



Government
of Canada

Gouvernement
du Canada

PROJECT BRIEF

New **bridge** for the St. Lawrence corridor project



1 Introduction

On behalf of the Government of Canada, The Jacques Cartier and Champlain Bridges Incorporated (JCCBI) operates the Champlain Bridge corridor in Montréal and Brossard in Québec, Canada. The corridor includes the Champlain Bridge, Île des Soeurs Bridge, Clément Bridge and federal portions of Autoroutes 10, 15 and 20.

This document presents an introductory summary of existing and in-development infrastructure in the existing corridor, and outlines the principal stakeholders of the proposed New Bridge for the St. Lawrence (NBSL) Corridor Project. This document is provided for information purposes only.

2 Adjacent infrastructure and project constraints



▪ The Champlain Bridge

The Champlain Bridge opened in 1962 and is one of the busiest vehicular bridges in Canada. Approximately ten per cent of its crossings are made by trucks. The Champlain Bridge is approximately 3.4 km long, extending from Île des Soeurs in Montréal to Brossard on the South Shore. It has six lanes of traffic separated by a concrete barrier median. The Champlain Bridge consists of relatively short spans across the St. Lawrence River, formed from pre-stressed concrete beams that support a pre-stressed concrete deck, and a steel cantilever structure supporting a steel deck over only the navigation channel of the St. Lawrence Seaway. The Champlain Bridge is operated by JCCBI.

▪ The St. Lawrence River

The St. Lawrence River is a major freshwater river connecting the Great Lakes to the Atlantic Ocean. In the project area, the St. Lawrence River is used by pleasure craft and fishing boats



but it is not generally used by commercial vessels; commercial ships use the St. Lawrence Seaway. The river and river banks are the habitat for various species and include several fish spawning grounds. Although the river current is fast-flowing, extensive ice sheets and ice floes can form in the river during the winter.

- **The St. Lawrence Seaway**

The St. Lawrence Seaway is a series of locks and deep waterways between Montréal and Lake Erie that enables approximately 4,000 ocean-going cargo ships and/or large recreational vessels annually to navigate between the Great Lakes and the Atlantic Ocean. Within Canada, the St. Lawrence Seaway is operated and managed by the St. Lawrence Seaway Management Corporation (SLSMC). The eastern flank of the Seaway is the river bank at the South Shore at Brossard. The western flank of the Seaway is a man-made embankment or dyke, with a low-permeability central core, which was constructed during the late 1950s. An island within the Seaway, Île de la Couvée, is a bird sanctuary. The season of active navigation in the St. Lawrence Seaway typically extends from late March to late December. Between those dates, winter icing of the Seaway generally prevents navigation by shipping.

- **Île des Soeurs Causeway Bridge**

Because of the condition of the Île des Soeurs Bridge, JCCBI is currently constructing a causeway bridge between Île des Soeurs and the Island of Montréal. The causeway bridge will bypass the existing Île des Soeurs Bridge, and is part of preparatory works to support and facilitate the proposed New Bridge for the St. Lawrence Corridor Project. Construction of the causeway bridge started in October, 2013 and it is expected that the causeway bridge will open to the public in 2015, prior to the selection of a Private Partner for the NBSL Corridor Project. The location of the causeway bridge is shown in the following illustration.



The causeway bridge will have three lanes in each direction and a lane reserved for transit, as well as shoulders and a multiple-use lane for pedestrians and cyclists. The causeway bridge and its associated access roads will be in operation while the existing Île des Soeurs Bridge is demolished and replaced with a new, permanent bridge as part of the Project.

In addition, two replacement overpass structures are currently in development by JCCBI and a third is already complete. Specifically, the existing structures at Overpass N and the Main Overpass are to be replaced with new structures, and Overpass V has already been replaced. The overpass replacement works are anticipated to be completed in 2015.



▪ **The Estacade**

An ice control structure, the Estacade, was built across the St. Lawrence River during the mid-1960s to help protect the manmade islands that were developed for the 1967 International and Universal Exposition (Expo 67) in Montréal. The Estacade is used as a pedestrian walkway and bicycle path. The Estacade is owned and maintained by JCCBI.

▪ **Reclaimed Land**

On the Island of Montréal, the western abutment of the Île des Soeurs Bridge and the northern abutment of Clément Bridge are both built on land that was reclaimed from the St. Lawrence River. In the 1850s, the original shoreline of the river was irregular, but it broadly lay between the present-day Le Ber Park and Marc Cantin Street. The land reclamation, which started in the 1850s, was mainly achieved through the dumping of domestic and industrial waste. The landfilled area extends approximately 2 km by 0.5 km. Prior studies of the landfill area indicate that the landfill material is typically 4m to 12m thick, and that it



contains hydrocarbons and other contaminants. A project is in development by JCCBI to construct a hydraulic barrier at the landfill site in order to help limit the possible transportation via groundwater leachate of contaminants from the landfill material. Construction of the barrier is expected to start on site in mid-2015.

▪ **Cultural Heritage Sites**

In the northeastern part of Île des Soeurs, two sites of recognized cultural heritage value are located immediately to the north of the Champlain Bridge, alongside the St. Lawrence River. The older of the two sites is of prehistoric origin and is approximately 4,000 years old. Finds of pottery shards and stone tools have been made at the site. Evidence has also been found of burials at the site. The second site is the Le Ber archaeological site, which comprises the in-situ buried remains of stone foundation walls and artifacts associated with the mid-seventeenth century manor farm of Jacques Le Ber. The remains are well-preserved and extensive, and include the foundation walls of the main house, stables and a bake house.

▪ **Canal de l'Aqueduc and Atwater treatment plant**

The Canal de l'Aqueduc is an 8-km long freshwater intake channel extending from the St. Lawrence River at LaSalle to the Atwater treatment plant. The Atwater treatment plant is close to the Atwater Interchange and its associated access ramps. The Canal de l'Aqueduc is operated by the City of Montréal. The Canal de l'Aqueduc is an important part of the potable water supply serving the city of Montréal and strict limitations apply on possible spillages or pollution affecting this resource.

▪ **The St. Pierre Collector**

The St. Pierre Collector is critical infrastructure for the drainage of a major part of the Island of Montréal. It is owned and operated by the City of Montréal. Its catchment area extends over approximately 5,400 hectares, making it one of the largest in North America. The St. Pierre Collector drain is a twin-tunnel combined sewer which was constructed in phases starting in the 1930s. It mainly follows the course of the former St. Pierre River, which had previously been used for sewage disposal. The twin tunnels sit side by side and are horseshoe-shaped, with an arched cross-section and a flat base. The width of each tunnel is approximately 4.5 m to 5 m. The crown elevations of the tunnels vary, but are generally approximately 3 m to 6 m below ground level. The phased development of the St. Pierre Collector is reflected in the construction materials used: parts were built by tunneling and unreinforced concrete support; parts were built in open-trenches using reinforced concrete support; and parts were constructed of masonry.



▪ **Snow chutes at the St. Pierre Collector**

Two sets of snow chutes, the Verdun snow chute and the Butler snow chutes, are located immediately above the St. Pierre Collector tunnels within the project area. The snow chutes are vertical shafts connecting from ground level to the tunnel crowns. During periods of heavy snow fall, trucks operated on behalf of the Ville de Montréal deliver snow collected from roadways for disposal into the chutes. When not in use, the chutes are sealed with hinged steel covers. The chutes are owned and operated by the City of Montréal under an agreement with JCCBI.

▪ **CN Railway**

Tracks of the CN Railway (Canadian National Railway Company) run alongside the northern boundary of the project area within the Island of Montréal, from the Atwater Interchange past Interchange S/T to the Bonaventure Expressway.

▪ **Metro Tunnel**

Part of Montréal's metro (underground transit system) passes underneath Autoroutes 15 and 20 between Atwater Avenue and Wellington Street. This section of the metro, which is between the LaSalle and Charlevoix stations on the Green Line, was constructed in the 1970s in a tunnel excavated in the Utica Shale that underlies that area. The metro is operated by the Société de transport de Montréal (STM).

▪ **Utilities**

High-voltage electricity pylons, overhead lines and buried cables operated by Hydro-Québec (HQ) run alongside and cross over parts of the NBSL Corridor Project area, both in Verdun in the western part of the project area, and at the South Shore near Brossard. A Hydro-Québec electrical substation is located close to the Atwater Interchange.

As well as the electrical power utilities, the project area includes other third-party buried and overhead utilities typical of a long-established urbanized area, including telecommunications, fiber optic lines, gas, potable water, foul water, drainage, street lighting and traffic signals.

▪ **The Turcot Interchange project (located off image, to the west)**

The Turcot project is immediately adjacent to and contiguous with the western end of the proposed project area. It is a provincial project under the direction of the MTQ. The main on-site works for the Turcot project are scheduled to start in 2015 and are expected to continue into 2020.



3 Related Parties

The NBSL Corridor Project will have an impact on many stakeholders. The principal NBSL Corridor Project stakeholders are described below. The Government of Canada is actively engaged in discussion with all of these stakeholders.

3.1 Ministère des Transports du Québec (MTQ)

The MTQ is a Québec government ministry responsible for planning, designing and carrying out construction, improvement, repair, maintenance and operating activities on the road network and other transportation infrastructures under its responsibility.

The MTQ is the project sponsor for the Turcot Interchange project and the owner and operator of most of the highway network in Montréal, including all related traffic information system operations. Accordingly, development of the NBSL Corridor Project and its construction must be well coordinated with the MTQ's operations and construction projects, in particular its Turcot Interchange project.

3.2 Agence Métropolitaine de Transport (AMT)

The AMT is an agency of the Québec government. The AMT plans, integrates, and coordinates public transportation services across the Greater Montréal Area. AMT also operates the commuter train network in the Montréal region.

The AMT operates a reserved bus lane during peak periods on the Champlain Bridge. This bus lane must be kept operational during construction of the new bridge.

The AMT is responsible for the planning, construction and connection of a proposed light-rail type transit solution that will eventually occupy the dedicated transit lanes across the NBSL Corridor. AMT has formed a project office responsible for the planning and integration of this transit project; this project office will liaise on AMT's requirements as the NBSL Corridor Project develops.

3.3 The St. Lawrence Seaway Management Corporation (SLSMC)

The St. Lawrence Seaway Management Corporation is a not-for-profit corporation responsible for the safe and efficient movement of marine traffic through the Canadian Seaway facilities, including the South Shore Canal through Montréal. Accordingly, development of the NBSL Corridor Project and its construction must be well coordinated with the SLSMC's operations, in particular its South Shore Canal navigation channel.

3.4 City of Montréal

The NBSL Corridor Project, in particular Autoroute 15, runs through busy urban areas of the City of Montréal, namely the boroughs of Sud-Ouest and Verdun including Île des Soeurs,



and connects or passes over several streets belonging to the City of Montréal. The City of Montreal owns various municipal systems and underground utilities that traverse or are close to the corridor. The City also owns lands, parks and bicycle paths adjacent to or connecting with parts of the federal infrastructure. The City of Montreal owns and operates the section of the Bonaventure Expressway between the Lachine Canal and University Street in downtown Montréal.

3.5 City of Brossard

The project connects to the South Shore at the City of Brossard and will need to integrate within the local environment and ensure adequate connections with the provincial portion of Autoroute 10 as well as Route 132. The proposed NBSL Corridor project will preserve and enhance the important highway and transit connections to and from Brossard and destinations across the St. Lawrence River as well as providing connections to existing paths for pedestrians and cyclists.

3.6 Réseau de Transport de Longueuil (RTL) / City of Longueuil

The Réseau de Transport de Longueuil (RTL) operates 28 bus routes that use the existing transit lane on the Champlain Bridge. The Champlain Bridge corridor is a key component of the economic development of the cities of Montréal, Brossard and Longueuil and is a vital link for their residents. The proposed dedicated transit lanes in the NBSL Corridor project will continue that important link.

3.7 Hydro-Québec (HQ)

HQ is the Québec government-owned public electricity utility. HQ owns a number of transmission lines and pylons in proximity of the Project area. Some of these power lines and pylons will need to be relocated; this work is exclusively to be carried out by HQ.

3.8 The Public

The NBSL Corridor Project is being undertaken to serve the transportation needs of residents and businesses of the Greater Montréal Region and will serve as an important component in the trans-Canada highway system. Many citizens are also keenly interested in the NBSL Corridor Project's impact on nearby residents, on the environment and on the Montréal cityscape. Many of these citizens have shared their views with Canada during the 'open house' public consultations held in December 2012 and April 2013 as part of the Project's environmental assessment.

