad diversity of cultures. The Plan considers emerging challenges of the 21st century now facing the region, including a growing and aging population, continued urbanization, and the resulting pressure to steward our fresh water and green spaces. The challenge of rapid technological change accentuates the growing competitiveness between world city-regions for capital and human resources. The Plan must consider the impacts of climate change and heightened security risks. With these factors in mind, the Plan identifies a series of fundamental policy directions for federal departments and agencies to follow between now and 2067.

A key policy direction for this transportation project is *Milestone 17 - Improved Interprovincial Transportation*:

The NCC will collaborate with the cities, transport authorities and various community groups in the Capital Region to continue the development of multi-modal and interprovincial connections and better transit integration.

Capital Urban Lands Plan

The primary focus of the Capital Urban Lands Plan (NCC, 2025a) is providing planning direction for federal lands. A key role for this plan is to *contribute to the building of a liveable Capital Region*, with two goals presented to fulfill this role:

- Enhance the accessibility and integration of federal sites
- Promote sustainable urbanism and active mobility

Long-Term Integrated Interprovincial Crossings Plan

The LTIICP (NCC, 2025) sets out the overall direction for interprovincial transportation in the NCR and strategies to achieve the collective vision and objectives of the NCC and its partners. The LTIICP frames the delivery of the shared vision that creates a transportation system in three timelines over the next 30 years:

- Short-Term / Bold Starts (immediate to five-year horizon): represents immediate strategies and quick wins that have a very strong potential to move towards achieving goals and objectives.
- Medium-Term / Initiating Change (five- to ten-year horizon): represents strategies that can be taken in the near term that can play a greater role in shifting interprovincial travel behaviour.
- Long-Term / Sustaining Progress (beyond ten years): represents longer-term strategies where implementation requires further study or where the action may be influenced by the performance of others pursued under bold starts or initiating change.

Two broad categories of alternatives are explored to address these challenges (NCC, 2025):

- **Category 1 - Making better use of existing crossings**—actions, including enhanced transit service, reconfiguration of existing crossings and strong policies to manage interprovincial travel demand.
- **Category 2 - Investing in major infrastructure**—investments in new infrastructure to address 2050 transportation demands, such as a new tramway system or a new multi-modal crossing of the Ottawa River.

Key Findings

- Analysis of interprovincial travel indicates that the morning rush hour sees a significantly higher volume of work-related trips from Gatineau to Ottawa than in the opposite direction, with this pattern reversing in the afternoon. This directional imbalance places varying pressure on current crossing infrastructure depending on the time of day, leading to capacity and operational challenges.
- Limited geographical distribution of the crossings, with five of the six, including a dedicated link for active transportation, located in the core area. The latest travel data demonstrates that this generates indirect and inefficient travel routes, with tens of thousands of private vehicles passing through, but neither originating nor terminating in, the core area. It also leads to the majority of the commercial truck traffic using the King Edward, Rideau, Waller, and Nicholas (KERWN) corridor in Ottawa, contributing to quality-of-life concerns for Ottawa downtown core residents, businesses and visitors.
- Future scenario analysis demonstrates that without significant interventions, increased demand for interprovincial travel, associated with a growing population, will exacerbate existing challenges. While opportunities to respond to travel demand by enhancing vehicular capacity in the core area are limited, there are significant opportunities to increase the people-moving capacity of the existing crossings through transit, walking, and cycling.
- The Eastern Bridge scenario includes one general purpose lane and one HOV/transit lane per direction in peak periods as well as active use facilities. The Eastern Bridge Scenario draws trucks away from the KERWN corridor by providing a more direct connection for many truck trips. The added vehicular lane on the bridge also offsets the conversion of one lane to tram downtown, meaning that all net lanes added across the river are for high-occupancy vehicles.

Strategic Environmental and Economic Assessment for LTIICP.

The Government of Canada uses Strategic Environmental and Economic Assessments (SEEA) to integrate environmental considerations into new policies, plans, and funding decisions, as guided by the Cabinet Directive. SEEA helps compare the environmental and economic impacts of different options to reduce future risks. To develop the LTIICP, various future scenarios were studied for their ability to achieve the Plan's vision and address gaps and challenges. These scenarios build upon a baseline scenario, which already includes the regional transportation priorities and investments underway or planned by the regional government agencies and stakeholders (excluding the Eastern Bridge Project), to help assess how additional policy measures or infrastructure projects may impact future outcomes.

Considerations for Decision-makers

The scenarios were designed with a focus to reduce the potential for increased long-term GHG emissions and decrease the reliance on low occupancy vehicles. Allocating more dedicated space for sustainable modes on existing crossings in the Core Area and limiting the number of general-purpose traffic lanes for all scenarios are two strategies in support of the Strategic Plan's Vision, which also limit the risk of inducing future vehicular demand and urban sprawl.

Scenarios show that the best possible outcomes for sustainable mobility and high quality of life include strong policy measures to divert heavy trucks away from the Ottawa downtown core. New infrastructure projects on their own do not fully yield the same benefits. Bold supporting policy measures will be critical to ensure that the vision is achieved and to improve the outcomes from a sustainable mobility and community well-being perspective.

Modeling is based on several assumptions that may impact sustainability outcomes. The transportation and economic environments are constantly changing, new trends may emerge in the form of new technologies, and post-pandemic return-to-work policies are continuing to evolve. New and emerging trends will need to be monitored and considered in future updates to the Plan. A flexible framework along with regional collaboration with regional partners will also be required to meet the plan's objectives.

Because this is a long-term plan, it will be important to continue to evaluate new data on current mobility trends, climate projections and technological innovation as it becomes available. Additional strategies to mitigate environmental effects and reduce the risk of climate change on projects will need to be considered as scenarios or components of scenarios become new policy or physical projects. Additional strategies to further mitigate emissions and reduce or introduce positive impacts for ecologically sensitive areas, cultural resources, Indigenous rights, community well-being and other socio-economic impacts will need to be developed in subsequent phases of implementation.

Ville de Gatineau

Gatineau developed the *Schéma d'aménagement et de développement* (Gatineau, 2016) to reflect the municipality's new reality and make it a planning tool built around the principles of sustainable development.

Referenced in the Schéma's section 3.2.4 *Interventions Structurantes*, the City and the Government of Québec have identified the Kettle Island corridor in their planning documents as the route for the construction of a new interprovincial bridge, and the City is reserving the right-of-way for Montée Paiement.

The *Plan d'urbanisme* of the City of Gatineau (2020) is the planning document that sets out the guidelines for the spatial and physical organization of the municipality by presenting an overall vision for the development within municipal boundaries. It is a planning tool designed to support the implementation of the directions and objectives of the *Schéma d'aménagement et de développement révisé (SADR)* and to guide development across the municipality.

The Eastern Bridge Corridor is identified in the *plan d'urbanisme* and within the *Schéma d'aménagement*.

City of Ottawa

The City of Ottawa's Transportation Master Plan (2025) provides guidance for the planning and development of its transportation facilities across all modes. The Eastern Bridge Project is identified within this plan in the needs-based and priority road networks, as well as in the transit need-based network. This means that the Project is viewed by the City of Ottawa as critical to meeting its objectives based on current funding assumptions and will support access to new development.

Other planning documents maybe referenced for the Project (Table 5-1)

Table 5-1: Other regional and municipal planning documents

Name	Type	Year
NCC		
Capital Pathway Strategic Plan	Policy/Plan	2020
Capital Design Guidelines	Guideline/Standard	2023
Accessibility Plan	Policy/Plan	2023–2026
Capital Illumination Plan 2017-2027	Policy/Plan	2017
Parkway Planning and Design Guidelines	Guideline/Standard	In development
Sir George-Étienne Cartier Park Plan	Policy/Plan	2024
City of Ottawa		
City of Ottawa Official Plan	Policy/Plan	2022
Manor Park North and South Secondary Plan	Policy/Plan	Unknown
Wateridge Village Secondary Plan	Policy/Plan	Unknown
City of Ottawa Complete Street	Guideline/Standard	2015
City of Ottawa Multi-Modal Level of Service Guidelines	Guideline/Standard	2025
Ville de Gatineau		
Secondary plan Secteur La Cité	Policy/Plan	2020
Plan Stratégique Municipal	Policy/Plan	2021
Plan des déplacements durables	Policy/Plan	2011
Plan Directeur du Réseau Cyclable	Policy/Plan	2018
Route de camionnage	Policy/Plan	Under revision
Ville de Gatineau Politique Rues Conviviales	Guideline/Standard	2021

Table 5-2 provides a list of studies and plans carried out in the NCR that are relevant to the Project.

Table 5-2: Regional environmental studies

Name	Type	Year
NCC		
Climate Projections for the NCR	Study	2020
Sustainable Development Strategy 2023-2027	Strategy	2023
Climate Adaptation Plan	Strategy	2024
NCC Forest Strategy 2021-2026	Strategy	2021
Bird-Safe Design Guidelines	Strategy	2021
Sir George-Étienne Cartier Park Cultural Landscape Study	Study	2022
Commissioned studies (WSP)		
Regional Climate Hazard Assessment - Climate Science Analysis	Study	2024
Regional Climate Hazard Assessment - Step 1 and Step 2	Study	2024

Under the Federal Sustainable Development Strategy (FSDS) (ECCC, 2019a), the Government of Canada has made a commitment to “take action to understand the wide range of climate change impacts that could potentially affect federal assets, services and operations across the country.” In addition, as stated in the FSDS, “All major real property projects will integrate climate change adaptation into the design, construction and operation aspects.” In addition, a Greening Government Strategy: A Government of Canada Directive (GGS) (Treasury Board, 2024) states that “Departments will ensure that all new buildings and major building retrofits prioritize low-carbon and climate resilience. Investment decisions will be based on total cost of ownership: [...] all new federal buildings, infrastructure and major building retrofits, including significant energy performance contracts, require a climate change risk assessment that incorporates both current and future climate conditions in the analysis”.

As such and in keeping with section 95 of the IAA and the FSDS, a Climate Vulnerability Risk Assessment (CVRA) on Potential Climate and Weather Impacts will be conducted as part of the Project. This assessment will provide a clear picture of the main threats, including nature and severity of the vulnerability of the infrastructure, the level of risk, and the strategies for mitigating the impacts of climate change. Recommendations of the assessment will be considered in the design of the new bridge to enable the construction of a new asset that is more resilient to sudden, extreme and protracted weather events and conditions.

The Climate Science Analysis Report (WSP, 2024a), completed as part of the Regional Climate Hazard Assessment, presents a set of parameters describing the climatic and meteorological phenomena relevant to the bridges in the NCR and provides input into the broader Climate Hazard Risk Review. The report discusses historical baselines for each of the shortlisted climate parameter for the assessment and provides a conventional climate data analysis to examine the trends of climate hazards to which the PA is exposed.

6 Strategic Assessment

No regional studies, as defined under Section 93 of the IAA, have been or are currently being conducted in the PA or LSA.

The Strategic Assessment of Climate Change (SACC) is a federal policy instrument issued under section 95 of the *Impact Assessment Act* that establishes how climate change considerations are to be integrated into project level impact assessments in Canada. It requires proponents and decision makers to assess both how a project may contribute to climate change—primarily through greenhouse gas emissions—and how climate change may affect the project over its lifespan, including risks from extreme weather and changing climatic conditions.

This Initial Project Description has considered the SACC as developed by Environment and Climate Change Canada (ECCC), including assessment of net greenhouse gas emissions associated with the Project.

Part B: Project Information

7 Project Purpose and Need

The purpose of the Project is to create a new interprovincial crossing along the Montée-Paiement-Aviation Parkway corridor that prioritizes multi-modal design for the region's growing population while also reducing the proportion of trucks travelling through Ottawa's downtown core area, boosting economic growth, and contributing to network resiliency and emergency response capabilities.

The new crossing will support all modes of transportation, including active modes, transit, trucks, and private motor vehicles. Furthermore, the Project aims to respond to the anticipated population growth and associated increase in travel demand by providing greater interprovincial person-moving capacity and supporting improved access to the downtown core through sustainable transportation modes on existing crossings.

The additional interprovincial capacity created will allow the conversion of existing vehicular lanes on other interprovincial bridges to dedicated transit and carpooling lanes where the travel demand is the highest. This will be achieved by improving interprovincial connectivity in the eastern part of the NCR as there is no interprovincial crossing East of the Gatineau and Rideau rivers.

The following objectives serve as the basis upon which the Project is being undertaken.

- Reduce downtown truck traffic, improving the public realm and enabling urban housing developments.
- Address regional growth by enhancing interprovincial connectivity in alignment with long-term transportation plans.
- Support multimodal transportation by providing additional interprovincial connections for pedestrians, cyclists, and public transit.
- Stimulate economic growth and job creation while fostering opportunities for collaboration with Indigenous communities.
- Improve network resiliency, facilitating emergency response during climatic or security-related events and major rehabilitation works on the other interprovincial crossings.

The most recent interprovincial bridge in the NCR is the Portage Bridge. Since its commissioning in 1973, the region's population has more than doubled. Demographic projections to 2050 indicate that population growth is expected to continue into the foreseeable future. In response, studies were conducted to assess options for expanding the region's interprovincial capacity to move people and goods across the Ottawa River.

The updated LTIICP identifies six key interprovincial transportation issues:

Congestion on Crossings—Morning peak periods experience heavy traffic, mainly low-occupancy vehicles, leading to congestion and inefficient use of road space.

Indirect Truck Routes—Trucks lack direct highway access between Ontario and Quebec, forcing them through downtown Ottawa and Gatineau to reach one of the two bridges that permit trucks, causing safety, noise, and congestion issues.

Gatineau's Population Growth—The working population exceeds the number of available jobs, a condition that is expected to continue beyond 2050. As a result, many people need to commute across the river for work. This can

result in significant travel delays on the crossings and highlights the need to accommodate growth in ways that ensure equitable access to employment opportunities.

Sustainable Transportation Limitations—Public transit is generally oriented to provide large capacities to downtown areas but does not connect suburb-to-suburb travel as conveniently, particularly for interprovincial trips. Active mobility networks (walking/cycling) are poorly connected across the river.

Space Constraints at Crossings—Urban density and heritage/ecological considerations limit expansion of bridge approaches downtown because of a lack of space at the entrances and exits to the existing crossings. As a result, additional capacity must be focused on greater use of transit and active modes.

Governance and Coordination—While agencies collaborate on cross-river transit, there remains opportunities to improve regional collaboration and coordination to help guide and prioritize transportation capital investments.

Heavy truck traffic routed through downtown neighbourhoods to access interprovincial crossings has negative impacts on residents' health, safety, and quality of life. The LTIIICP explores various alternatives to reduce impacts from heavy trucks in the downtown core. A new interprovincial crossing in the East, combined with multijurisdictional policy measures to limit heavy trucks from targeted corridors, would be the most effective means of diverting heavy trucks from the core area. Improving logistics for the movement of goods and shifting deliveries to smaller trucks and different times of day were also highlighted as a means of reducing impacts.

The Eastern Bridge would also enable the conversion of some vehicle lanes on Portage Bridge to transit, thereby increasing this crossing's people moving capacity, while maintaining the number of general-purpose lanes for interprovincial trips.

The Eastern Bridge Project is identified as one of the solutions to the interprovincial transportation issues and the new infrastructure supports the plan's five main pillars.

In its project announcement, the Government of Canada outlined why the new crossing is essential to support growth and interprovincial mobility. Four main reasons were outlined:

Reducing Downtown Heavy Truck Traffic

The corridor will create an alternative freight corridor to divert heavy trucks away from Ottawa's downtown core, and reduce concerns related to safety, noise levels, and congestion. The new route is strategically designed to accommodate some of the interprovincial truck trips that currently rely on existing bridges, as well as some of the trips that begin or end East of the Gatineau River. Together with a comprehensive review with partners and stakeholders of truck routes, policies and measures to attract freight movement, this corridor will help redistribute truck traffic on a regional scale and reduce the reliance on other areas such as KERWN. By promoting more efficient freight movement, the Project not only fosters economic growth but also helps preserve the livability of NCR's downtown core.

Accommodating Growing Interprovincial Traffic

In 2019, Ottawa–Gatineau's interprovincial crossings supported roughly 51,000 morning peak trips and, by 2023, had recovered to 90 percent of pre-pandemic volumes. The Macdonald-Cartier and Champlain bridges operate at full capacity. Heavy trucks push traffic beyond the Macdonald-Cartier Bridge's limit of 4,800 vehicles per hour. Moreover, two to three times more commuters travel from Québec to Ontario than in the opposite direction, a directional imbalance that is expected to worsen congestion through 2050.

The Project prepares the NCR for its expected population growth from 1.6 million in 2024 to nearly 2 million by mid-century, enhances interprovincial mobility and commuter flows driven from Gatineau to Ottawa.

Stimulating Economic Development

By expanding capacity for interprovincial travel, economic benefits of the Project include the creation of jobs, more effective mobility to access work nodes from areas of residential density and proximity to industrial and institutional land uses with vacancies to attract new businesses. Improved transportation infrastructure will support urban densification near the Montée Paiement–Aviation Parkway corridor and facilitate the fluid movement of people and goods.

Additional incidental benefits include making downtown Ottawa more attractive for pedestrians and tourists and strengthening the ties between Francophone communities across the river, East of the core area.

Connecting Multimodal Transportation Networks

The Eastern Bridge will create a new multimodal corridor connecting Ottawa's and Gatineau's public transit networks by providing dedicated facilities for active transportation users and offering possibilities for a HOV lane during peak periods. By including exclusive space for buses and active transportation users, the crossing will encourage sustainable travel choices and lower car dependency. These enhancements directly respond to the mobility options set out in the LTICP ensuring that the region's future transportation needs are met.

Planning and Design Principles

For planning and design purposes, the corridor is divided into five segments (Figure 7-1) to reflect distinct communities, strategic priorities, mobility needs, areas of importance, and varied requirements on both sides of the river. The segments better reflect the unique context and provide a clearer understanding of how planning options can be evaluated.

The five segments are as follows:

- **Segment 1:** Autoroute 50 to Boulevard Maloney (Route 148)
- **Segment 2:** Boulevard Maloney (Route 148) to northern Ottawa River shoreline
- **Segment 3:** Interprovincial Crossing
- **Segment 4:** Aviation Parkway to Ogilvie Road
- **Segment 5:** Ogilvie Road to Highway 417/174 Interchange

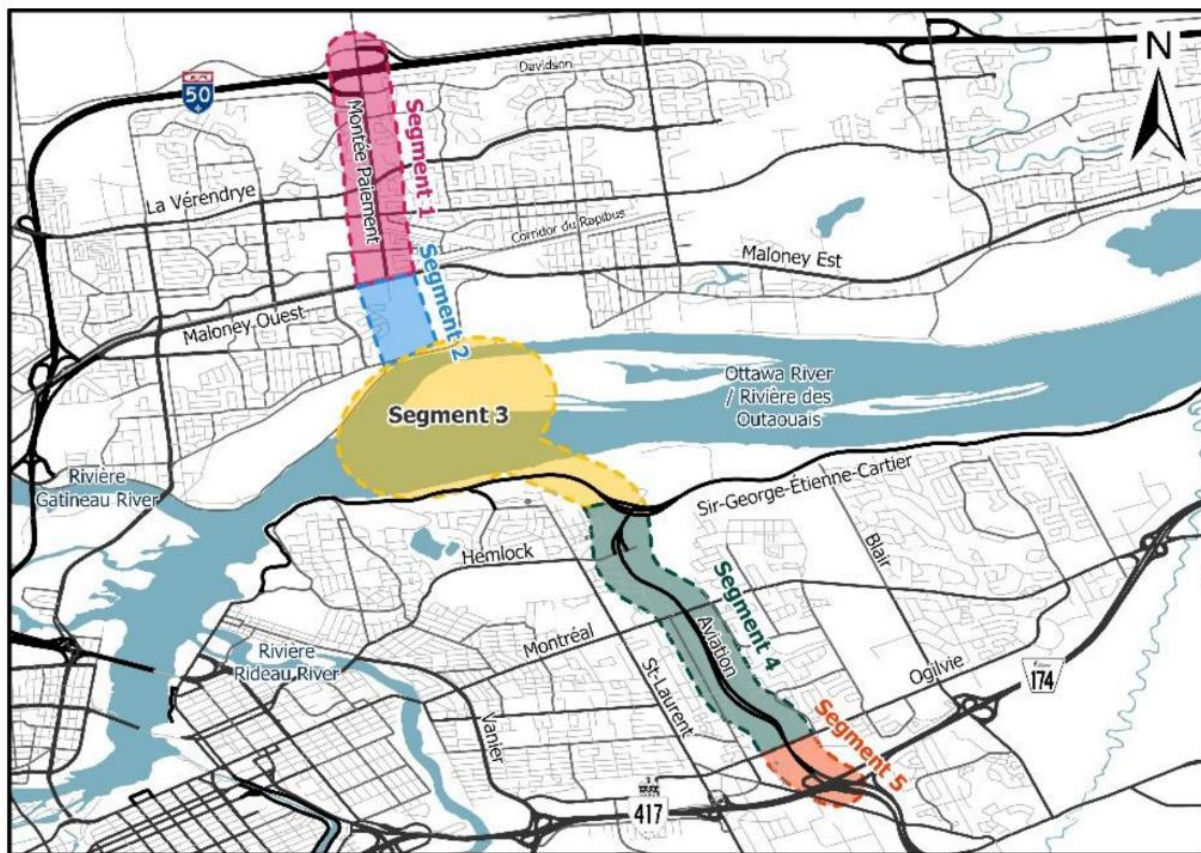


Figure 7-1: Planning Segments

The design of the corridor must accommodate the use of different transportation modes, including active modes (walking and cycling), public transit, trucks, and private motor vehicles. The design must also integrate them in a way that they provide transportation choice to users and provide facilities that are both comfortable and reduce safety risk for all ages and abilities. Although functional requirements will vary throughout the corridor, the following overall planning constraints apply:

- Allocation of four through traffic lanes along the corridor, prioritizing HOV and transit during peak commuter periods south of Boulevard Maloney. Additionally, the corridor must accommodate heavy commercial vehicles and transit vehicles as well as provide high quality active transportation facilities.
- The corridor must minimize the distance across the Ottawa River while respecting environmental, cultural, social, and economic interests. Furthermore, the crossing must be designed to minimize the impacts on the shorelines of the Ottawa River and Kettle Island, including both the surrounding lands and views of the Ottawa River.
- Widening beyond the existing four through lanes on Montée-Paiement as part of the Eastern Bridge Project must demonstrate alignment with the NCC's LTIICP and relevant stakeholder's plans and policies while also showing significant benefits relative to environmental, social, and economic impacts.
- The corridor within the Aviation Parkway must continue to be limited to four through lanes. The corridor must continue to express its character as a parkway.
- The entire corridor must be planned to protect greenspace where possible and provide a high-quality design. Furthermore, the corridor must minimize the footprint of the roadway to maximize opportunities for impact mitigation and provide improvements to the public realm.

- The connection of the interprovincial bridge to the SGEC Parkway must be designed to limit vehicular access to the parkway during peak times, protect its parkway purpose and characteristics while also encouraging access to the pathways for active users.

The design of the corridor should also consider and accommodate the continued operation of the Ottawa/Rockcliffe Airport and navigation of the Ottawa River.

While some preliminary applications of the planning and design principles have been developed, further options analysis will be undertaken to select the alternative to be carried through the concept design. The following section describes design applications for each segment and presents various alternatives that illustrate how they can be achieved.

8 Provisions Describing the Designated Project

The IAA defines a **designated project** to mean one or more physical activities that:

- (a) are carried out in Canada or on federal lands; and
- (b) are designated by regulations made under paragraph 109(b) or designated in an order made by the Minister under subsection 9(1).

It includes any physical activity that is incidental to those physical activities, but it does not include a physical activity designated by regulations made under paragraph 112(1)(a.2).

These *Physical Activities Regulations* made pursuant to the IAA identify the physical activities that constitute **designated projects** that are subject to the IAA and may require an impact assessment by the Agency.

Section 48 of the regulations identify the construction, operation, decommissioning and abandonment of either of the following as physical activities and designated projects: (a) a new international or interprovincial bridge or tunnel

As described above, the interprovincial crossing includes additions and modifications to existing infrastructure to ensure delivery of the Project's objectives. As currently proposed, the Project would not have potential triggers under Ontario legislation for transportation projects because it is a project proposed by the Federal Government. Discussions with the Provincial office will aim to coordinate the impact assessment under the Federal process, if required.

The Project could require an environmental impact assessment (EIA) under Québec legislation. There are two potential triggers that will be further discussed with the Québec provincial Office. Under chapitre Q-2, r. 23.1 of the *Règlement relatif à l'évaluation et l'examen des impacts sur l'environnement* de certains projets, Schedule 1, List of Projects Subject to the Environmental Impact Assessment and Review Procedure, Part 2 – Subject Projects:

Article 2. Work in Wetlands and Bodies of Water

Projects or programs including the carrying out of any of the following work are subject to the procedure:

1° dredging, clearing, filling, or levelling off work, for any purpose whatsoever, within the 2-year flood line of a river or lake,

- a) in the case of bank or shore stabilization work carried out over a cumulative distance equal to or greater than 1,000 m or over a cumulative area equal to or greater than 15,000 m², for a same river or lake;*
- b) in other cases, over a cumulative area equal to or greater than 15,000 m², for a same river or lake;*

Article 5. Road Infrastructure

The following projects are subject to the procedure:

4° the widening of a road designed for 4 lanes or more or whose right of way has a width equal to or greater than 35 m over a minimum length of 2 km situated within an urbanization perimeter indicated in the land use planning and development plan applicable to the territory concerned or to an Indian reserve.

For the purposes of this section, the calculation of the right of way of a road includes its appurtenances, such as interchanges, access ramps, service roads and facilities required for drainage. In addition, the minimum length is equal to a contiguous length.

Discussions will continue with the Québec office as the Project is further defined to confirm triggers and determine coordination opportunities with the Federal IA process.

The Project could require an environmental assessment (EA) under Ontario legislation. Discussions will continue with the Ontario EA office as the Project is further defined to confirm triggers and determine coordination opportunities with the Federal IA process.

9 Project Description

The corridor is divided into five segments to reflect distinct aspects for planning and design purposes. The sequence of development of each segment will be defined as the Project design advances and in collaboration with transportation partners.

Segment 1: Autoroute 50 to Boulevard Maloney (Route 148)

Modification to the interchange (bridge and ramps) at Autoroute 50 under jurisdiction of the MTMD.

- Modification of the alignment of Montée-Paiement under jurisdiction of the Ville de Gatineau.
- Modification of intersections with municipal roads, particularly Boulevard la Vérendrye and Boulevard Maloney to accommodate the new road alignment.

Segment 2: Boulevard Maloney (Route 148) to Northern Ottawa River shoreline

Construction of a new segment at the South end of Montée-Paiement including the bridge abutment.

Segment 3: Interprovincial Crossing

Construction of a new interprovincial crossing across the Ottawa River from Rue Saint-Louis (Gatineau, Québec) to connect to Aviation Parkway (Ottawa, Ontario). Some modifications to the SGEC Parkway may be needed to accommodate the connection between the bridge and Aviation Parkway, depending on the bridge alignment.

Segment 4: Aviation Parkway to Ogilvie Road along the Aviation Parkway

- Modification of the alignment of Parkway corridor, federal lands under jurisdiction of the NCC.
- Widening of Aviation Parkway from two to four lanes North of Montreal Road.
- Modification of intersections at SGEC, Hemlock Road, Montreal Road, Ogilvie Road, and other accesses to Aviation Parkway (including Montfort Hospital, CMHC and Cité Collégiale).

Segment 5: Ogilvie road to Highway 417/174 Interchange

- Modification of the configuration of access at the highway 417/174 Interchange under the jurisdiction of Ontario Ministry of Transportation (MTO) and City of Ottawa respectively. May require class EA by MTO.

9.1 Infrastructure Description

This section describes the Project's infrastructure including the interprovincial crossing as well as the associated modifications to the roadways, intersections, and interchanges in Québec and Ontario.

9.1.1 Permanent Infrastructure

Interprovincial Crossing

The new crossing will be designed in accordance with the standards and best practices for highway bridge design in Canada in place at the time of the design and in particular, in accordance with the Canadian Highway Bridge Design Code, MTO, and MTMD regulations.

The bridge is currently at the conceptual design stage, where key parameters and configurations are being established based on preliminary assessments. This design will be developed and further refined during the detailed design phase, subject to the completion of the alternatives analysis selecting the preferred crossing, such that any technical requirements and site-specific considerations are thoroughly addressed. The detailed design will also allow a better understanding of the potential effects of the Project and the identification of appropriate mitigation to avoid or reduce the significance of such effects.

Roadway Alignments, Cross-Sections, and Profiles

At this conceptual design stage, the available information is limited; therefore, further refinement and development will be completed as more detailed data is gathered. This iterative approach allows for the final design to comprehensively address any technical requirements and site-specific constraints.

An extension of Montée-Paiement will be added South of Boulevard Maloney to connect to the new interprovincial crossing. Further, modifications to Aviation Parkway and Montée-Paiement are anticipated to accommodate traffic. Additional lanes are expected to be added to sections of Aviation Parkway. While no lanes are expected to be added to Montée-Paiement, the addition of, or modification to, turning lanes, access lanes, and other changes are anticipated. The location and extent of these changes will be confirmed through detailed design.

Intersections and Interchanges

To accommodate projected traffic volumes, Aviation Parkway and Montée-Paiement will be modified and connections with intersecting roadways, interchanges, and bridges will be replaced or modified. The following intersections / interchanges may be modified:

- Québec
 - Montée-Paiement and Autoroute 50 (interchange)
 - Montée-Paiement and Boulevard la Vérendrye
 - Boulevard Saint René and Montée-Paiement
 - Boulevard Maloney (Route 148) and Montée-Paiement
- Ontario
 - Aviation Parkway, Sir George-Étienne Cartier Parkway, and Rockcliffe Parkway
 - Aviation Parkway and Hemlock Road
 - Aviation Parkway and Montreal Road
 - Aviation Parkway and Ogilvie Road

- o Highway 417, OR 174, and the Aviation Parkway (interchange)

Other changes to the existing configuration and access to Montée-Paiement may also be required subject to the completion of design, including intersection modifications (i.e., Montée-Paiement intersections with Rue Filiatreault, Boulevard de la Vérendrye, Rue Nobert, and boulevard Gréber) and access to Montée-Paiement (i.e., Boulevard du Carrefour, Rue St Luc, Rue Harris, and Rue Lahaie).

Options are still being evaluated, including access from Montée-Paiement at Rue Saint-Louis or from Aviation Parkway at Hemlock Road.

Drainage and Stormwater Management

In addition to the main crossing of the Ottawa River, other watercourse crossings (e.g., culverts, bridges) will be implemented to convey natural watercourses beneath proposed roadways.

Runoff from the land segments of the corridor will be collected and managed through a series of catch basins, storm sewers, and grassed swales. Stormwater management (SWM) practices, such as ponds, oil-grit separators, or low-impact development measures, will be employed where required to meet water quality, water quantity, and water balance criteria.

The proposed bridge deck will incorporate SWM features to direct runoff from the bridge surface to reduce the potential contaminants from directly entering the Ottawa River. The SWM for the bridge over the channel between the Gatineau shoreline and Kettle Island will be designed to avoid potential impacts to the water quality in the source water protection zone for the drinking water intake located adjacent to the island. The SWM system will be developed in later stages of the Project, including confirmation of stormwater discharge locations.

The details of the bridge SWM system will be developed during the design phase. As is done in typical bridge SWM systems, the bridge SWM system will likely include catch basins distributed along the length of the bridge built into the road deck to collect surface runoff. The catch basin design could consider the use of Goss traps at the outlet of each catch basin.

Utilities

The construction of the Project will involve relocating existing utilities, connecting new utilities, and removing temporary utilities from staging and laydown areas. Utilities that may be present within this corridor include, but are not limited to, hydro, natural gas, steam and condensate, telecommunications (such as internet, television, and fibre), watermain, sewers (sanitary, storm, and combined), streetlighting and signals. Additional information will be provided as the design advances and coordination with utility providers continues.

Lighting

Lighting provisions within the corridor will be carefully considered to ensure adequate illumination for both vehicular and pedestrian traffic, enhancing safety and visibility during evening and night-time hours. Illumination/lighting of the bridge and surrounding area(s) will follow the principles and guidelines described in the Capital Illumination Plan (NCC, 2017), particularly to address safety concerns. In particular, the Ottawa River is designated as a dark sky zone as per the National Capital Illumination Plan (NCC, 2017), any lighting for the bridge will consider this designation, as well as the NCC Bird-Safe Design Guidelines (NCC, 2021) and the City of Ottawa's Bird-friendly Design Guidelines (City of Ottawa, 2021).

As the Project advances, further coordination with local authorities and stakeholders will inform the detailed lighting design to address specific site requirements while reducing potential impacts on surrounding communities and environments.

Noise Barriers

Preliminary investigations have concluded that noise mitigation measures may be necessary in some areas to meet established noise criteria. Past studies (WSP, 2020) estimated that nearly 5,000 metres (m) of sound barriers, placed in various locations of the corridor, with an average height of 3.0 m, will be required based on technical and economic feasibility. The specific requirements for noise control (including location and extent) will be further determined during the design phase.

Landscaping

Landscaping of disturbed areas is a crucial aspect of the Project, aimed at restoring and enhancing the visual appeal and ecological value of sites impacted by construction activities. This process involves the careful selection and planting of native vegetation to stabilise soils, reduce erosion, and support local biodiversity. Planting will be associated with stormwater management infrastructure and for mitigation (i.e., visual and/or sound screening). Consideration for effects of climate change, such as urban heat islands, will be part of the process. Progressive restoration of areas disturbed during construction will be implemented once construction in such areas is complete.

In addition, landscaping measures will help to blend new infrastructure into its surroundings, providing a more attractive and environmentally sensitive outcome. Efforts will be made to ensure that landscaping solutions are sustainable and tailored to the specific characteristics of the site.

9.1.2 Temporary Construction Components

Due to the urban setting and limited staging areas adjacent to the proposed bridge location, multiple sites within the general area will likely be needed to accommodate trailers, laydown area, and parking for construction equipment and personnel. Staging locations have not yet been confirmed, and they will be carefully evaluated to avoid or reduce any potential impacts on areas proposed. Locations previously used as temporary staging or laydown areas for the Alexandra Bridge Replacement Project could be considered for this Project subject to timing and availability for this Project to reduce potential impacts.

Temporary Road Diversions

Temporary road diversions will be implemented, when needed to maintain safe and efficient traffic flow during key phases of the Project. These diversions are necessary to accommodate construction activities, such as road, interchanges and bridge building, and utility relocation and installations, while reducing disruption to local commuters and emergency services. The design and placement of these routes will be coordinated with municipal authorities and guided by traffic management plans to ensure accessibility and safety for all road users.

Work In and Around Watercourses

Beyond the proposed crossing of the Ottawa River, there are nine crossings of tributaries of the Gatineau and Ottawa rivers. All work near the Ottawa River and its tributaries will be carefully planned and executed in compliance with federal and provincial environmental regulations. Standard mitigation measures (e.g., sediment and erosion controls, isolation, and dewatering of work areas) and monitoring activities (e.g., water quality, impacts to fish habitat) will be implemented to avoid and reduce potential impacts to the environment. Upon completion of construction, any temporary diversions will be removed and disturbed areas will be rehabilitated to restore natural functions and support long-term environmental health.

9.2 Project Activities and Phasing

9.2.1 Construction Phase

The sequencing of project activities will be progressively developed as the design advances and key constraints are further defined. A phased approach is anticipated, encompassing planning, design development, permitting, procurement, and construction, with sequencing refined to account for interdependencies across jurisdictions, technical requirements, and stakeholder considerations.

Activities associated with the construction of the new interprovincial crossing will include activities common to construction projects, including:

- Site grading, including cut and fill earthworks, to accommodate the proposed equipment and laydown areas and to create a level working area
- Construction of a temporary dock for barges for water access
- Installation of coffer dams (if required) in the river at location of new piers
- Installation of steel caissons through riverbed down to bedrock
- Removal of sediments within the caissons, down to bedrock
- Disposal of sediments off site
- Drilling into bedrock and removal of bedrock material
- Disposal of bedrock material
- Installation of piles
- Installation of reinforced concrete within caissons
- Dewatering of coffer dam
- Construction of concrete footings
- Construction of new reinforced concrete piers
- Removal of cofferdams (if required)
- Erect structural bridge spans
- Construction of the bridge deck
- Installation and connection of utilities (lighting, drainage, communications)
- Line painting, installation of signage, installation of pedestrian furniture and fit-up of observation decks and rest areas
- Site restoration, stabilization of disturbed soils, and restoration and enhancement activities

Once constructed, the new crossing will be open to the public. Demobilization of the site will then include the following:

- Removal of barges
- Clean up of staging areas, removal of access roads, restoration of sites, removal of fencing, removal of temporary utilities, removal of vegetation protection, etc.
- Landscaping of disturbed areas as required by mitigation measures

Activities associated with the construction of the roadway modifications, including interchanges and intersections, will include activities common to road construction projects:

- Set-up traffic control measures (i.e., signage and temporary lanes reductions)
- Relocate and/or protect existing utilities (i.e., water, gas, hydro, telecom lines)

- Clearing and removal of trees and brush
- Stripping of all surficial organics and topsoil
- Site grading, including cut and fill earthworks, to accommodate the proposed equipment and laydown areas and to create a level working area
- Extend, replace, or install culverts
- Place and compact granular base layers (granular A and B)
- Install asphalt driving surface
- Pour curbs, sidewalks, cycling facilities, medians, and bus pads as needed
- Install or modify traffic signals, including poles, controllers, and detection systems
- Install signage and signals
- Apply lane and crosswalk and cycling markings
- Install and connect utilities (lighting, drainage)
- Site restoration, stabilization of disturbed soils, and restoration and enhancement activities
- Removal of any temporary road diversions or traffic controls
- Clean up of staging areas, removal of access roads, restoration of sites, removal of fencing, removal of temporary utilities, removal of vegetation protection, etc.
- Landscaping of disturbed areas as required by mitigation measures

Site Preparation

Site preparation encompasses activities such as tree clearing, vegetation removal, grubbing, and topsoil stripping on the PA to facilitate construction preparations. Soils designated for reuse in construction will be stockpiled, while surplus soils will be managed according to applicable regulations. Additionally, this phase includes the installation of utility infrastructure, such as temporary power, along with preliminary site grading and the installation of security fencing.

Utility Relocation

Utility relocation may be required to facilitate the construction and operation of the Project, particularly where existing power lines, communication cables, water mains, or gas pipelines intersect the proposed work area. Prior to commencing major site activities, a thorough assessment will be conducted to identify utilities that could be impacted by excavation, grading, or new infrastructure installation. Coordination with utility providers will ensure that any necessary adjustments, temporary rerouting, or permanent relocations are planned and executed with minimal disruption to local services. This process will also involve implementing safety measures and regulatory compliance to protect workers, the public, and the environment during all phases of utility relocation.

Contaminated Soils Management

If contaminated soils are discovered during site preparation activities, that were not identified during the planning process, work in the affected area will be halted immediately to prevent the spread of contaminants. A qualified environmental professional will be engaged to assess the extent and nature of the contamination, and a remediation plan will be developed in accordance with provincial and federal regulations. The contaminated material will be excavated, securely contained, and transported to an approved facility for treatment or disposal, ensuring all handling and documentation requirements are met. Continuous monitoring and verification will be implemented throughout the process to safeguard environmental and worker safety, and to ensure compliance with all relevant legislation and best practice guidelines.

Construction Equipment Operation

During the construction phase, a wide array of heavy equipment will be utilized to support various project activities and ensure efficient progress. Key machinery expected to be in operation includes excavators, backhoes, bulldozers, cranes, skyjacks, boats, and barges, which are essential for tasks such as earthmoving, material handling, and transportation across the Project site. In addition, specialized equipment such as caisson installation equipment, concrete pumps, trucks, sheet pile installation equipment, generators, and dewatering pumps will be employed to facilitate the installation of foundational elements, concrete placement, temporary structural supports, and site dewatering. The selection and deployment of this equipment will be carefully coordinated to optimize workflow, maintain safety standards, and reduce environmental impacts during all phases of construction.

Equipment will operate in different areas of the construction site at different times during the construction period. Construction will take place between 7:00 AM and 9:00 PM, but the majority of the activities will likely occur between 7:00 AM and 7:00 PM. Construction activities will comply with the City of Ottawa and City of Gatineau municipal noise bylaws. Major construction activities will be planned for daytime hours.

Grading Activities

Grading activities during the construction phase will involve the levelling and sculpting of the Project site to achieve the specified elevations and slopes required for both temporary access and permanent infrastructure. This process typically includes the movement and compaction of soil using heavy machinery, such as bulldozers and graders, to establish stable surfaces for roads, work areas, and foundation pads. Careful consideration will be given to drainage patterns and erosion control measures throughout grading to ensure environmental protection and compliance with regulatory standards.

Refueling of Construction Vehicles

Refuelling activities for construction vehicles and equipment will be conducted with strict adherence to environmental protection measures. Refuelling will take place at designated areas located at least 30 m away from any water bodies, drainage ditches, or environmentally sensitive zones to reduce the risk of fuel spills contaminating surface or groundwater. These designated refuelling zones will be equipped with spill containment materials and clearly marked to ensure that all personnel are aware of the procedures and locations. Additionally, trained staff will supervise refuelling operations to ensure compliance with safety and environmental protocols, supporting both worker safety and regulatory requirements throughout the construction phase.

Construction of Bridge Abutments, Piers and Footings

Pier and abutment construction will consist of installation and subsequent removal of formwork, placement of reinforcing steel and placement of concrete. Foundation installation for piers is assumed to require pile driving equipment placed on barges. Pile driving equipment for the abutment foundation construction will be situated on land in the immediate vicinity of the abutments.

Pier construction is expected to occur inside the cofferdams, which will be installed and dewatered to facilitate construction. In-water activities will follow the mitigation strategies described in Section 19. Removal of cofferdams will be carried out once the new piers are constructed. Some of the piers could be constructed using caissons/drilled shaft socketed into bedrock and that extend all the way up to the pier caps. These caissons would include a steel liner that could extend above the water level and include reinforced concrete placed using the tremie method.

Material delivery could occur via barge. If the bridge is proposed across Kettle Island, a temporary bridge may be proposed to support delivery of material and to provide access to a construction area on Kettle Island to facilitate construction of the bridge.

Construction of the bridge approaches and embankments will consist of placement/compaction of granular material and installation of asphalt pavement. Depending on the alignment options, retaining walls may be required for the approach roadways.

The approach will be to reduce the amount of in-water construction and to time such activities during periods when flows are low and that consider species timing windows that to avoid construction-related impacts to fish species during their most sensitive/vulnerable life cycles (i.e., during reproduction and early development stages of offspring).

Construction of the Bridge Superstructure

Erection of the bridge spans and deck are expected to be carried out by cranes placed on barges.

Deck construction will consist of installation and subsequent removal of formwork, placement of reinforcing steel and placement of concrete. Alternative deck options (i.e., precast panels or segmental concrete construction) may be considered. Miscellaneous items, such as bridge railings, will be installed after the concrete deck has cured via trucks.

Waste Management Activities

The following discharges and waste are anticipated during the various stages of the Project.

- During the construction phase, it is expected that a variety of non-hazardous solid waste will be produced because of site preparation and construction activities. This waste primarily consists of surplus construction materials, general domestic refuse, and miscellaneous debris generated on-site. All solid waste will be managed in accordance with applicable provincial and federal regulations and in accordance with PSPC and waste management practices for projects of this scope, ensuring proper sorting, transport, and disposal, and supporting the Project's commitment to responsible waste management and environmental stewardship.
- Liquid discharges generated during construction are expected to originate primarily from runoff associated with precipitation events, as well as from sanitary and sewage sources generated by on-site workforce facilities. To mitigate the potential for suspended solids, contaminants, and other environmental impacts, standard erosion and sediment control (ESC) measures will be put in place, alongside appropriate management, and treatment of sanitary and sewage effluent in accordance with applicable regulations.
- Any hazardous waste encountered or produced—including chemical waste, oil, paint, bitumen, gasoline, diesel, oil and grease, contaminated soil, and any associated empty containers—will be handled, transported, stored, and disposed of in accordance with all relevant provincial and federal legislation, as well as supplier or manufacturer guidelines. Should hazardous waste be generated or discovered, it will be managed in compliance with the *Environment Quality Act* and the Regulation Respecting Hazardous Materials. Transport of hazardous materials will conform to the *Transportation of Dangerous Goods Act* and its associated regulations.

9.2.2 Operation Phase

Once constructed, the new interprovincial crossing will function as part of the region's transportation infrastructure, conveying vehicles across the Ottawa River between Ontario and Québec.

Maintenance and repair operations will be performed during the entire service life of the structure. Standard maintenance procedures for a new bridge generally encompass the following activities:

- Monthly and annual inspections as required
- Detailed inspections scheduled every five years, or as required

- Routine maintenance, including maintenance of water management structures, and minor repairs or interventions after accidents
- Cleaning above and below the deck, inside box girders (if necessary), waterway banks, and around foundation units
- Drain cleaning
- Patching/re-paving, painting, snow removal, and expansion joint replacement
- Asphalt crack repair and concrete surface crack sealing
- Major rehabilitation activities, including deck replacement, concrete repairs, waterproofing, structural steel repairs, and painting

9.2.3 Decommissioning Phase

No Decommissioning phase is anticipated for the Project. Once established, it is anticipated that the new crossing will operate for its planned life span and be subject to on-going maintenance and rehabilitation as required based on design service life of project components. The current life span of the bridge is estimated to be for 75 to 125 years, with efforts being made to ensure a minimum life span of 100 years. It is anticipated that restoration and/or rehabilitation of the existing bridge is the most likely scenario, which may include options up to and including complete removal and reconstruction of the bridge, to maintain an existing crossing at this location in perpetuity. The activities required to restore, rehabilitate, or reconstruct the bridge would be similar to those anticipated during construction (as described in Section 9.2.1), plus any activities associated with the demolition of the bridge deck, piers, and abutments (e.g., cut and methodically remove pieces in reverse order of construction) and corresponding reuse / recycling or disposal of bridge material at an approved facility. If the Project ceases to operate, the Government of Canada, or other infrastructure owner, would be responsible for decommissioning any project infrastructure in accordance with applicable regulations as required at the time.

10 Production Capacity

This project is a transportation project intended to accommodate vehicle traffic across the Ottawa River. There is no production as a result of this project and therefore no maximum production capacity to report.

11 Project Schedule

The Project is currently in the planning and design phase. A range of engineering, environmental, and technical studies are underway to support the bridge design, assess potential environmental effects, and inform the Impact Assessment and regulatory permitting processes. These studies will continue as the design advances and additional information becomes available.

Construction of the new bridge is currently anticipated to begin in 2031 and be completed by 2035. Once operational, the bridge is expected to provide a safe and reliable transportation crossing for at least 100 years. Throughout its service life, the bridge will undergo routine inspections, maintenance, and periodic rehabilitation activities as needed to ensure its long-term performance and safety.

Given the anticipated lifespan of the bridge and the ability to extend its useful life through ongoing maintenance and rehabilitation, there are currently no plans or defined timelines for decommissioning the structure. The bridge is expected to remain in service for the foreseeable future.

Figure 11-1 and Table 11-1 provide a summary of key project milestones and the overall Project timeline based on information currently available, noting that the specific timing of various activities are subject to change.

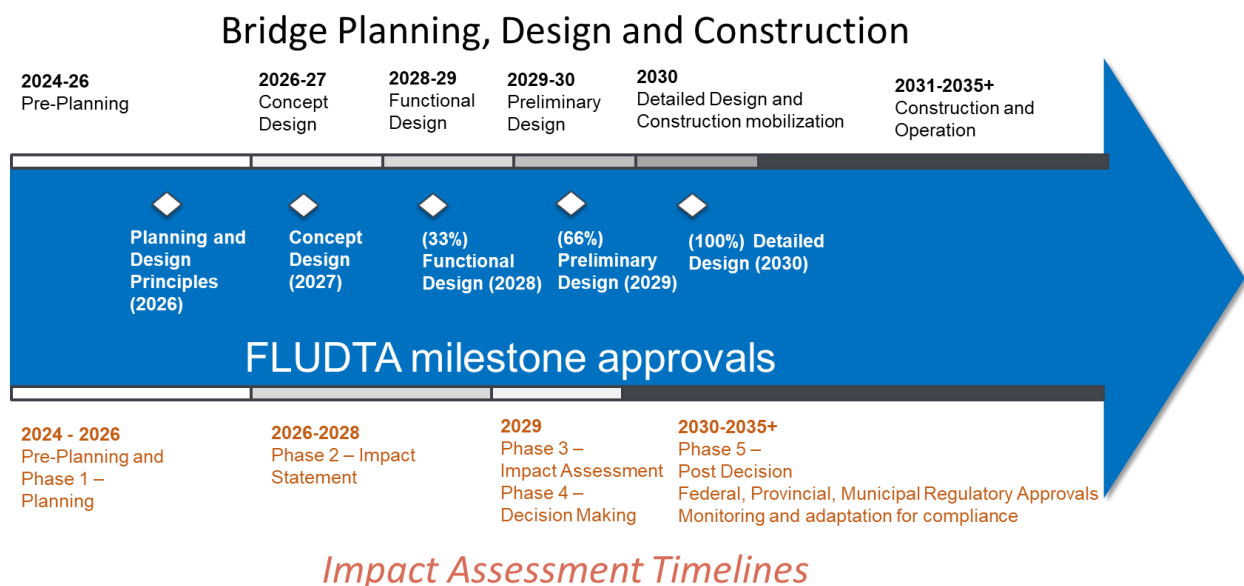


Figure 11-1: Preliminary alignment between construction stages, Impact Assessment Phases and FLUDTA Milestones

Table 11-1: Project Milestones

Project Milestone / Task	Estimated Completion
Pre-Planning	
Eastern Bridge Planning and Design Principals approved by NCC Board	June 2026
Impact Assessment Process	
PSPC submits IPD to IAAC	August 2026
IAAC posts IPD to the Registry for Public Comment Period	August / September 2026
IAAC issues Summary of Issues	Fall 2026
PSPC issues Response to Summary of Issues	Fall 2026 / Winter 2027
IAAC issues Tailored Impact Statement Guidelines and Notice of Commencement	Winter 2027
Initiation of Impact Statement and Supporting Technical Studies	Winter 2027 / Spring 2027
PSPC submits Impact Statement to IAAC	Fall 2028
IAAC completes Draft Impact Assessment for Public Comment Period	Fall 2029
Minister issues Decision Statement for the Eastern Bridge	Winter 2029
Bridge and Roadway / Intersection Design Process	
Completion of Options Analysis (Pre-Design Alternatives)	Winter 2027 / Spring 2027
Completion of Conceptual Design	Fall 2027
Completion of Detailed Design	2031
Construction Phase	
Mobilization and Site Preparation	2030
Commencement of Construction	2031
Completion of Construction	2035
Operation Phase	
Operation of the new bridge crossing and roadway / intersection updates	2035+

It is anticipated that follow-up and monitoring activities will be conducted during each of the Project phases to confirm predicted effects and the effectiveness of mitigation measures, and to inform the implementation of any adaptive management measures.

12 Project Alternatives

12.1 Alternatives to the Project

Discussions about transportation solutions in the NCR, including the possible construction of a new interprovincial bridge, have been ongoing for decades. The Eastern Bridge Project has emerged from several iterations of studies which began in 2006. Through these iterations, the Montée Paiement-Aviation Parkway corridor has consistently ranked as the technically preferred alternative.

Phase 1, initiated in 2006, evaluated alternative planning solutions to improve transportation capacity across the Ottawa River in the NCR:

- A status quo or “do nothing” approach where existing transportation infrastructure and management approaches were maintained
- Travel Demand Management strategies to shift demand away from peak times and towards alternative modes of transportation
- Transit improvements, including improved service and new facilities
- Transportation Systems/Supply Management measures such as transit prioritization, contra-flow lanes, high occupancy vehicle lanes, and signal improvements
- Land use controls to reduce demand by managing growth areas and providing incentives to work from home
- Pay as you go policies such as restrictive road pricing, parking management, or tolling
- Diversion of goods movement away from core areas of the NCR
- Improvements to existing interprovincial networks such as widening of existing bridges
- New interprovincial network facilities including the construction of new bridge or tunnel

The analysis and evaluation determined that Corridor 5 (Montée-Paiement-Aviation Parkway, formerly named “Kettle Island”) as the preferred corridor, followed by Corridor 6 (Boulevard Lorrain - Ottawa Road 174) and Corridor 7 (Gatineau Airport - Ottawa Road 174) (Figure 12-1). Descriptions of the three alternative corridors are as follows:

- **Corridor 5 (Montée Paiement-Aviation Parkway):** This corridor extends from the interchange of Autoroute 50 and Montée-Paiement in Gatineau to the interchange of Highways 417 and 174 in Ottawa. The Project would utilize mostly existing roads in Ontario (e.g., Aviation Parkway) and involve the construction of a new interprovincial bridge and new extension of Montée-Paiement in Québec.
- **Corridor 6 (Boulevard Lorrain - Ottawa Road 174):** This corridor extends from the interchange of Autoroute 50 and Boulevard Lorrain in Gatineau to a new interchange of Highway 174 and Promenade Sir George-Étienne Cartier in Ottawa.
- **Corridor 7 (Gatineau Airport - Ottawa Road 174):** This corridor extends from a new interchange with Autoroute 50 near the Gatineau Airport to a new interchange of Highway 174 and Promenade Sir George-Étienne Cartier in Ottawa. The alignment on the Ontario side would be similar to Corridor 6.

Phase 2, initiated in 2010, assessed the three alternative corridors carried forward from Phase 1 using 58 weighted factors and subfactors (see Table 12-1) which were similar to the original work with some differences based on further analysis and stakeholder engagement (Roche Genivar 2013a). The 2013 analysis and evaluation applied two complimentary comparison methods to compare alternatives: a quantitative pair-wise analysis and a qualitative reasoned argument analysis.

Location of corridors 5, 6 and 7

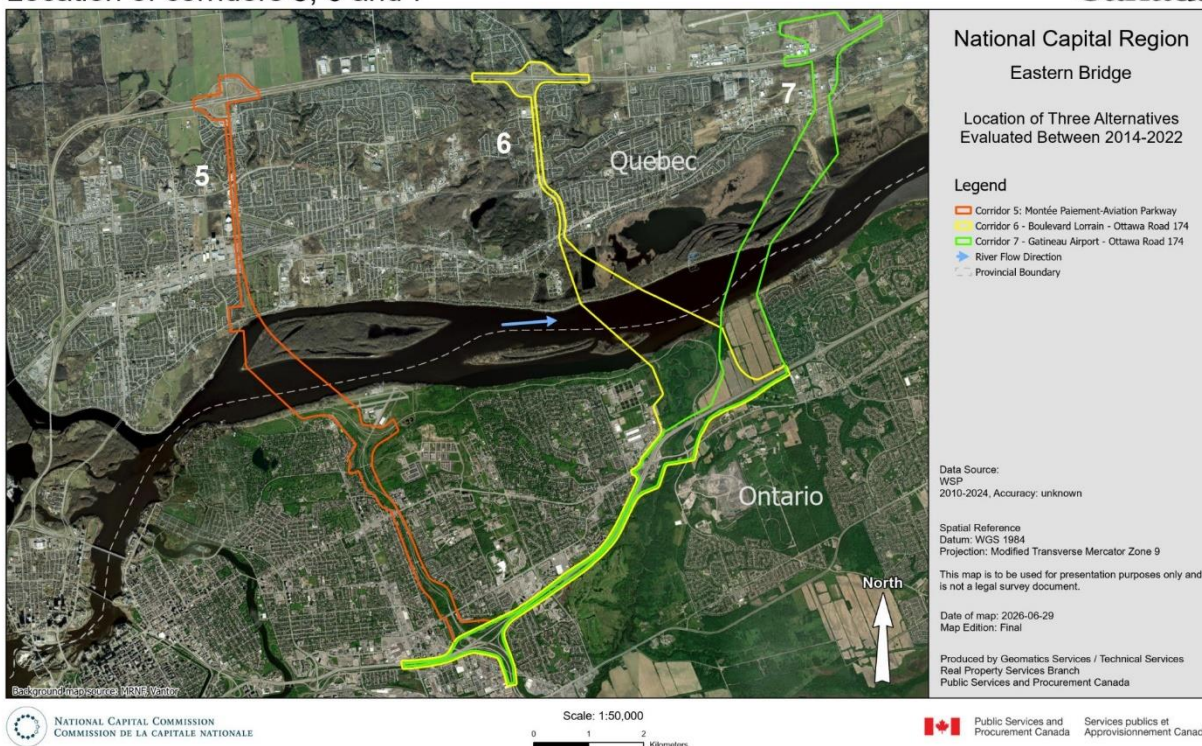


Figure 12-1: Three Eastern Sector Corridor Alternatives

Table 12-1: Factors and subfactors used in Phase 2 to evaluate new interprovincial crossing corridors

Factors	Subfactors
Traffic and Transportation	- Truck traffic - Transit operations - Non-commercial traffic - Downstream effects on level of service - Traffic safety - Non-motorized connectivity - Emergency medical services
Natural Environment	- Species of special status and their habitat federally and provincially designated - Total emission burden for criteria contaminants - Regional air quality screenline effects - Total emission burden for GHG contaminants - Regional air quality screenline effects for GHG - Fish habitat features including spawning, rearing, nursery, and feeding areas - Extent of aquatic vegetation - Project footprint on fish habitat (outside of aquatic vegetation and floodplain areas) - Off-channel fish habitats – floodplain - Off-channel fish habitat – Total width of tributaries crossed - Water quantity (surface) - Ground-water recharge area - Loss of floodplain storage - Wetlands impacted – federal and provincial - Migratory bird nesting or staging area impact - Federal/provincial significant or rare natural areas

Factors	Subfactors
	Regionally significant or rare natural areas Inland wildlife corridor Wildlife habitat, including, reptiles, mammals, amphibians, and flora Unstable soils
Cultural Environment	Built heritage sites impacted Historic archaeological potential areas impacted Cultural landscape features Prehistoric archaeological potential areas impacted
Social Environment	Community impacts-roadway impacts Contribution to livable communities Visual intrusion of new crossing Degree of change from existing viewsapes Visual impact due to noise mitigation Air quality impacts on human health Noise impacts on human health Scenic parkways Active recreation lands impacted Multi-use pathways impacted Ability to accommodate float planes Boating activities
Water Use and Resources	Risk to Gatineau water treatment plant
Economic Environment	Economic development in proximity to the new corridor
Land Use and Property	Conformity with official plans urban sprawl/ sustainable development potential effects Impact on future development Contribution to cumulative impacts on Greenbelt Passive recreation lands impacted Partial residential property impacted Full residences impacted Commercial/industrial property required Institutional property required (excl. Greenbelt) Class 1 to 3 agricultural property required Class 4 to 7 agricultural property required Fragmentation of farmland Impact on potentially contaminated sites (soil/ sediment) Impacts to land-based airport activities
Cost	Capital, operating, and maintenance costs

The results of both methods identified Corridor 5 as the Technically Recommended Corridor, confirming the results of the Phase 1 assessment. Corridor 5 was preferred as it performed best in the Traffic and Transportation, Natural Environment, Economic Environment, Land Use and Property, and Cost factors. While it performed less favourably in the Cultural Environment, Social Environment, and Water Use and Resources factors, it nonetheless outperformed Corridors 6 and 7 overall when pair-wise comparisons were calculated.

Although Corridor 5 was not preferred for Social Environment, Cultural Environment, and Water Use and Resources subfactors, it was retained as preferred overall, and the evaluation committee noted that potential impacts on those subfactors were mitigable. The risk to the Gatineau water treatment plant was considered low and potential archaeological impacts could be mitigated by completing more detailed investigations and involving Indigenous communities closely in the planning and design stages.

The Project was dormant until Budget 2019, when the federal government announced that it would address the need for an additional NCR crossing by refreshing the previous technical and environmental studies for the three retained corridors. Building on studies undertaken between 2006 and 2013, refreshed technical and environmental studies were completed and a summary report was published online in June 2020 (WSP. 2020d).

This 2020 updated corridor evaluation report used the latest technical information and measurement adjustments. It generally followed the 2013 approaches, carrying forward the factors, sub-factors, pairwise, and reasoned argument methods, as well as the category weightings. A change was made to the sensitivity analysis in 2020 with the introduction of a Monte Carlo assessment which provided further statistical analysis. This provided opportunities to assess 10,000 variations on the factor and sub-factor weightings to better understand the variability of the results. The Monte Carlo assessment identified that the Montée-Paiement-Aviation Parkway corridor would be preferable in 69% of the variations, whereas Corridor 7 would be preferable in the remaining variations. Corridor 6 was never identified as the preferable corridor.

In 2023, the Project team initiated another targeted refresh of studies on potential corridors for an additional crossing. WSP (2024) completed an assessment and evaluation refresh for Corridors 5 and 7 only. Corridor 6 was not included based on previous evaluations which consistently found that it scored lowest overall and identified some significant community impacts to be unmitigable.

This analysis confirmed that Corridor 5 remains the technically preferred alternative. Table 12-2 presents a summary of the comparative analysis results. The following sections provide an overview of the evaluation results for Corridors 5 and 7 (see Figure 12-1 for a map of the corridors).

Table 12-2: Evaluation results by corridor from the 2023 refresh.

Factor	Corridor 5	Corridor 7
Transportation	Scored higher on all transportation subfactors. Predicted to provide more benefits for public transit and reduce traffic congestion more substantially than Corridor 7. Would also allow for more connections with non-motorized infrastructure.	Scored lower on all transportation subfactors. Its location farther away from core areas of Gatineau and Ottawa means it would provide fewer opportunities for transit expansion, active transportation connectivity, and other types of transportation.
Biophysical and Natural Environment	Scored higher on all biophysical and natural environment subfactors, primarily because it overlaps with the smallest area of terrestrial and aquatic habitats.	Scored lower on all biophysical and natural subfactors, primarily because it would have a larger footprint and overlap with larger areas of undeveloped terrestrial and aquatic habitats. Would result in substantial habitat loss in the Baie McLaurin wetland complex.
Social and Cultural Environment	Scored higher on visual intrusion and Indigenous interests but scored lower on other subfactors. Because it is located in a more populated area closer to the cores of Gatineau and Ottawa, this alternative could potentially impact community cohesion and social equity. However, this can be mitigated by providing multimodal connectivity between communities on either side of the corridor.	Scored lower on visual intrusion and Indigenous interests, primarily because of its larger footprint. Scored higher on most social and cultural environment subfactors, primarily because it is located away from core urbanized areas of Gatineau and Ottawa and is therefore less likely to affect community cohesion and social equity.

Factor	Corridor 5	Corridor 7
Human Health	Scored higher for air quality impacts and tied on impacts to water treatment. Scored lower on most human health subfactors because its location in proximity to a large urban population means that more people may be exposed to noise and vibration from the Project.	Scored lower for air quality impacts and tied on impacts to water treatment. Scored higher on most human health subfactors, primarily because it is located away from heavily populated areas and would therefore expose fewer people to increased noise and vibration.
Land Use and Property	Scored higher on most land use and property subfactors. Exceptions were on impacts to private properties and aviation, because it may require land acquisition of residential properties. Its proximity to the Ottawa/Rockcliffe Airport may affect aircraft flight paths and require eastward extensions on runways, but this is still being studied.	Scored lower on other land use and property subfactors. It is the only alternative which would require acquisition of agricultural land. Scored higher on impacts to private properties and aviation because it will not require acquisition of residential properties and will not affect airport runways.
Economic Environment	Scored higher on economic subfactors. Corridor 5 will have lower construction, operation, and maintenance costs, although both alternatives will have comparable economic development benefits. .	Scored lower on economic subfactors because of the estimated higher overall cost of construction, operation, and maintenance.
Climate Change and Vulnerability	Scored higher on climate resilience/adaptation because it has a smaller footprint and will result in less loss of green spaces and wetlands. Scored marginally lower on climate mitigation (GHG emissions) because construction is estimated to have slightly higher carbon emissions, but this can be mitigated to a degree by making use of electrified vehicles and equipment where possible. The alternatives were tied on emergency preparedness.	Scored marginally higher on climate mitigation, tied on emergency preparedness and scored lower on climate resilience/adaptation.

12.2 Alternative Means of Carrying out the Project

Design options for the five corridor segments consider context characteristics such as land use, community, natural and cultural characteristics, planning frameworks and transportation structures. A multi-step design selection framework is planned to assess alternative options and to retain a single preferred concept for all segments. Options for roadway intersections and highway interchanges as well as active mobility pathways will be part of the overall evaluation process.

The interprovincial bridge segment is more multifaceted and follows a modified process to address the complexity of options. The design process started with many possible alignments, requiring an initial screening analysis before moving forward. As a result, the first phase of analysis focused exclusively on this segment. Other segments and Project elements along the corridor will be carried forward directly into an evaluation at the pre-design stage. Overall, the selection framework has the following phases:

- Options Analysis: Initial alignment options for the crossing of the Ottawa River were evaluated, leading to a shortlist of alignments for further refinements. This phase included a Part 1 screening of multiple technically feasible options followed by a Part 2 optimization and evaluation to determine three broad concepts for further design in the next phase.
- Pre-Design Analysis: Refined concepts will be developed and evaluated to retain a single detailed concept design for the bridge segment that include bridge types.
- Concept Design Analysis: A single preferred concept for the entire corridor is selected through a refined Design Selection framework.

The Design Selection Framework uses a multi-criteria analysis (MCA) tool. The development of the MCA tool follows a structured, iterative approach. Use of this tool provides opportunities to document the assessment process for evaluating design choices and the basis for decisions.

The MCA tool includes six categories that apply to all segments of the Project. Each category utilises several criteria that will be tailored to the context of each segment, recognizing that distinct components may require unique evaluation factors. As the design of the other segments advances, each one will be assessed using criteria relevant to their characteristics and challenges. The criteria outlined below specifically apply to Segment 3, the bridge crossing.

- Biophysical Environment: how each option may affect the natural systems in and around the LSA, including, but not limited to, potential changes to aquatic and terrestrial habitat, vegetation communities, and species at risk.
- Costs: including upfront construction costs and financial implications or materials and construction methods, and any specialized equipment or expertise required.
- Design and Engineering: how each option meets functional needs and fits within the site considering user experience, aesthetic qualities, and the technical complexity of constructing the crossing.
- Maintenance and Operations: requirements to keep the infrastructure safe and functional over its lifespan including frequency and ease of maintenance, potential disruptions during maintenance activities, durability risks, and lifecycle costs.
- Schedule: approximate duration required to construct the bridge segment of each option with an emphasis on the number of years to achieve substantial completion of the river crossing.
- Social, Cultural, and Human Health Considerations: how each option may affect communities and cultural and archaeological resources. Also includes impacts to lands along and access to both shorelines and Kettle Island in the Ottawa River.

Engagement with partners, stakeholders, Indigenous communities, and the public to obtain feedback at key milestones is an important component of the evaluation process. Feedback obtained will be used in subsequent steps of the process.

As the Project progresses and design advances, additional alternatives may be considered as it relates to construction methodologies, management of excavated materials, siting of specific components, and other activities associated with the Project.

Alternative Alignments for the Bridge Crossing

Technically feasible crossing options were developed at a demonstrative level to illustrate potential alignments. The options varied in horizontal and vertical alignment, interaction with Kettle Island, and approach configurations on both riverbanks. Below-grade tunnel alternatives were also considered.

A high-level screening of these options was undertaken to eliminate options with comparatively higher and/or unmanageable risks or impacts across the six categories of the MCA tool. The initial screened options were:

- Options W1 and W2 – Bridge Crossing to the West, avoiding Kettle Island. Their primary distinguishing characteristic is their southern approach on the Sir George-Étienne Cartier parklands.
- Options C1 and C2 – Bridge Crossing to the western tip of Kettle Island. Their primary distinguishing feature is that the alignments avoid direct interaction with Kettle Island.
- Option E – Bridge Crossing further East with interactions with Kettle Island
- Option S – Bridge Crossing with the straightest connection between shores with interactions with Kettle Island
- Options T1 and T2 – Tunnel Crossing beneath the Ottawa River.

The high-level alternatives are shown in Figure 12-2

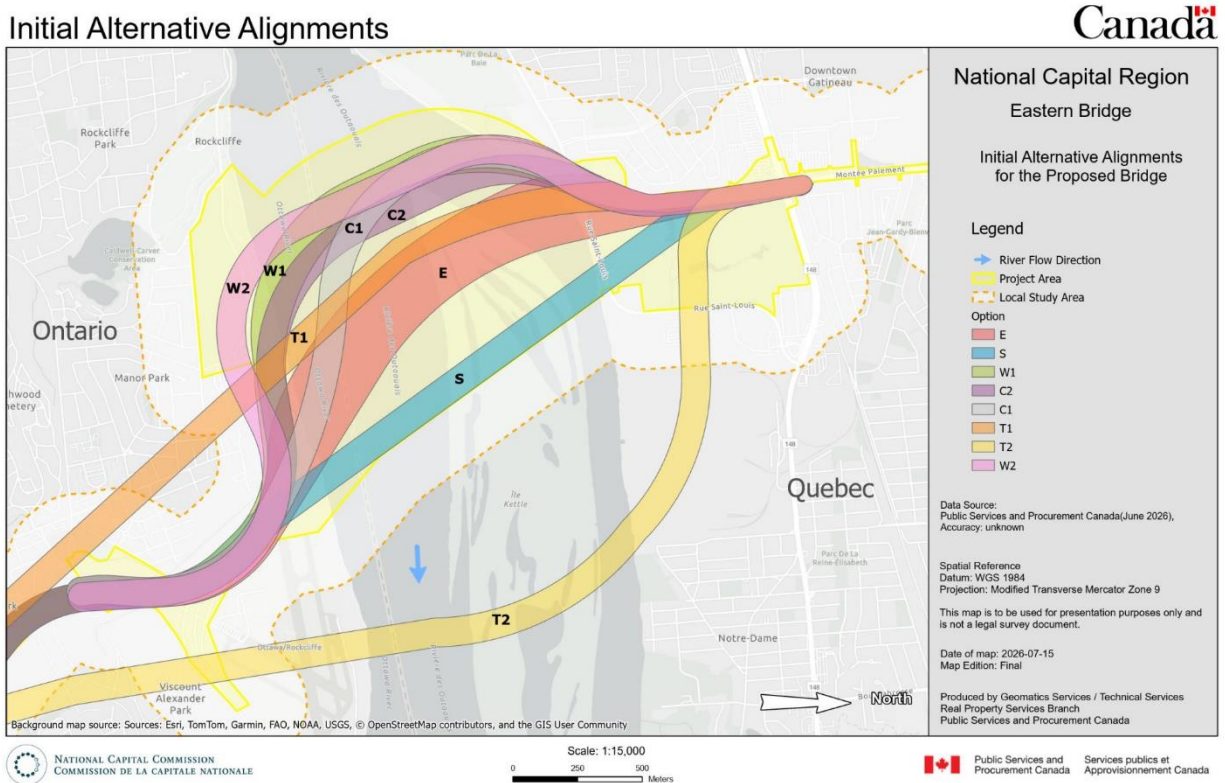


Figure 12-2: Initial Alternative Alignments for the Crossing of the Ottawa River

The initial screening of these options included an evaluation against the six evaluation categories. The intent was to identify categories where an option presents notably higher risks or impacts relative to the other options for each category, and where such risks are considered sufficiently significant to screen the option out. Categories shown in grey in the Table 12-3 indicate that the anticipated risk profile is broadly comparable across options, or the level of available information does not allow for meaningful differentiation. Evaluation boxes highlighted in red identify categories where an option clearly demonstrates elevated or disproportionate risks or impacts relative to other options.

Table 12-3: Results of Screening Analysis

		Option							
		W1	W2	C1	C2	E	S	T1	T2
Evaluation Category	Biophysical								
	Costs								
	Design and Engineering								
	Maintenance and Operations								
	Schedule								
	Social, Cultural and Health								

The complete list of options recommended for advancement includes (see Figure 12-3):

- Option S, or “Straight Alignment Option”
- Option E, or “East Alignment Option”
- Option W1, or “West Alignment Option”

Recommended Alignments Options

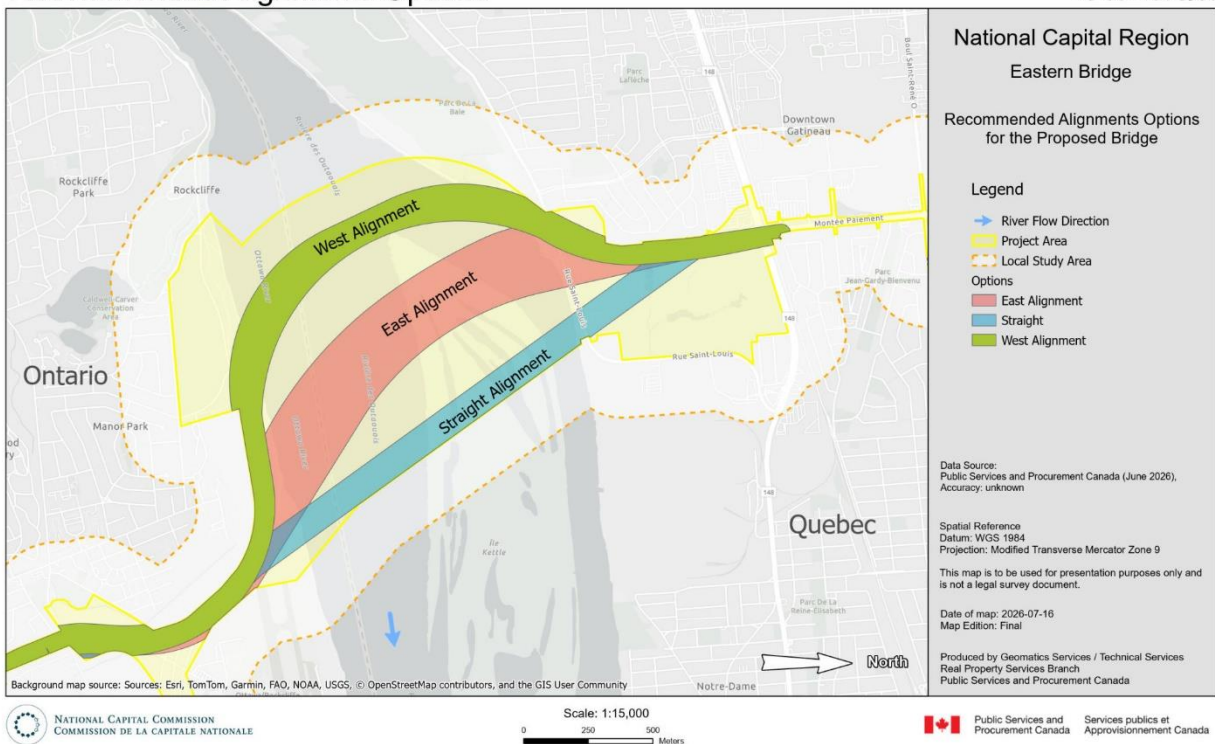


Figure 12-3: Options Recommended for the Next Phase

Alternative Interchange/Intersection Designs

Alternative interchange design options are being considered for the interchanges along Montée-Paiement and Aviation Parkway. Options currently under consideration include the following:

- Autoroute Interchange
 - existing condition with reconfigured ramps
 - current reference design
 - double roundabout interchange
- Major Intersections, including Boulevard Maloney-Montée-Paiement, Hemlock Road-SGEC parkway, Montréal Road-Aviation Parkway, and Ogilvie Road-Aviation Parkway
 - At grade intersection (existing)
 - Grade separated interchange
- Highway 417, OR174 and Aviation Parkway Interchange
 - N-W under Cyrville Road
 - W-N ramp over OR174
 - N-E ramp accommodated on the existing structure; consolidate W-N, E-N, S-N movements in advance of Ogilvie using a series of structures over OR174 and LRT
 - Consolidate W-N, N-W, N-E, and E-N movements on one curved ramp structure over Highway 417

Alternative road configurations are also being considered for Montée-Paiement, Aviation Parkway, and SGEC Parkway. Options currently under consideration include:

- Montée-Paiement:
 - Realign roadway West to provide additional space between residential properties and arterial road. Driveway access on East side of road is maintained.
 - Realign the roadway West to provide a new service roadway to connect driveways. This would allow for a sound barrier to be provided between the service road and arterial road in some locations.
- Aviation Parkway and SGEC Parkway:
 - Maintain existing alignment and add additional N-S lanes to meet functional requirements
 - Realign roadway and narrow median to promote opportunities for public realm improvements, protection of environmental features, or impact mitigation measures

Alternative construction staging areas will be considered for the staging of construction equipment, material storage and access to the Ottawa River. It is anticipated that some of the staging areas used for the construction of the Alexandra Bridge will be considered for use in constructing the Project, depending on timing and availability. These areas will be further identified and evaluated within the Impact Statement.

Other ancillary or temporary components of the Project may be identified if required. These components will be further identified and evaluated within the Impact Statement.

Over the next months, the MCA tool will be further developed for each of the remaining segments of the corridor based on input received from engagement with stakeholders, PAGs (see Section 0) and Indigenous communities. The categories are expected to remain consistent across the entire corridor. Criteria will continue to be refined for the road configuration including intersections and interchanges as the project advances and as additional information becomes available.

Part C: Location Information and Context

13 Project Location Information

The corridor extends from the interchange of Autoroute 50 and Montée Paiement in Gatineau to the interchange of Highways 417 and 174 in Ottawa (see Figure 13-1 to Figure 13-4). The exact location of the new interprovincial bridge near the western end of Kettle Island is still under assessment (see Figure 1-1 for a map of the full corridor).

Description of the project's proposed geographic coordinates based on information available:

- Segment 1: from 45.510295, -75.677918 to 45.482992, -75.674228
- Segment 2 and 3: from 45.482992, -75.674228 to 45.457584, -75.649055
- Segment 4: from 45.457584, -75.649055 to 45.428000, -75.627027
- Segment 5: from 45.428000, -75.627027 to 45.416674, -75.613029

Project Components - Segment 1

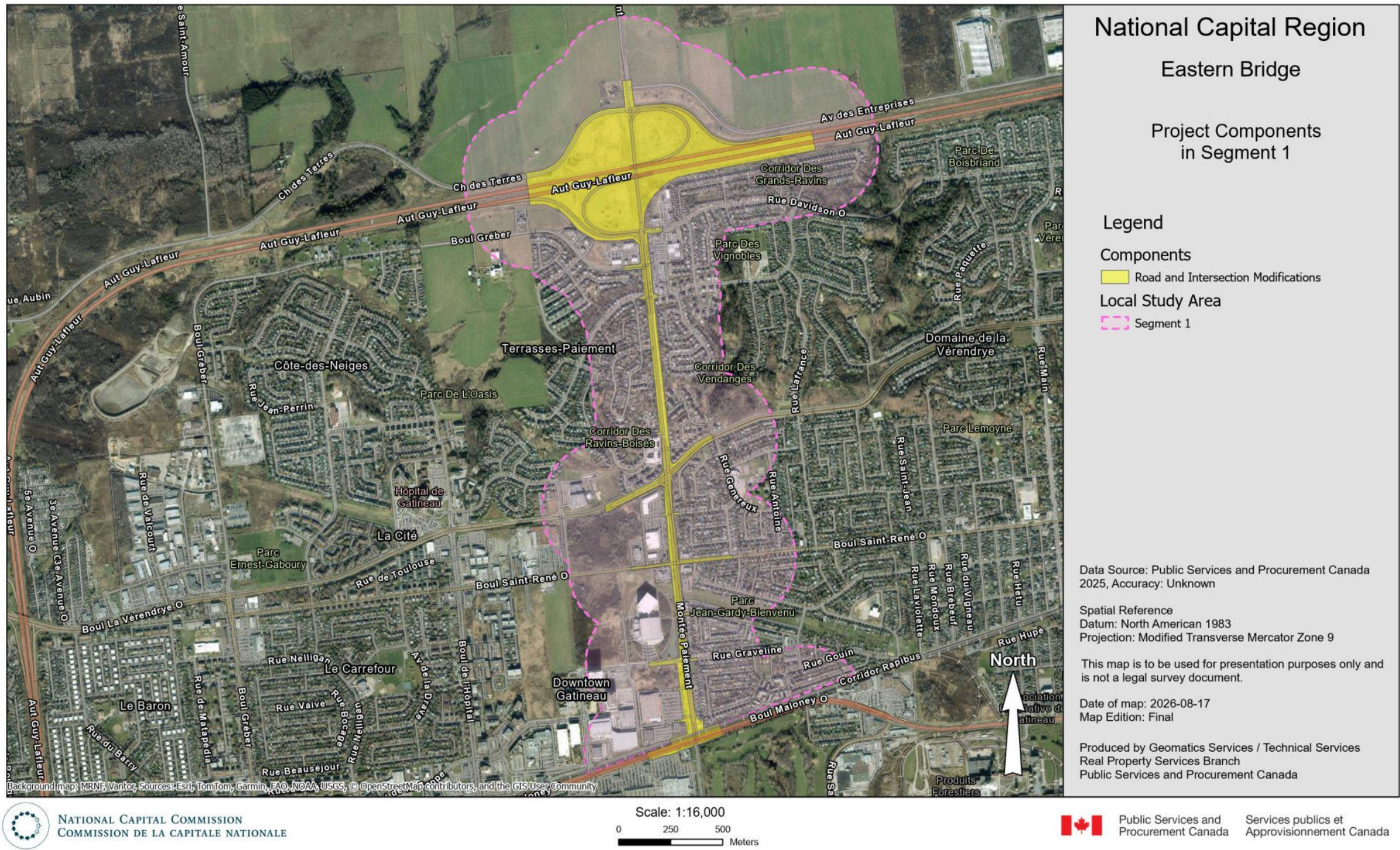


Figure 13-1: Location of Project Components – Segment 1

Project Components - Segments 2 & 3

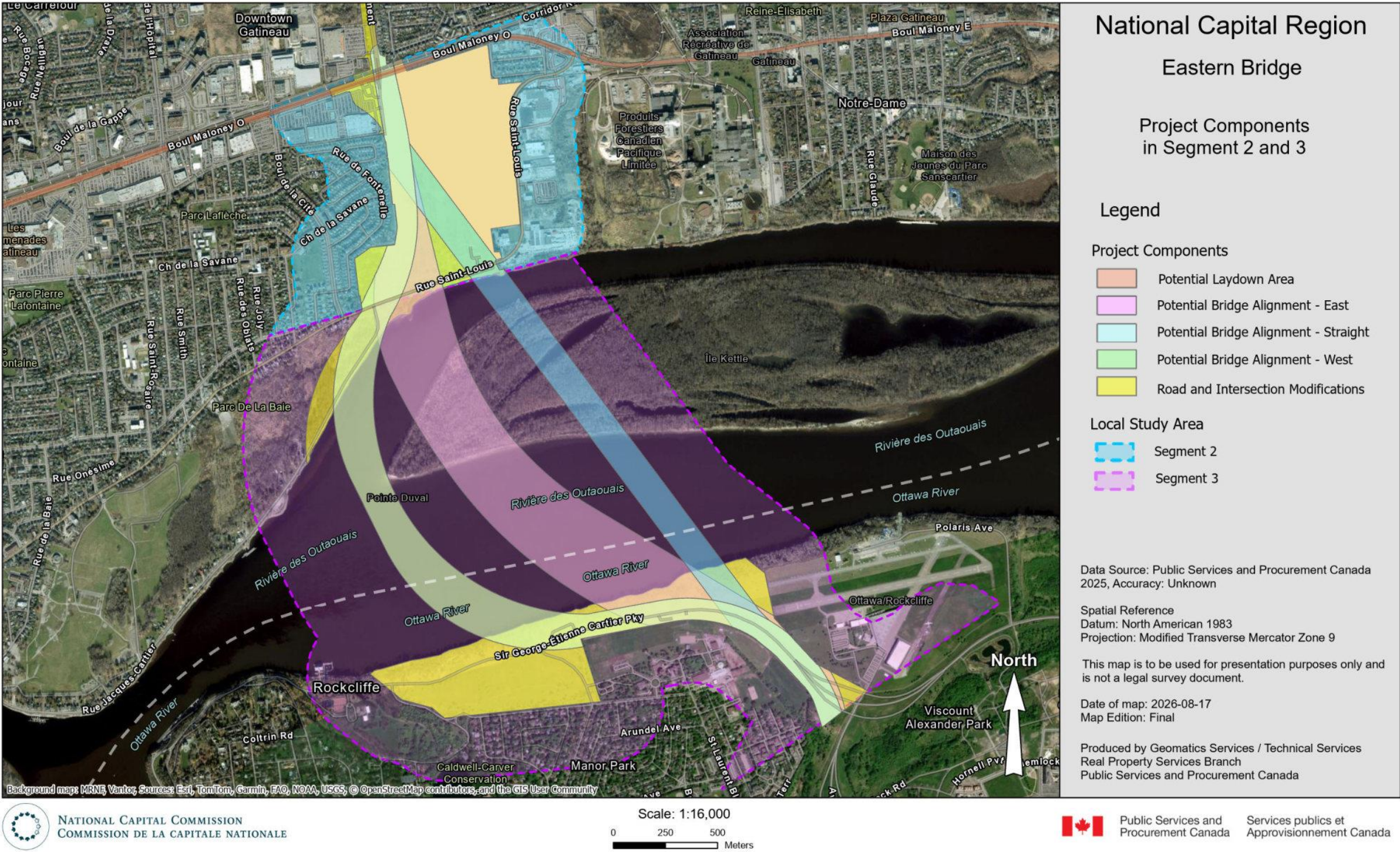


Figure 13-2: Location of Project Components – Segments 2 and 3

Project Components - Segment 4

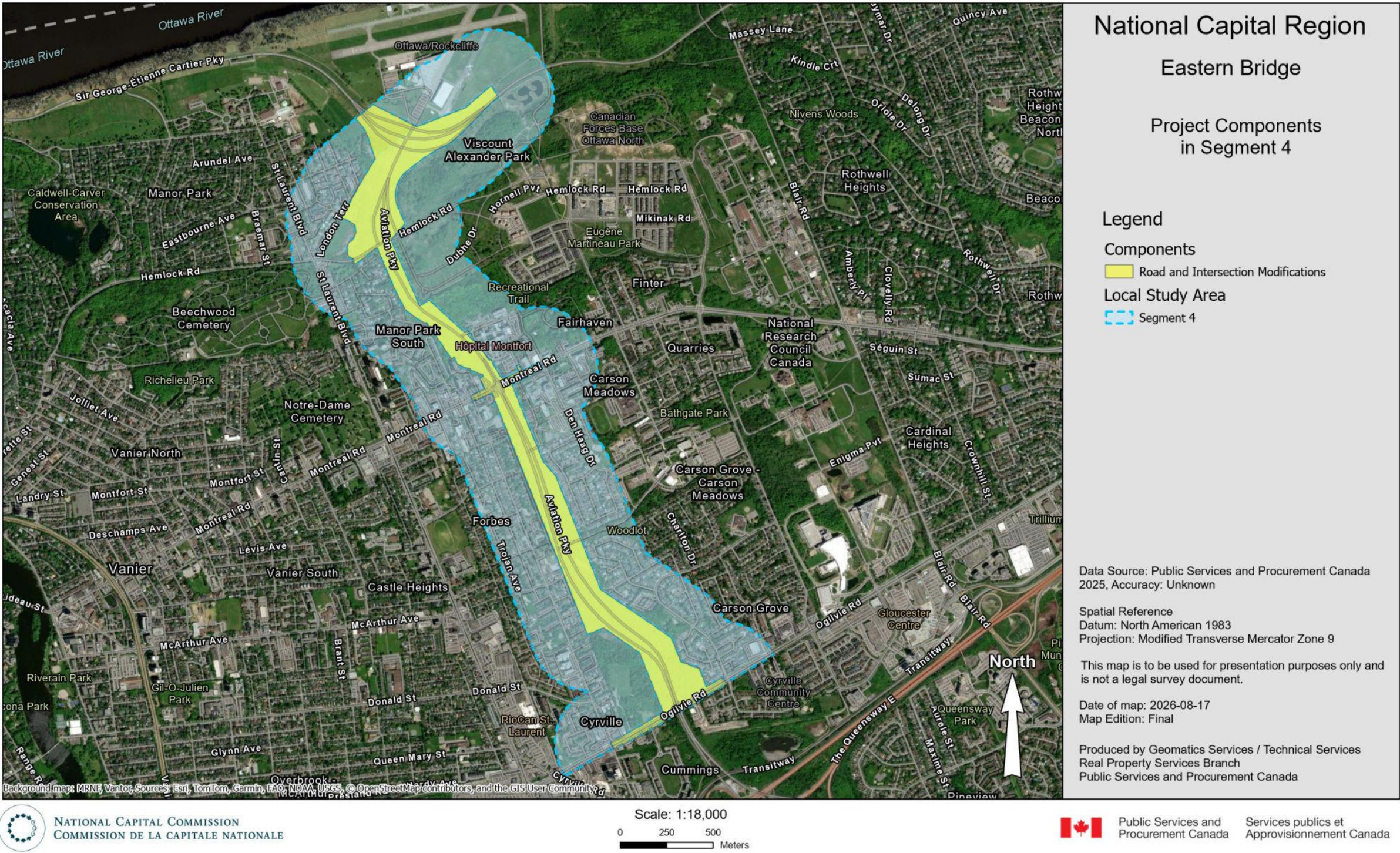


Figure 13-3: Location of Project Components – Segment 4

Project Components - Segment 5



Figure 13-4: Location of Project Components – Segment 5

Federal Land Ownership

Land ownership along the corridor in Gatineau includes a mix of federal, provincial, municipal, and private lands. Properties information provided in Table 13-1 is from the Directory of Federal Real Property (DFRP).

Table 13-1: Federal properties along the corridor

DFRP Property No.	Name (Custodian)	Primary Use
27337	Preservation Campus (Library and Archives Canada)	Archival Storage Space
14995	Vacant Land (Facing the Preservation Centre)	Unused Land
08734	Canadian Police College (Royal Canadian Mounted Police)	Police Training Facility
04118	SGEC parkway, land surrounding the Aviation Museum (National Capital Commission)	Transportation Corridors
27330	Canadian Aviation and Space Museum (Canada Science and Technology Museum)	Museum
04162	Aviation Parkway (National Capital Commission)	Transportation Corridors
04479	(unnamed) (National Capital Commission)	Transportation Corridors
04217	(unnamed) (National Capital Commission)	Transportation Corridors
04218	(unnamed) (National Capital Commission)	Transportation Corridors
03379	(unnamed) (National Capital Commission)	Transportation Corridors
08629	CMHC National Office (Canada Mortgage and Housing Corporation)	Office Building

Figure 13-5 and Figure 13-6 show federal land ownership within and adjacent to the PA.

Federal Land Ownership - Quebec

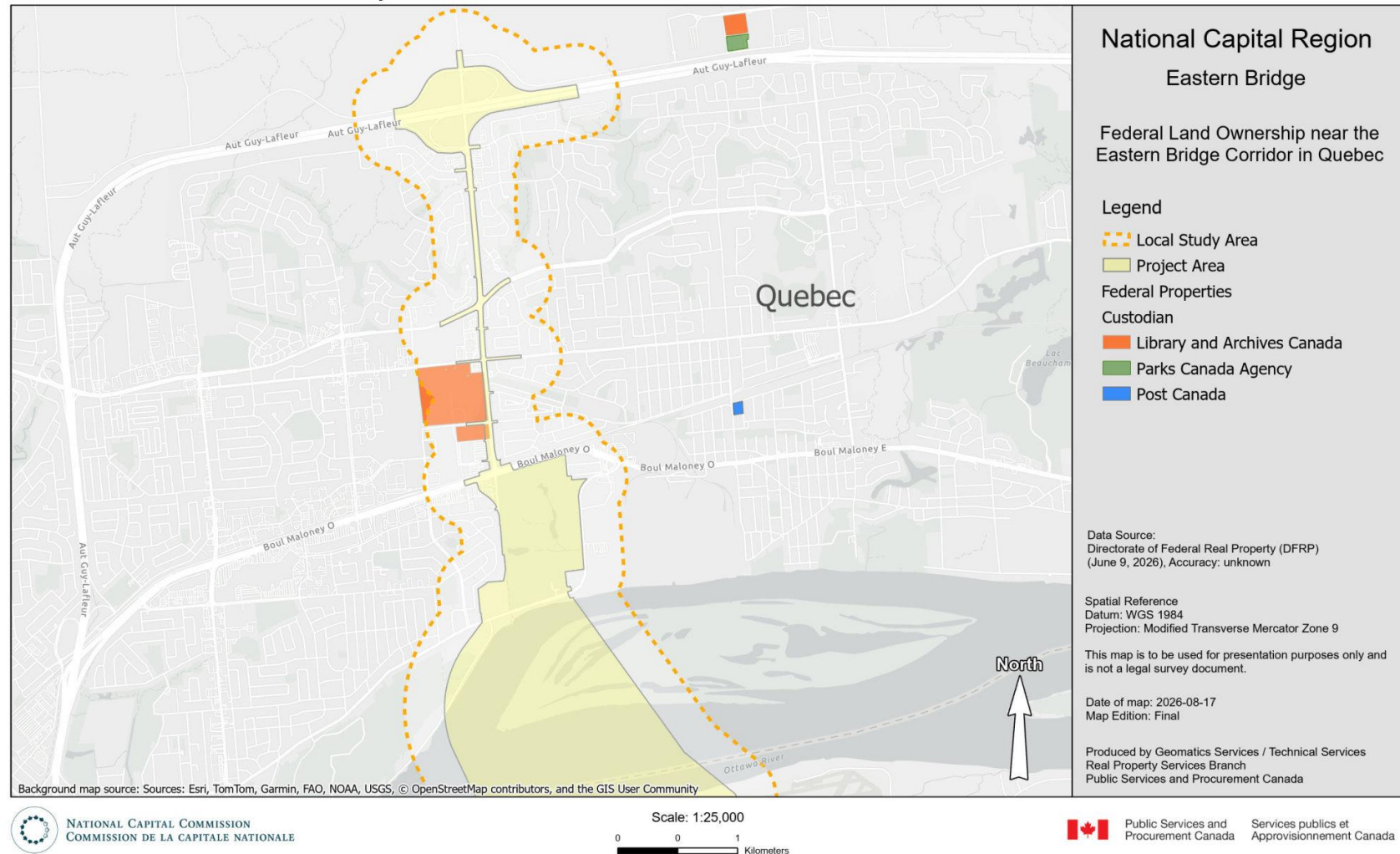


Figure 13-5: Federal Land Ownership in the Corridor – Quebec

Federal Land Ownership - Ontario

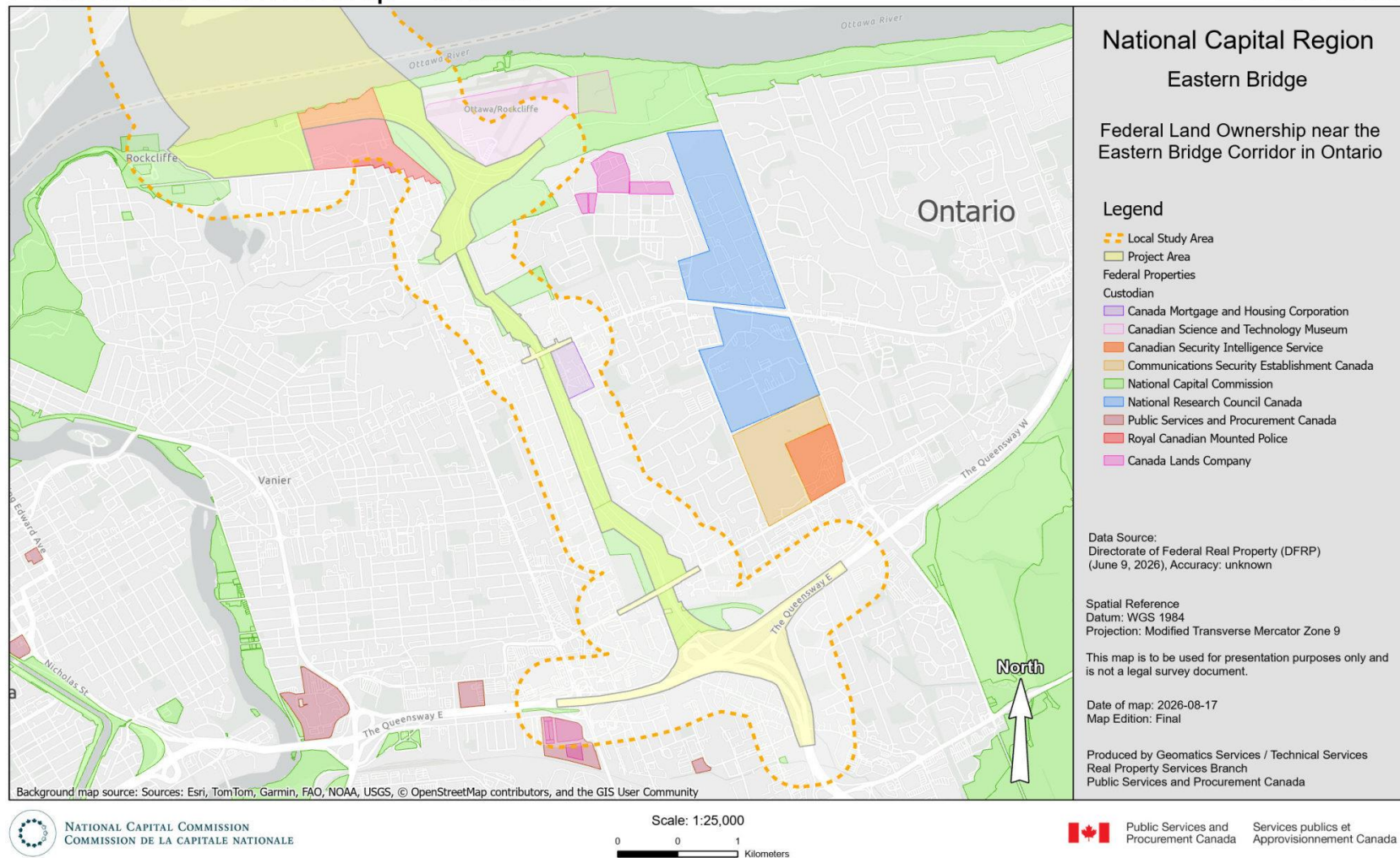


Figure 13-6: Federal Land Ownership in the Corridor – Ontario

Municipal and Provincial Land Ownership

In Gatineau, municipal and provincial lands are scattered along the corridor including the interchange with Autoroute 50 (Table 13-2).

In Ottawa, most of the lands are federally owned except for road intersections and the interchange of Aviation Parkway and Highway 417 which are under municipal and provincial ownership respectively. Legal description of non-federal lands that may be used for the project will be developed as the Project is better defined once the preferred corridor has been selected (

Table 13-3).

Table 13-2: Gatineau Municipal and Provincial properties along the corridor

Type	Lot	Matricule
Public - Municipal	1 273 241	6937-46-0775
Public - Municipal	1 273 244	
Public - Municipal	1 273 497	
Public - Municipal	1 273 642	
Public - Municipal	1 273 731	
Public - Municipal	1 273 732	
Public - Provincial	1 273 733	
Public - Municipal	1 767 485	6938-37-4088
Public - Municipal	1 767 486	6938-37-4088
Public - Municipal	1 770 085	
Public - Municipal	1 770 302	6940-14-7988
Public - Municipal	1 770 307	6939-24-9407
Public - Municipal	1 770 308	6840-79-0503
Public - Municipal	1 770 334	6938-35-9045
Public - Provincial	1 770 448	
Public - Municipal	1 934 614	7037-03-2259
Public - Municipal	2 209 914	6939-22-3864
Public - Municipal	2 555 719	6937-46-0775
Public - Municipal	2 555 720	6937-46-0775
Public - Municipal	3 419 811	
Public - Municipal	3 891 620	
Public - Municipal	3 891 621	
Public - Municipal	3 891 622	
Public - Municipal	4 014 980	
Public - Municipal	4 075 855	
Public - Municipal	4 473 028	6836-98-9052
Public - Municipal	4 473 030	6836-98-9052
Public - Municipal	5 515 891	6936-09-8538

Table 13-3: Ottawa Municipal and Provincial properties along the corridor

Type	Property Identification Number (PIN)
Public - Provincial	42640700
Public - Provincial	42690130
Public - Municipal	42730198
Public - Provincial	43610241

Private Land Ownership

The following is a preliminary list of private properties (Table 13-4 and Table 13-5) that could be required for infrastructure of the project. The list is intentionally broad as several possible design options are still being studied. It is based on the information available now and identifies properties that may potentially be affected under one or more of the options being reviewed. Inclusion on the list does not necessarily mean that a property will need to be acquired. As the project advances and the options are further refined, properties currently on the list may be removed (partially or fully) and additional properties, or parts of properties, may be added if they are required for the updated design.

The Government of Canada is committed to affecting as few private properties as possible and minimizing those impacts where they cannot be avoided. Reducing impacts on private property is one of the factors that will be used to compare and choose among the project options taking into account technical, environmental, financial and safety considerations.

Once a preferred design is chosen and confirmed, property owners will be contacted individually and consulted if all or part of their property may be required for the project. At that time, they will be informed of the potential impacts on their property and the proposed approach for any required acquisition.

Table 13-4: Private properties in Gatineau along the corridor

Type	Lot	Matricule
Private	1 273 240	6937-44-4412
Private	1 273 243	6938-12-1142
Private	1 273 247	6938-33-0268
Private	1 273 701	6937-34-5084
Private	1 767 447	6939-30-0987
Private	1 767 448	6939-30-0893
Private	1 767 449	6939-30-0899
Private	1 767 450	6939-30-1171
Private	1 767 451	6939-30-1076
Private	1 767 452	6939-30-1082
Private	1 767 453	6939-30-1262
Private	1 767 454	6938-35-7316
Private	1 767 457	6938-36-6034
Private	1 767 458	6938-36-6214
Private	1 767 459	6938-36-6124
Private	1 767 460	6938-36-6304
Private	1 767 461	6938-35-6685
Private	1 767 462	6938-35-6595
Private	1 767 463	6938-35-6775
Private	1 767 464	6938-35-6866
Private	1 767 465	6938-35-6956
Private	1 767 466	6938-35-7047
Private	1 767 472	6938-37-4930
Private	1 767 473	6938-37-5115
Private	1 767 474	6938-36-5492
Private	1 767 475	6938-36-5672
Private	1 767 476	6938-36-5763
Private	1 767 477	6938-36-5943
Private	1 767 478	6938-36-5853
Private	1 767 487	6938-37-4753
Private	1 767 488	6938-37-4843
Private	1 767 500	6938-38-2752
Private	1 767 501	6938-39-2827
Private	1 767 502	6938-39-2916
Private	1 767 503	6938-38-3195
Private	1 767 504	6938-39-3006
Private	1 767 505	6938-38-3285
Private	1 767 506	6938-38-3374
Private	1 767 507	6938-38-3854
Private	1 767 524	6939-30-1724

Type	Lot	Matricule
Private	1 767 525	6939-30-1635
Private	1 767 526	6939-30-1813
Private	1 767 527	6939-30-1902
Private	1 767 528	6938-39-2091
Private	1 767 529	6938-39-2281
Private	1 767 530	6938-39-2459
Private	1 767 531	6938-39-2370
Private	1 767 532	6938-39-2548
Private	1 767 533	6938-39-2638
Private	1 768 127	6939-24-7635
Private	1 768 128	6939-24-7717
Private	1 768 129	6939-23-8094
Private	1 768 130	6939-23-8276
Private	1 768 131	6939-23-8956
Private	1 768 132	6939-25-6809
Private	1 768 133	6939-24-7090
Private	1 768 134	6939-24-7272
Private	1 768 135	6939-24-7454
Private	1 768 137	6939-25-6349
Private	1 768 142	6940-20-3860
Private	1 768 143	6940-20-3860
Private	1 768 144	6940-20-3860
Private	1 768 145	6940-20-3860
Private	1 768 146	6940-20-3860
Private	1 768 147	6940-20-3860
Private	1 768 148	6940-20-3860
Private	1 768 149	6940-20-3860
Private	1 768 150	6940-20-3860
Private	1 768 151	6940-20-3860
Private	1 768 152	6940-20-3860
Private	1 768 153	6940-20-3860
Private	1 768 154	6940-20-3860
Private	1 768 155	6940-20-3860
Private	1 768 156	6940-20-3860
Private	1 768 157	6940-20-3860
Private	1 768 158	6940-21-3808
Private	1 768 159	6939-32-1503
Private	1 768 167	6939-33-0527
Private	1 768 220	6939-37-0227
Private	1 768 223	6939-37-0227
Private	1 768 985	6940-14-8435
Private	1 768 986	6940-14-8344

Type	Lot	Matricule
Private	1 768 994	6940-15-7123
Private	1 768 995	6940-15-6841
Private	1 768 996	6940-14-7976
Private	1 768 997	6940-14-8163
Private	1 768 998	6940-14-8254
Private	1 768 999	6940-15-7901
Private	1 769 002	6940-22-0638
Private	1 769 003	6940-22-0827
Private	1 769 004	6940-22-1012
Private	1 769 005	6940-21-1494
Private	1 769 006	6940-21-2471
Private	1 769 015	6940-22-0195
Private	1 769 016	6940-22-0180
Private	1 769 017	6940-22-0267
Private	1 769 018	6940-22-0457
Private	1 769 019	6940-22-0548
Private	1 769 020	6940-23-1007
Private	1 769 039	6940-14-8525
Private	1 769 040	6940-14-8707
Private	1 769 041	6940-14-8616
Private	1 769 042	6940-13-8988
Private	1 769 043	6940-13-8897
Private	1 769 044	6940-13-9077
Private	1 769 045	6940-13-9265
Private	1 769 046	6940-13-9650
Private	1 770 093	6939-37-0227
Private	1 770 249	6938-70-0913
Private	1 934 616	7037-00-4393
Private	1 934 618	7036-17-9632
Private	1 934 620	7036-27-0319
Private	1 934 621	6937-93-5112
Private	1 934 622	6937-92-5993
Private	1 934 623	6937-92-6575
Private	1 934 624	7137-01-9862
Private	1 935 149	7137-01-9862
Private	1 936 691	7137-01-9862
Private	1 936 692	7137-01-9862
Private	1 989 837	
Private	1 989 839	
Private	1 989 841	
Private	2 409 678	6939-32-0663
Private	2 659 521	

Type	Lot	Matricule
Private	3 913 829	6939-14-5332
Private	3 913 829	6939-15-4082
Private	3 913 830	6939-15-4082
Private	3 913 831	6939-14-5332
Private	4 014 979	6939-22-0133
Private	4 074 913	6840-59-1444
Private	4 075 856	6840-34-3536
Private	4 371 970	6939-13-9931
Private	4 473 037	6937-21-2547
Private	4 610 190	
Private	4 610 191	6939-28-5366
Private	4 610 192	6939-28-5366
Private	4 610 193	6939-28-5366
Private	4 610 194	6939-28-5366
Private	4 610 195	6939-28-5366
Private	4 610 200	6939-28-5366
Private	4 610 201	6939-28-5366
Private	4 610 202	6939-28-5366
Private	4 610 203	6939-28-5366
Private	4 610 204	6939-28-5366
Private	4 610 205	6939-28-5366
Private	4 610 441	6939-28-5366
Private	4 610 442	6939-28-5366
Private	4 621 467	6940-20-6217
Private	4 621 468	6940-20-6217
Private	4 621 469	6940-20-6217
Private	4 621 470	6940-20-6217
Private	4 621 471	6940-20-6217
Private	4 621 472	6940-20-6217
Private	4 621 473	6940-20-6217
Private	4 621 474	6940-20-6217
Private	4 621 475	6940-20-6217
Private	4 621 476	6940-20-6217
Private	4 621 477	6940-20-6217
Private	4 621 478	6940-20-6217
Private	4 621 479	6940-20-6217
Private	4 621 480	6940-20-6217
Private	4 621 481	6940-20-6217
Private	4 621 482	6940-20-6217
Private	4 621 483	6940-20-6217
Private	4 621 484	6940-20-6217
Private	4 621 485	6940-20-6217

Type	Lot	Matricule
Private	4 621 486	6940-20-6217
Private	4 621 487	6940-20-6217
Private	4 621 488	6940-20-6217
Private	4 621 489	6940-20-6217
Private	4 621 490	6940-20-6217
Private	4 621 491	6940-20-6217
Private	4 621 492	6940-20-6217
Private	4 621 493	6940-20-6217
Private	4 621 494	6940-20-6217
Private	4 621 495	6940-20-6217
Private	4 621 496	6940-20-6217
Private	4 621 497	6940-20-6217
Private	4 621 498	6940-20-6217
Private	4 818 279	
Private	4 818 300	6939-07-9204
Private	4 818 301	6939-07-9204
Private	4 818 302	6939-07-9204
Private	4 818 303	6939-07-9204
Private	4 818 304	6939-07-9204
Private	4 818 305	6939-07-9204
Private	4 818 306	6939-07-9204
Private	4 818 307	6939-07-9204
Private	5 054 888	6937-34-5084
Private	5 054 889	6937-34-5084
Private	5 284 076	6840-88-0818
Private	5 284 077	6840-78-6270
Private	5 509 834	6840-88-0818
Private	5 515 890	6936-07-3331
Private	5 515 892	6937-21-2547
Private	5 592 033	7038-71-1724
Private	5 799 645	6938-70-0913
Private	6 267 671	6937-21-2547
Private	6 289 436	
Private	6 559 326	6840-28-6450
Private	6 559 344	6840-39-3413
Private	6 564 272	6840-39-3413
Private	6 564 273	6840-39-3413
Private	6 564 274	6840-39-3413
Private	6 564 275	6840-39-3413
Private	6 564 276	6840-39-3413

Table 13-5: Private properties in Ottawa along the corridor

Type	Property Identification Number (PIN)
Private	42220167
Private	42690127
Private	42690128
Private	42690982
Private	42691869
Private	42730244
Private	42730248
Private	42730253
Private	42730419
Private	43610253
Private	43610254
Private	43610407
Private	43610409
Private	43610410
Private	43610432
Private	43610433

Nearby Communities and Residences

The Project is within the urban areas of the cities of Gatineau, Québec and Ottawa, Ontario, and is in proximity to many surrounding neighbourhoods with a population of approximately 30,000 within 1 km of the corridor (WSP 2025). In Gatineau, the corridor crosses the District du Carrefour-de-L'Hôpital, District de Bellevue, District du Versant, District de la Pointe Gatineau, and District du Lac Beauchamp (Figure 13-7). In Ottawa, the corridor crosses the neighbourhoods of Rockliffe Park, Manor Park, Wateridge Village, Overbrook, Carson Grove-Carson Meadows, Riverview, and Pineview (Figure 13-8).

Communities - Gatineau

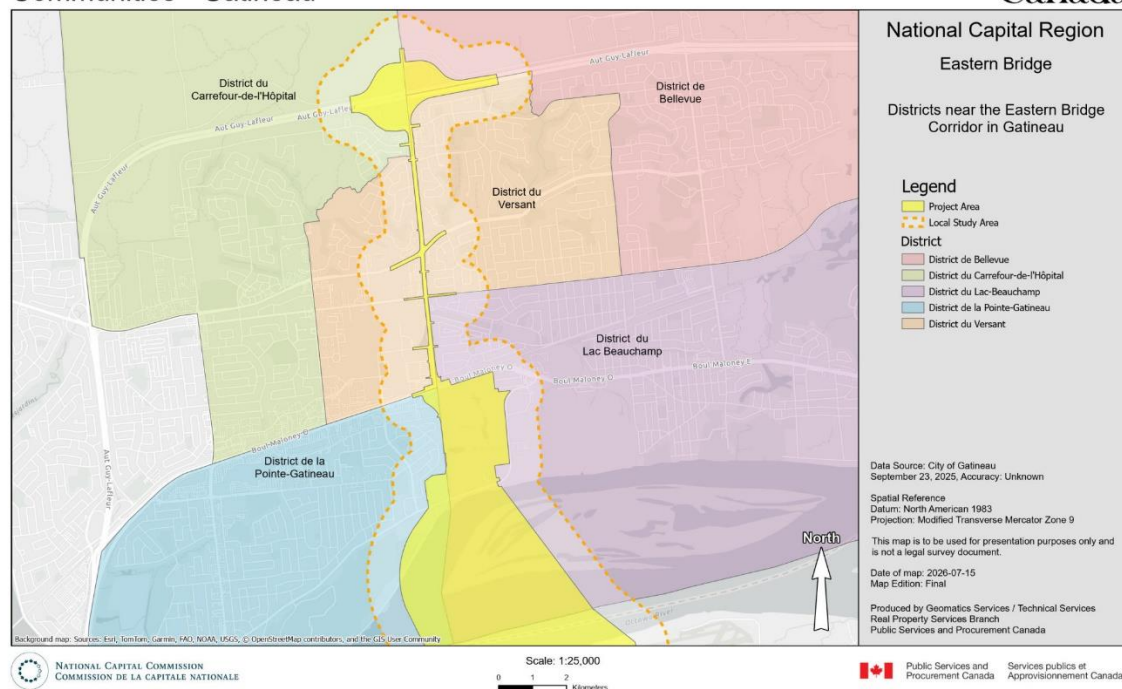


Figure 13-7: Districts in Gatineau

Communities - Ottawa

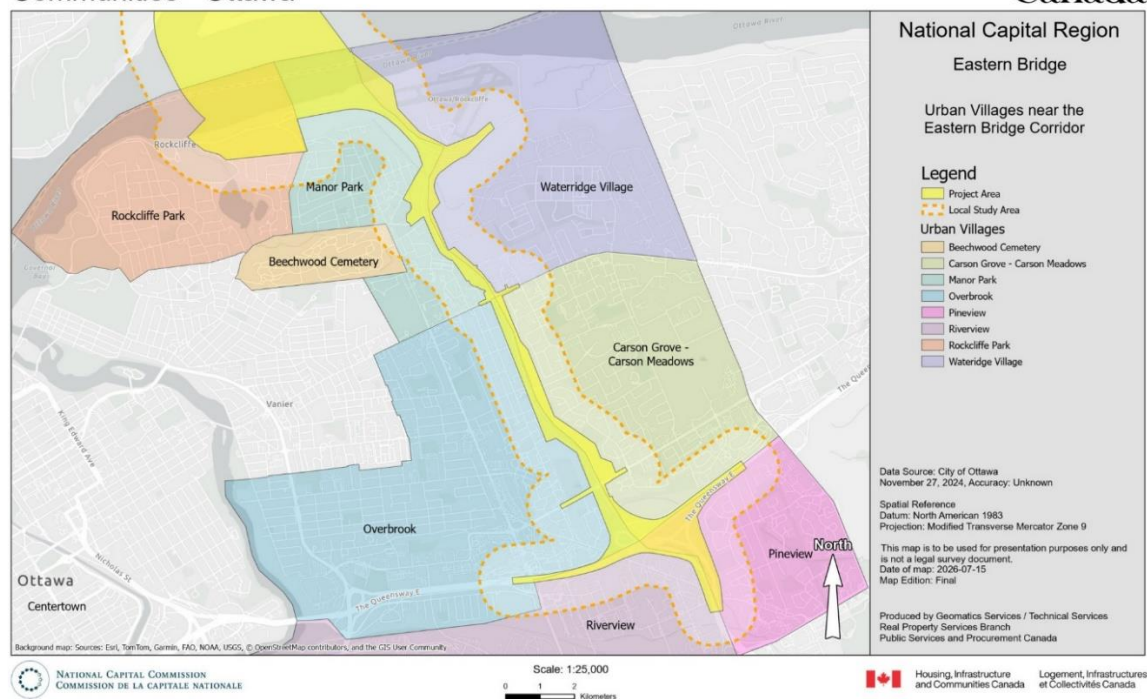


Figure 13-8: Ottawa Communities and Neighbourhoods

Proximity to Indigenous Lands and Communities

The area in the vicinity of the Project has been a place of gathering, trade, harvesting, and transportation for Indigenous peoples for thousands of years prior to European settlement (Walker 2018). Indigenous communities and organizations listed in Section 4.2 consider that the Eastern Bridge Project is within their traditional territories. The location of the Eastern Bridge and the watershed of the Ottawa River and its tributaries have been identified by Indigenous communities as subject to land claims, assertions of title, modern treaty negotiations and court cases to establish the existence of Indigenous rights.

The Project is within the traditional territories of 15 communities and four (4) organizations. The locations of the business centres of the communities are shown in Figure 13-9.

Indigenous Communities

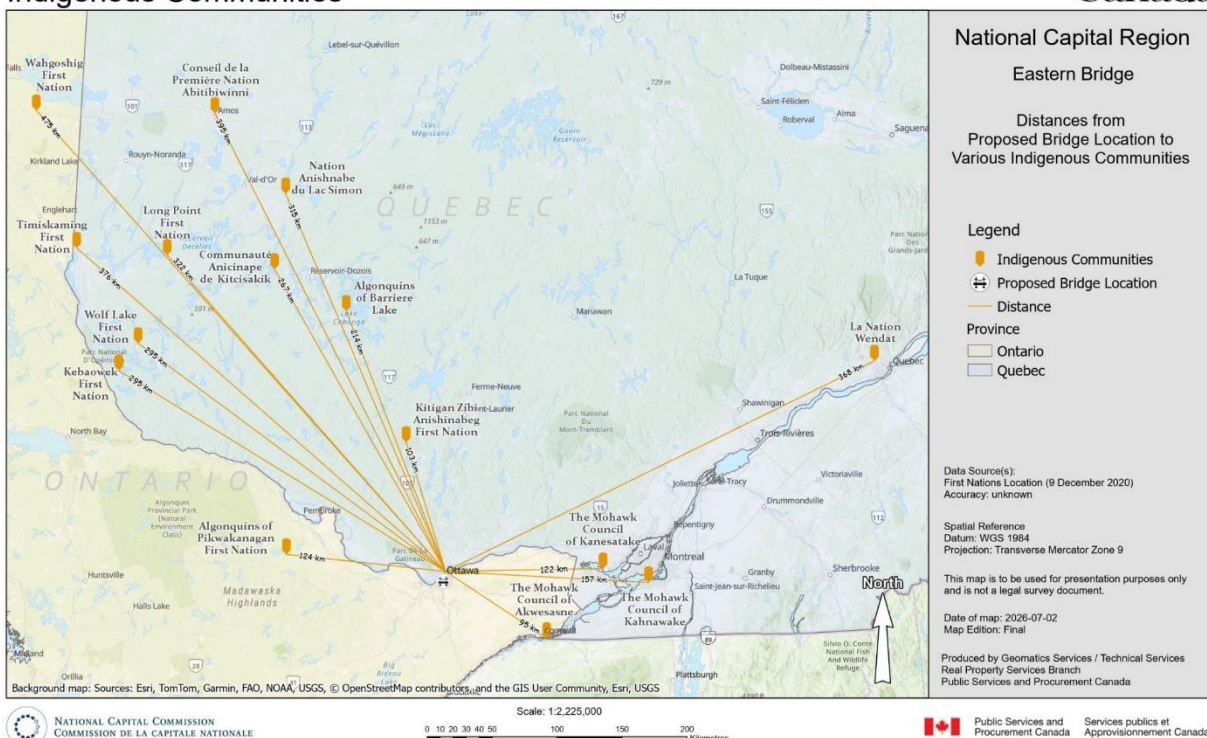


Figure 13-9: Indigenous Communities

14 Physical and Biological Environment

14.1 Physical Environment

Atmospheric Environment

The NCR is characterized by mild summers, cold winters, and relatively even precipitation through the year (Beck et al. 2018).

Air quality in the LSA was inferred from measurements taken for the National Air Pollution Surveillance Program (NAPS) at two stations in Gatineau and Ottawa (WSP 2019a). Background pollutant levels were all well below the thresholds of provincial air quality standards in Ontario and Québec and were typical of urban environments. There are no notable point sources of air pollution in the LSA. Local air quality reflects air quality at the regional scale, which is influenced by traffic and industrial activity. Sporadic extreme weather events can diminish air quality (e.g., smoke traveling to the region from wildfires elsewhere in North America).

Acoustic Environment

Noise in the LSA is typical of urban environments and is largely generated by traffic (WSP 2020c). WSP conducted acoustic studies in 2019 and recorded daytime sound levels of 52 to 65 A-weighted decibels (dBA) on the Ontario side of the LSA and 49 to 75 dBA on the Québec side (WSP 2020c). WSP also reported nighttime sound levels in Gatineau at 47 to 48 dBA. Noise was greatest along Montée-Paiement in Gatineau and Aviation Parkway in Ottawa, which are both arterial roads conveying commuter traffic and therefore expected to generate noise within these ranges.

Geophysical Environment

Segment 1: The surficial geology generally consists of deep-water fine-grained glaciomarine sediments. The depth to bedrock is anticipated to range from about 15 m to 21 m near Boulevard Maloney, decreasing to a minimum of about 10 m near Boulevard Saint-René and Boulevard la Vérendrye, and increasing again to 27 m to 50 m near Autoroute 50.

The depth to groundwater is expected to vary according to topography and soil type. Drainage features have cut 10 to 20 m deep erosion valleys into the side of this slope to the East and West of Montée Paiement, indicating that this is a groundwater discharge area.

Segment 2: The surficial geology generally consists of deep-water fine-grained glaciomarine sediments. The depth to bedrock is anticipated to range from about 35 m near chemin Saint-Louis going up to 15 to 21 m near Boulevard Maloney. Groundwater is expected in the upper 3 to 5 m.

Segment 3: Based on the WSP Kettle Island geotechnical report (WSP 2024I), the subsurface condition generally consists of sand that extends to depths of about 15 m over either silty sand or silty clay, over a non-cohesive glacial till deposit underlain by bedrock. Bedrock was encountered at depths ranging from 26 m to 49 m and was described as very strong limestone, dolostone and sandstone. There is limited hydrogeological information in this zone, though the entire subsurface is below the water table.

Segment 4: The geology within this segment is divided into two distinct zones:

- From the SGEC Parkway to about 300 m South of Hemlock Road: the subsurface conditions generally consist of a surficial deposit of silty sand or alluvium over a thick silty clay deposit that extends to depths ranging from 11 m to 50 m over sandy silt glacial till or sand underlain by bedrock.
- From 300 m South of Hemlock Road to Ogilvie Road: the surficial geology mainly consists of fine-textured glaciomarine deposits consisting of silt and clay. Near Montreal Road, the surficial geology is comprised of sand, sand and gravel and silt-sand deposits. Bedrock depths vary from being near the surface with bedrock cuts/outcrops present in localized areas of the existing Aviation Parkway corridor on the North of Montreal Road; near Montreal Road, bedrock becomes deeper (up to 7 m depth) and to the South of Montreal Road bedrock becomes shallower again at depths ranging from 3 to 5 m North of Ogilvie Road.

Groundwater is shallow throughout this zone due to the low permeability clays on the river terrace and around Hemlock Road, and due to the shallow shaley bedrock from Montreal Road to Ogilvie Road. The shallowest groundwater likely exits just North of Hemlock Road, where emergent streams on either side of Aviation Parkway indicate groundwater discharge. Boreholes drilled southeast of Aviation Parkway and Hemlock Road indicate the water table at 2 m depth and the presence of a sand layer beneath approximately 5 m of silty clay. Saturated sands are present in the upper 5 m at Montreal Road.

Segment 5: The subsurface conditions in the southern portion of this segment generally consist of surficial layers of topsoil, fill and/or clay overlying sandy silt to sand till over shallow shale bedrock. Bedrock was generally encountered at depths ranging from 2 m to 5 m below original grades but was shallower in some areas.

Groundwater is encountered in the upper 1 m to 3 m in non-cohesive deposits over shallow shale bedrock. The Aviation Parkway / Highway 417 / Ottawa Road (OR) 174 interchange is in a topographic depression with a few surface drainage features which likely collect shallow groundwater in addition to runoff.

Seismic Site Classification

The Eastern Bridge alignment falls within the Western Québec (WQ) seismic zone according to the Geological Survey of Canada. The WQ zone constitutes a large area which encompasses the urban areas of Montreal, Ottawa-Gatineau and Cornwall. Within the WQ zone, recent seismic activity has been concentrated in two subzones: one along the Ottawa River and another more active subzone along the Montreal-Maniwaki axis. Two major earthquakes have occurred in the WQ zone: the 1935 Témiscaming event, which had a magnitude (i.e., a measure of the intensity of the earthquake) of 6.2, and the 1944 Cornwall-Massena event, which had a magnitude of 5.8. Therefore, there is potential for earthquakes to affect the Project.

According to the Natural Resources Canada Ottawa-Gatineau seismic site classification mapping (Hunter et al. 2012), the Eastern Bridge alignment falls under different site classification zoning. WSP (2024m) carried out shear wave velocity measurements and provided site-specific response analysis. According to the WSP Kettle Island Design report, the North and South sides of Segment 3 can be considered as Site Class D and the middle area in the Ottawa River is considered to be a Site Class F.

Hydrological Environment

The Ottawa River is the predominant geographic feature in the LSA. The river's 140,000 km² watershed supports ecological and human systems in a large area of Québec and Ontario (ECCC, 2019b). In 2016, a 590-km section of the Ottawa River along the Ontario-Québec border was designated part of the Canadian Heritage Rivers System (CHRS), a federal-provincial-territorial partnership that works to protect and monitor rivers of natural, cultural, and recreational importance (Canadian Heritage Rivers System, 2025). In addition, the governments of Canada, Ontario,

Québec, and several municipalities have policies, programs, and initiatives aimed at protecting the Ottawa River and its watershed.

Most of the existing drainage infrastructure is urban, consisting of curb and gutter systems. Open ditch channels are present near the Highway 417/Ottawa Road 174 interchange, along Rockcliffe Parkway, and at the Autoroute 50 interchange. In Ottawa, surface drainage within the LSA generally discharges to Green's Creek in the South (via the Cote-Martin Municipal Drain) and the Ottawa River in the North. In Gatineau, runoff is conveyed through piped systems within the Montée-Paiement right-of-way, discharging South of Boulevard Maloney towards the Ottawa River. At the northern limits near Autoroute 50, drainage flows southwest via open ditch channels before entering downstream urban systems.

14.2 Biological Environment

Aki Ressources was contracted by the IPT to conduct ecological field studies in the river portion of the LSA to better understand the biological environment and identify potential constraints for the bridge alignment. The partial LSA used by Aki Ressources is shown in Figure 14-1. Aki Ressources undertook surveys of fish, mussels, and benthic fauna and characterization of the aquatic environment and fish habitat in the partial LSA. They conducted vegetation surveys, ecological land classification (ELC), and terrestrial habitat characterization, and surveys of birds, reptiles, amphibians, mammals, and insects.

Aki Ressources Study Area in 2025-2026

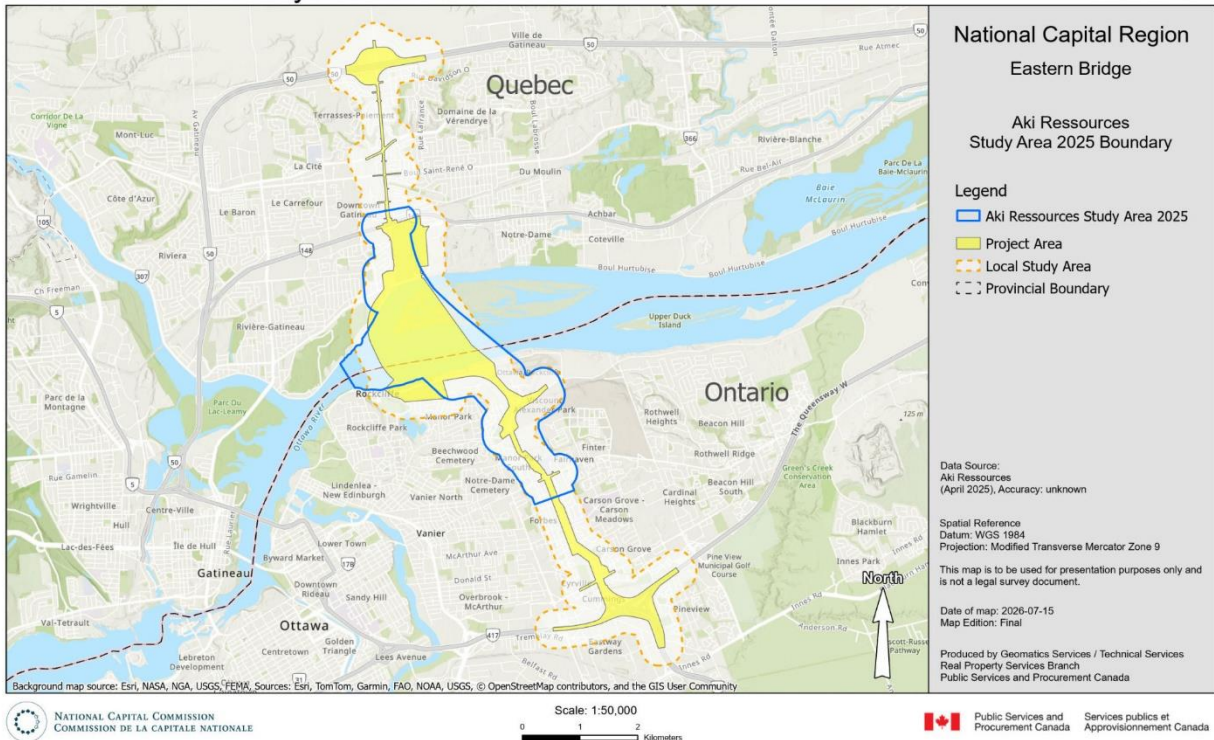


Figure 14-1: LSA Used for 2025/26 Biological Studies

SAR are defined as species that are protected under federal or provincial legislation:

- Listed under Schedule 1 of the *Species at Risk Act* (S.C. 2002, c.29) (SARA) as endangered or threatened

- Listed under the Ontario *Species Conservation Act, 2025* (S.O. 2025, c.4, Sched. 10) (SCA) as endangered or threatened
- Listed under the Québec *Act respecting threatened or vulnerable species* (ARTVS) as threatened or vulnerable

A wider group of species of conservation concern (SoCC) is also considered:

- Listed under Schedule 1 of SARA as special concern
- Assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered, threatened or special concern but not yet listed under SARA
- Listed under the ARTVS as likely to be designated as threatened or vulnerable
- Ranked as S1 (Critically Imperiled), S2 (Imperiled) and S3 (Vulnerable) by Ontario's Natural Heritage Information Centre (NHIC) or Québec's Centre de données sur le patrimoine naturel du Québec (CDPNQ)

Aquatic Environment

The Ottawa River is the largest surface water feature and by far the largest aquatic habitat feature in the LSA. In addition to the Ottawa River, waterbodies on Kettle Island could contain fish and there are four additional watercourses that could be fish-bearing (Figure 14-2):

Rivers and Tributaries

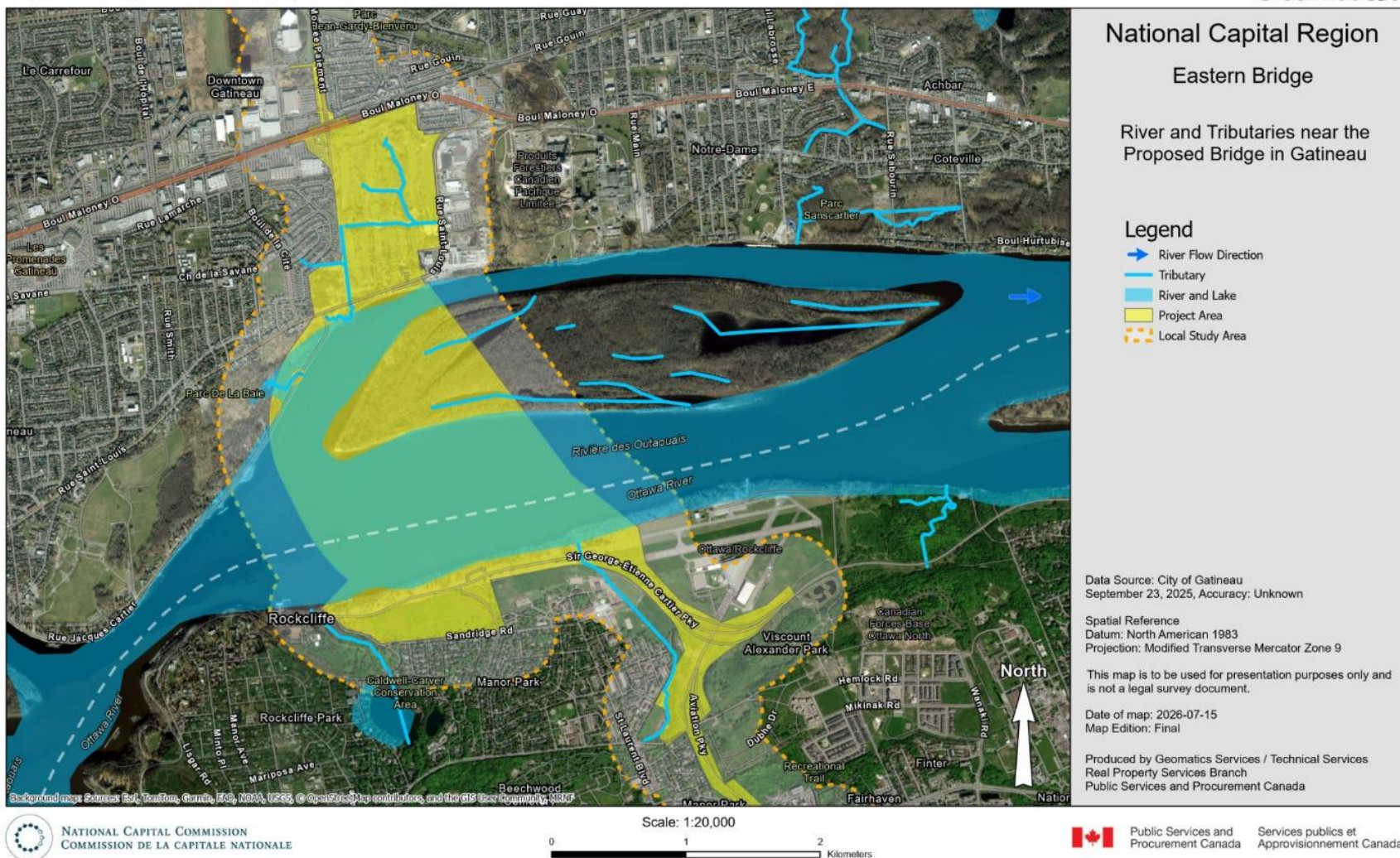


Figure 14-2: Watercourses in the LSA

The reach of the Ottawa River within the LSA is in Fisheries Management Zone (FMZ) 12 as defined by the Ontario Ministry of Natural Resources and Forestry (MNR) and Fishing Zone 25 as defined by the Québec Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) (see Figure 14-3).

Fish Management Zones

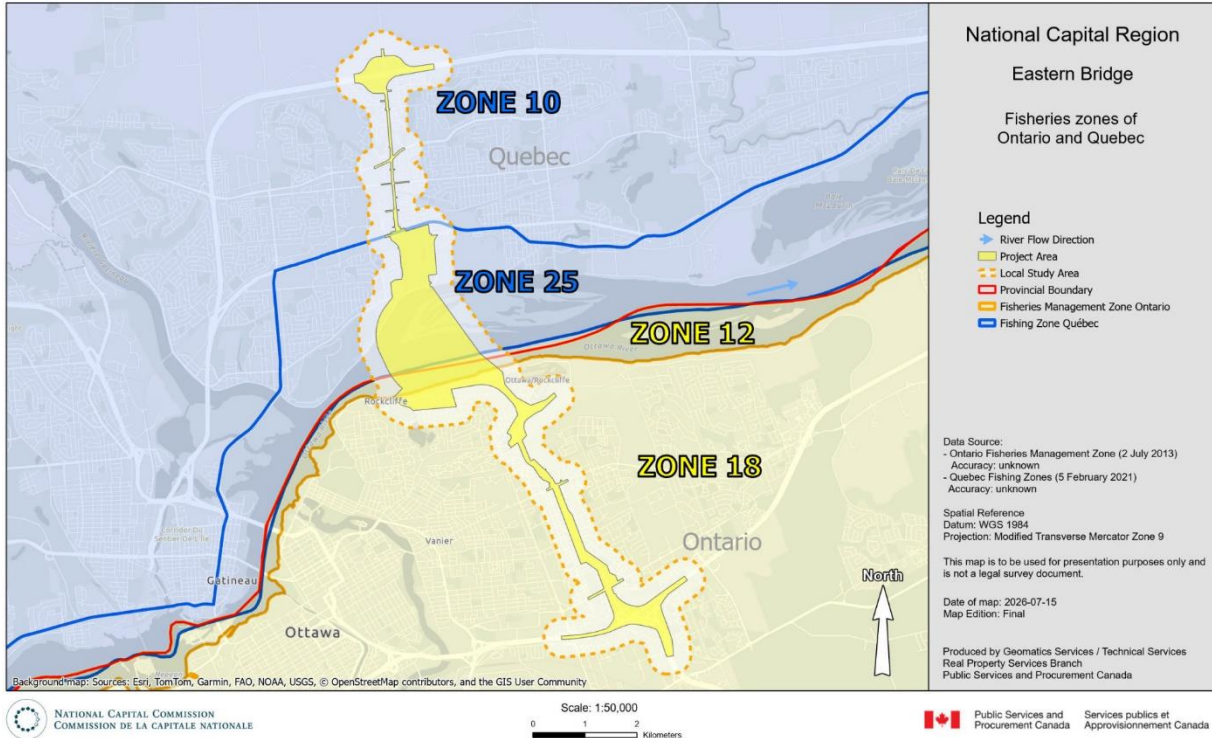


Figure 14-3: Fish Management Zones in Québec and Ontario

Ontario's Ministry of Natural Resources (MNR) (2022) does not map any Fish Activity Areas within the LSA. However, approximately 1.5 km downstream of the LSA, there are known spawning areas for at least seven fish species:

- Bluegill (*Lepomis macrochirus*)
- Brown Bullhead (*Ameiurus nebulosus*)
- Common Carp (*Cyprinus carpio*)
- Largemouth Bass (*Micropterus nigricans*)
- Northern Pike (*Esox lucius*)
- Pumpkinseed (*Lepomis gibbosus*)
- Rainbow Smelt (*Osmerus mordax*)

The maximum depth is found in a pool over 11 m deep located in the center of the river near the upstream portion of the LSA. The depth in the North channel near Kettle Island (Québec side) rarely exceeds 5 m, while the South channel (Ontario side) shows depths close to 10 m. The riverbed has a much steeper slope on the South bank compared to the North bank, where the slope is gentler.

This section of the river features a lotic to lentic channel characterized by a wide, deep flow with moderate velocity. At the upstream end of the LSA, the river initially forms a relatively narrow channel that gradually widens approaching

Kettle Island, then splits into two distinct channels. The water quality during the spring 2025 survey was good, with conditions favorable to aquatic life.

The littoral zone was characterized by a near absence of aquatic vegetation in the spring and a substrate composed mainly of clay, sometimes mixed with sand. These conditions offer limited opportunities for fish, but the habitat may still be suitable for feeding or movement of several species. Near the banks, the clay substrate typically gives way to gravel, cobble and blocks. This coarse substrate provides shelter and nursery habitats for certain fish species. Additionally, some shoreline areas with gravel substrates could serve as spawning grounds for lithophilic species such as Smallmouth Bass (*Micropterus dolomieu*).

An emergent vegetation bed mainly composed of young cattails was observed on the North bank near Jacques-Cartier Street. This bed, covering an area of approximately 530 m², potentially serves as a spawning site for early spring species such as Northern Pike (*Esox lucius*).

During the summer months, numerous aquatic plant beds composed mainly of floating and submerged vegetation were observed in the LSA. Groupings of aquatic vegetation are shown in dotted green line on Figure 14-4. It should also be noted that some of these plant beds cover large areas, notably bed H05, which spans nearly 35,000 m². In addition to contributing to habitat quality for feeding and nursery grounds for many species, they provide interesting potential spawning sites for summer phytophilic species, such as the Bridle shiner (*Notropis bifrenatus*).

Aquatic Vegetation and Bathymetry

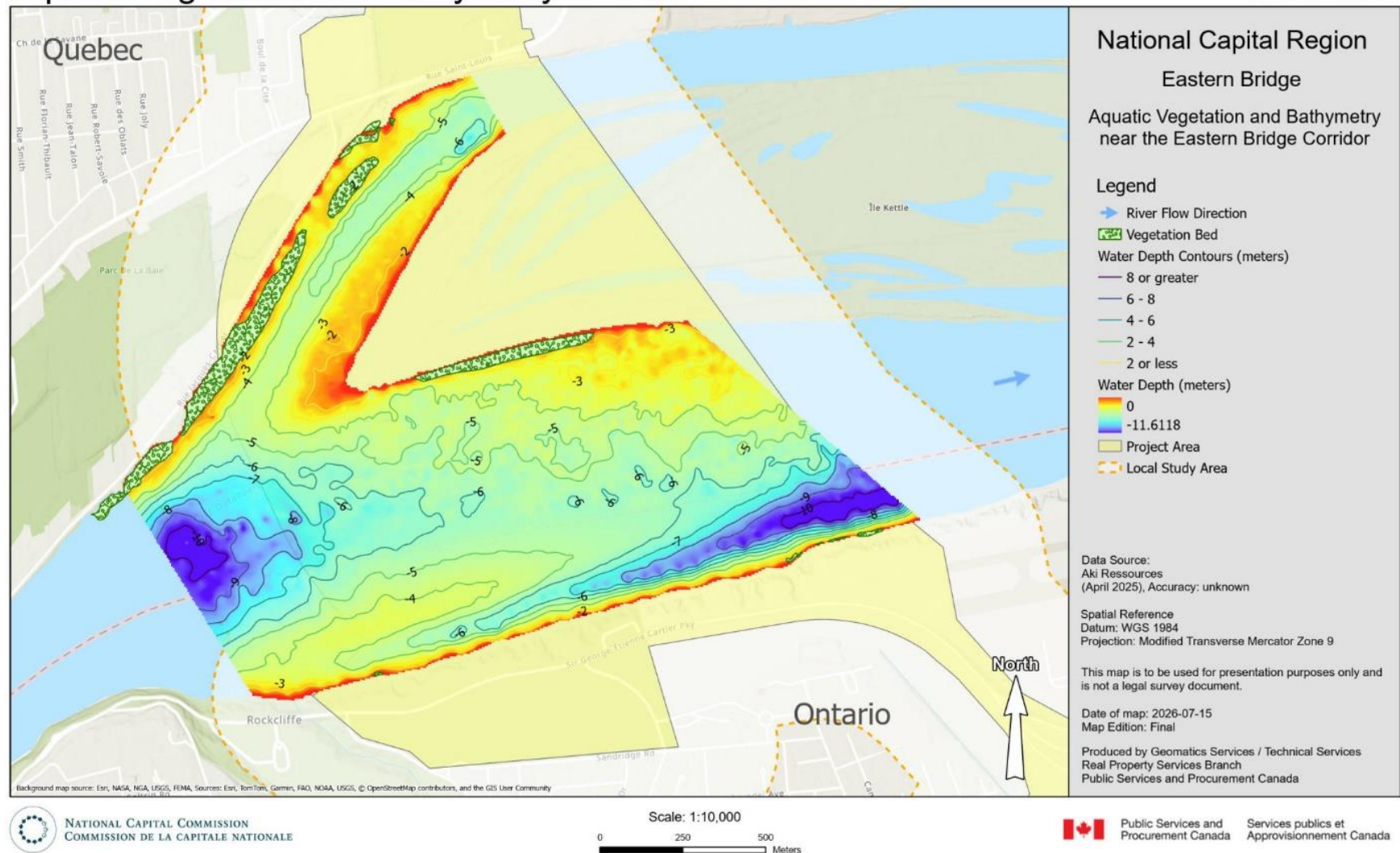


Figure 14-4: Aquatic Vegetation Beds

In autumn, the coarse substrate along the shorelines could possibly serve as spawning grounds for certain cold-water lithophilic species, such as Lake Cisco (*Coregonus artedii*) even if no ideal spawning habitat was observed. The coarse substrate offers shelter opportunities as well as nursery habitats for certain fish species. The river channel is also used for the movement of many fish species.

Targeted spawning site surveys were conducted in the spring and in the fall (Aki Ressources, 2025). During the spring survey in early June 2025, the entire LSA was inspected for potential or confirmed spring spawning sites, and no substrate-based spawning grounds were found due to the sediment type and moderate current velocity. A vegetation bed (H03) near the North bank was identified as a potential spawning habitat for phytophilous species, even though no direct signs of spawning were observed. In the fall, two thorough shoreline surveys (October 9 and November 13, 2025) were conducted to detect signs of spawning or spawning behavior in the 0–2 m depth zone. Despite water temperatures suitable for cold-water species during the November visit, no indicators of spawning activity were detected.

Further, approximately 5 km upstream of the LSA there are constructed spawning beds for Lake Sturgeon (*Acipenser fulvescens*) (Portage Power, 2025).

There is no critical habitat for aquatic SAR in the LSA (DFO 2025). However, data from the CDPNQ, MELCCFP, NHIC, and DFO confirm occurrences of 14 freshwater fish or mussel species of SAR or species of conservation concern (SoCC) within a 5 km radius of the LSA: American Eel (*Anguilla rostrata*), Channel Darter (*Percina copelandi*), Cutlip minnow (*Exoglossum maxillina*), Lake Sturgeon (*Acipenser fulvescens*), Margined Madtom (*Noturus insignis*), Northern Brook Lamprey (*Ichthyomyzon fossor*), River Redhorse (*Moxostoma carinatum*), Silver Lamprey (*Ichthyomyzon unicuspis*), Yellow Bullhead (*Ameiurus natalis*), Fragile Papershell (*Leptodea fragilis*), Hickorynut (*Obovaria olivaria*), Pink Heelsplitter (*Potamilus alatus*), Spike (*Eurynia dilatata*) and Strong-toothed Elliptio (*Elliptio crassidens*).

Biologists captured a Lake Sturgeon in the LSA during fish community surveys in 2011 (Roch Genivar 2012c). In 2024, Ontario MNRF captured American Eel (*Anguilla rostrata*) (endangered in Ontario) in the LSA (WSP 2024b). Other aquatic SAR are known from this reach of the Ottawa River and could occur in the LSA.

Freshwater mussel surveys were completed in August 2025 (Aki Ressources, 2025). The surveys confirmed the presence of nine mussel species: Strong-toothed Elliptio (*Elliptio crassidens*), Eastern Elliptio (*Elliptio complanata*), Spike (*Eurynia dilatata*), Plain Pocketbook (*Lampsilis cardium*), Eastern Lampmussel (*Lampsilis radiata*), Fragile Papershell, Black Sandshell (*Ligumia recta*), Hickorynut, and Pink Heelsplitter. Among these species, Pink Heelsplitter, Fragile Papershell, the Strong-toothed Elliptio, and Spike are species of conservation concern that may be designated as threatened or vulnerable in Québec. In addition, the Hickorynut—listed as endangered in Canada and threatened in Québec—was observed.

Terrestrial Environment

The largest natural terrestrial habitat feature in the LSA is Kettle Island, a nature reserve of which 98% is owned by the Nature Conservancy of Canada and formally recognized under Québec's Natural Heritage Conservation Act. Access to Kettle Island is prohibited for the general public and is limited to scientific or habitat management purposes. Kettle Island contains the largest deciduous swamp in the NCR and is also the largest alluvial island in the Ottawa River (Roche Genivar 2012d). Terrestrial habitats on the island include shorelines where turtles could bask or nest, and forests which could support breeding birds and wildlife SAR or SoCC. Large trees on the island could provide roosting or maternity habitat for bats.

There is limited terrestrial vegetation on both the Ontario and Québec sides of the Ottawa River. On the Ontario side, riparian vegetation consists of young deciduous forest dominated by Sugar Maple (*Acer saccharum*) and invasive Glossy Buckthorn (*Frangula alnus*). Similar forests and green spaces occur on both sides of Aviation Parkway between SGENC Parkway and Highway 417. The Monfort Woods and a wooded area along Aviation Parkway North

and South of Ogilvie Road provide larger areas of natural habitat. The LSA overlaps with a small section of the Airbase Woods Valued Natural Habitat near the SGEC - Aviation Parkway interchange. This urban forest was designated by the NCC due to its size, biodiversity and connection to the Ottawa River. The riparian habitats and green spaces in the Ottawa portion of the LSA may function as an important movement corridor for wildlife within an otherwise highly urbanized environment, but they are highly fragmented due to the presence of several transportation corridors.

The Québec portion of the LSA contains a narrow strip of natural riparian vegetation along a human-modified shoreline. Vegetation on the Québec shoreline consists of landscaped and manicured green spaces and various types of anthropogenic land cover. Other natural vegetation features located just outside the LSA in Gatineau are thickets surrounding the Library and Archives Canada Preservation Facility on the West side of Montée-Paiement. A wetland on that property provides important habitat for wildlife.

An ecological land classification was completed in 2025 to further define its wetlands and terrestrial environments. Fourteen different wetlands were identified. These included wet meadows, marshes, ponds, shrub swamps, and wooded swamps. Among the terrestrial environments, treed meadows, shrubby meadows, meadows, deciduous stands and coniferous stands were confirmed within the LSA. The locations of these wetlands and terrestrial environments are shown in Figure 14-5 and Figure 14-6.

Ecological Land Classification - Gatineau

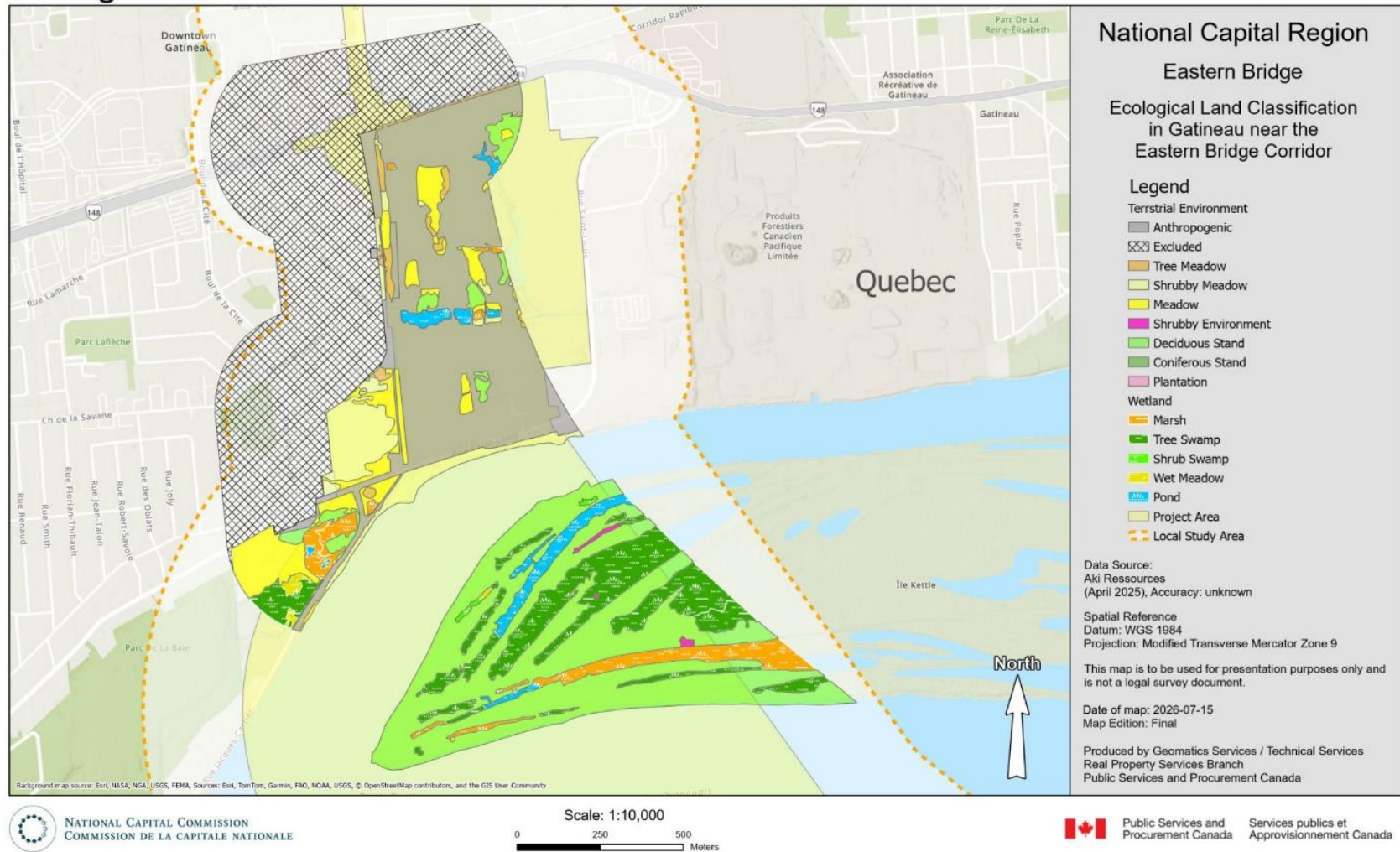


Figure 14-5: Ecological Land Classification in the LSA – Gatineau

Ecological Land Classification - Ottawa

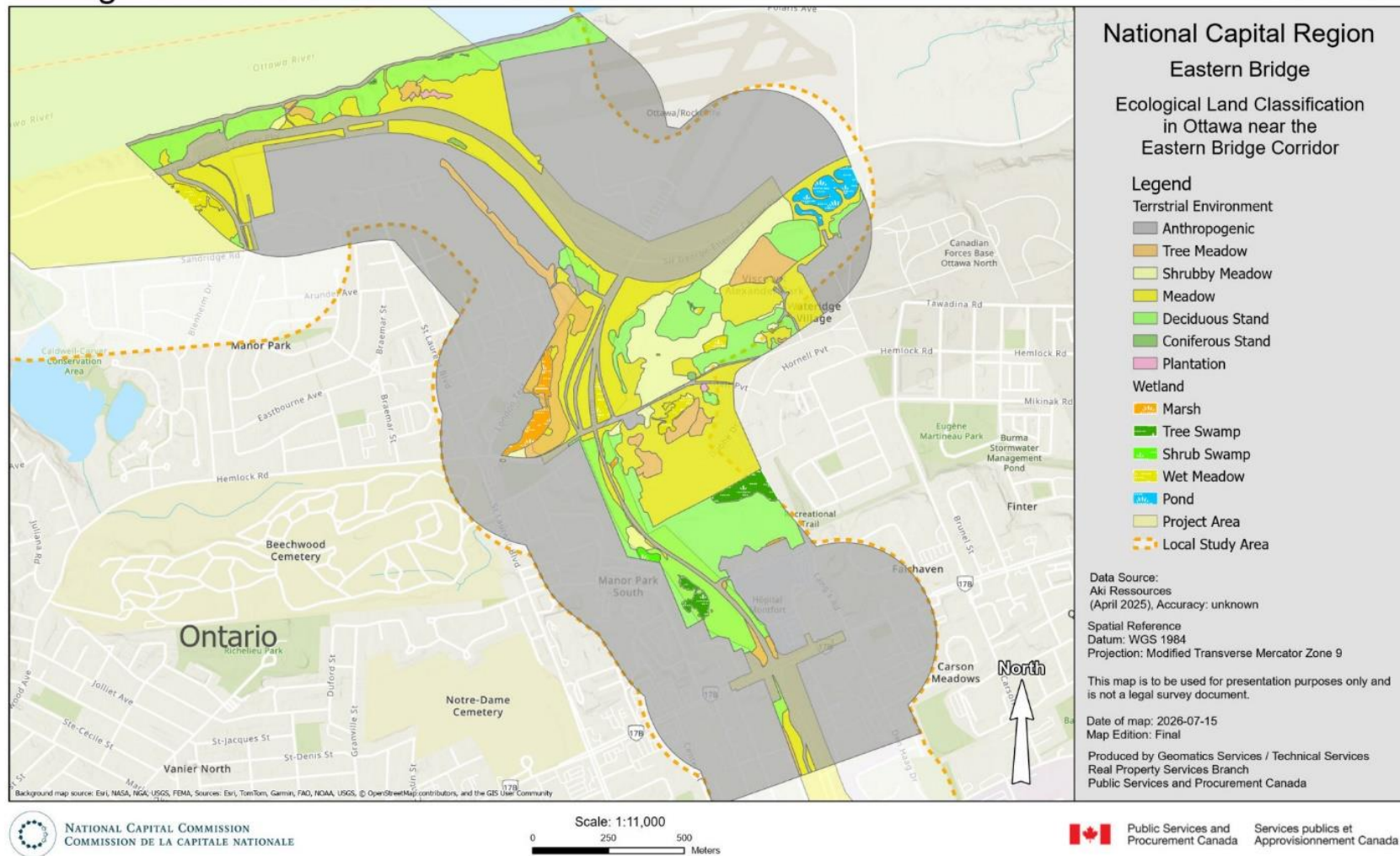


Figure 14-6: Ecological Land Classification in the LSA – Ontario

Surveys conducted in 2025 confirmed the presence of two species of spring ephemerals: Trout Lily (*Erythronium americanum*) and Wild Leek (*Allium tricoccum*), a SAR. These species were mostly observed in the woodland North of Montfort Hospital. Moreover, more than 120 species or genus of plants were observed during the spring surveys.

Data from CDPNQ and NHIC were consulted to identify plant SAR and SoCC near the LSA. Confirmed occurrences have been documented for 28 species within a 5 km radius of the Project: American Ginseng (*Panax quinquefolius*), Black Ash (*Fraxinus nigra*), Black Maple (*Acer nigrum*), Bulbous Bittercress (*Cardamine bulbosa*), Butternut (*Juglans cinerea*), Canada Lily (*Lilium canadense*), Canada Wild Ginger (*Asarum canadense*), Cattail Sedge (*Carex typhina*), Ebony Spleenwort (*Asplenium platyneuron*), Halberd-leaved Tearthumb (*Persicaria arifolia*), Horn-leaved Riverweed (*Podostemum ceratophyllum*), Large-flowered Bellwort (*Uvularia grandiflora*), Lizard Crystalwort (*Riccia beyrichiana*), Many-headed Sedge (*Carex sychnocephala*), Narrow-leaved Glade Fern (*Homalosorus pycnocarpus*), Ostrich Fern (*Matteuccia struthiopteris* var. *pennsylvanica*), Pinedrops (*Pterospora andromedea*), Poison Sumac (*Toxicodendron vernix*), Rock Elm (*Ulmus thomasi*), Rusty Flatsedge (*Cyperus odoratus*), Striped Coralroot (*Corallorhiza striata* var. *striata*), Swamp White Oak (*Quercus bicolor*), Two-leaved Toothwort (*Cardamine diphylla*), Vasey's Pondweed (*Potamogeton vaseyi*), Virginia Chain Fern (*Anchistea virginica*), Walking-fern (*Asplenium rhizophyllum*), White Trillium (*Trillium grandiflorum*) and Wild Leek (*Allium tricoccum*) (Aki Ressources 2025). Flooded Jellyskin Lichen (*Leptogium rivulare*), Ostrich Fern (*Matteucia struthiopteris*), and Swamp White Oak (*Quercus bicolor*) have also been observed near the LSA (NCC, 2025b).

Eleven plant SAR/SoCC were confirmed in the LSA. Wild Leek was observed during the spring 2025 surveys and several dozen Butternut trees were also observed, most of which were on Kettle Island. Occurrences of Canada Lily, Canada Wild Ginger, Cattail sedge, Large-flowered Bellwort, Ostrich Fern, Black Ash, Two-leaved Toothwort, Slender Bulrush (*Schoenoplectus heterochaetus*) and White Trillium were also documented.

Many individual SAR trees were observed during vegetation surveys. Most trees were Butternuts, but some Black Ashes were also observed.

Ten invasive plant species were observed in the LSA during field surveys in spring 2025. These include Black Dog-strangling Vine (*Vincetoxicum nigrum*), Common Reed (*Phragmites australis* subsp. *australis*), Dog-strangling Vine (*Vincetoxicum rossicum*), Garlic Mustard (*Alliaria petiolata*), Japanese Knotweed (*Reynoutria japonica*, syn. *Fallopia japonica*), Purple Loosestrife (*Lythrum salicaria*), and Reed Canary Grass (*Phalaris arundinacea*). Invasive trees and shrubs such as Glossy Buckthorn (*Frangula alnus*), European Buckthorn (*Rhamnus cathartica*), and Norway Maple (*Acer platanoides*) were also observed. Invasive species are found throughout the LSA, and their exact locations are documented in Aki Ressources, 2025.

Migratory Birds and Resident Birds

The Ottawa River supports large numbers of waterfowl during spring and fall migration and supports breeding populations of American Black Duck (*Anas rubripes*), Canada Goose (*Branta canadensis*), Common Merganser (*Mergus merganser*), Hooded Merganser (*Lophodytes cucullatus*), Mallard (*Anas platyrhynchos*), and Wood Duck (*Aix sponsa*) (Birds Canada 2025).

Data from CDPNQ and NHIC were consulted to identify bird SAR and SoCC near the LSA. Confirmed occurrences have been documented for 17 species within a 5 km radius of the Project: Bald Eagle (*Haliaeetus leucocephalus*), Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), Canada Warbler (*Cardellina canadensis*), Chimney Swift (*Chaetura pelagica*), Common Nighthawk (*Chordeiles minor*), Eastern Grasshopper Sparrow (*Ammodramus savannarum pratensis*), Eastern Meadowlark (*Sturnella magna*), Eastern Whip-poor-will (*Antrostomus vociferus*), Eastern Wood-pewee (*Contopus virens*), Least Bittern (*Ixobrychus exilis*), Olive-sided Flycatcher (*Contopus cooperi*), Peregrine Falcon (*Falco peregrinus*), Rusty Blackbird (*Euphagus carolinus*), Sedge Wren (*Cistothorus platensis*), and Wood Thrush (*Hylocichla mustelina*) (Aki Ressources 2025).

Eight bird SAR/SoCC were observed in LSA during the 2025 field surveys: Bald Eagle, Bank Swallow, Barn Swallow, Chimney Swift, Eastern Meadowlark, Eastern Wood-pewee, Rusty Blackbird, and Wood Thrush (Aki Ressources, 2025). Past observations have also confirmed the presence of Bobolink and Common Nighthawk within the LSA (NCC 2025b). Nesting critical habitat for Bank Swallow is present within the Eastern Bridge Corridor, mostly concentrated around Kettle Island (Figure 14-7). Although Bank Swallow critical habitat is present within the study area, Bank Swallow observations were limited to the Ottawa portion of the Eastern Bridge Corridor, with no individuals observed within the critical habitat polygon.

Migratory stopover surveys conducted in spring and fall 2025 led to the observation of 97 bird species and confirmed that certain portions of the LSA are used as migratory stopovers (Aki Ressources, 2025). There were 58 of the 97 observed species located on federal lands. Although most observations during the spring surveys involved solitary birds, pairs, or small groups of fewer than 10 individuals, some species were observed in larger groups. This is a likely indicator of migratory activity or of the site being used as a feeding or resting area. This was the case for Bufflehead (*Bucephala albeola*), Canada Goose, Ring-billed Gull (*Larus delawarensis*), and Ring-necked Duck (*Aythya collaris*), all of which were observed in groups of more than 10 individuals on at least one occasion during the surveys. Nesting was confirmed in the LSA for Canada Goose, Great Blue Heron (*Ardea Herodias*) and Ring-billed Gull.

Four of the observed species were SAR/SoCC: Barn Swallow was observed on the Ontario shore of the Ottawa River. Chimney Swift was observed near the Québec shore in proximity of wetlands as well as in Ontario grasslands. Rusty Blackbird was observed on Kettle Island and near the Québec shoreline. Finally, two observations of Bald eagles in flight occurred during surveys.

During surveys of Pileated Woodpecker nesting cavities in spring 2025, six trees with a total of 28 cavities were identified. However, no active nesting was confirmed. Five of the 6 trees located in the LSA were located on federal lands. An individual was observed nesting in July 2025, but was located just outside the LSA. The location of the tree will be monitored if modifications to the LSA occur.

Breeding for 13 species was confirmed in the LSA: American Robin (*Turdus migratorius*), Black-capped Chickadee (*Poecile atricapillus*), Canada Goose, Chipping Sparrow (*Spizella passerina*), Common Grackle (*Quiscalus quiscula*), Common Raven (*Corvus corax*), Common Starling (*Sturnus vulgaris*), Fox Sparrow (*Passerella iliaca*), Mallard, Northern Cardinal (*Cardinalis cardinalis*), Northern Flicker (*Colaptes auratus*), Song Sparrow (*Melospiza melodia*), and Tree Swallow (*Tachycineta bicolor*).

Specific surveys were conducted to evaluate the presence of the Common Nighthawk and the Eastern whip-poor-will. No observations were recorded.

Amphibians

The terrestrial and aquatic habitats within the LSA provide habitat for many species of amphibians, with species such as the American Bullfrog (*Lithobates catesbeianus*), American Toad (*Anaxyrus americanus*), Gray Treefrog (*Hyla versicolor*), Green Frog (*Lithobates clamitans*), Northern Leopard Frog (*Lithobates pipiens*), Spring Peeper (*Pseudacris crucifer*), Wood Frog (*Lithobates sylvaticus*), Blue-spotted Salamander (*Ambystoma laterale*), and Eastern Red-backed Salamander (*Plethodon cinereus*) found within the Ottawa River watershed (ORHDC, 2005; iNaturalist 2025).

Data from CDPNQ and NHIC were consulted to identify amphibian SAR and SoCC near the LSA. Two species have been documented within a 5 km radius of the Project: Western Chorus Frog (*Pseudacris triseriata*) and Four-toed Salamander (*Hemidactylium scutatum*) (Aki Ressources 2025). Pickerel Frog (*Lithobates palustris*) has also been observed near the LSA (NCC, 2025b). Critical habitat for Western Chorus Frog (*Pseudacris triseriata*), a species designated as threatened federally and in Québec, is present within the Eastern Bridge corridor, specifically West of

Montée-Paiement near the Library and Archives Canada Preservation Center and West of the Tecumseh golf course in Gatineau (Figure 14-7).

Critical Habitats

Canada

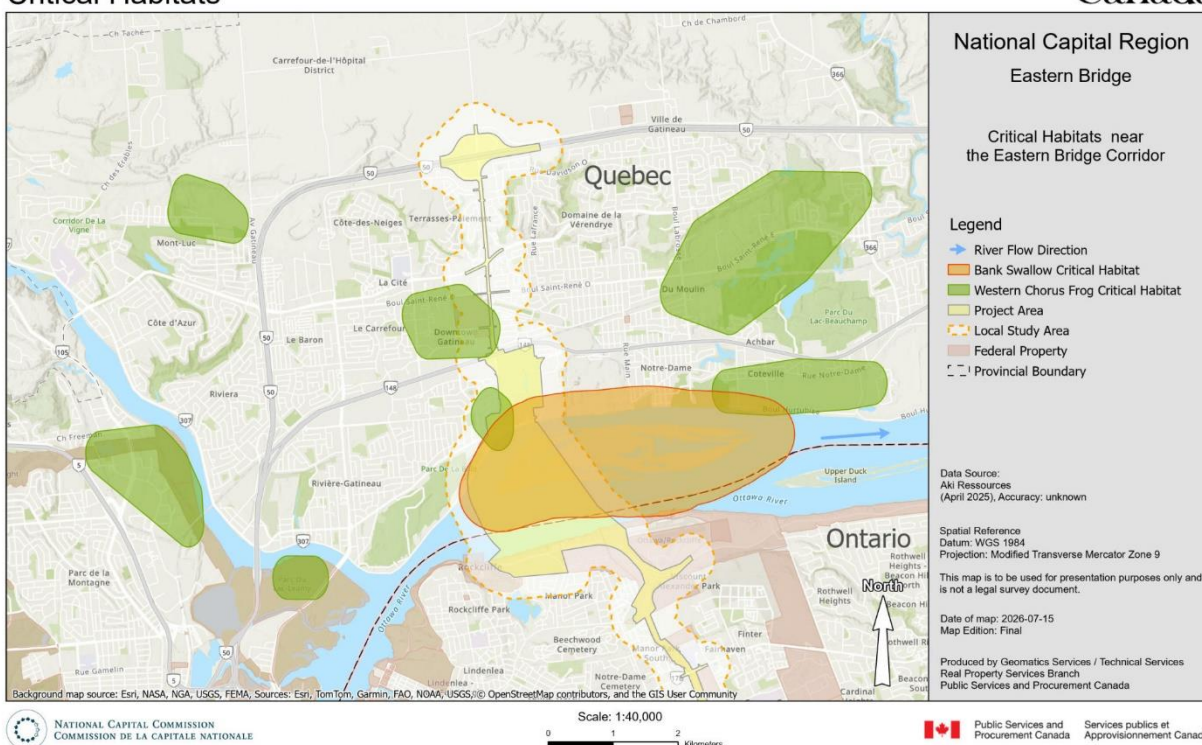


Figure 14-7: Critical Habitat near the Eastern Bridge Corridor

Surveys targeting the Western Chorus Frog were conducted in spring 2025. During this period, the species was heard at two survey stations: one reference station (approximately 2.5 km outside the LSA but within the LSA) and one station near Library and Archives Canada's Preservation Facility (approximately 550 m outside the PA). No occurrences were recorded within the LSA, despite favorable weather conditions during the surveys.

Other surveys completed in 2025 confirmed the presence of American Bullfrog (*Lithobates catesbeianus*), American Toad (*Anaxyrus americanus*), Gray Treefrog (*Hyla versicolor*), Green Frog (*Lithobates clamitans*), Northern Leopard Frog (*Lithobates pipiens*), Blue-spotted Salamander (*Ambystoma maculatum*) and Eastern Red-backed Salamander (*Plethodon cinereus*), all common species in the LSA.

Reptiles

The terrestrial and aquatic habitats within the LSA provide habitat for various reptiles. Turtles and snakes may nest along the shoreline of the Ottawa River and Kettle Island or in upland habitat and may use both the shoreline and exposed rocks or trees for basking. The LSA may also be used by reptiles as foraging and overwintering habitat and/or as a movement corridor. Common species such as the Red-eared Slider (*Trachemys scripta elegans*), an invasive species, the Eastern Gartersnake (*Thamnophis sirtalis sirtalis*), and the Red-bellied Snake (*Storeria occipitomaculata*) have been observed near the LSA (iNaturalist 2025).

Data from CDPNQ and NHIC were consulted to identify reptile SAR and SoCC near the LSA. Seven species have been documented within a 5 km radius of the Project: Blanding's Turtle (*Emydoidea blandingii*), Eastern Milksnake (*Lampropeltis triangulum*), Eastern Musk Turtle (*Sternotherus odoratus*), Midland Painted Turtle (*Chrysemys picta*

marginata), Northern Map Turtle (*Graptemys geographica*), Northern Watersnake (*Nerodia sipedon*), and Wood Turtle (*Glyptemys insculpta*) (Aki Ressources, 2025). Snapping Turtle (*Chelydra serpentina*) has also been observed near the LSA during past studies (Roche Genivar 2012d; NCC 2025b). While there is no critical habitat for reptile SAR and SoCC within the LSA, the MELCCFP has identified this reach of the Ottawa River as suitable habitat for the Spiny Softshell (*Apalone spinifera*) due to historical occurrences (NCC, 2025b).

Active searches were conducted in spring 2025 to inventory the presence of snakes within the LSA. These searches led to the observation of several occurrences of Eastern Gartersnake and Red-bellied Snake, and confirmed the presence of one SAR/SoCC: the Eastern Milksnake. During the same period, active searches were also carried out to document the presence of turtles in the LSA. These efforts confirmed the presence of three SAR/SoCC: the Midland Painted Turtle, Northern Map Turtle and Snapping Turtle. No other turtle species were observed (Aki Ressources, 2025).

Mammals

The LSA contains areas such as wooded stands, water bodies, and wetlands that represent habitats of interest for these woodland bat species. The vacant lands southwest of the Tecumseh Golf Course, the mature forest stands on Kettle Island, the shores of the Ottawa River, and the wooded area to the North and West of Montfort Hospital are among these habitats. Migratory species could also use the LSA as a corridor, given the numerous potential feeding and resting areas throughout.

Data from the CDPNQ and NHIC were consulted to identify bat SAR and SoCC near the LSA. The presence of five bat species was confirmed during acoustic field surveys in 2025 (Aki Ressources, 2025). These include the Eastern Red Bat (*Lasiurus borealis*), the Hoary Bat (*Lasiurus cinereus*), the Little Brown Myotis (*Myotis lucifugus*), the Silver-haired Bat (*Lasionycteris noctivagans*), and the Tri-coloured Bat (*Perimyotis subflavus*).

A tree survey was also conducted within the LSA, to identify potential roosting habitats for bats. A total of 83 trees with cavities meeting the predefined selection criteria were identified: 18 were assessed as having a high roosting potential, 23 a moderate potential, and 42 a low potential. All high-potential trees were located on Kettle Island. Of these, 38 of the 83 trees were located on federal lands.

Among the bat species recorded within the LSA, the Hoary Bat, Silver-haired Bat, and Eastern Red Bat are migratory species. They are present in the LSA only during the summer period or during spring and fall migratory movements. The Little Brown Myotis and the Tri-colored Bat are generally considered forest-dwelling species and are typically found in forested environments, along trails and at the forested edges of waterbodies.

The LSA contains habitats suitable for a variety of bat species based on collected data and observed species. The mature stands of Kettle Island, wooded patches, wetland and riparian environments serve as foraging and possible breeding habitats for some of the observed species. In addition, the LSA appears to be located within a migratory corridor used by non-resident species. Finally, even disturbed and fragmented areas of the LSA, such as forest edges, may be suitable for species with less demanding habitat requirements, such as the Hoary Bat and the Big Brown Bat (*Eptesicus fuscus*).

Insects

NHIC data were consulted to identify insect SAR and SoCC in the LSA. One species has been documented within a 5 km radius of the LSA, the Skillet Clubtail (*Gomphurus ventricosus*).

Active surveys were conducted to capture and identify insects during seven inventory outings carried out between June and October 2025 (Aki Ressources, 2025). A total of 94 insect occurrences, representing several different orders, were recorded. Survey efforts focused on insect orders that include SAR or SoCC.

In addition to the targeted groups, several incidental observations were made, including orthopterans (crickets, grasshoppers, and locusts), one fishing spider (*Dolomedes* sp.), one member of the family Tetragnathidae, and a praying mantis ootheca (*Mantis religiosa*), all within natural habitats of the LSA.

Only one SAR insect species, the monarch butterfly (*Danaus plexippus*), listed as endangered in Canada, was observed within the LSA during the 2025 surveys. Herbaceous meadows containing milkweed, one of the few plant species on which monarchs lay their eggs, represent the most important insect habitat within the LSA.

One beetle species, the Japanese Beetle (*Popilla japonica*) was also observed. This species is considered an invasive species in Québec, though not currently classified as invasive in Ontario.

Federal Lands

This section identifies important biophysical features on federal lands within the LSA.

Wetlands are vital ecosystems that support wildlife, improve water quality, store large amounts of carbon, and help protect communities from floods and climate impacts. Wetlands are thus recognized in Canada as environmentally important areas, and the Federal Policy on Wetland Conservation (Environment Canada, 1991) promotes a no net loss of wetlands on federal lands and waters.

Terrestrial surveys have shown that the LSA contains 62 distinct wetland environments, 18 of which are located on federal lands. These are shown on Figure 14-8.

Wetlands and Federal Lands

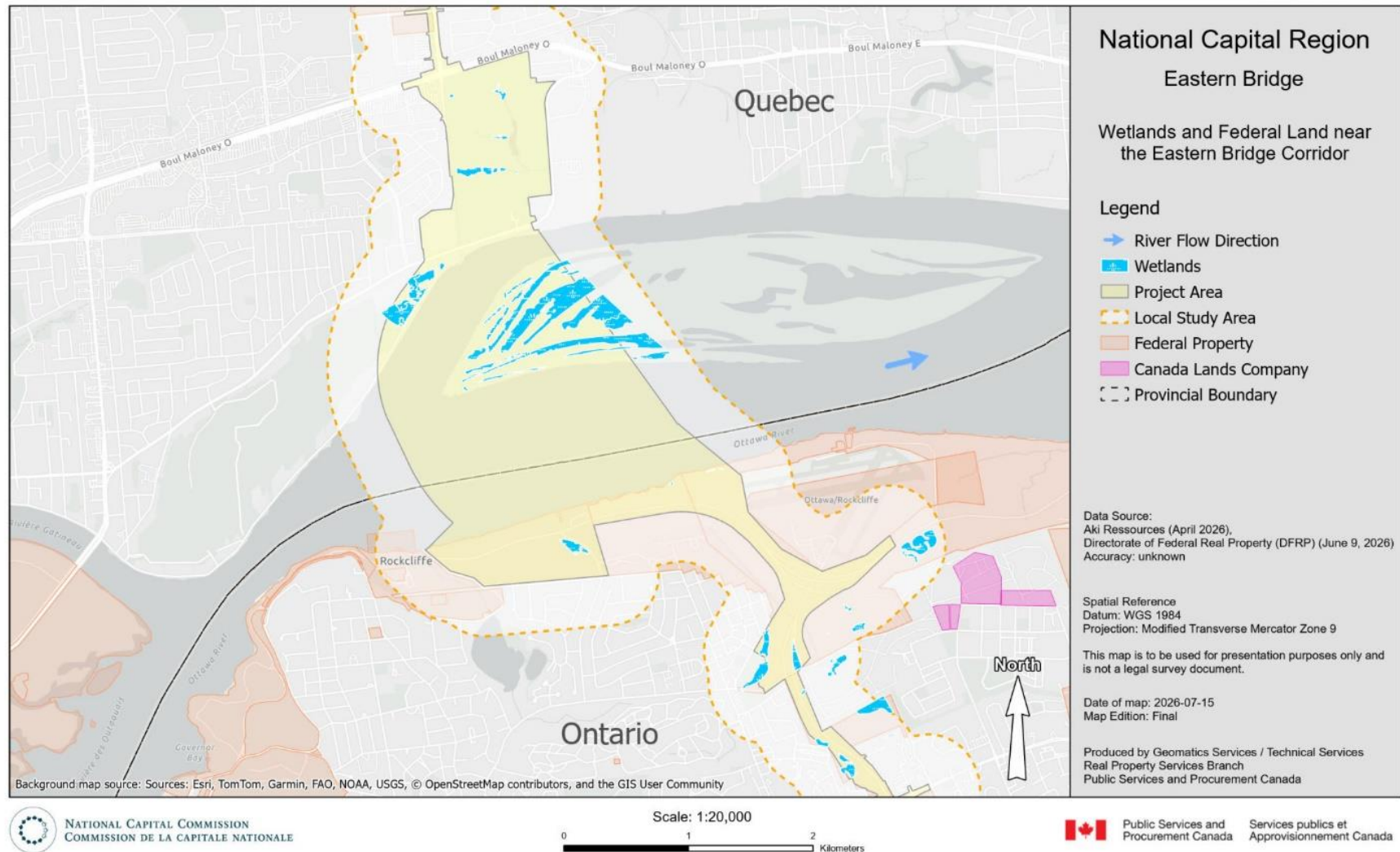


Figure 14-8: Wetland Environments on Federal Lands

Species at risk and Species of Conservation Concern

A total of 18 SAR and SoCC were observed on federal lands. Nine of the observed species are listed on Schedule 1 of SARA and are listed as either Endangered, Threatened or Special Concern. SAR and SoCC that were observed on federal lands are listed in Table 14-1.

Table 14-1: SAR and SoCC observed on federal lands

English Name	Latin Name	SARA Status	COSEWIC Status	Ontario Status	Quebec Status
Wild Leek	<i>Allium tricoccum</i>	-	-	-	Vulnerable
Canada Wild Ginger	<i>Asarum canadense</i>	-	-	-	Vulnerable
Canada Lily	<i>Lilium canadense</i>	-	-	-	Vulnerable
Ostrich Fern	<i>Matteuccia struthiopteris</i> <i>var. pensylvanica</i>	-	-	-	Vulnerable
Butternut	<i>Juglans cinerea</i>	Endangered	Endangered	Endangered	Susceptible
White Trillium	<i>Trillium grandiflorum</i>	-	-	-	Vulnerable
Large-flowered Bellwort	<i>Uvularia grandiflora</i>	-	-	-	Vulnerable
Common Nighthawk	<i>Chordeiles minor</i>	Special Concern	Special Concern		Susceptible
Bank Swallow	<i>Riparia riparia</i>	Threatened	Threatened	-	-
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Special Concern	-	-
Eastern Wood-pewee	<i>Contopus virens</i>	Special Concern	Special Concern	-	-
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	Threatened	-	-
Western Chorus Frog	<i>Pseudacris triseriata</i>	Threatened	Threatened	-	Threatened
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	-	Endangered	-	Susceptible
Hoary Bat	<i>Lasiurus cinereus</i>	-	Endangered	-	Susceptible
Eastern Red Bat	<i>Lasiurus borealis</i>	-	Endangered	-	Vulnerable
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered	Endangered	Threatened
Tri-coloured Bat	<i>Perimyotis subflavus</i>	Endangered	Endangered	Endangered	Threatened

Further, important habitat features are also present on federal lands such as trees with nesting cavities for Pileated Woodpeckers and potential maternity trees for bats. Locations of species observation and important habitat features on federal lands, in relation to potential LSA, are shown in Figure 14-9 and Figure 14-10.

Species at Risk and Species of Conservation Concern - Gatineau

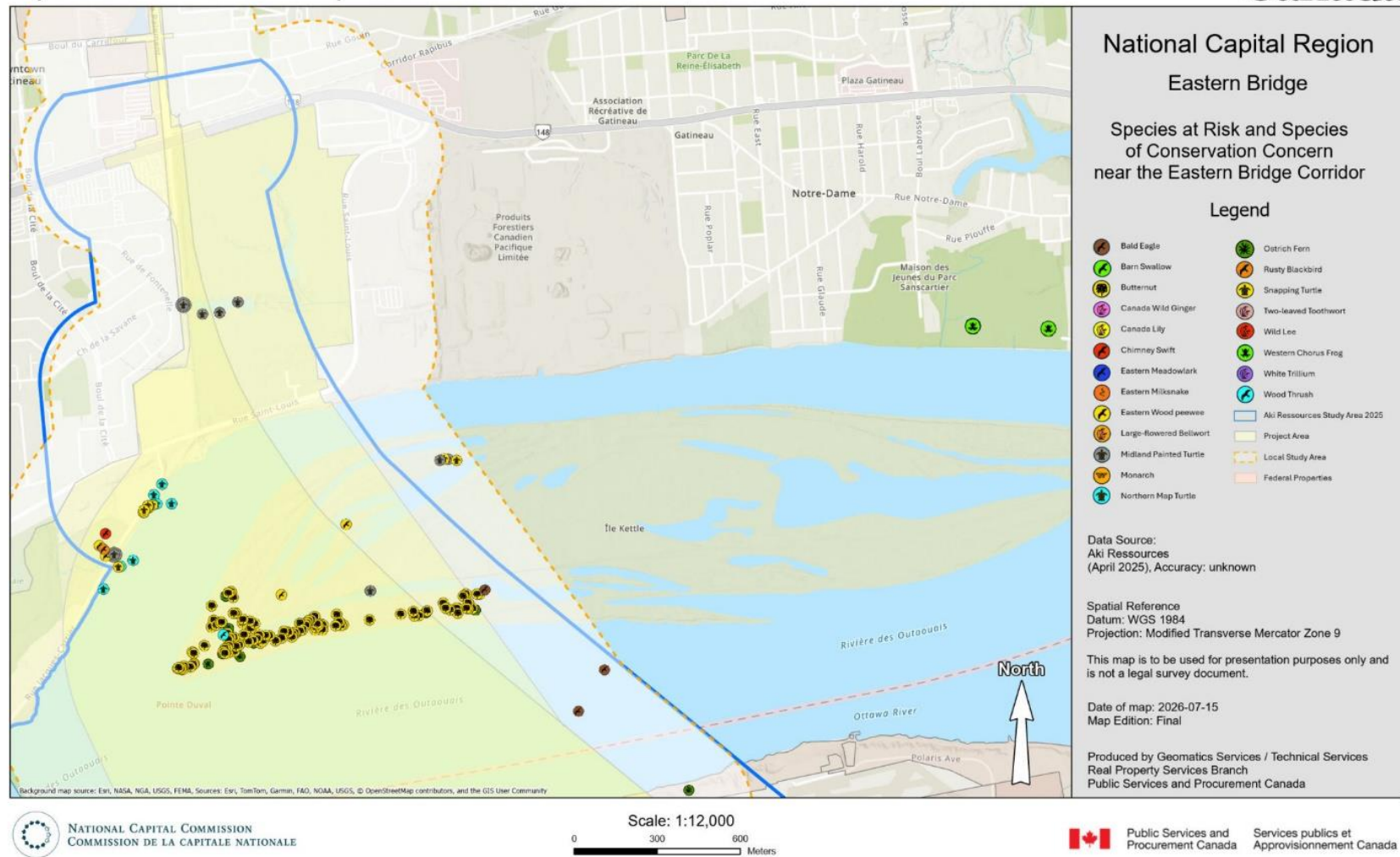


Figure 14-9: Species at risk and of Conservation Concern – Gatineau

Species at Risk and Species of Conservation Concern - Ottawa

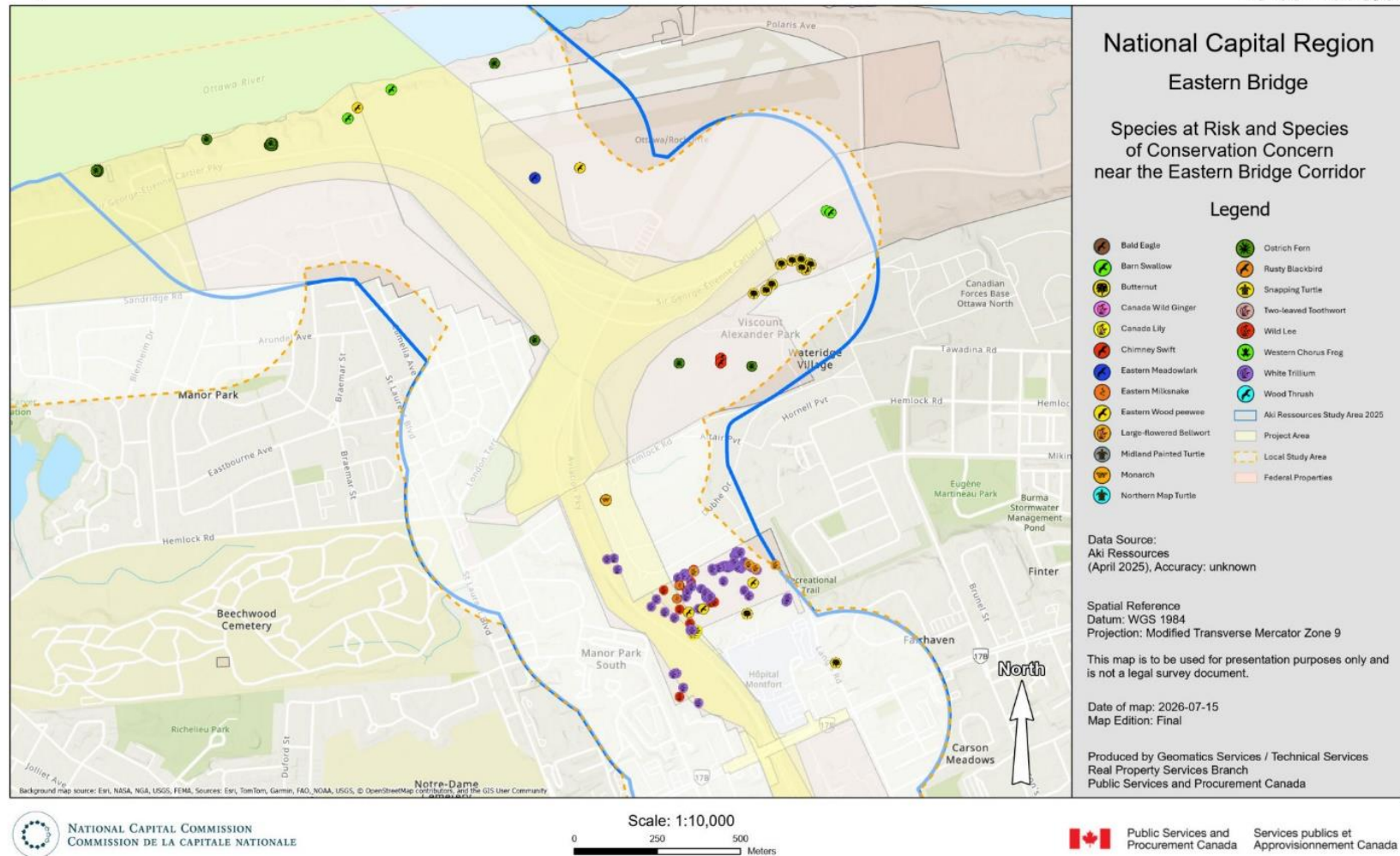


Figure 14-10: Species at risk and of Conservation Concern – Ontario

15 Socio-Economic Environment

Social Context

The NCR is located on the traditional territory of the Anishinabe Algonquin Nation.

The corridor crosses the District du Carrefour-de-L'Hôpital, District de Bellevue, District du Versant, District de la Pointe Gatineau, and District du Lac Beauchamp (see Figure 13-7). While in Ottawa, the corridor crosses the neighbourhoods of Rockcliffe Park, Manor Park, Wateridge Village, Overbrook, Carson Grove-Carson Meadows, Riverview, and Pineview (Figure 13-8).

Each side of Montée-Paiement has mixed land uses including residential neighbourhoods, commercial areas with a few community green spaces. The residences on the West side back onto the road, while those on the East side, between Rue Filiatreault and Boulevard Maloney, have direct front access driveway entrances from the road. Montée-Paiement becomes a two-lane road for a short distance South of Boulevard Maloney and provides access to the shopping complex on the West side of the road. South of the shopping complex is a residential area where homes back onto the corridor.

Heading South along Aviation Parkway, are the neighbourhoods of Manor Park on the West and Wateridge on the East side. Hemlock road provides access to both communities. Northeast of the intersection of Aviation Parkway with Montreal Road is the Monfort Hospital, a notable institution, and the Fairhaven neighbourhood. South of the Montreal Road intersection are the neighbourhoods of Overbrook (Forbes/Cummings/Cyrville) on the West and Carson Grove-Carson Meadows on the East side of Aviation Parkway.

In 2025, Statistics Canada estimated that the Ottawa-Gatineau CMA had a population of 1,700,014, of which 1,325,788 (77.9%) resided in Ontario and 374,226 (22.1%) resided in Québec. The 2025 estimate is a population increase of almost 10% since 2021 when the population was 1,540,340. The region's urban population has more than doubled since 1971 and future projection estimates to 2050 show a continuation of this growth trend.

The region is culturally and ethnically diverse, in part because it includes Ontario and Québec, which have different primary languages among other cultural differences. The roadway modifications along Montée-Paiement and Aviation Parkway required to support the Eastern Bridge Project could be experienced differently by individuals who reside in proximity to the corridor.

A Gender-based Analysis Plus (GBA+), using the approach developed for the Ottawa Neighbourhood Study, provided a socio-economic status index to assess social and economic vulnerability. This index is the result of a principal component analysis of six variables, including (Ottawa Neighbourhood Study, 2024):

- Unemployment rate
- Rate of one-parent families
- Rate of persons aged 25-64 with no high school diploma
- Median market income
- Rate of persons living in low-income
- Households in core housing need

The most socio-economically vulnerable neighbourhoods and municipal districts were determined to be Overbrook in Ottawa, and Lac-Beauchamp and Pointe-Gatineau in Gatineau. These neighbourhoods had higher rates of intersecting vulnerability indicators compared to other neighbourhoods in the LSA (Figure 15-1).

Vulnerable Communities

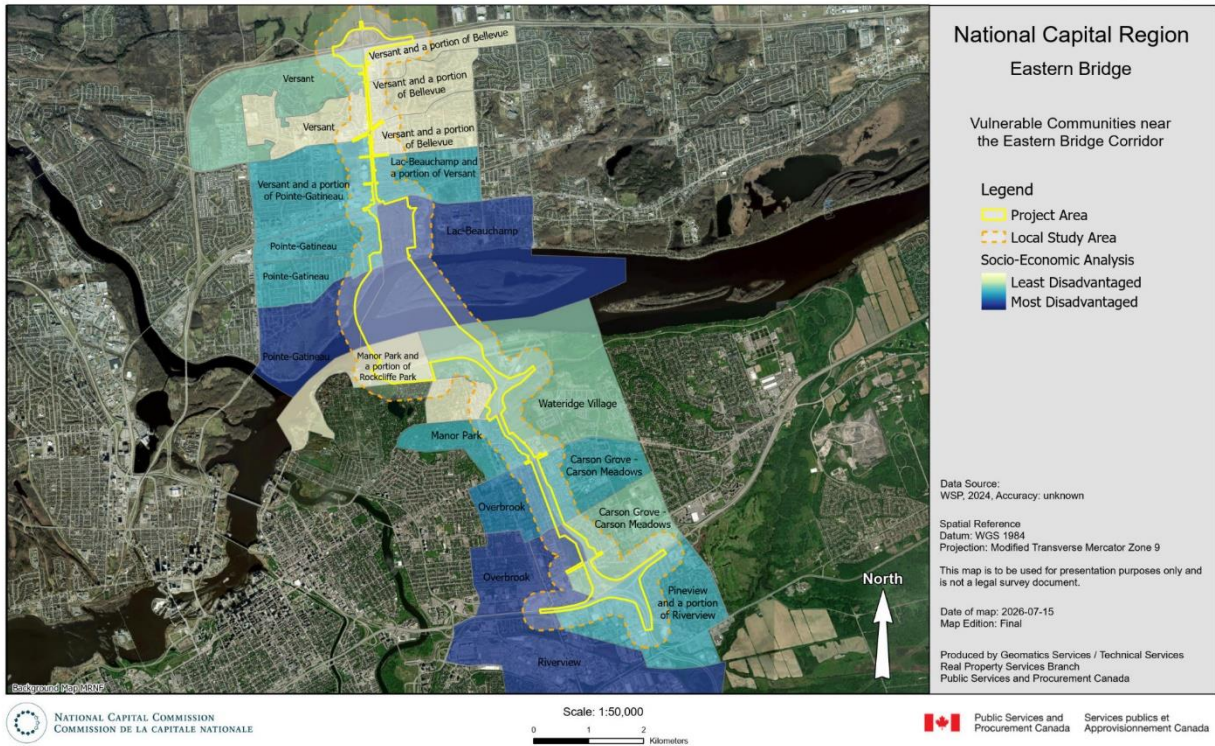


Figure 15-1: Vulnerable Communities

Figure 15-2 shows green spaces in vicinity of the Project. Green spaces will be considered in the design, planning and conception of the Project.

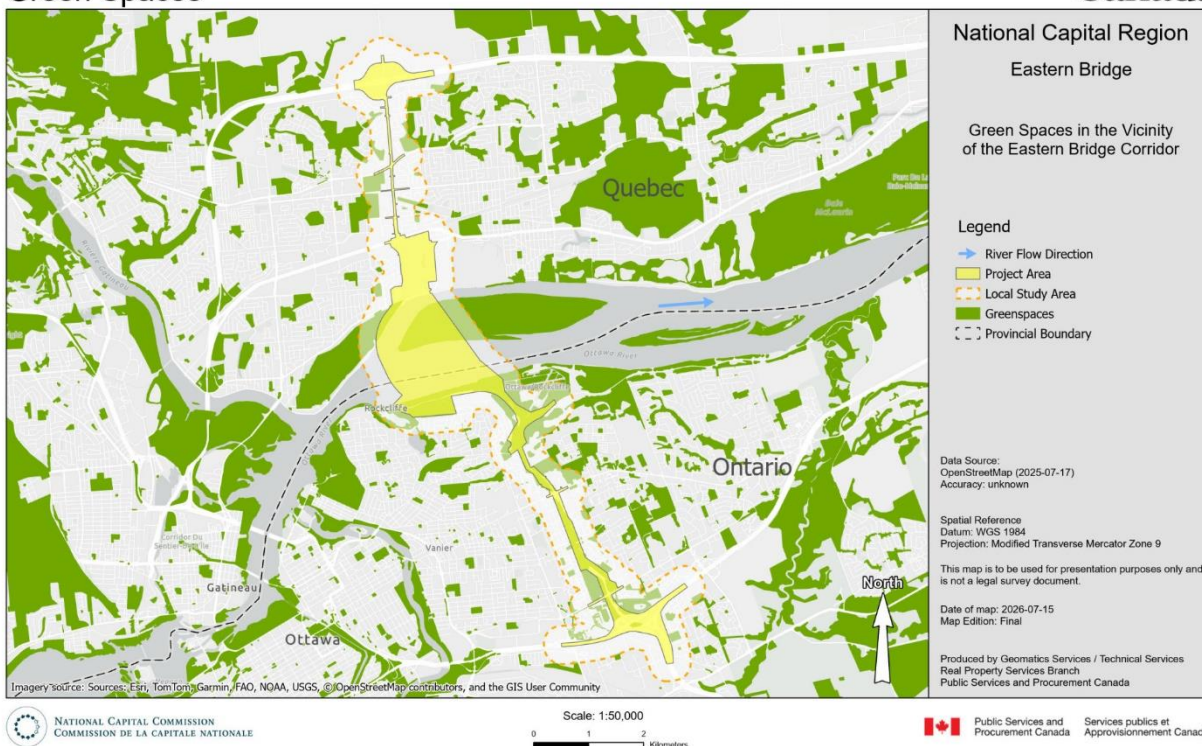


Figure 15-2: Green Spaces in the Eastern Bridge Project Corridor

Several pathways provide access to green spaces for recreational activities, offering residents and visitors a well-connected network to experience the region's natural and urban environments. The Capital Pathway is a cornerstone of this network, comprising over 200 kilometres of off-road, multi-use pathways across the NCR. It forms an integrated system of discovery routes that enable active transportation and leisure travel while linking major destinations, parks, and cultural sites. The pathway network traverses a wide range of landscapes, from dense urban cores and suburban neighbourhoods to agricultural lands and forested areas, providing diverse scenic experiences throughout the seasons.

Key segments such as the Ottawa River Pathway and the Aviation Pathway run parallel to the SGEK Parkway, creating convenient and continuous east-west connections between downtown Ottawa and communities further east. These pathways are designed to accommodate a variety of users, including pedestrians, cyclists, and rollerbladers, supporting both recreational use and active commuting. They also provide direct access to notable destinations such as the NCC River House, enhancing opportunities for waterfront recreation and social gathering.

On the Québec side, the Gatineau section of the Route verte network further strengthens regional connectivity. Extending along Montée-Paiement west of the Tecumseth Golf Course and continuing to Jacques-Cartier Street, this network offers hundreds of kilometres of interconnected multi-use pathways that support long-distance cycling and local recreational use. Complementing this system is the Sentier de la rivière Gatineau, a scenic pathway that follows the shoreline of the Gatineau River and links seamlessly with the Route verte, thereby expanding access to natural corridors and waterfront landscapes.

The NCR is generally regarded as a region with a high quality of life and has been rated as one of the most livable cities in Canada and worldwide (Mercer LLC 2024). The region provides residents and visitors with year-round access to parks, trails, events, and spaces that promote healthy lifestyles. The Project contains multi-use trails and parks along both shores of the Ottawa River, within the right-of-way South of Montée-Paiement in Gatineau, and in

the Aviation Parkway corridor in Ottawa. Other public recreational opportunities exist in the area, including the Canada Aviation and Space Museum and the RCMP Stables. Private recreational facilities include the Club de Golf Tecumseh in Gatineau, and the Rockcliffe Yacht Club, Flying Club and the Beechwood Cemetery National Historic Site of Canada in Ottawa.

Hôpital Montfort is located on the eastern side of Aviation Parkway in Ottawa and is the only primary care facility in the LSA. There are several schools located in proximity to the Project, notably in Gatineau, École de la Montée and École secondaire du Versant, while in Ottawa, College La Cité.

Figure 15-3 and Figure 15-4 show the arts, culture, recreational, daycare, educational near the LSA.

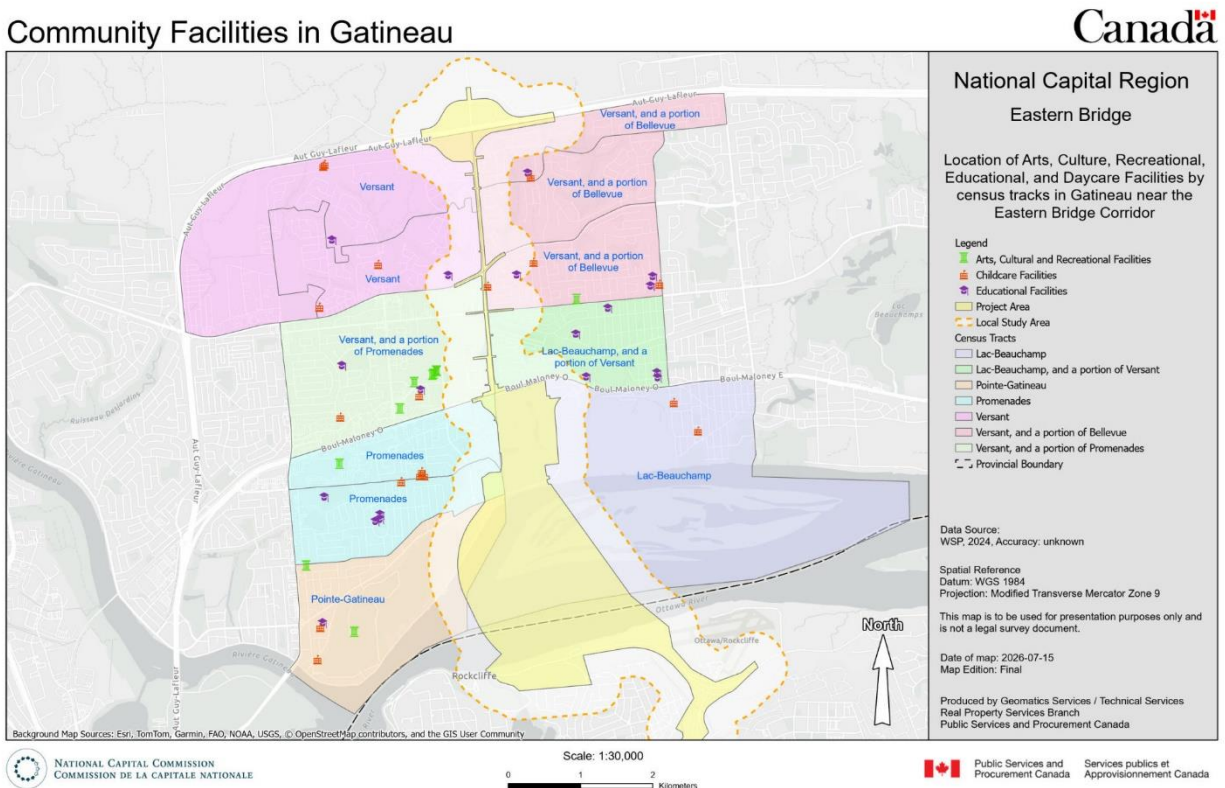


Figure 15-3: Location of Arts, Culture, Recreational, Educational, and Daycare Facilities in Gatineau.

Community Facilities in Ottawa

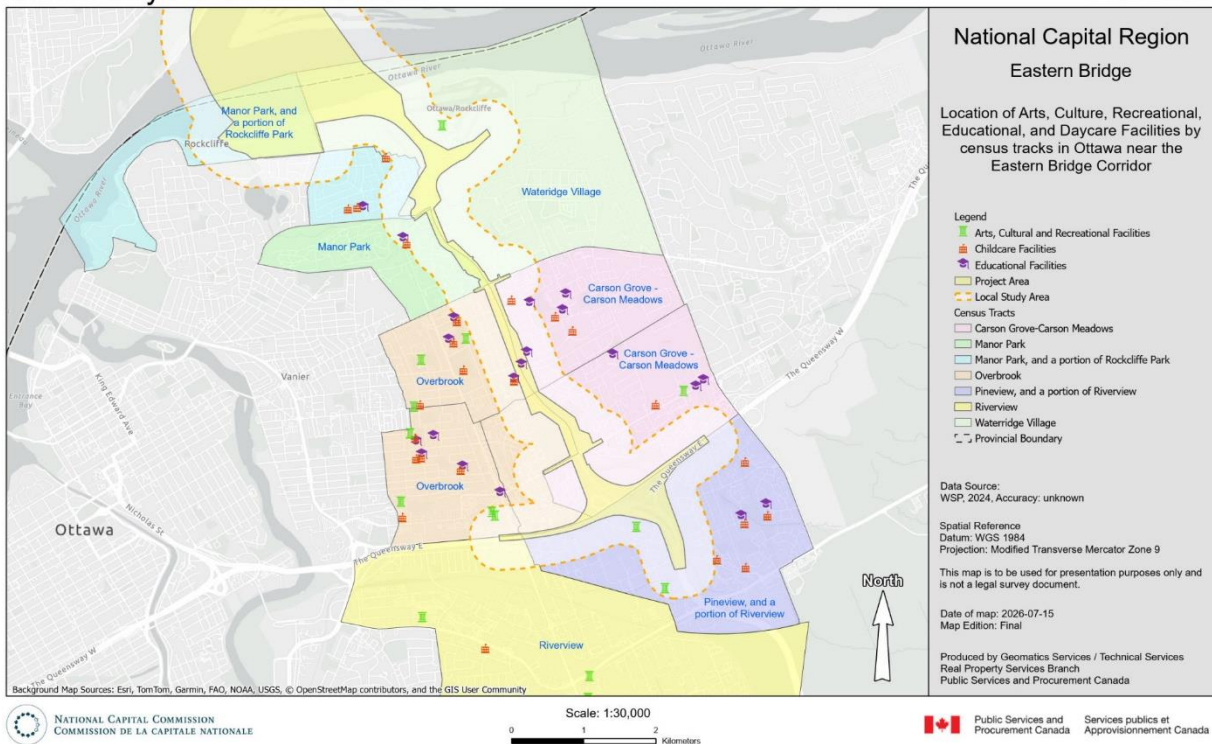


Figure 15-4: Location of Arts, Culture, Recreational, Educational, and Daycare Facilities in Ottawa.

Human Health Context

Drinking water infrastructure in the cities of Ottawa and Gatineau was evaluated to determine potential interactions with the Project. Both cities draw drinking water from the Ottawa River (Gatineau also draws water from the Lièvre River, to serve the Buckingham sector). Ottawa's water intakes are located at the Lemieux Island and Britannia Water Purification Plants (City of Ottawa, n.d.), approximately 13.5 km and 6.7 km upstream of the Project, respectively. The City of Gatineau operates three drinking water intakes on the Ottawa River (Ville de Gatineau, 2026b). Two intakes, supplying the Aylmer and Hull sectors, are located upstream of the Project at distances of approximately 19.6 km and 8.5 km, respectively. However, Gatineau's third drinking water intake is located on the North shore of Kettle Island and is within alternative corridors under assessment for the bridge location. Among the three proposed bridge alignments, the West Alignment lies within the Intermediate Intake Protection Area approximately 750 m upstream of the intake, the East Alignment crosses the Immediate Protection Area approximately 350 m upstream from the intake, and the Straight Alignment passes directly over the intake. This facility supplies drinking water to approximately 117,000 residents (2018 data), primarily within the Gatineau sector (ABV7, 2021).

Cultural Heritage

The Ottawa River - Kichi Zibi (Great River) in Algonquin - is at the heart of the traditional territory of the Algonquin Nation and has served as a major transportation route for trade, gatherings and celebrations for thousands of years. The river remains a culturally significant feature within the broader Indigenous cultural landscape. The Ottawa River is designated as a Canadian Heritage River and represents an important ecological, historical, and recreational feature of the NCR.

Most federal lands within the LSA are part of the National Interest Land Mass (NILM), which supports the symbolism, functions, physical structure, and natural and cultural landscape qualities of the NCR (NCC, 2021b). NILM lands include the Quebec and Ontario shorelines, Kettle Island, Montfort Woods, the Sir George-Étienne Cartier (SGEC) Park Cultural Landscape and the Aviation Parkway (RCI, 2026). Kettle Island is also designated as a nature reserve under Quebec's *Natural Heritage Conservation Act*.

The Sir George-Étienne Cartier (SGEC) Park Cultural Landscape is identified by the NCC as a cultural landscape of capital value (CBCollective, 2022). The Rockcliffe Park Cultural Landscape includes historic picturesque parklands at the western end of the SGEC Park Cultural Landscape. It is associated with historic Indigenous transportation routes and reflects a strong relationship to ideas about picturesque landscape traditions and capital-making. The RCMP National Division (N-Division) Cultural Landscape consists of a collection of institutional buildings set within a grassed and treed landscape located to the southwest of the Aviation – SGEC Parkways. The Aviation Parkway itself is also identified by the NCC as a cultural landscape. The Aviation Parkway was intended both as part of the Capital parkway network and as a means of reducing traffic pressures to and from the newly constructed Queensway. The initial section was connected to the Queensway in 1978, and the final northern extension from Montreal Road to the Rockcliffe Parkway was completed in 1988, providing access to the CASM.

In addition to these NILM and cultural landscapes, several cultural heritage sites are located within the Local Study Area (LSA). Beechwood Cemetery, is a National Historic Site of Canada and includes the National Military Cemetery of the Canadian Forces. The NCC River House/Ottawa New Edinburgh Club Boathouse, are both Recognized Federal Heritage Building and designated under Part IV of the *Ontario Heritage Act*. The western end of the LSA also includes part of the Village of Rockcliffe Park, a Heritage Conservation District designated under the *Ontario Heritage Act* and a National Historic Site. The CMHC head office is identified as a notable building and a landmark that influenced the design of the Aviation Parkway. Several built heritage resources identified by the City of Gatineau in their Traditional Built Heritage Inventory (Inventaire du patrimoine traditionnel) (Ville de Gatineau, 2026a) are located within the LSA, including four dwellings along Rue Saint-Louis and an abandoned house at the Montée-Paiement off-ramp. The City of Ottawa has identified four heritage parcels within the LSA. These include three properties designated under the *Ontario Heritage Act* as well as one property that's listed on the City's Heritage Register (City of Ottawa, 2026).

Archaeological Potential

The Ottawa River has played a central role in the history of Indigenous peoples in the region. Indigenous people, including the ancestors of the Anishinabe and Haudenosaunee who currently live in the region, have lived, traveled, hunted, farmed, and traded along the river for thousands of years. The LSA is in the traditional territory of the Anishinabe Algonquin Nation, and archaeological evidence of human occupation in Ottawa and Gatineau dates back at least 8,500 years. Although the first permanent European settlers did not arrive in Ottawa-Gatineau until 1800, European activity in the area began as early as the 1600s when explorer Samuel de Champlain traveled up the Ottawa River and eventually arrived at Georgian Bay.

With the area's long Indigenous history and relatively early date of European contact compared to much of North America, the LSA contains known archaeological sites and areas of both pre-contact and historical archaeological potential.

In the Ottawa area, the NCC's mapping shows areas of medium pre-contact archaeological potential within the LSA to the South and East of the interchange of Aviation Parkway and Hemlock Road, and at the western edge of the LSA in the area generally encompassed by Hillsdale Road (Figure 15-5). The remainder of the LSA in Ontario is mapped as having low pre-contact archaeological potential by the NCC. Three registered Euro-Canadian archaeological sites—Upper Lang, Lower Lang, and the McLaughlin Site—are located less than 100 m East of the LSA North of Hemlock Road (ASI 2013). A known Euro-Canadian historic feature is located next to the eastbound ramp from Aviation Parkway to Promenade SGEC (ASI 2013).

Pre-Contact Archaeological Potential

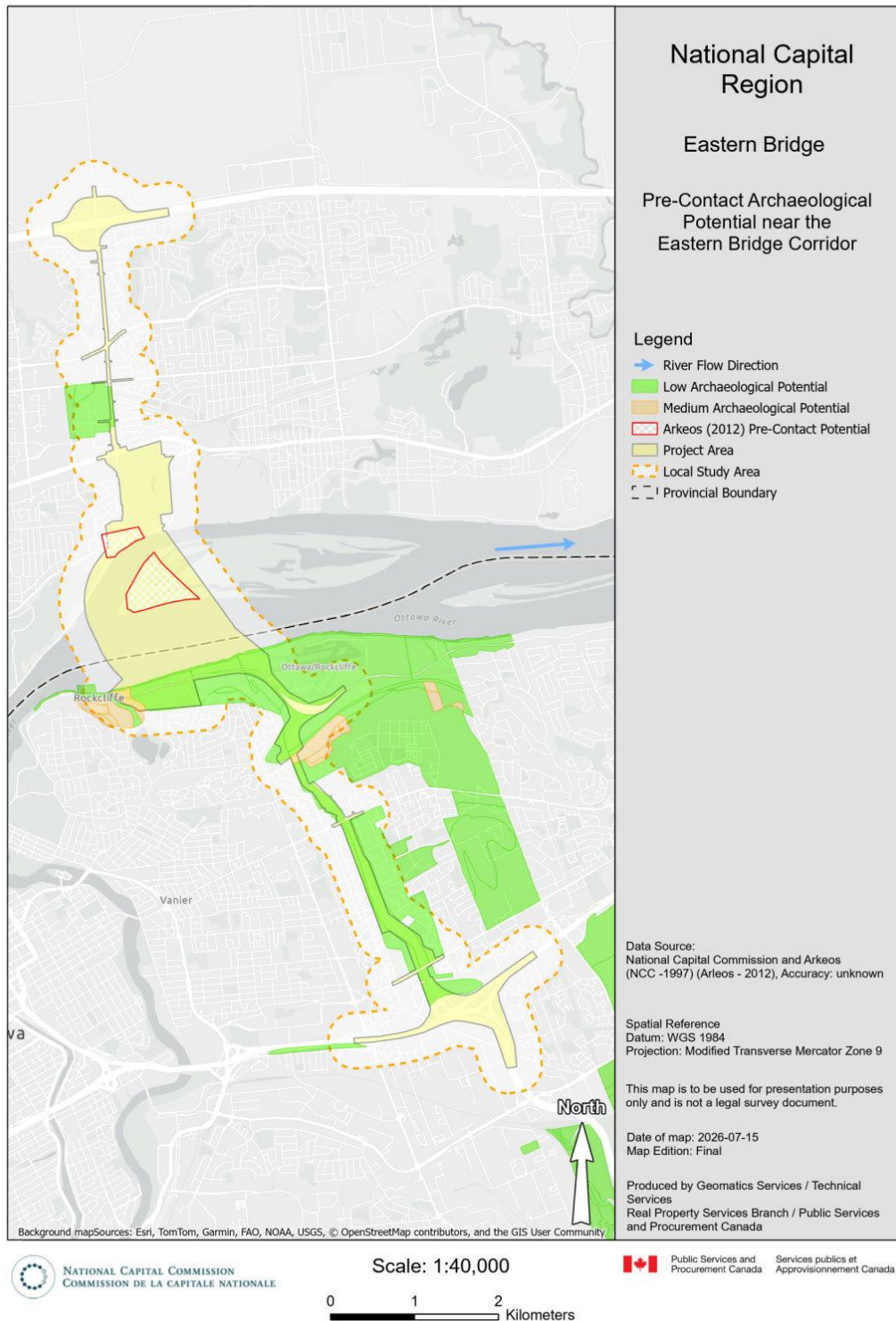


Figure 15-5: Pre-Contact Archaeological Potential near the Proposed Crossing

In Québec, the areas of greatest archaeological potential are the shorelines and the western end of Kettle Island as well as the shoreline of the Ottawa River in Gatineau (Ethnoscop Inc. 1993; Miller 2008; Arkeos 2012). These areas have both pre-contact and historical archaeological potential. At the western tip of Kettle Island less than 100 m West of the LSA is Pointe Duval, is a registered Euro-Canadian archaeological site (Miller 2008; Arkeos 2012). Additional research has identified secondary sources of historical accounts of human remains and artifacts found on the western part of the island in the 1800s (Ottawa Citizen 1879; Ottawa Daily Press 1880; Ottawa Citizen 1883; Ottawa Journal 1889). The current location of the artifacts and human remains mentioned in the articles is unknown. Further archaeological studies have been recommended to determine if the LSA extends into the site and to evaluate potential impacts (ASI 2013).

At least two shipwrecks—the *Maggie Bell* and *Quinte Queen*—are known to be in the Ottawa River to the West of Kettle Island but only approximate locations have been mapped (Maika pers. comm. 2025). Further marine archaeological assessment has been recommended to refine the locations of the wrecks and evaluate potential impacts (ASI 2013).

When the preferred alternative is refined, any lands not previously subject to background research will undergo an archaeological overview assessment. An archaeological inventory will be undertaken within the PA in areas of archaeological potential (see Figure 15-6) once the preferred alternative is refined.

Waterway Navigation

The Ottawa River from Lake Timiskaming to its confluence with the St. Lawrence River is a designated Canadian Heritage River, which reflects its immense ecological, historical, and cultural significance. The Ottawa River is considered a navigable waterway under the federal *Canadian Navigable Waters Act*. Boaters can travel the river unimpeded from Chaudière Falls in Ottawa to the island of Montreal, a distance of over 150 km, having region-wide access through the waterways and canal systems. For sailboats however, the disadvantage is that the river (particularly the navigable channel) is much narrower, the river current is correspondingly stronger, and there are few areas appropriate for sailing, especially in larger boats.

There are marinas, boat ramps, and other access points on both the Ontario and Québec shorelines along this reach of the river

Transportation Context

The Ottawa River is crossed by six bridges within the NCR, mainly in the core area. Figure 15-6 provides a visual representation of the transportation context in the NCR. To allow for the movement of goods within the NCR, a subset of the road network is designated as a truck route by municipal and provincial authorities. Most interprovincial goods cross the Macdonald Cartier bridge (70%) and travel through the dense downtown streets of Ottawa including King Edward Avenue, designated as a capital entrance. Most of the remaining interprovincial trucks use the Chaudière Crossing, a two-lane bridge passing through an area of the downtown core undergoing important densification efforts.

The increase in population, economic activity and travel pressure will continue to exert pressure on the existing transportation network. Consequently, as highlighted by current federal plans, there is a need to maintain regional integration and strike a balance between mobility and livability while prioritizing the transition towards sustainable travel.

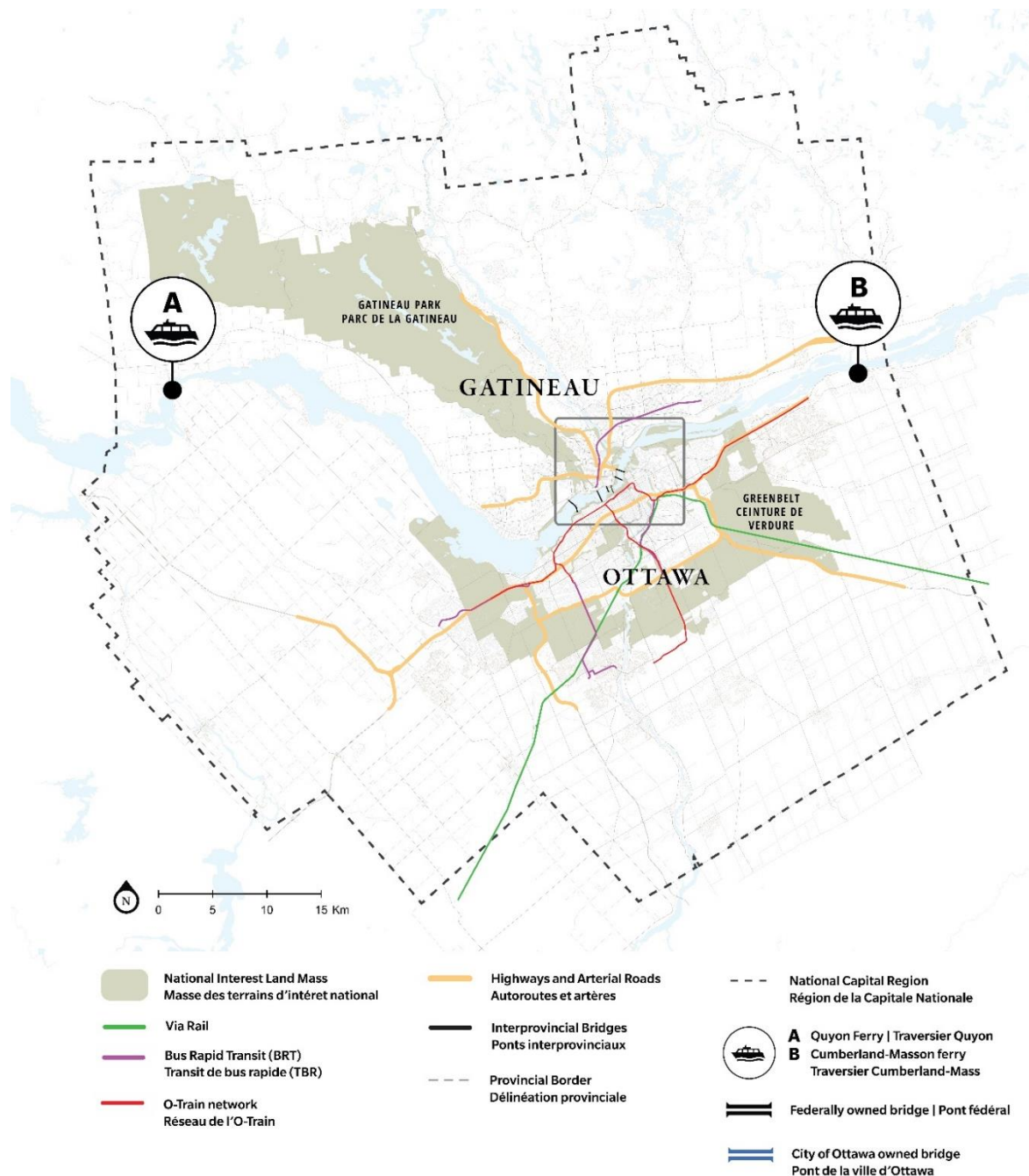


Figure 15-6: NCR Transportation Context (NCC)

Economic Context

The Ottawa-Gatineau generated a total Gross Domestic Product (GDP) of over \$98 billion in 2021 (Statistics Canada 2025a), more than 80% of which was generated by the Ontario part. The economy of Ottawa-Gatineau has been stable relative to most of Canada during the COVID-19 pandemic in 2020.

The NCR has a workforce of over 1.2 million workers whose demographics reflect the linguistic, ethnic, and cultural diversity of the region. Unemployment in the CMA has generally reflected national rates over time. The relatively high unemployment rate in 2021 was the result of the COVID-19 pandemic and reflects nationwide rates in the same year.

Part D: Federal, Provincial, Territorial, Indigenous and Municipal Involvement and Effects

16 Federal Financial Support

In 2018, the Government of Canada directed Public Services and Procurement Canada (PSPC) to update existing studies, refine cost estimates, and identify a preferred corridor for a new Eastern Bridge in the National Capital Region. To support this work, PSPC and the National Capital Commission (NCC) established an integrated project team to advance project planning. However, the onset of the COVID-19 pandemic led PSPC and the NCC to defer further analysis until updated household origin–destination and trucking data became available. The receipt of updated household survey data in 2022 enabled the project team to conduct a more comprehensive analysis of travel patterns and mobility behaviours and to develop an updated travel demand model. This work ultimately informed the recommendation submitted to the Government of Canada regarding the preferred corridor for the project.

In 2024, the Government of Canada approved the Montée Paiement–Aviation Parkway corridor as the preferred option for the Eastern Bridge project. The project also received funding to advance stakeholder engagement, agreements with Indigenous communities, undertake technical, exploratory, and environmental studies, and further develop design options and procurement strategies. In addition, the Government of Canada reaffirmed its commitment to the project through the 2024 Fall Economic Statement, confirming funding for the next phase of planning, impact assessment, design development, site preparation, and procurement activities.

The Eastern Bridge project is funded by the Government of Canada. While funding has been secured for the current planning and project development phases, funding for the final design and construction phases has not yet been approved. Proceeding with these phases will be contingent upon future funding decisions by the Prime Minister and the Minister of Finance. The funding currently allocated to support project advancement is projected to be exhausted in fiscal year 2027–28.

17 Regulatory Jurisdiction

Federal

The Project is being evaluated according to federal impact assessment requirements under the IAA. PSPC and the NCC have prepared this Initial Project Description to initiate the planning phase of the federal impact assessment process. As a joint undertaking of PSPC and the NCC in the NCR, it is a Level 3 project under the *National Capital Act* and subject to the FLUDTA process.

Parks Canada may review the Project through the Federal Heritage Review Office to determine if there may be effects on the heritage character of the area. Parks Canada may also review and provide advice on archaeological studies for the Project. Certain design aspects of the new bridge may be required to conform with the *Accessible Canada Act*.

Table 17-1 provides an overview of potential federal environmental approvals required to build and operate the Project.

Table 17-1: Federal permits and approvals relevant to the Eastern Bridge Project

Permit or Approval	Legislation and Regulations	Administering Agency	Project Stage
Impact Assessment Decision	IAA Physical Activities Regulations (SOR/2019-285)	Impact Assessment Agency of Canada (IAAC)	Planning
Approval	<i>National Capital Act</i>	NCC	Planning, Design
Fisheries Act Authorization	<i>Fisheries Act</i>	DFO	Planning, Design
Canadian Navigable Waters Act (CNWA) Approval	CNWA Major Works Order (SOR/2019-320) Navigable Waters Bridges Regulations (C.R.C., c. 1231)	Transport Canada	Planning, Design, Construction, Operation
Species at Risk Act Permit	SARA Permits Authorizing an Activity Affecting Listed Wildlife Species Regulations (SOR/2013-140)	DFO ECCC	Design, Construction
Notification of Abandoned Nest	<i>Migratory Birds Convention Act, 1994</i> (MBCA) Migratory Birds Regulations, 2022 (SOR/2022-105)	ECCC	Design
Damage or Danger Permit	MBCA Migratory Birds Regulations, 2022 (SOR/2022-105)	ECCC	Design, Construction
Aeronautical Assessment	<i>Aeronautics Act</i> Canadian Aviation Regulations (SOR/96-433)	Transport Canada	Planning, Design, Construction
Air Navigation Safety Review	<i>Civil Air Navigation Services Commercialization Act</i>	NAV Canada	Planning, Design, Construction

Provincial

As a transportation project being undertaken by PSPC and NCC, which are federal authorities, the Project is not expected to require an environmental assessment under Ontario's *Environmental Assessment Act*. PSPC and NCC will notify Ontario's Ministry of Environment, Conservation, and Parks (MECP) about the Project to confirm requirements under the Act.

The Project has the potential to require an environmental assessment under Québec's *Environment Quality Act*. PSPC and NCC will work with the Direction générale de l'évaluation environnementale et stratégique of the MELCCFP to determine if the Project meets the following requirements:

- Within a waterbody, affect a cumulative distance equal to or greater than 500 m or are carried out over a cumulative area equal to or greater than 5,000 m² within the 2-year flood level of a river, or
- widening of a road designed for 4 lanes or more or whose right of way has a width equal to or greater than 35 m over a minimum length of 2 km situated within an urbanization perimeter.

During construction, the contractor will be required to adhere to provincial labour, health, and safety regulations. Approvals may be required from transportation agencies for works on their infrastructure, such as MTO and MTMD owned interchanges. This requirement will be further discussed with each agency as the Project progresses.

Table 17-2 provides an overview of other Ontario legislation that may apply to the Project. Table 17-3 provides an overview of other Québec legislation that may apply to the Project.

Table 17-2: Ontario permits and approvals relevant to the Eastern Bridge Project

Permit or Approval	Legislation and Regulations	Administering Agency	Project Stage
<i>Species Conservation Act</i> , 2025 Registration, Permit or Exemption	<i>Species Conservation Act</i> , 2025 Ontario Regulations (O.Reg.s) O.Reg. 60/26, O.Reg. 75/26, O.Reg. 74/26, O.Reg. 61/26	MECP	Design, Construction
Permit to Take Water (PTTW)	<i>Ontario Water Resources Act</i> O.Reg. 387/04	MECP	Design, Construction
Class Environmental Assessment for Provincial Transportation Facilities and Municipal Expressways – Group B Project	<i>Environmental Assessment Act</i>	MTO	Design, Construction
Environmental Compliance Approval	<i>Environmental Protection Act</i> O.Reg. 255/11, O.Reg. 419/05, O. Reg. 406/19	MECP	Design, Construction
Heritage permit Excavation permit	<i>Ontario Heritage Act</i> O.Reg. 8/06, O.Reg. 9/06, O.Reg. 10/06	Ontario Ministry of Citizenship and Multiculturalism (MCM)	Planning, Design, Construction
Work Permit	<i>Public Lands Act</i> O.Reg. 239/13	Ontario Ministry of Natural Resources (MNR)	Design, Construction
Occupation Permit	<i>Public Lands Act</i> O. Reg. 161/17	MNR	
Section 28 Permit	<i>Conservation Authorities Act</i> O.Reg. 41/24	MNR	Design, Construction

Table 17-3: Québec permits and approvals relevant to the Eastern Bridge Project

Permit or Approval	Legislation and Regulations	Administering Agency	Project Stage
Certificate of Authorization	<i>Environment Quality Act</i> Q-2, r. 23.1 Q-2, r. 17.1	MELCCFP	Planning, Design, Construction
Authorization for work in wetlands and aquatic environments	<i>Environment Quality Act</i> Q-2, r. 0.2 Q-2, r. 9.1	MELCCFP	Design, Construction
Permit for work in a watercourse	<i>Watercourses Act</i> R-13, ss. 2 and 2.1	MELCCFP	Design, Construction
Authorization for archaeological assessment	<i>Cultural Heritage Act</i> P-9.002, r. 2.1	Québec Ministère de la Culture et des Communications (MCC)	Design, Construction
Projects classified according to levels of risk, which require different types of permitting requirements, including: - High risk: environmental impact assessment and review procedure (section 31.1); -Medium risk: ministerial authorization (section 22).	<i>Environment Quality Act</i>	MELCCFP	Design, Construction
Permit for activities involving threatened or vulnerable species	<i>Act Respecting Threatened or Vulnerable Species</i> E-12.01, r.2, 3, and 5	MELCCFP	Design, Construction
Permit for activities affecting wildlife or their habitat	<i>Act Respecting the Conservation and Development of Wildlife</i> C-61.1, r. 18	MELCCFP	Design, Construction
Tree removal permit	<i>Tree Protection Act C- P-37</i>	MELCCFP	Design, Construction
Permis d'occupation du domaine hydrique de l'État	<i>Act respecting the lands in the domain of the State C T-8.1</i>	MELCCFP	Design, Construction

Municipal

As a federal undertaking on mostly federally owned land, some municipal by-laws and policies are not expected to apply to the Project. However, some Project elements that occur outside federal lands (e.g., stormwater infrastructure, construction staging) or on municipal lands (such as intersections) may be subject to municipal by-laws and policies. Therefore, approvals could be required from all transportation agencies for works on their infrastructure including City of Ottawa and Ville de Gatineau. This will be discussed with provincial and municipal agencies as the Project is better defined.

Ontario municipal by-laws and policies, which receive authority from the provincial *Municipal Act* or *Planning Act*, are not expected to apply to the Project since it is a federal undertaking. The Project is not expected to require planning permission under the City of Gatineau's Urban Plan or Zoning By-law. Likewise, it is not expected to require amendments or minor variances under the City of Ottawa's Official Plan or Zoning By-Law.

Removal of trees outside of federally owned land may be subject to the City of Gatineau's Woodland Protection By-law (225-2004) or the City of Ottawa's Tree Protection By-law. Permission from the forestry departments of one or both municipalities may be required, and there may be compensation requirements subject to the size and number of trees removed.

18 Potential Effects on the Environment within Federal Jurisdiction

The project planning continues and decisions regarding the alignment of the bridge, as well as modifications to some intersections, road configurations, construction staging, and temporary project components, have not yet been finalized. As such, the effects presented in this section, as well as sections 19, 20 and 21, reflect potential non-negligible adverse effects associated with the range of feasible project alternatives currently under consideration.

This section provides a list of potential non-negligible adverse changes that, as a result of the carrying out of the Project, may be caused to the following components of the environment that are within the legislative authority of Parliament:

- Fish and fish habitat (as defined in the *Fisheries Act*)
- SAR present on federal lands, including aquatic SAR (as defined in the *Species at Risk Act*)
- Migratory birds (as defined in the *Migratory Birds Convention Act, 1994*).

Adverse changes to the marine environment that are caused by pollution and that would occur outside Canada are not anticipated for this Project.

The IPT's approach to managing potential negative effects follows a structured hierarchy to ensure impacts are addressed responsibly and effectively. The first and preferred approach is avoidance, where potential adverse effects are eliminated through thoughtful project design and site selection. If avoidance is not feasible, the next step is minimization, which involves modifying project activities or implementing best practices to reduce the intensity, duration, or extent of the impacts. When effects cannot be fully avoided or minimized, mitigation measures are applied to lessen their significance, often through engineered solutions or operational controls. Only when these primary strategies—avoidance, minimization, and mitigation—are insufficient, offsetting is considered. Offsetting involves compensating for residual negative effects by enhancing or restoring environmental values elsewhere, ensuring a net benefit or no net loss. This hierarchical approach reflects a commitment to prioritizing proactive and preventative measures before resorting to compensatory actions.

Effects on Fish and Fish Habitat

Construction of the Project could result in the following potential impacts on fish species and adverse changes to fish habitat:

- Destruction of fish habitat (e.g., loss underneath bridge piers, road embankments)
- Physical alteration of fish habitat through changes to the stream bed, bank, vegetation community, and/or flow
- Changes in fish habitat due to water quality changes such as changes in temperature regime, flow regime, increased sediments, or increased contaminants due to accidental releases. Death of fish caused by increased turbidity, physical contact with construction materials and equipment, stranding during temporary isolation measures, and/or accidental exposure to released contaminants

It is expected that potential effects related to construction can be managed through regulatory processes related to the *Fisheries Act*. Details on potential avoidance and mitigation measures are presented in Section 19.2.

Operation of the Project could result in the following adverse changes to fish and fish habitat:

- Physical alteration of fish habitat through changes to shading and/or flow (e.g., scour) due to piers and/or abutments in the water
- Disruption of fish habitat (e.g., increase in suspended sediments or salt concentration)
- Death of fish caused by accidental releases of contaminants

Some effects from Operations, such as scour, may be managed through provincial or federal regulatory processes. For indirect effects related to spills, these effects will need to be managed up front during the design phase of the project.

Impacts to fish and fish habitat will be avoided through design to the maximum extent possible, including assessment of scour at the pier locations to determine the extent of potential impacts to water quality and fish habitat downstream and development of a stormwater management system to capture and treat surface water runoff from the bridge deck.

Government agencies in both Ontario and Québec prescribe in-water work timing windows which ensure that construction occurs outside the spawning periods of key fish species. There are slight differences in the prescribed timing windows in Ontario and Québec, therefore construction phasing will consider the regulations in both provinces. Potential harm to fish during relocation from in-water isolated construction areas can be minimized by employing experienced fisheries biologists and following best practices and standard protocols for fish relocation. Relevant DFO standards and codes of practice to protect fish and fish habitat mitigation measures will be followed to reduce potential environmental effects of the Project on fish and fish habitat.

Effects on Species at Risk

Both terrestrial and aquatic SAR could be affected by construction and operation of the Project (Table 18-1).

After field surveys are completed, the list of aquatic and terrestrial SAR/ and their habitat—confirmed or possibly occurring in the LSA—will be refined, species-specific mitigation measures and permit requirements will be identified, and a management approach will be developed.

Carrying out of the Project is not anticipated to cause non-negligible adverse changes to marine plants, as defined in subsection 2(1) of the *Species at Risk Act*.

Table 18-1: Potential effects of the Project on Federal SAR and Federal SAR habitat

Species	Potential Effects
Fish: Bridle Shiner Channel Darter Cutlip Minnow Northern Brook Lamprey (Great Lakes- Upper St. Lawrence pop.) River Redhorse Silver Lamprey (Great Lakes-Upper St. Lawrence pop.)	Construction: Direct harm from construction machinery or materials that enter the water or during relocation from dewatering areas. Indirect harm from water quality changes due to pollutant spills, increased sedimentation, and scouring. Alteration/loss of spawning, rearing, and feeding habitat. Operation: Direct harm during maintenance activities. Indirect harm from water quality changes (e.g., spills of de-icing salts or other pollutants).
Freshwater Molluscs Hickorynut	Construction: Direct harm from construction machinery or materials that enter the water or during relocation from dewatering areas. Indirect harm from water quality changes due to pollutant spills, sedimentation, and scouring. Life cycle disruptions due to harm or displacement of host fish species. Operation: Direct harm during maintenance activities. Indirect harm from water quality changes (e.g., spills of de-icing salts or other pollutants) and disruptions to their host fish species.
Plants: American Ginseng Blunt-lobed Woodsia Butternut Eastern Prairie Fringed Orchid Spotted Wintergreen	Construction: Injury or destruction during vegetation removals and harm due to erosion and compaction. Indirect harm from pollutant spills. Indirect harm due to changes in microclimate (e.g., increased sun or shade). Indirect harm from invasive species introduced by construction equipment. Operation: Indirect harm from spills of de-icing salts or other pollutants.
Forest Birds: Bicknell's Thrush Canada Warbler Cerulean Warbler Eastern Whip-poor-will Eastern Wood-pewee Evening Grosbeak Golden-winged Warbler Kirtland's Warbler Louisiana Waterthrush Olive-sided Flycatcher Red-headed Woodpecker Wood Thrush	Construction: Direct harm to birds or nests during vegetation clearing, excavation, or other activities. Life cycle disruptions due to noise, vibration, light, or other disturbances. Loss of breeding, foraging, and/or migration habitat. Operation: Birds could be killed by vehicle strikes. Indirect harm from noise, vibration, lighting, or other disturbances.

Species	Potential Effects
Birds that nest on human structures: Barn Swallow Chimney Swift Common Nighthawk	Construction: Nests in/on human-made structures could be destroyed during potential demolition. Life cycle disruptions due to noise, vibration, light, or other disturbances. Operation: The new bridge could provide suitable nesting habitat for Barn Swallows and potentially other birds that nest on human-made structures; however, the nests could be damaged or destroyed by regular maintenance activities. Birds could be killed by vehicle strikes or indirectly harmed by noise, vibration, lighting, or other disturbances.
Burrow-nesting Birds: Bank Swallow	Construction: Although there is presently no nesting habitat in the corridor, stockpiles of fill or other granular materials could potentially be used as nesting sites by Bank Swallows and excavation of those piles could harm birds or nests. Life cycle disruptions due to noise, vibration, light, or other disturbances. Operation: Birds could be killed by vehicle strikes or indirectly harmed by noise, vibration, lighting, or other disturbances.
Reptiles: Blanding's Turtle Midland Painted Turtle Northern Map Turtle Snapping Turtle Eastern Milksnake	Construction: Direct harm during vegetation clearing, excavation, or other activities; may include injury to turtles moving through vegetation removal areas or turtles overwintering in ponds during excavation. Direct harm to turtles which accidentally enter staging and laydown areas. Accidental destruction of nests if turtles lay eggs in aggregate stockpiles. Destruction of nesting or overwintering habitat. Indirect harm due to noise, vibration, light, or other disturbances. Operation: Vehicle strikes causing injury or death of turtles crossing new and existing roads.
Amphibians: Western Chorus Frog (Great Lakes-St. Lawrence pop.)	Construction: Widening Montée-Paiement may require the removal of a portion of a wetland with breeding Western Chorus Frogs which would require a permit under SARA. Frogs could be directly injured or killed during construction in the wetland. Frogs could also be injured or killed if they enter work areas during construction. Construction noise could disturb frogs during the breeding season (typically late March to early May). Operation: Increased noise and light could affect reproduction. Habitat is located only on one side of Montée-Paiement in Gatineau, so the probability of vehicle strikes is low.
Mammals: Little Brown Myotis Northern Myotis Tri-coloured Bat	Construction: Bats roosting in trees could be killed or injured during vegetation removals and bats roosting in buildings could be harmed during potential demolition. Removal of large trees, especially snags with cavities or peeling bark, could reduce the number of suitable maternity roosts in the area. Indirect harm due to noise, vibration, light, or other disturbances. Operation: Traffic noise at ultrasonic frequencies (i.e., within the vocalization range of bats) could disturb bats or interfere with their echolocation. Lighting and vibration could also affect bats' ability to forage, rest, or reproduce.
Monarch	Construction: Loss of host plants (milkweed). Loss of foraging habitat. Direct harm to adults, larvae, or eggs during vegetation removals. Operation: Removal of open habitats containing milkweed could reduce the amount of foraging and breeding habitat available to Monarchs. Vehicle strikes could kill adults.

Species	Potential Effects
Skillet Clubtail	Construction: Direct harm to eggs or larvae from construction machinery or materials that enter the water. Indirect harm to eggs or larvae from water quality changes due to pollutant spills. Operation: Removal of forest habitats and aquatic habitats could reduce the amount of habitat available for adult foraging and larval development. Indirect harm to eggs or larvae from water quality changes due to spills of de-icing salts and pollutants. Vehicle strikes could kill adults.

Field surveys are being conducted to identify the presence of SAR aquatic and terrestrial habitats within the LSA. This additional information will support the design the Project to ensure that potential effects are first avoided and minimized, before mitigation measures are required. Offsetting will only be considered as a last resort to reduce negative effects from the Project.

The primary mitigation approach will be to configure the Project footprint, including construction staging and stockpiling areas, so that known aquatic and terrestrial SAR and their habitats are avoided and protected where feasible. However, if removal of SAR habitats is unavoidable, permitting requirements—potentially including offsetting—will be followed in consultation with DFO and ECCC. Options for relocating or reintroducing SAR plants removed by construction will be explored, if required and/or feasible.

Species-specific mitigation measures will be developed based on the results of ongoing field surveys.

Effects on Migratory Birds

The construction activity most likely to affect migratory birds is vegetation clearing. Demolition of buildings, if required, could also destroy migratory bird nests. There is also potential for certain migratory birds to build nests in construction areas or on equipment where they might be accidentally harmed. Indirect effects of construction could include disturbance or displacement of migratory birds due to noise, vibrations, and lighting. However, this type of disturbance is not typically regulated under the Migratory Birds Convention Act, 1994 unless it can be demonstrated that it caused abandonment of an active nest.

The new bridge could provide nesting habitat for birds which nest on human structures. Birds nesting on the bridge may be harmed by maintenance activities. Vehicle strikes could injure or kill adult or juvenile birds. Migration, foraging, reproduction, or other behaviours could be interrupted by increased noise, vibrations, and light.

Bridge designs could present unique risks to birds (e.g., a cable-stayed bridge could result in bird collisions, especially at night).

The primary mitigation approach will be to configure the Project footprint, including construction staging and stockpiling areas, so that effects to migratory birds and their habitats are avoided where feasible. Avoidance of effects through design can help reduce effects on migratory birds and their habitat, notably by following NCC Bird-Safe Design Principles (NCC, 2021) and the Convention on Migratory Species' *International Light Pollution Guidelines for Migratory Species*. (CMS, 2026)

The potential for harm to migratory birds can be reduced by conducting vegetation removal and building demolition outside of the typical bird nesting period (i.e., after August 28 and before April 8).

Federal lands

Figure 13-5 shows overlap of the study area with federal lands.

Vegetation removal could directly and indirectly affect terrestrial habitats on federal lands, with the extent of effects depending on final alignments and the overall Project footprint. Vegetation clearing for the new bridge, associated infrastructure, and construction access areas could result in localized but long-term habitat loss for terrestrial flora and fauna. This could result to the destruction of plants, potentially SAR or SoCC species. Specific affected areas and species to be confirmed during detailed design and the Impact Statement.

For Species at Risk, Species of Conservation Concern and Migratory Birds, effects on federal lands are expected to be the same as those presented previously. To avoid and mitigate potential impacts on federal lands to SAR and SoCC species, the Project will prioritize avoiding impacts by carefully designing the footprint, including construction staging and stockpiling areas, to protect known habitats where feasible. If impacts to SAR habitats cannot be avoided, required permits and potential offsetting measures will be implemented in coordination with regulatory authorities.

Part E: Potential Effects of the Project

19 Potential Effects on the Environment

This Project is to be carried out on federal lands and is a federal undertaking, as defined by the Canadian Environmental Protection Act, 1999. A broader range of non-negligible adverse effects that may be caused by the carrying out of the project may need to be considered under the IAA beyond the effects in typical areas of federal jurisdiction (i.e., fish and fish habitat, aquatic species, migratory birds, impacts on Indigenous communities). Section 19 discusses adverse effects beyond those in typical areas of federal jurisdiction.

19.1 Potential Effects on Physical Environment

Potential Effects on Air Quality

Effects of construction on air quality are expected to be short-term and small in scope since they will be localized in the construction areas and will cease once construction is complete. Effects are anticipated to be localized near roadway expansion and construction staging areas. Some of the potential effects will occur near federal lands, notably near SGENC roadway, aviation parkway and the 417 interchange.

Vehicles and equipment used to construct the Project will periodically emit carbon monoxide, ozone, fine particulate matter, and other atmospheric pollutants which could be harmful to the environment or human health. An inventory of potential atmospheric pollutants of concern could be produced during detailed design to better understand potential impacts, if required.

The Project will create a new source of airborne contaminants in the Project corridor where roads do not currently exist (i.e., traffic on the interprovincial bridge) and is predicted to cause an increase in airborne contaminant emissions along certain segments of existing roads that connect to the bridge. Predicted airborne contaminants could increase as a result of the Project, with the greatest magnitude of air quality impacts occurring at the interchanges with Highway 417 in Ottawa and Autoroute 50 in Gatineau. However, predicted airborne contaminant concentrations are anticipated to be below the thresholds specified in the Canadian Ambient Air Quality Standards (CAAQS), Ontario's Ambient Air Quality Criteria (OAAQC), and Québec Air Quality Standards (QAQS).

During construction, contractors will be required to adhere to air quality standards, including the CAAQS, National Ambient Air Quality Objectives, Ontario's Ambient Air Quality Criteria, and/or Québec's Atmospheric Quality Standards. Pollutant emissions thresholds will aim to meet the most stringent air quality standards. Pollutant emissions can be reduced by electrifying construction equipment and fleet vehicles.

Integrating active transportation and public transit infrastructure into the Project is a goal of detailed design and includes the construction of bike lanes and/or transit priority infrastructure. Providing additional opportunities for residents to use active transportation and public transit offers options that may shift the dependence on personal vehicles and contribute to a reduction in overall emissions during the operational phase of the Project.

Potential Effects on the Acoustic Environment

Residual effects of construction on the acoustic environment are expected to be relatively short term and small in scope because they will be localized in construction areas and will cease once construction is complete.

The Project will introduce traffic noise to new areas (i.e., where roads do not currently exist) and increase noise along existing roads. The introduction of traffic noise to terrestrial and aquatic habitats where roads do not currently exist could disrupt or alter wildlife behaviour as animals might avoid these areas.

Through the design of the Project, infrastructure options within the corridor will consider effects to the acoustic environment. Preference will be given to options that can avoid or provide adequate mitigation for effects to the acoustic environments.

There are currently noise barriers along some existing roads in the corridor and additional noise barriers may be incorporated into the Project to reduce the effects of traffic noise on nearby residents. Locations of noise barriers will be determined during detailed design.

Potential Effects on Geophysical Environment

Most potential effects on the geophysical environment are expected to occur during the construction of the projects. A significant portion of the project is located on federal lands and therefore potential effects to the geophysical environment is expected on federal lands. Additional studies will be required to further define these potential effects, and distinction will be made to effects on federal vs non-federal lands.

While drinking water in the LSA is provided by a municipal system, one Ottawa subdivision, Fairhaven, has wells and septic systems to service their residential needs. The subdivision may contain up to 30 houses without municipal servicing, and 12 complete well records were found in the provincial water well database. These wells were drilled through overburden (0 m to 6.7 m thick, 2.2 m on average, mainly sand) and uniformly completed in bedrock (limestone/shale) at depths ranging from 12 m to 122 m, with an average of 51 m. Static levels ranged from 1.9 m to 44 m, 10.3 on average, and water was found at depths ranging from 11 m to 119 m, 47 m on average. The closest potentially un-serviced house to the Project is approximately 250 m East of the Aviation Parkway at Montreal Road. The depth of the wells and their separation distance from the Project provides protection from hydrogeological impacts, however detailed assessment of such, along with development of mitigation measures, if necessary, will be required at later stages of design

Construction activities associated with the Project have the potential to affect the geophysical environment through direct ground disturbance and alteration of existing landforms.

Key potential effects include:

- Soil disturbance and compaction from excavation, grading, equipment movement, and temporary work areas.
- Alteration of landforms where cuts, fills, embankments, and retaining structures are required to establish bridge approaches and roadway alignments.
- Excavations will result in large volumes of non-reusable soils.
- Increased erosion and sediment mobilization on exposed soils.
- Potential for slope instability where construction occurs adjacent to sensitive slopes, escarpments, or areas with known geotechnical constraints.
- Disturbance of surficial geology and bedrock during foundation installation, pile driving, or rock excavation.
- Generation of vibration from heavy equipment and pile driving, which may affect nearby unstable soils or sensitive geological features.

- Permanent excavations will result in new exposed rock faces
- Interaction with shallow groundwater during excavation. Dewatering may be required to maintain dry working conditions, which can temporarily lower groundwater levels and lead to ground settlement, softening of fine-grained soils, or changes in pore-water pressures.
- Permanent modifications to the groundwater region are expected in permanent cut areas.
- Permanent cuts within Billings Formation bedrock have the potential to swell and degrade due to biochemical weathering processes which produces iron ochre, a gelatinous substance formed by iron-oxidizing bacteria. This outcome poses a risk, as it can clog and damage engineered drainage systems.
- The presence of a low-lying area could be impacted by permanent local groundwater lowering.
- Increased risk of instability in groundwater discharge zones.

These effects are anticipated to be localized but require careful management due to the varied geological conditions on both sides of the Ottawa river.

The design of the Project must account for potential effects on the geophysical environment, particularly by designing to avoid Acid Rock Drainage and Metal Leaching. Preference will be given to options that can avoid or provide adequate mitigation measures for effects on the geophysical environment.

These may include:

- Implement erosion and sediment control measures, such as silt fencing, sediment basins, stabilized entrances, and rapid revegetation of exposed soils.
- Stage construction activities to limit the area of exposed soil at any given time.
- Use appropriate excavation and backfilling practices to maintain soil integrity and prevent over-steepening of slopes.
- Limit excavation steepness, control equipment loading near slope crests, and use low-ground-pressure equipment in areas underlain by Champlain Sea clays.
- Implement vibration monitoring during rock excavation or pile driving to protect nearby structures and prevent fracturing of shallow shale bedrock.
- Stabilize temporary slopes using geotextiles, matting, or temporary retaining systems where required.
- Manage stockpiles to prevent erosion and sediment migration.
- Implement groundwater control measures, such as temporary dewatering systems, sump pumps, or well-point systems, ensuring that drawdown does not induce settlement or instability in adjacent areas.
- Monitor groundwater levels during excavation in areas with shallow water tables to detect unexpected changes that could affect soil strength or stability.
- Maintain and inspect embankments, retaining structures, and slopes to identify and address erosion or settlement.
- Monitor areas prone to erosion, particularly near drainage outlets or shoreline interfaces.
- Periodic inspection of piers, abutments, and approach fills should be conducted following significant seismic events to identify settlement, lateral spreading, or scour.
- Periodic inspection of drainage systems in areas of Billings Formation shale to limit the potential accumulations of iron ochre.
- Implement long-term vegetation management to maintain root structure and slope stability.
- Repair or reinforce areas showing signs of instability, settlement, or erosion over time.

Potential Effects on Hydrological Environment

The Ottawa River is the boundary between the provinces of Québec and Ontario and forms *inter-jurisdictional waters* as defined by the *Canada Water Act*. Construction activities associated with the bridge, shoreline works, and roadway improvements have the potential to cause non-negligible adverse changes to the interprovincial waters by affecting the hydrological environment through changes to water quantity, water quality, and hydrodynamic conditions.

Key potential effects include:

Water Quantity (Runoff, Flooding, Drainage)

- Increased surface runoff from vegetation clearing, soil exposure, and temporary work areas, potentially altering local drainage patterns.
- Temporary obstruction of overland flow paths due to construction staging areas, stockpiles, or equipment.
- Localized changes in flood behaviour near the shoreline where water structures may influence water levels or flow distribution.
- Reduced infiltration in compacted areas, contributing to higher peak runoff during storm events.

Water Quality

- Sediment release from exposed soils, shoreline disturbance, and in-water works, potentially increasing turbidity in the Ottawa River.
- The water intake on Kettle Island may be vulnerable to changes in raw water quality resulting from bridge construction. The placement of bridge piers, in-water works, and associated construction activities increase turbidity, sedimentation, and the redirection of suspended materials toward the intake.
- Risk of accidental spills of fuels, lubricants, or concrete wash water, which could degrade water quality if not properly contained.
- Mobilization of contaminants in disturbed soils or sediments, particularly in areas with historical industrial activity.
- Increased nutrient or particulate loading from erosion of temporary access routes or embankments.
- Runoff from bridge and roadway surfaces may carry suspended solids, hydrocarbons, metals, and de-icing materials into receiving waters.

Hydrodynamics

- Alteration of flow patterns around cofferdams, barges, or temporary piers, potentially affecting sediment transport or local scour.
- Localized changes in water velocity that may influence shoreline stability or aquatic habitat.
- Potential for increased scour around temporary structures, requiring monitoring and mitigation.
- Minor constraints on natural river processes, such as sediment deposition or ice movement, depending on pier configuration and river conditions.
- Potential for long-term scour around piers or abutments, requiring periodic inspection.

Avoidance and Mitigation Measures

Design Phase

- Design should incorporate measures that minimize hydrological impacts on the Ottawa River, including limiting in-water footprint, reducing turbidity, and maintaining natural flow patterns.
- Incorporate hydraulic modelling results into pier placement, bridge geometry, and shoreline design.
- Bridge alignment and pier placement should explicitly incorporate the Kettle Island water intake as a priority constraint to reduce potential impacts on raw water quality.
- Design stormwater management systems to control peak flows, promote infiltration where feasible, and treat runoff before discharge. Stormwater systems should be designed to avoid overloading existing urban drainage networks.
- Avoid sensitive hydrological features where possible, such as wetlands, groundwater recharge areas, or erosion-prone shorelines.
- Select pier configurations that reduce flow obstruction and reduce potential for scour.
- Integrate spill containment features into bridge deck drainage systems.
- Design erosion and sediment control measures tailored to site-specific hydrological conditions.

Construction Phase

- Implement erosion and sediment control measures, including silt curtains, sediment basins, turbidity barriers, and stabilized access points.
- Construction activities near open ditches should include measures to prevent sediment deposition, blockage, or erosion, ensuring continued drainage function.
- Use cofferdams, turbidity curtains, or isolation techniques to limit sediment release during in-water works.
- Manage stormwater on construction sites through temporary drainage controls, diversion channels, and staged grading.
- Store fuels and hazardous materials away from watercourses, with secondary containment.
- Monitor turbidity and water quality during in-water construction activities.
- Stabilize disturbed areas quickly through seeding, mulching, or temporary armoring.

Operational Phase

- Maintain stormwater management systems to support long-term performance, including sediment removal and inspection of outfalls.
- Monitor bridge piers and abutments for scour, erosion, or changes in flow patterns.
- Implement spill response protocols for incidents occurring on the bridge.
- Inspect drainage infrastructure regularly to prevent blockages or uncontrolled discharges.
- Maintain vegetation along embankments and drainage channels to support infiltration and reduce erosion.

19.2 Potential Effects on Biological Environment

Aquatic Habitat

Construction of the Project could result in the following potential impact on aquatic habitat:

- Destruction of aquatic habitat (e.g., loss underneath bridge piers, road embankments)
- Physical alteration of aquatic habitat through changes to the stream bed, bank, vegetation community, and/or flow
- Changes in aquatic habitat due to water quality changes such as changes in temperature regime, flow regime, increased sediments, or increased contaminants due to accidental releases

Operation of the Project could result in the following adverse changes to aquatic habitat:

- Physical alteration of aquatic habitat through changes to shading and due to piers and/or abutments in the water
- Disruption of aquatic habitat (e.g., increase in suspended sediments or salt concentration)
- Death of animals in waterbodies caused by accidental releases of contaminants

There is expected to be an overall net loss of aquatic habitat due to the construction of piers and/or abutments in the Ottawa River. The exact area and types of habitats affected will be determined in the detailed design phase.

Minimizing impacts to aquatic habitat will be addressed through design, including considering the number and overall size of piers in the river and assessing potential scour area at the pier locations to determine the extent of potential impacts to water quality and aquatic habitat downstream.

- Implement DFO's and provincial measures, standards, and codes of practice to protect fish and fish habitat, as these will also protect other aquatic habitat features
- Provide environmental awareness and orientation for personnel and contractors on site
- Specify construction activities for which aquatic habitat monitoring will be necessary and procedures for monitoring construction activities by a qualified person
- Install and maintain dark sky-compliant lighting which minimizes light pollution and reduces the potential for aquatic habitat disruption.
- Minimize the use of de-icing salts where feasible and consider using brines or alternative de-icing solutions.

Terrestrial Habitat

Effects of the Project on terrestrial habitats are expected to be long-term in duration since removal of vegetation will be required but localized in scope since removal will be restricted to the direct footprint of the Project.

Vegetation removal may result in the direct loss of terrestrial habitats within the LSA. Invasive species could be introduced via construction equipment, materials, and worker, and already-established invasive plants could be spread to new locations. If equipment or material removed from the site after construction is not properly cleaned, it could spread invasive plant species to locations far away from the LSA, which could result in induced effects of the Project on regional ecosystems.

Accidental spills of fuels, oils, or sediment could affect water or soil chemistry which could affect remaining vegetation adjacent to construction areas.

The primary mitigation approach will be to configure the Project footprint, including construction staging and stockpiling areas, so that known terrestrial habitats are avoided and protected where feasible.

The limits of vegetation clearing and construction staging and stockpiling areas will be clearly delineated and wildlife habitat adjacent to construction areas will be illustrated as environmental protection areas in construction drawings. Other preliminary mitigation measures to prevent impacts to terrestrial habitats include the following:

- Prohibit entry into environmental protection areas by equipment or workers in contract tender documents
- Install erosion and sediment control measures around all work areas to prevent sediment runoff into environmental protection areas
- Install orange safety fencing around environmental protection areas to prevent accidental entry by workers or equipment
- Do not store equipment and materials within critical root zones of trees in the PA; retain a qualified professional to delineate critical root zones
- Retain wildlife trees (i.e., large trees with cavities, peeling bark, or other potential habitat features) wherever possible; delineate protection zones around wildlife trees, including dead trees.
- Implement a clean equipment protocol to minimize the potential for invasive plants to be introduced or dispersed beyond the PA by construction equipment
- If invasive plants are removed, follow BMPs for those species developed by the Ontario Invasive Plant Council (OIPC 2025), if available.

Flora

Effects of the Project on flora are expected to be long-term in duration but localized in scope. Vegetation could be removed to accommodate the footprint of the new bridge and related infrastructure as well as construction access, staging, and laydown areas. This may result in the destruction of plants, potentially including SoCC and provincially listed SAR.

Use of road salt or brine for de-icing operations on the new bridge could affect plants on Kettle Island which has never been exposed to salts. No other effects on plants are expected from operation of the new bridge or related infrastructure.

The primary mitigation approach will be to configure the Project footprint in a way that minimizes the need to remove natural vegetation.

Natural vegetation outside construction areas will be illustrated as environmental protection areas in construction drawings and tender documents, and entry into these areas by contractors will be prohibited. A preliminary list of additional mitigation measures to reduce the potential effects of construction on flora includes the following:

- Prohibit entry into environmental protection areas by equipment or workers in contract tender documents
- Install erosion and sediment control measures around all work areas to prevent sediment runoff into environmental protection areas
- Install orange safety fencing around environmental protection areas to prevent accidental entry by workers or equipment

- Do not store equipment and materials within critical root zones of trees in the PA; retain a qualified professional to delineate critical root zones
- Implement a clean equipment protocol to minimize the potential for invasive plants to be introduced or dispersed beyond the PA by construction equipment
- If invasive plants are removed, follow BMPs for those species developed by OIPC (2025), if available.

A compensation plan for trees and/or other vegetation will be developed prior to construction and included in the tender documents. Opportunities to collect seeds to reintroduce certain plant species may be explored.

Fauna

Effects of the Project on wildlife are expected to be long-term in duration but localized in scope.

The construction activities most likely to affect fauna are vegetation clearing and excavation because they could directly harm animals or remove habitats used for breeding, overwintering, foraging, or other life phases. Animals sheltering in buildings could be harmed by demolition, if required. Urban wildlife could be found throughout the LSA and could be accidentally harmed if they enter work areas. Indirect effects of construction could include disturbance or displacement of birds, bats, and other wildlife due to noise and vibrations.

Wildlife could be injured or killed by vehicle strikes during operation of the new bridge and related infrastructure. Traffic noise and vibrations, and increased light could potentially disturb or displace animals. Birds not protected under the *Migratory Birds Convention Act* (e.g., raptors, most corvids) or SARA could nest on the bridge and could be harmed by maintenance activities but are unlikely to be harmed by typical operation.

Design of the bridge will take into consideration the NCC Bird-Safe Design Principles (2021) and will incorporate dark sky-compliant lighting which minimizes light pollution and reduces the potential for wildlife disruption. The prioritized approach will be to configure the Project footprint so that wildlife habitat is avoided and protected where feasible.

The limits of vegetation clearing and construction staging and stockpiling areas will be clearly delineated and wildlife habitat adjacent to construction areas will be illustrated as environmental protection areas in construction drawings. A preliminary list of additional mitigation measures to reduce the potential effects of construction on fauna includes the following:

- Prohibit entry into environmental protection areas by equipment and workers in contract tender documents
- Where appropriate, conduct vegetation clearing within established timing windows to avoid critical life phases of wildlife
- Install erosion and sediment control fencing and/or other exclusion measures to prevent wildlife from entering construction areas; consider implementing BMPs for reptile and amphibian exclusion fencing recommended by Ontario's MECP (2025)
- Regularly inspect wildlife exclusion measures and immediately close any potential entry points
- Regularly inspect construction areas, including staging and stockpiling areas, for wildlife; if animals are found, stop work in the vicinity until a qualified biologist provides direction on how to proceed.

Opportunities to mitigate wildlife road mortality by excluding animals from roads and providing safe crossings should be considered. This could include installation of permanent wildlife exclusion fencing along roads adjacent to natural areas, upsizing of existing bridges and culverts to improve wildlife access, and installation of dedicated wildlife culverts.

19.3 Potential Effects on the Social Environment

Social effects are generally anticipated to be positive and of benefit to all residents of the NCR by supporting regional growth and enhancing interprovincial mobility. A key benefit anticipated for downtown residents is the reduction in trucks using the KERWN corridor to connect from one highway to the other. Effects are expected to be mitigated through the careful design of new infrastructure that considers the specific needs of each segment.

Potential effects include:

- Increased traffic, including heavy truck traffic from construction equipment, near neighbourhoods and at intersections where new developments are planned.
- Detours and road closures may affect active mobility options or have potential conflicts with vehicular traffic.
- Increased interactions between pathway users and construction vehicles at crossing points or access roads.
- Changes to established travel patterns, creating confusion among users unfamiliar with temporary detours.
- Potential hazards associated with construction materials, excavations, uneven surfaces, or temporary barriers if not appropriately managed.
- Reduced accessibility to recreational destinations such as parks, waterfront areas, and other attractions connected by the pathway network.
- Temporarily restrict access to portions of adjacent green spaces and waterfront areas.
- Reduce opportunities for walking, cycling, jogging, birdwatching, nature appreciation, and other outdoor activities in areas closest to construction activities.
- Affect visitor access to cultural, recreational, and tourism destinations that rely on pathway connectivity.
- Users may be exposed to increased noise, vibration, dust, and visual disturbance from construction equipment and activities.
- Potential effects on adjacent communities along the corridor include traffic in residential areas due to vehicular cut-through and community connections to facilities.
- Users may be exposed to increased noise, vibration, dust, and visual disturbance from construction equipment and activities.
- Reduced network continuity, requiring users to navigate alternative routes that may be less direct or less comfortable resulting in longer travel times and reduced convenience.
- Temporary decreases in scenic quality.

Upon completion of construction, users may benefit from:

- Improved transportation infrastructure and connectivity.
- Enhanced or upgraded pathway crossings and connections, where applicable.
- Improved safety and accessibility features associated with new infrastructure.
- Long-term maintenance or restoration of disturbed pathway segments and adjacent landscapes.

Access, including pedestrian access, to community facilities may be impacted by changes to roadways and intersections, particularly for residents with reduced mobility. Community safety is a concern due to the presence of trucks along the corridor and at intersections.

Given the proximity of the Project to the Ottawa/Rockcliffe Airport, potential effects could impact the Airport and require physical changes to the runways. Alternately, the bridge and road design may result in changes to the take-off and landing operations which could have effects on adjacent communities. To meet Transport Canada regulations, the runway may need to be extended to the East to allow sufficient safety clearance between the end of the runways on the West side and the new bridge. A land transfer agreement signed in 2005 between the NCC and Canada Aviation and Space Museum is in place to support this need if it arises. Take-off procedures could also be adjusted depending on the height of the new bridge where flight paths would be directed towards the South over the communities instead of turning North over the river. This altered flight path could result in increased noise impacts to the communities, particularly Manor Park.

Avoidance and Mitigation Measures

- Design of road intersections is a mitigation strategy to address potential added traffic in neighbourhoods. The Project will seek to minimize vehicular cut-through impacts to local residents where possible.
- Mitigation measures such as safe pedestrian infrastructure, accessible transit connections, and community engagement strategies that prioritize the voices of marginalized populations will form part of the design development process.
- During the design phase, priority will be given to using existing public rights-of-way and transportation corridors to minimize potential impacts on neighbouring private properties.
- Integration of active transportation modes including safe and accessible cycling and pedestrian routes to mitigate potential changes in access to community facilities.
- Multiple connection possibilities to regional networks are under consideration, with likely segregation of active transportation modes.
- Mitigation measures aimed at addressing disproportionate impacts on vulnerable communities will be assessed.
- Appropriate avoidance and mitigation measures to alleviate potential impacts to the Ottawa/Rockcliffe Airport and the Canada Aviation and Space Museum or its operations will be explored during the initial design phase.
- During the design of the bridge and its connection to the SGEC Parkway, appropriate avoidance and mitigation measures will be considered to minimize disruptions to the Ottawa/Rockcliffe Airport operations, particularly with respect to the takeoff flight path.

Appropriate mitigation measures may include maintaining pathway access where feasible, implementing signed detours, scheduling disruptive activities to minimize conflicts with peak traffic and recreational periods, and restoring disturbed areas following construction, residual impacts on communities, active mobility pathways and access to green spaces are anticipated to be minor and short-term.

Potential Effects on Human Health

Air Quality Effects

Pollutant emissions are expected to be below thresholds of concern to human health during construction and operations (WSP 2019a, 2024c).

- Emissions from construction equipment and vehicles may release pollutants.
- Dust generation from exposed soils and stockpiles may affect respiratory health, particularly for vulnerable populations (e.g., children, seniors, individuals with asthma).
- Localized air quality degradation near construction zones could lead to temporary discomfort or health risks.
- Increased traffic volumes, especially heavy truck traffic, may elevate emissions in adjacent residential areas.

- However, the Project aims to divert trucks from downtown Ottawa, which could improve air quality in core urban areas.
- Integration of active transportation and public transit infrastructure may reduce reliance on personal vehicles, potentially lowering long-term emissions.

Avoidance and Mitigation Measures

- A Human Health Risk Assessment (HHRA) will be conducted in the Impact Statement phase once design of the Project is advanced to assess potential effects from airborne contaminants and dust and develop mitigation strategies, if required.
- Apply the most stringent air quality standards
- Electrification of construction equipment and fleet vehicles.
- Minimize idling of machinery and vehicles.
- Regular maintenance of equipment to ensure optimal performance.
- Water exposed soils and unpaved surfaces.
- Cover or stabilize stockpiles of granular materials.
- Rapid stabilization of disturbed areas using native seed mixes or erosion control mats.
- Dedicated lanes for public transit and active transportation (e.g., cycling, walking).

Noise and Vibration Effects

Effects to human health from the Project related to noise are expected to be localized and temporary in nature during construction. Construction noise in proximity to residences could affect the sleep and mental well-being of residents.

Avoidance and Mitigation Measures

Throughout the design of the Project, infrastructure options within the corridor will consider effects to the acoustic environment, including potential effects on human health related to noise and vibrations. Preference will be given to options that can avoid or provide adequate mitigation for effects to the acoustic environments.

An HHRA will be conducted in the Impact Statement phase once design of the Project is advanced to assess potential impacts and develop required noise reduction infrastructure.

- Design elements such as noise barriers and landscaping to reduce roadway noise.
- Limit noisy activities to daytime hours.
- Provide advance notice to nearby residents about high-noise activities.
- Use of noise-reducing equipment and mufflers.
- Installation of temporary noise barriers near sensitive receptors.
- Physical sound barriers along the corridor where required.
- Vegetated buffers and berms to absorb and deflect sound

Drinking Water Effects

- Increased sedimentation and turbidity from construction activities such as excavation, pile driving, shoreline disturbance and coffer dams could release sediments, and complicate the water treatment process
- Construction activities could also negatively affect water quality near the water intake, therefore having undesirable consequences on drinking water

- Alteration of hydrology and flow patterns caused by local scour near piers which can in turn affect water quality near the water intake
- Long-term runoff from the bridge surface which may include metals from vehicle wear, de-icing salts and hydrocarbons

Avoidance and Mitigation Measures

- The assessment of the bridge alignment alternatives should take into consideration the drinking water intake protection zone and the vulnerabilities associated with water quality.
- Consider the presence of the drinking water intake when determining the location of stormwater drains, the capacity of retention basins and overflow scenarios.
- Investigate design options that include the management and treatment of stormwater.
- Complete water quality assessments before, during and after construction. Continuous monitoring will be required before, during and after the works.
- Implement effective mitigation measures for and monitoring of turbidity, sedimentation, containment measures and drinking water quality thresholds.
- Develop a contingency plan for accidents or malfunctions, in collaboration with the City of Gatineau water treatment plant operators, that includes mechanisms for alerting the water treatment plant operators and/or for stopping construction work.
- Establish protocols, in collaboration with the City of Gatineau water treatment plant operators, for managing emergencies that can have an impact on drinking water quality, such as accidental spills. Response times and a system for communicating with the City of Gatineau for decisions to close the intake in the event of an emergency will be required (site-specific emergency protocol; clear federal-municipal decision chain).
- Impacts of winter abrasives on water quality

Potential Effects on Archeological Resources

Archeological resources can be impacted by construction activities such as excavations, drilling and the removal of vegetation.

Construction activities near or in-water may also have negative effects on potential underwater archeological resources.

Avoidance and Mitigation measures

Mitigation and follow-up measures to minimize the effects on archaeological resources may include the following:

- Develop a strategy that places priority on managing sites that are prone to erosion and may contain archaeological resources
- Conduct research to more accurately determine the extent of known archaeological sites
- Manage known archaeological sites in collaboration with the Algonquin people and in accordance with the Protocol for the Co-management of Archaeological Resources (2017) and the Parks Canada's Cultural Resource Management Policy (2013)
- Recognize and promote the educational value of archaeology and heritage
- Conduct an underwater archaeological survey of the riverbed within the PA

- A detailed archaeological study will be undertaken to identify all known archaeological resources and areas of pre-contact and historical archaeological potential to be avoided by Project work as well as to determine mitigation measures (e.g., rescue excavation and monitoring) for zones of archaeological sensitivity that cannot be avoided. The IPT will work with interested Indigenous communities to provide opportunities for meaningful engagement and establish processes for Indigenous communities to have representatives present and potentially participate during archaeological resource recovery programs.
- In the event that previously unidentified resources of historical, archaeological or paleontological significance are discovered within the PA, implement the NCC' Protocol for the Co-management of Archaeological Resources (2017), including the following mitigation measures to protect and manage the chance finds:
 - Immediately halt work at the location of a discovery;
 - Delineate an area around a discovery as a no-work zone;
 - Notify the IPT immediately. The IPT will then notify the appropriate Indigenous Communities and IAAC within 24 hours of a discovery and allow the Communities to monitor archaeological works, where feasible;
 - Develop mandatory training on chance finds, which includes the identification of sensitive locations within the PA and the implementation of the above measures; and deliver this training to all employees and contractors associated with the Project.

Potential Economic Effects

Economic benefits of the Project include:

- During the construction phase, capital expenditures translate to an estimated 33,514 person-years of employment, a labour income of \$2.8 billion, and a GDP contribution of \$4.4 billion. These figures are based on the aggregate of direct, indirect, and induced impacts.
- In terms of government revenue, the construction phase brings in an estimated \$260 million in taxes on production, and an additional \$162 million from taxes on products.

Several concerns were identified during the initial public engagement that apply to the construction as well as operation of the bridge and corridor. Concerns were raised regarding the need to support the efficient movement of commercial goods and to maintain access to businesses, as well as effects on property values, increases in property taxes, and the potential displacement of residents and businesses.

Avoidance and Mitigation measures

The following mitigation measures could be considered to address the identified socio-economic concerns associated with the road modification project.

- Optimize intersection designs, traffic signal timing, and turning movements to improve traffic flow.
- Implement construction staging plans that minimize disruptions to freight and delivery operations.
- Coordinate with local businesses, freight operators, and emergency services during design and construction to identify and address operational concerns.
- Maintain access to businesses throughout construction wherever feasible.
- Implement phased construction approaches to limit the duration and extent of access restrictions.
- Provide clear signage and wayfinding to direct customers, employees, and delivery vehicles to businesses.
- Maintain loading areas, parking access, and delivery routes to the greatest extent practical.
- Establish ongoing communication of upcoming construction activities and respond to concerns.

- Incorporate context-sensitive design features that complement the surrounding area.
- Implement landscaping, streetscape improvements, and aesthetic enhancements where appropriate.
- Minimize noise, vibration, and visual impacts through design refinements and mitigation measures.
- Maintain safe and convenient access to residential and commercial properties.
- Provide transparent communication regarding project benefits, timelines, and anticipated impacts.
- Clearly communicate the project funding sources.
- Refine the design to reduce property requirements wherever feasible.
- Consider alternative alignments or cross-sections that limit impacts on residences, businesses, and community facilities.
- Engage affected property owners and tenants early in the planning process.
- Provide fair compensation in accordance with applicable legislation and policies.
- Offer relocation assistance and support where displacement cannot be avoided.

Potential Effects to Federal Lands

All potential effects described above are expected to be the same on federal lands. Avoidance and mitigation measures will also be the same.

20 Potential Impacts on Physical and Cultural Heritage of Indigenous Peoples

The following section presents a preliminary summary of the perspectives and insights gathered from past engagement. Valued components (VC) and potential impacts were identified from past meetings notes and reports, including studies completed by Indigenous communities for other projects.

The information is presented to offer a starting point for discussions. Communities will be requested to validate that the information correctly captures and reflects their interests and that it applies to the context of the current Project. The IPT will also seek to understand if other VCs apply to the Eastern Bridge Project and will work with communities to develop mitigation strategies to address identified impacts.

Table 20-1 provides an overview of valued components, impacts, and early approaches to mitigating adverse effects of the Project. These VCs have been compiled from some early discussions specific to the Eastern Bridge, but also from past discussions for other projects with the potential for similar impacts on the environment.

Table 20-1: Initial assessment of impacts – Changes in the environment

Valued Component	Potential Impacts on Environment	Potential Impacts on Indigenous People	Mitigation
Ottawa River	Effects to the river, including the shorelines	Effects on access and cultural significance of the river	Avoid and minimize construction footprint during design, avoid encroaching in any areas of high cultural significance
Water Quality	Sediment transport, accidental spills, contamination of water from construction or operation	Effects to aquatic wildlife, reduction of drinking water quality	Sediment curtains, silt fencing, spill prevention measures
Drainage and Surface Water	Water level and flow changes	Access to waterways, effects to aquatic wildlife	Timing of works, using proper equipment, using exclusion zones, proper design, management of surface water drainage on the bridge
Vegetation	Removal of vegetation, emissions and dust	Effects to wildlife, effects to country foods,	Avoiding tree critical root zones, re-instatement with native species identified in consultation with Indigenous groups, design for a maximum of avoidance of vegetation removal, vegetation compensation, invite Indigenous groups to

Valued Component	Potential Impacts on Environment	Potential Impacts on Indigenous People	Mitigation
			participate in the reclamation activities
Wildlife and Wildlife Habitat, including Migratory Birds and Species at Risk	Loss/degradation of habitat, removal of vegetation, disturbance, fatalities	Additional pressures to SAR, effects to wildlife and their habitat, harvesting	Timing windows, design for avoidance, exclusion measures, follow ECCC/provincial regulatory guidance
Fish and Fish Habitat, including Species at Risk	Loss/degradation of habitat, loss of fish passage, disturbance, fatalities	Effects to fish and their habitat, additional pressures to SAR, effects on fishing	Timing windows, design for avoidance, exclusion measures, follow DFO/provincial regulatory guidance
Valued fish and mussel species (American Eel, Lake sturgeon)	Loss/degradation of habitat, loss of fish passage, disturbance, fatalities	Effects to fish and their habitat, additional pressures to SAR, effects on fishing	Timing windows, design for avoidance, exclusion measures, follow DFO/provincial regulatory guidance
Air Quality	Construction and dust emissions	Effects to country foods and human health	Human Health Risk Assessment, dust control measures
Soil contamination	Accidental spills, existing conditions	Effects to country foods and human health, effects to wildlife, leaching of contaminants into aquatic habitat	Spill prevention and response measures, contaminated soil management

21 Potential Impacts on Health or Socio-economic Conditions of Indigenous Peoples

Potential impacts on health conditions have been discussed in relation to other NCR projects that are similar to the Project in terms of scope (bridge construction and maintenance).

Concerns raised in those discussions included the following:

- Recognizing the importance of the Kichi Sibi (Ottawa River) and tributaries for sustainable living practices of community members
- Concern for the health of fish populations, movement of species, and effects on community members reliant on the fishery for food requirements
- Concern regarding sediment quality assessments and the timing of studies, as studies conducted too late could increase the risk of health impacts of Algonquin community members “if contaminants are taken up by fish species and subsequently eaten by Algonquin community members”
- Avoidance of water use of the Kichi Sibi should it be impacted, uses such as drinking, swimming and bathing
- Loss of access and travel through the Kichi Sibi
- Wider concern regarding barriers to employment, decreased participation in cultural events, increases in non-Indigenous land and resource use, disruption of community life (non-Indigenous), demands on health care facilities (non-Indigenous)

These concerns, previously raised, will be integrated with concerns heard during engagement for the Eastern Bridge and be considered in the design stage of the Project. Further, potential negative effects to human health will be evaluated following a HHRA to be completed during the Impact Statement phase.

During the engagement for the Alexandra Bridge Replacement Project, concerns for potential impacts to culturally sacred sites located in the vicinity of the Project were expressed. The concern for access to several areas will be discussed with Indigenous communities and groups during planning for construction related activities. It is expected that there will be similar concerns regarding historical and archaeological sites for the Eastern Bridge Project.

Based on studies conducted in previous phases of corridor selection, the IPT is aware of areas of pre-contract archaeological potential as shown on maps in Section 15. It is expected that following advancements in the design of the Project, potentially impacted areas would be investigated and evaluated to ensure no archaeological resources are damaged or lost.

To provide economic participation support to Indigenous communities, PSPC have developed tools including the following:

- **Directive on the Management of Procurement**—Ensures increased participation in contracting by mandating a minimum target of 5% of the total value of contracts is awarded to Indigenous businesses annually
- **Capacity building**—Addressing long-term, lasting, meaningful and sustainable participation/inclusion to Indigenous communities, Peoples and businesses.
- **Careers**—Leveraging the human resource capabilities of PSPC and NCC to hire and train Indigenous people

- **Indigenous Participation Plans**
- **Collaboration Agreements**—Support for community participation, meetings, outreach and correspondence related to the Project

Contracting for the Eastern Bridge Project will require bidders to submit Indigenous Participation Plans (IPP) for meaningful sub-contracting, employment, skills development and opportunities for capacity building, for Indigenous Businesses and Peoples throughout the duration of the Project.

In alignment with the Government of Canada commitment to reconciliation and meaningful engagement, the purpose of the IPP is to establish a clear framework to advance Indigenous participation, capacity building, and business planning throughout the duration of the Project.

The IPT will engage with Indigenous communities and groups specifically on the Eastern Bridge Project to better understand how they will want to be involved in economic activities related to the Project.

22 Greenhouse Gas Emissions

The Project will align with the following objectives of the GGS (Treasury Board, 2025): low-carbon New Construction, Implement Buy Clean: Low Carbon Construction, Reduce Water Consumption and Reduce Waste Amount.

Construction activities are anticipated to:

- Release GHG into the atmosphere from fossil fuels used to power heavy equipment and vehicles.
- Have acquired energy GHG emissions from electricity used for heating, cooling, and to power equipment and/or vehicles.
- Result in a one-time loss and ongoing loss of CO₂e elimination due to land use change requiring removal of vegetation to construct the Project

WSP (2024d) estimated the following annual CO₂e emissions from fuel combustion and purchased electricity for construction equipment during construction for two scenarios (fleet of all diesel vehicles and fleet of electric vehicles) (Table 22-1: Construction Vehicle & Equipment Emissions (tonnes CO₂e/ 5 years).

Table 22-1: Construction Vehicle & Equipment Emissions (tonnes CO₂e/ 5 years)

Emissions Source	Scenario 1	Scenario 2
Direct emissions (Construction fleet mobile fuel consumption) + Acquired Emissions (Electric Vehicle fleet, if applicable)	25,141	23,631

Land-use changes, such as removing vegetation, include both the one-time release of carbon when the land is cleared and the ongoing loss of carbon elimination that plants would have absorbed each year.

For the assessment, WSP (2024) calculated emissions based on the area of different vegetation communities expected to be removed to construct the Project (Table 22-2). This assessment used a river crossing alignment similar to the East alignment (see Figure 12-1) across Kettle Island.

Table 22-2: Estimated removal by land use type (WSP 2024d)

Land Use Type	Removal Area (ha)	Percentage
Cropland/Pastureland	8.18	39.5
Forest	10.30	49.8
Wetland	0.00	0.0
Sub-Total Natural Areas	18.48	89.3
Other (residential and industrial)	2.22	10.7
TOTAL	20.70	100.00

WSP (2024d) estimated that the total CO₂e emissions from one-time removal of living vegetation for the Project, using the same removal areas shown in Table 22-2, will be 3,884 tonnes, assumed to occur in year 1 of Project construction. Beyond this, WSP (2024d) estimated that the total CO₂e emissions from carbon sink loss is 35 tonnes/year, or 175 tonnes over a 5-year construction period.

While the intention of the Project is to relieve pressure on existing bridges and to assist in redistributing traffic flow across the Ottawa River during operations, the Project is nonetheless anticipated to:

Release direct emissions from mobile fuel consumption by new or redistributed vehicle traffic (i.e. corridor users), inspection, maintenance, and repair vehicles and related activities.

- Release direct emissions from mobile fuel consumption by new or redistributed vehicle traffic (i.e. corridor users), inspection, maintenance, and repair vehicles and related activities.
- Experience the ongoing loss of CO₂e elimination (i.e. carbon sink loss) due to removal of vegetation to construct the Project
- Generate acquired emissions due to purchased electricity

Direct emissions for the project have been estimated where possible with mobile combustion for corridor users and land use change. Acquired energy and mobile combustion for O&M still need to be estimated (Table 22-3).

Table 22-3: Estimated Operation Emissions (tonnes CO₂e)

Emissions Source	Estimated CO ₂ e Emissions (tonnes)
Direct Emissions	
Mobile Combustion: O&M on-site activities	TBD
Mobile Combustion: Corridor Users	12,580,061
Land Use Change (Annual Carbon Sink Loss)	4,375
Acquired Energy Emissions	
Purchased Electricity	TBD
TOTAL	12,584,436+TBD

It should be acknowledged that the majority of these predicted emissions during operations are from vehicles that will be operating with or without the Project and therefore this estimate represents an over-estimation of the GHG emissions that would be attributable to the Project. However, for the purposes of this preliminary estimate, we have conservatively included the emissions above.

No decommissioning is anticipated. However, if so, GHG emission estimates are assumed to be no greater than the direct mobile fuel emissions associated with construction equipment in Scenario 1, which amount to 25,141 tonnes CO₂e.

The initial estimate of net GHG emissions associated with the Project lifecycle is summarized in the Table 22-4 below.

Table 22-4: Life Cycle Emissions Associated with the Project

Emissions Source	CO ₂ e Emissions (tonnes)	
	Scenario 1	Scenario 2
Direct GHG Emissions		
Construction	29,200	27,690
Operations	12,584,436+TBD*	12,584,436+TBD*
Decommissioning	25,141	25,141
Acquired Energy GHG Emissions		
Construction	0	Included above
Operations	TBD*	TBD*
Decommissioning	0	0
TOTAL	12,638,777 + TBD*	12,637,267 + TBD*

The following mitigation measures, to be further detailed in the Impact Assessment, could be implemented, if feasible, to reduce GHG emissions from construction, operation, and decommissioning of the Project:

- Minimize the footprint of new construction in terrestrial and aquatic habitats to reduce GHGs from land clearing
- Plan detour routes during construction to minimize traffic delays and vehicle idling
- Keep vehicles and equipment in good working order to reduce fuel consumption
- Use electric vehicles during the construction and operation activities
- Use materials with low life-cycle carbon impact to the extent possible
- Integrate active transportation and public transit into the Project design
- Divert >90% of construction waste from landfills
- Reduce energy consumption during construction, operation and decommissioning phases
- Use energy efficient lighting and consider using solar powered lighting where feasible
- Procure concrete to have an embodied carbon reduction by at least 10% compared to a baseline defined per Standard on Embodied Carbon in Construction.
- Procure structural steel to lower embodied carbon compared to baselines defined per the National Tiered GHG Limits
- Reduce material quantities into the design to reduce their embodied carbon, especially for asphalt for example
- Use of for low-carbon construction methods
- Recycling materials, re-use of materials, and use material with recycled content to the extent possible
- Reduce water consumption during construction, operation and decommissioning phases

Estimates of upstream GHG emissions associated with production of materials and fuels used for their transportation on site have not been completed at this time. Per the SACC, this information is typically required for projects expected to exceed 500 kt CO₂e/year, a threshold this Project is not expected to approach.

The GHG estimate during the construction phase performed in WSP (2024d) uses default parameters as per the Tier 1 method as per the Draft Technical Guide for the SACC (Government of Canada 2021b), which are subject to uncertainty. In cases where multiple values were presented, the average was taken. These results should be considered as high-level screening values with this uncertainty in mind.

23 Waste and Emissions

Construction and operation of the Project are expected to generate various emissions, discharges, and wastes. Waste management will align with the objectives of the GGS:

- Diverting at least 90% by weight of all construction and demolition waste from landfills. By 2030, departments will strive to achieve a diversion rate of 100%
- Diverting at least 75% by weight of non-hazardous operational waste from landfills by 2030
- Diverting at least 75% by weight of plastic waste from landfills by 2030
- Tracking and disclosing waste diversion
- Minimizing environmentally harmful and hazardous chemicals and materials used and disposed of in real property operations

Table 23-1 summarizes the types of waste expected to be produced and the handling, storage, and disposal measures that will be implemented.

Table 23-1: Wastes expected to be produced by the Project and appropriate handling, storage, and disposal measures

Waste Type	Measures
Waste materials generated during construction	• Sorting, transportation, documentation, and disposal in accordance with federal and provincial legislation • Implementation of a waste management plan • Goal of >90% diversion rate in accordance with PSPC best practices • Disposal will be conducted by licensed companies at licensed facilities • Designated Substances Assessment may be required; will be determined at the detailed design stage
Liquid discharges	• Implementation of management plans for petrochemical storage and handling and spill prevention and response • Safe handling and storage requirements for contractors using hazardous substances • Hazardous waste will be managed in compliance with relevant federal and provincial legislation
Air emissions during construction	• Implementation of best practices (e.g., minimizing equipment idling, using electric equipment where practical) • Implementation of a dust management plan and application of surface treatments for dust control
Air emissions during operation	• Incorporate active transportation infrastructure into the Project and explore opportunities for public transit improvements to encourage travelers to use alternative modes of transportation and offset emissions

Waste Type	Measures
Surface water drainage during operation	Stormwater management features will be planned during the detailed design stage
Accidental spills during construction	- Implementation of a spill prevention and response management plan - Maintain spill kits at easily accessible locations at the site - Establish procedures for safe containment, cleanup and reporting; identify personnel/parties responsible
Sediment	- Implement an erosion and sediment control plan - Install, maintain, and regularly inspect erosion and sediment control measures during construction

Non-hazardous Solid Waste

The Project will be required to implement Construction, Renovation and Demolition (CRD) waste management practices in accordance with PSPC's Departmental Sustainable Development Strategy: 2023 to 2027 (PSPC, 2024) and the GGS). The goal of CRD practices is to achieve a waste diversion rate of over 90% and decrease the Project's waste intensity (tonnes/m²) by 5%. The CRD practices do not apply to hazardous wastes.

A CRD non-hazardous solid waste management program will generally consist of the items detailed below.

Prior to Construction

- Perform a waste audit to determine the types and volumes of construction materials that will be produced as surplus to the Project. Explore preliminary options and diversion potentials for waste reduction, reuse, and recycling.
- Develop a Waste Reduction Work Plan, including
 - Identification of overall waste diversion goals and material-specific targets
 - Descriptions of Project-specific procedures to maximize recovery of materials identified in the waste audit
 - Details of the Material Source Separation Program to be implemented during construction, including on-site sorting and labelling practices, tracking and reporting procedures, and destinations for the materials recovered.

During Construction and Post-construction

- Establish Waste Reduction Work Plan training and orientation procedures for personnel on site.
- When construction is complete, prepare a Waste Diversion Report to document conformity with the Waste Audit and Waste Reduction Work Plan; the report should document the quantities and destinations of materials diverted and the overall diversion rate.

Hazardous Waste

Hazardous waste is defined by provincial regulations including O.Reg. 347 under Ontario's *Environmental Protection Act* and the Land Protection and Rehabilitation Regulation Q-2 under Québec's *Environment Quality Act*. Any

hazardous waste generated or discovered during construction will be required to be managed in compliance with applicable legislation. Transportation of hazardous waste deemed to be a dangerous good in accordance with the federal *Transportation of Dangerous Goods Act, 1992* must comply with the Act and regulations.

All hazardous waste will be identified, labeled, and properly stored respecting the National Fire Code, occupational health and safety regulations, and/or other best practices as described in applicable legislation. Construction vehicles and equipment will be maintained in good working order to prevent leaks of fuels, oils, or other hazardous substances.

24 Environmental Protection

Environmental management and protection plans will detail best practices, mitigation measures, and permitting requirements for construction and operation of the Project, and will outline the responsibilities of the proponent, contractors, and others for implementing those measures. Table 24-1 provides preliminary descriptions of the types of management plans expected to be prepared for the Project.

Table 24-1: Preliminary summary of management plans to be prepared for construction and operation of the Project

Management Plan	Phase(s)	Contents
Accident and Malfunction Prevention and Response	Construction	Detailed response plans for accidents or malfunctions during construction.
Air Quality and Greenhouse Gases	Construction	Detail of mitigation measures for air quality and greenhouse gases.
Blasting (if applicable)	Construction	Detail of mitigation measures and requirements to reduce noise and vibrations from blasting.
Heritage Conservation and Mitigation Plan	Construction	Outline of procedures for identifying, reporting, and protecting archaeological, cultural and heritage resources.
Erosion and Sediment Control	Construction	Detail of erosion and sediment control measures to be implemented and maintained throughout construction.
Fish and Fish Habitat Protection and Offsetting Plan	Construction	Detail of regulatory requirements and mitigation measures to protect fish and fish habitat
Navigation Management	Construction Operation	Detail of measures to ensure the Ottawa River remains navigable to watercraft and to ensure conformity with the <i>Canadian Navigable Waters Act</i> .
Noise Management	Construction	Detail of mitigation measures to be implemented during construction to reduce excess noise
Site Restoration	Construction	Detail of post-construction restoration plans for the site
Spill Prevention and Response	Construction Operation	Detail of procedures for prevention and response to pollutant spills
Soil and Groundwater Management	Construction	Detail of procedures for removal, storage, and disposal of soils
Surface Water and Stormwater	Construction	Detail of measures for protecting water quality and preventing run-off of deleterious substances into water
Tree Protection and Compensation Plan	Construction	Outlines measures to protect trees and how the removal of trees will be compensated
Traffic	Construction Operation	Outline of safe operating procedures for construction vehicles and equipment, including requirements to maintain equipment in good working order. Details of traffic management during construction, including detour routes, signage, and locations of traffic protection (e.g., barriers, pylons). Details of speed limits and signage. Maps of detour routes.
Vegetation	Construction	Detail of plans and measures to protect and restore natural vegetation:

Management Plan	Phase(s)	Contents
Invasive Species Management	Construction	Clean equipment protocols to prevent the spread of invasive species Invasive species management procedures
Waste Management	Construction	Outline of procedures for collection and disposal of waste material during construction.
Wildlife Management	Construction Operation	Detail of mitigation measures to prevent harm to wildlife, including SAR.

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