



# Contrecoeur Maritime Terminal Expansion Project

**SUMMARY – DESCRIPTION OF A DESIGNATED PROJECT UNDER  
THE CANADIAN ENVIRONMENTAL ASSESSMENT ACT, 2012**

*Submitted to the Canadian  
Environmental Assessment Agency  
November 2015*

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## SUMMARY

**Prepared for:**  
Canadian Environmental  
Assessment Agency

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November 2015

## PREFACE

This document, prepared by the Montreal Port Authority (MPA), summarizes the Contrecoeur maritime terminal expansion project description and meets the requirements of the federal environmental assessment process for "designated projects" within the meaning of the *Regulations Designating Physical Activities* (SOR/2012-147) under the *Canadian Environmental Assessment Act* (CEAA, 2012).

Readers may consult the project description for further details and for bibliographical references concerning the technical documents used.



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# **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

## **CHAPTER 1 – GENERAL INFORMATION AND PROPONENT CONTACT**

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### **1 GENERAL INFORMATION AND PROPONENT CONTACT**

#### **1.1 NATURE AND LOCATION**

Between 1988 and 1992, as part of its development strategy, the Montreal Port Authority (MPA) purchased a total of 468 hectares of land and a dry bulk terminal in Contrecoeur, approximately 40 kilometers (km) downstream from Montreal on the south shore of the St. Lawrence River (Figure 1.1). The existing facilities, located primarily in the eastern portion of the property, include a quay for receiving and handling dry bulk (mostly iron ore, iron ore concentrates and fertilizer) mainly used by industry and the local market.

The purpose of MPA's project is to construct a container terminal with a yearly capacity of 1.15 million twenty-foot equivalent unit (TEU) in the western section of its land holdings. This initial phase is part of a long-term vision aimed at developing the Port of Montreal's services in Contrecoeur and ensuring the capacity required to meet the demand anticipated by 2021. Container transfer and handling facilities could therefore be expanded at the appropriate time, based on market growth. Subsequent phases of expansion are planned to achieve the container terminal's maximum capacity of 3.5 million TEU yearly. They will be detailed in separate project descriptions in accordance with the applicable regulations.

The MPA performed the preliminary engineering for the Contrecoeur terminal expansion project and its sub-components, including:

- A two-berth quay;
- A container handling area;
- An intermodal rail yard and a railway yard;
- Auxiliary facilities;
- Rail and road access ways.

Section 2 describes the project components and preliminary plans. The detailed design will be finalized once permits and authorizations have been obtained from the appropriate authorities and after a formal business agreement has been reached with a business partner in charge of operating the new facilities. An overview of the Contrecoeur maritime terminal design configuration is shown in Figure 1.2.

The central geographical coordinates of existing facilities in Contrecoeur are 45° 49' 39.021" N 73° 16' 45.277" W while they are 45° 48' 58.881" N 73° 18' 1.980" W for the proposed facilities.

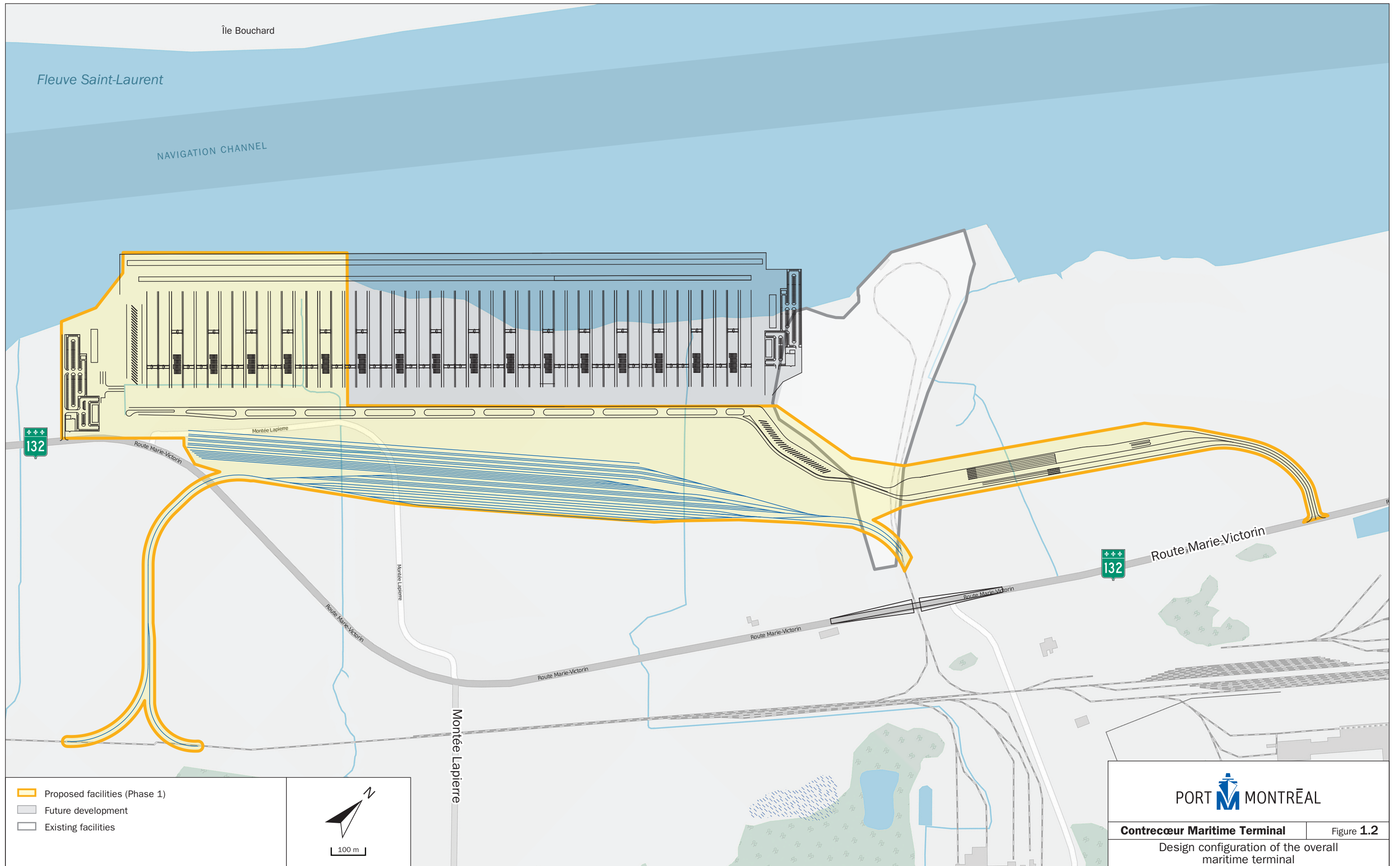




- Proposed facilities
- Existing facilities
- MPA's property
- Navigation Channel
- CN railway track (South Shore)
- Municipal boundaries (Verchères and Contrecœur)



**Contrecœur Maritime Terminal** | Figure 1.1  
General location



	
<b>Contrecoeur Maritime Terminal</b>	<b>Figure 1.2</b>
Design configuration of the overall maritime terminal	

## 1.2 PORT OF MONTREAL OVERVIEW

Organized shipping activities began at the Port of Montreal in 1830 with the creation of the Harbour Commission. Today, the Port receives approximately 2,000 ships annually, making it the leading container port in Quebec and one of the main ports on the North American eastern seaboard. Its strategic location 1,600 km inland represents the shortest sea route between northern Europe and the Mediterranean and the markets of central Canada and the US Midwest.

The Port of Montreal is operated by the MPA, an independent federal agency created in 1999 under the *Canada Marine Act*. The specific purpose of the Act is to foster an environment that will enable Canadian ports' contribution to the competitiveness, growth and prosperity of Canada's economy, and ensuring that shipping services meet the needs of users at a reasonable cost.

Over 80% of overseas goods imported into Quebec transit through the facilities of the Port of Montreal, which has remained open to commercial shipping 365 days a year since 1964. Annually, Port of Montreal-related activities generate \$2.1 billion for the Canadian economy, and create over 16,000 jobs.

The MPA has extensive facilities on Montreal Island along the shores of the St. Lawrence River covering 635 hectares (ha) and 26 km between the Victoria Bridge and Pointe-aux-Trembles. Table 1.1 shows the tonnage of commodities that transited through the Port of Montreal (Montreal and Contrecoeur facilities) in 2014.

**Table 1.1 Tonnage of Commodities Transiting through the Port of Montreal in 2014 (in millions of tonnes)**

Sector	Container Goods	Liquid Bulk	Dry Bulk
Montreal	12.6 MT	9.2 MT	5.9 MT
Contrecoeur	0	0	2.7 MT
<b>TOTAL (30.4 MT)</b>	<b>12.6 MT</b>	<b>9.2 MT</b>	<b>8.6 MT</b>

The Port of Montreal's intermodal hub, known as the *Montreal Model*, is custom-tailored for container shipping and has become an international benchmark. This management system is based on its effectiveness in optimizing the flow of goods from ships to the port's entry and departure points. The cornerstone of this model is the Port of Montreal's rail network, operated by the MPA for more than 100 years, covering 12 kilometers and including over 100 km of rail track running the length of its quays and terminals. These tracks are linked to Canadian National (CN) and Canadian Pacific (CP) yards, which service Eastern and Western Canada as well as the Northern and Southern U.S. This vital position provides the Port's clients with access to a market of 40 million consumers within a day's travel by truck, and an additional 70 million consumers within less than two days' travel by train.



## Contrecœur Facilities

Considering the sustained growth in container traffic, efforts to optimize its activities on Montreal Island since the 1960s enabled the Port of Montreal to increase its container handling activities while maintaining its edge in the face of growing competition, especially from ports on the US eastern seaboard. However, it soon became apparent in the mid-1970s that the Port of Montreal's facilities could only meet short- and medium-term needs, and that a longer-term development strategy was necessary to keep pace with the container market's growth.

Consequently, studies were performed in the 1970s and 1980s to identify sites suitable for the expansion of Port of Montreal activities. Based on geotechnical, technical, operational and environmental requirements, the Contrecœur site offered the best expansion opportunities for the MPA. Following these studies recommendations, the Port of Montreal purchased land in Contrecœur between 1988 and 1992. This property consists of a land reserve of 468 ha, including 4 km of shoreline and a maritime terminal that was already active since the mid-1950s. This significant acquisition essentially doubled the area of the Port of Montreal's facilities.

Given its proximity to a railway yard as well as a major highway (Highway 30), the Contrecœur property is strategically located to accommodate a container handling terminal. Many sites along this corridor are also ideal for logistics and distribution industry development. These activities go hand in hand with maritime terminal activity, and are mutually beneficial.

In addition, the Contrecœur site has sufficient area and an acceptable layout for modern terminal operations, and has the flexibility to accommodate further expansion needs over the long term.

### **1.3 PROPONENT CONTACT**

Proponent: Montreal Port Authority (MPA)

The MPA's President and Chief Executive Officer is Sylvie Vachon:

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## 1.4 REGIONAL STUDIES

This project is not situated in an area that was the object of regional environmental studies, as described in the *Guide to Preparing a Description of a Designated Project* under the CEAA (2012).

However, the St. Lawrence River, particularly the Quebec-Montreal section, was the object of numerous ecological studies in recent decades. These will be used in the preparation of the Environmental Impact Study (EIS) and will complement the information collected under the various studies carried out by the MPA.



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# **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

## **CHAPTER 2 – PROJECT INFORMATION**

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## **2 PROJECT INFORMATION**

### **2.1 CONTEXT AND OBJECTIVES**

#### **2.1.1 Growth Forecasts**

Sustained growth in container traffic has driven the MPA to optimize and redevelop its facilities continuously since 1967. Notwithstanding major investments, container terminals in Montreal, handling an annual 1.4 million TEU, are expected to reach full capacity, approximately 2 million TEU annually (Figure 2.1) by 2021. In an effort to keep pace, with its proven growth, the MPA has been planning the development of a new container handling area at the Contrecoeur site for over twenty years.

The Port of Montreal is a strategic asset benefiting the entire Canadian economy. It also remains the North American leader on the eastern seaboard for shipping cargo between Europe and the US Midwest, making it the natural gateway for trade with Europe. The Comprehensive Economic and Trade Agreement (CETA), combined with the first ever Quebec Maritime Strategy, which prioritizes the development of logistic hubs and industrial-maritime terminal areas, offers Canadian importers and exporters an historic opportunity. As a prime gateway to the North American industrial heartland, and just eight days away from the largest economic bloc in the world, the Port of Montreal is in an excellent position to meet the increased demand for commodity shipping that the CETA is expected to generate. In a study sponsored by its members, the Société de développement économique du Saint-Laurent (SODES) [in English: St. Lawrence Economic Development Council] has also identified the Port of Montreal as the only maritime container terminal in the St. Lawrence Valley, emphasizing its status as an international container shipping hub.

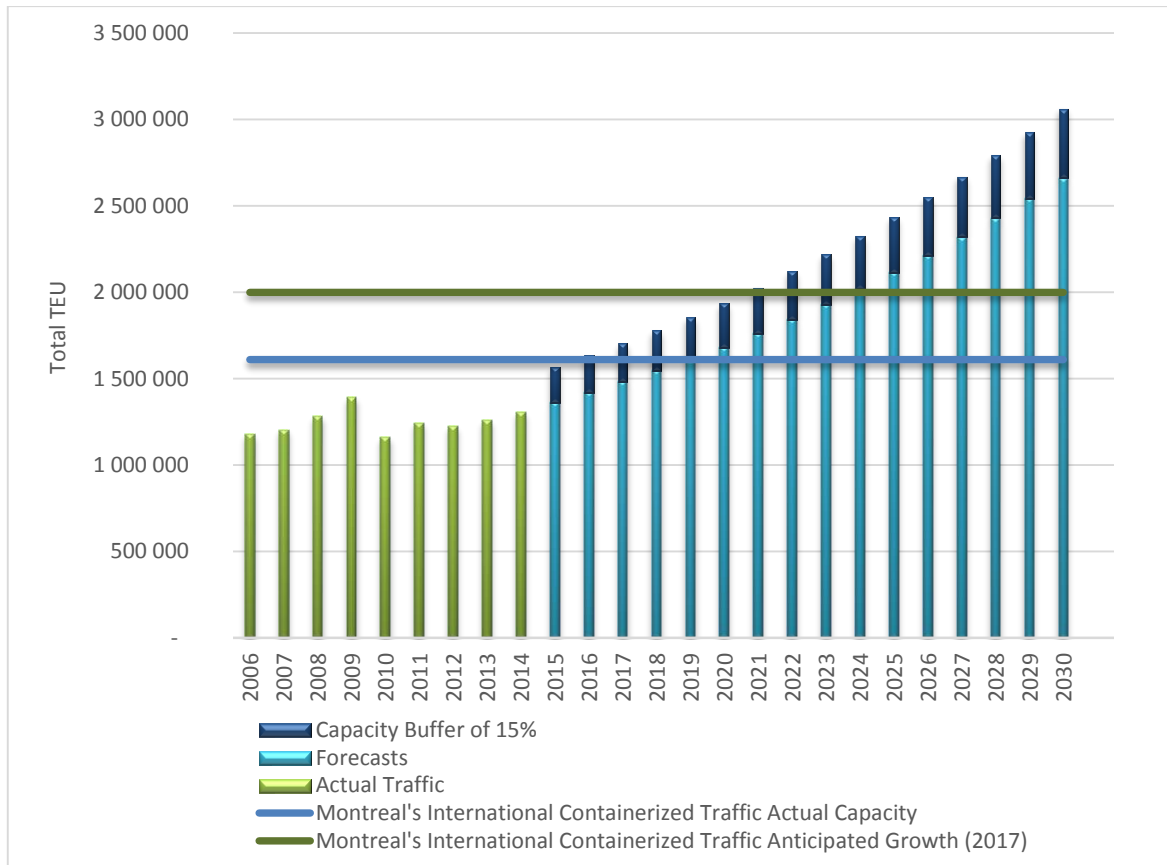
The Contrecoeur maritime terminal expansion project will undoubtedly significantly contribute toward enhancing the competitiveness of the Port of Montreal and, in turn, the competitiveness of trade and commodity shipping that are essential to the vitality of not only the entire metropolitan Montreal region but also to the province of Quebec.

Over the shorter term, the Port of Montreal must develop and expand its capacity to serve its existing clientele and minimize the risk of losing market share to fierce US competition.



Figure 2.1 offers a conservative growth outlook.<sup>1</sup> Although the CETA's impact has yet to be precisely quantified, the Port of Montreal expects exports, primarily to Europe, to increase as of 2020. Based on anticipated growth rates, containerized traffic at the Port of Montreal is expected to grow by 100% by 2030, climbing from 1.4 million TEU to roughly 2.7 million TEU annually.

**Figure 2.1 Anticipated Growth in the Containerized Commodities Sector, 2030 Horizon**



In accordance with its multi-year development plan, the Port of Montreal is pursuing a three-part strategy: (1) optimize its facilities located in Montreal; (2) develop new facilities in Montreal; (3) and then develop new facilities in Contrecoeur. In fact, as Figure 2.1 indicates, Montreal's facilities are expected to reach their full capacity by 2021. Traffic forecasts, even conservative estimates, excluding the impact of the CETA and Quebec's maritime strategy, corroborate that anticipated growth will exceed the existing facilities capacity triggering an expansion in Contrecoeur. The purpose of the Contrecoeur maritime terminal expansion project is therefore not to compete with the Montreal market, but rather to ensure the means to respond to the increased demand.

<sup>1</sup> Forecasts are based on industry-recognized data: data provided by Drewry Shipping Consultants, PIERS and other macroeconomic data published by the International Monetary Fund, Consensus Economics, Bank of Canada, etc. The revised-upward average annual growth rate of 4.7% is lower than the rate for years prior to the 2008 crash.



To implement its Contrecœur expansion project, the MPA must gather all of the conditions for its success, such as:

- Continued economic recovery and container market growth;
- Tangible spinoffs from CETA and the Quebec maritime strategy;
- Finalization of an agreement with a business partner to operate the future Contrecœur terminal;
- An adequate financing arrangement;
- The necessary authorizations and permits;
- Rail and road access agreements;
- The project's social acceptability.

### 2.1.2 Economic Benefits

The benefits of building a new container terminal in Contrecœur are multi-faceted. First of all, it is important to underscore the Port of Montreal's impact on the regional, provincial and national economies, such as:

- \$41 billion in goods annually flow through the Port;
- \$2.1 billion in annual economic spinoffs for all of Canada, including \$1.6 billion for Quebec;
- 16,000 stable jobs across Canada, including 7,000 jobs directly related to marine and port activities in Quebec;
- Close to \$900 million in annual expenditures over the course of ongoing activities related to the Montreal maritime and port system;
- Annual tax revenues in excess of \$250 million for provincial and federal governments, including \$150 million paid to Quebec (each tonne handled generates approximately \$5.30 in provincial tax revenues);
- Each container handled contributes approximately \$600 to Quebec's GDP and \$960 to Canada's GDP (including Quebec);
- Every 130 containers handled generates one job.

More specifically, the first phase of construction of the new 1.15 million-TEU terminal yearly in Contrecœur represents an investment of \$650 million. The economic impact of the project can be summed up as follows:

- Spinoffs related to the construction period are estimated at:
  - Over 5,000 person-years in terms of jobs, 80% of them based in Quebec;
  - Close to \$100 million in government tax revenues.
- Spinoffs related to the operating period are estimated at:
  - Over 1,000 jobs in each year of operation;
  - Tax revenues of approximately \$28 million remitted annually to governments.

The construction and operation-related spinoffs are therefore considerable. Furthermore, these amounts do not include benefits arising from ancillary activities such as trucking, rail services, logistics, storage and all of the other regional value added activities involved in containerized activities.



## 2.2 DESIGNATED PHYSICAL ACTIVITIES

Although regulatory agencies have not yet determined the scope of the environmental assessment, for project description purposes, the MPA assumes that the project will be approved under the CEAA (2012), administered by the Canadian Environmental Assessment Agency.

In fact, the CEAA (2012) (S.C. 2012, c. 19, s. 52) stipulates that, for projects involving one or more activities listed in the *Regulations Designating Physical Activities* (SOR/2012-147), the proponent must submit a project description in order to establish whether the Canadian Environmental Assessment Agency is required to perform an environmental assessment. The Contrecoeur maritime terminal expansion project includes two activities on the *Regulations Designating Physical Activities* (SOR/2012-147) list. These are:

- 24. The construction, operation, decommissioning and abandonment of a new *c) marine terminal designed to handle ships larger than 25 000 DWT<sup>2</sup> unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation.*

Ships expected at the Contrecoeur terminal will normally contain from 3,000 to 5,800 TEU, or 39,000 to 75,400 DWT.

- 25. The construction, operation, decommissioning and abandonment of a new *b) railway yard with seven or more yard tracks or a total track length of 20 km or more;*

According to the preliminary design, the terminal will include seven railway yard tracks amounting to a total track length of 12,000 m.

The terminal's existing facilities and/or related activities are not expected to form part of the designated project, or be necessary for completion of the designated project.

## 2.3 DESCRIPTION OF DESIGNATED PROJECT SITE

The project involves developing a maritime container terminal in the west sector of MPA's lands currently lying undeveloped in Contrecoeur. The site is approximately 1 km north of the CN railway track and approximately 4 km north of Highway 30.

The vast majority of the proposed structures are located between Route 132 and the shores of the St. Lawrence River. Most of the surrounding properties serve industrial and agricultural uses, except for the residential dwellings located immediately west of the MPA's lands, and the corner of Montée Lapierre and Route 132. Figure 2.2 illustrates the site of the proposed facilities.

The MPA has decided to develop the western portion of its land holdings before the eastern sector<sup>3</sup> for two main reasons: (1) the significantly lower amount of sediment dredging and infill required for quay construction; (2) the smaller total area covered by submerged vegetation, considered a critical habitat of a fish species at risk (copper redhorse). Therefore, starting development work in the western sector lessens the impacts on costs, the project schedule and wetlands, as well as fish habitat in general, especially the critical habitat of the copper redhorse.

<sup>2</sup> Deadweight tonnage (DWT). For example, one TEU container = 12 to 14 DWT.

<sup>3</sup> The *eastern* sector refers to the centre portion of MPA's property, i.e., the portion located immediately west of the facilities currently in operation. It is referred to as the eastern sector because it is the most easterly area under consideration by the MPA for new maritime terminal container facilities.





## 2.4 PROJECT COMPONENTS

The proposed expansion of the Contrecoeur maritime terminal will cover approximately 107 ha and include the major components shown in Table 2.1. The items in Table 2.1 are illustrated in Figure 2.3. Figure 2.4 shows the general location of the primary proposed developments on an oblique aerial photograph.

**Table 2.1 Project Components and their Respective Areas**

Components	Associated approximate area (ha)
Berthing and docking area	18.23
Two-berth quay	2.06
Container yard	
Storage area	16.22
Marine transfer zone	5.00
Landside transfer zone	8.42
Intermodal yard and railway yard	10.54
Truck control area	4.43
Road and rail infrastructures	
Roads	8.48
Railway track and switches	30.99
Auxiliary buildings	3.09
<b>TOTAL</b>	<b>107.46</b>

The component listing included in this project description is the result of an initial design stage completed in collaboration with Moffatt & Nichol, an internationally renowned engineering firm specializing in ports. The feasibility of the key components has been confirmed. However, these components will evolve and adapt, especially as the results of the environmental assessment and detailed design process unfold, and depending on the prerogatives of the MPA's future business partner/terminal operator.

### 2.4.1 Berthing and Docking Area

To provide ships with access to the quay from the navigation channel, a berthing and docking area will have to be dredged in the area adjacent to the planned terminal. Dredging will have to reach a minimal depth of 11.3 m below chart datum (CD), at a geoidal height of -6.88 m (CGVD28). This is the existing depth of the St. Lawrence Seaway navigation channel in this area. These activities will require dredging approximately 832,000 m<sup>3</sup> of on-site sediment. Mechanical dredging (by excavation) rather than hydraulic dredging (suction) is currently planned. A temporary quay will have to be constructed to manage the dredged material. The configuration of the dredging area and the temporary quay location are shown in Figure 2.5.



### 2.4.2 Road and Rail Infrastructures

Highway 30 and the CN railway track will support ground transportation by providing access to the terminal.

Commercial truckers will access the Port via Highway 30, travelling Route 132 between Montée Lapierre and Montée de la Pomme-d'Or, to the terminal's truck control area. Initially, most of the distance between Highway 30 and Route 132 will be travelled on Montée de la Pomme-d'Or, 1.4 km from the entrance to the new Port's facilities and connected to Highway 30 via exit 117. When the flow of heavy vehicles will be higher, as a result of the increase in traffic to the terminal, Montée Lapierre will also be used, at 2.6 km from the entrance to the new facilities and accessible from Highway 30 via exit 113.

Intermodal trains destined to the Port will be guided to the terminal's intermodal yard and railway yard over a branch line off CN's main line. A grade separation crossing will be constructed on Route 132, east of the existing intersection, to ensure the fluid circulation of local vehicle traffic.

### 2.4.3 Two-berth Quay

The Contrecoeur maritime terminal expansion project will include a 675-m long quay for docking ocean-going ships. The quay will be able to accommodate the simultaneous docking of two ships, each containing up to 5,800 TEU in cargo. The MPA chose a structure for construction of the quay comprising a wall of steel sheet pilings fastened to the shoreline with tie rods. Figure 2.6 shows the preliminary design for this type of structure.

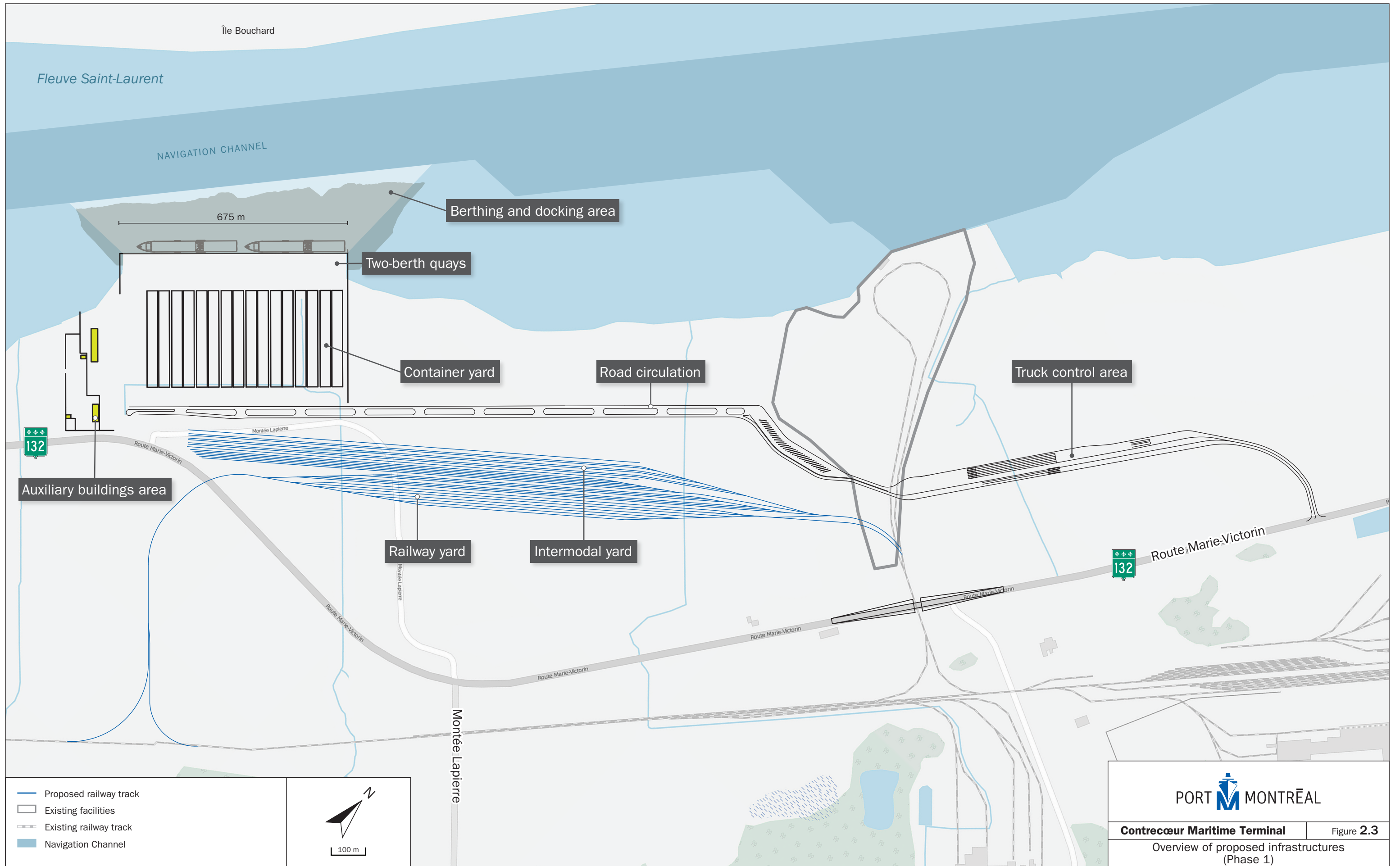
Once the wall of sheet pilings is in place and the tie rods anchored to the piles, approximately 282,000 m<sup>3</sup> of borrowed material will have to be brought on site to backfill behind this wall. Figure 2.5 shows the backfill zone.

The dredged material cannot be used as fill for the quay structure; the nature of this material precludes the possibility of achieving the required load-bearing capacity.

No static, land-based infrastructure for ship refuelling is planned. Any necessary refuelling will be performed by trucks or tankers in keeping with current practice existing at the Port of Montreal.

Up to eight electrically-powered ship to shore gantry cranes can be installed at the two berths to load and unload the ships. With this arrangement, the Contrecoeur terminal will be able to receive two to three ships a week when operating at full capacity.

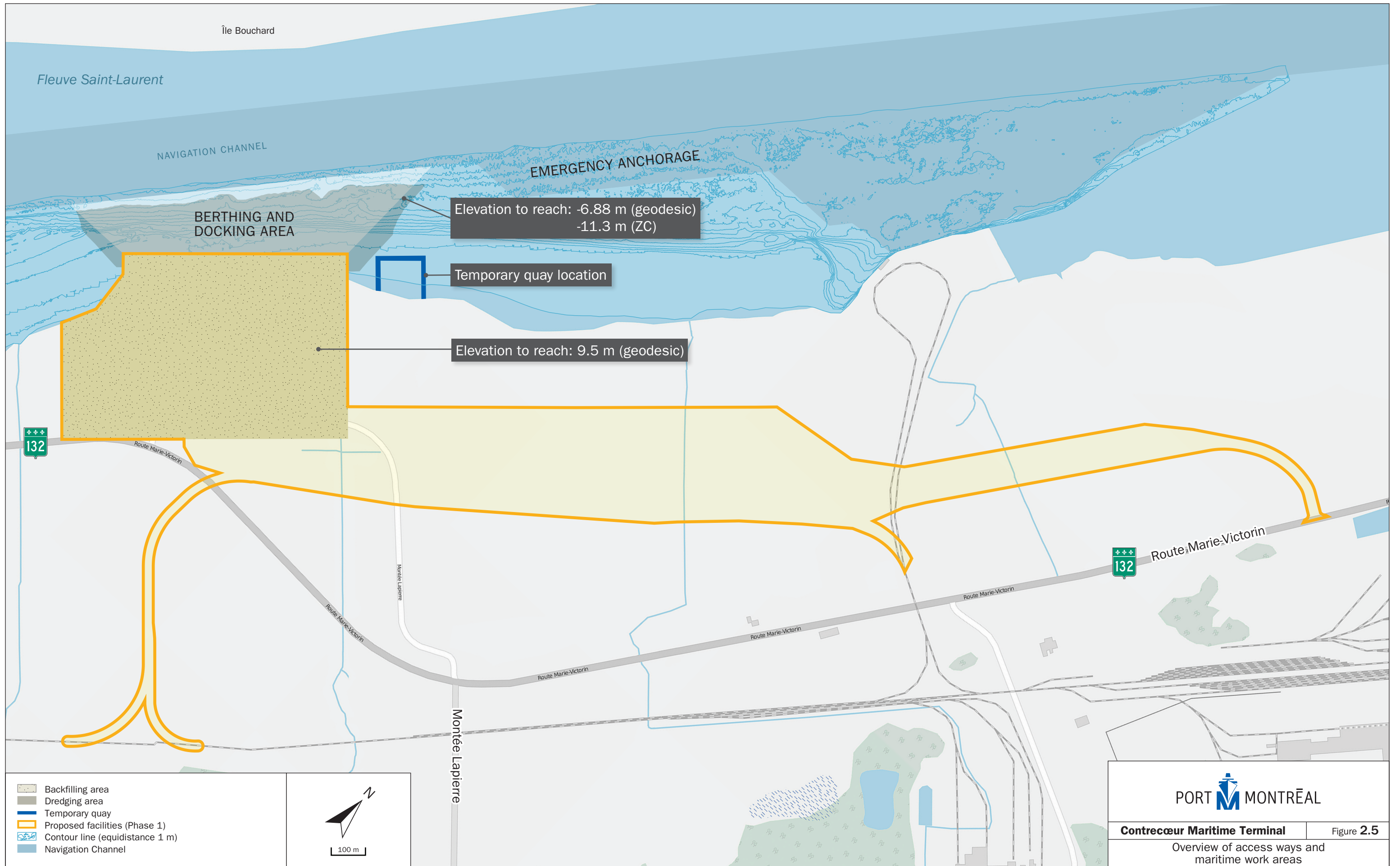


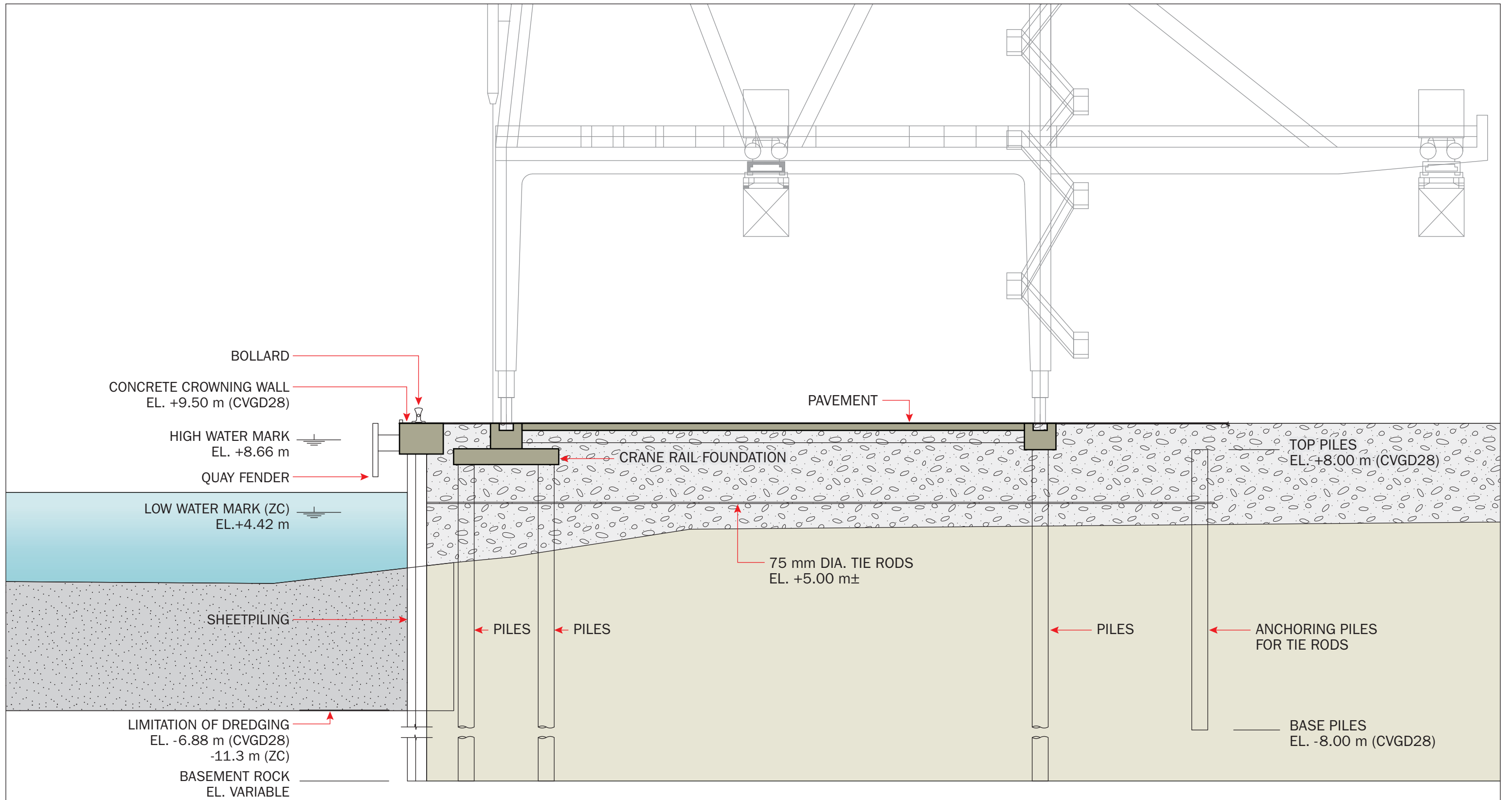









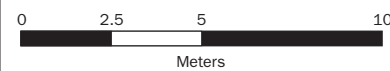
CN railway track

Approximate boundary of the proposed facilities  
APM property boundary





-  Concrete
-  Backfilling area
-  Sediment in place (dredging)
-  Current water column
-  Natural soil



#### 2.4.4 Truck Control Area

The truck control area covers approximately 4.43 ha; commercial truckers will have to stop at the terminal entry and exit points to identify themselves and confirm the accuracy of the transactions they just completed in accordance with Transport Canada regulations governing Canadian port facility security at terminal access points.

While in full operation, the Contrecoeur container terminal project could receive up to 2,200 trucks daily.

#### 2.4.5 Intermodal Yard and Railway Yard

Approximately 10.54 ha of the terminal will be used for the intermodal yard and the railway yard. A significant portion of this area will be traversed by railway track to receive intermodal trains and perform switching activities.

The railway tracks in the intermodal yard can be divided among three groups depending on the activity:

- “Arrival and departure tracks” that connect the port’s railyard to the CN main lines. Depending on the terminal’s throughput, the frequency of train arrivals and departures is expected to be two trains between 2,500-m and 4,200-m long per day;
- “yard tracks” (seven in all for switching railcars) will amount to a total length of 12,000 m;
- “working tracks” (eight in all to transfer containers) will be an average 1,000-m in length each.

Rail-mounted gantry cranes will be installed to perform container transfers.

#### 2.4.6 Container Yard (Storage Area)

Covering approximately 16.22 ha, the container yard will provide a transit point between ships and ground transportation, as well as a temporary storage area. Electric gantry crane systems will be installed for semi-automated storage activities between marine and landside areas and the container yard.

A marine transfer zone spanning approximately 5 ha will be used for transfers between docked ships and the container yard.

A landside transfer zone covering approximately 8.42 ha will provide space for handling the containers on their way to the working tracks for shipment by rail or loading on transport trucks.

The transfer zone will be illuminated by a 30-m high-mast lighting system to protect the safety of employees assigned to this location.



### 2.4.7 Auxiliary Buildings

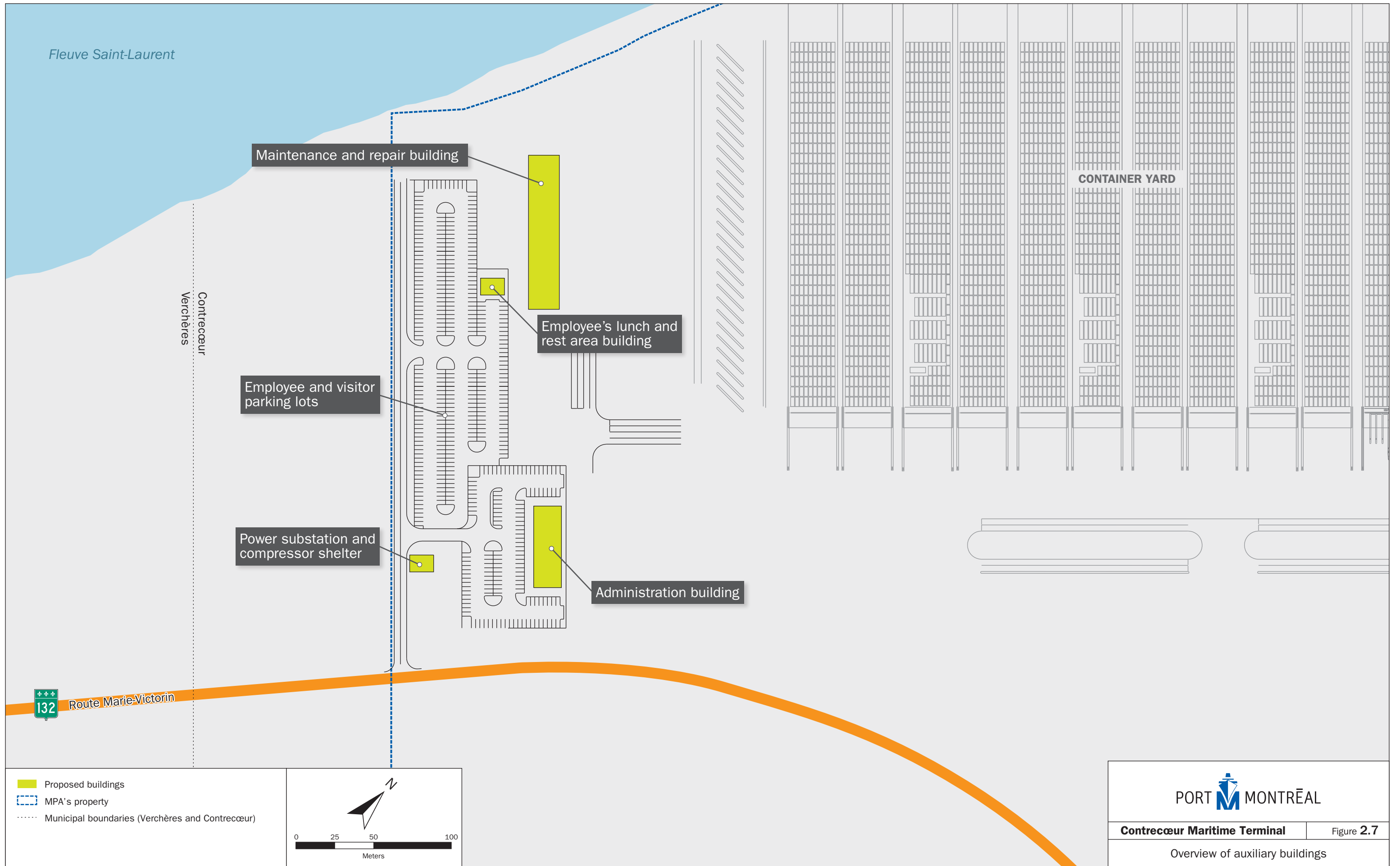
Auxiliary buildings will be required to ensure that activities at the new container terminal operate efficiently. Although the design details for these facilities remain to be confirmed based on the terminal operator's planned activities, a number of uses can already be assumed. Figure 2.7 presents the potential location of the following support auxiliary facilities:

- Administration building;
- Maintenance and repair building;
- Employees' lunch and rest area building;
- Employee and visitor parking lots;
- Power substation and compressor shelter.

### 2.4.8 Summary of Construction and Operation Activities

The construction and operation activities described in the previous sections are summarized in Table 2.2.





  
**Contrecœur Maritime Terminal** | Figure 2.7  
 Overview of auxiliary buildings

**Table 2.2 Summary of Components and Activities**

PROJECT COMPONENTS	CONSTRUCTION ACTIVITIES	OPERATION ACTIVITIES
<b>Berthing and docking area</b>		
	Sediment dredging On-site and/or off-site management of dredged material	Navigation Ship approach/departure maneuvers Use of emergency anchoring zone as a holding area Tug boats on stand-by when not in use Maintenance dredging as needed
<b>Two-berth quay</b>		
	Installation of a sheet piling wall by vibration or ramming Anchoring of sheet pilings with anchor rods Backfill behind sheet piling wall Installation of crane support infrastructures (foundations and rails) Installation of utilities (electrical power, water, fire hydrants, etc.) Installation of electric gantry cranes (by operator based on operator's needs)	Ship docking Container crane transfer between ships and marine transfer zone (quay) Electrical power supply to docked ships (cold-ironing) Provisioning of ships with consumable goods
<b>Container yard (storage area)</b>		
	Site levelling and compacting Cement concrete and bituminous concrete storage and traffic surface work Installation of surface drainage systems Installation of utilities (electrical power, communications, water, sewer, etc.) Installation of electric rail-mounted gantry crane stockpiling systems	Container handling between yard, marine and landside transfer zones Temporary container storage Temporary reefer container storage location with electrical power Truck loading/unloading Terminal vehicle and container handling equipment traffic
<b>Intermodal yard and railway yard</b>		
	Rail and switching railyard Road access, paving Installation of utilities (electrical power, communications, water, sewer, fire hydrants, etc.) Installation of electric rail-mounted gantry cranes Running tracks Switching tracks Working tracks	Railcar arrival, storage and departure Train assembly and railcar switching Container crane transfer between railway cars and landside transfer zone Locomotive resupply (fuel, etc.) Railcar and locomotive maintenance
<b>Truck control area</b>		
	Levelling, drainage and paving Utility installation (electricity, communications, water access, sewers, fire hydrants, etc.) Installation of operator's operating systems (monitoring and security systems) Security, access control installations	Truck arrival and departure Identification of truckers and containers on entry and exit Problem solving with drivers Truck driver convenience area
<b>Road and rail infrastructures</b>		
Road	Construction of roadway overpass in cooperation with MTQ	Access to trucks in truck control area Employee access in employee parking lot
Railroad	Connection of intermodal yard (existing CN track)	Road access to trains in intermodal yard
<b>Auxiliary buildings</b>		
Administration building	Foundation work Construction of building structures Utility installation (electrical power, communications, water, sewer, fire hydrants, etc.)	Terminal operator's administration, terminal operations and support service, data system and computer server room, remote truck control area operations
Maintenance and repair building	Interior finishing	Terminal equipment maintenance and repair
Employees' lunch and rest area building	Installation of operator's equipment	Change room, showers, rest areas, meal areas, secure terminal access
Power substation		Supply power to various items of equipment and terminal buildings
Waste water treatment units		Treatment of water from sanitary and storm systems prior to discharge
Compressor shelter		Compressors and pressurized tanks for rail activities (i.e., brake testing)
Fire infrastructure facilities		Installation and maintenance of fire protection system pumps
Employee and visitor parking lots		Personal vehicle parking lot



## **2.5 CONSTRUCTION, OPERATION, DECOMMISSIONING AND ABANDONMENT PHASES, AND SCHEDULE**

### **2.5.1 Site Mobilization and Preparation**

Prior to work beginning on the site, temporary access roads will need to be constructed to accommodate the heavy vehicle traffic during the work. A portion of the site will require development in order to receive the trailers, equipment and the materials needed by the workers

A temporary quay will have to be installed east of the future quay as indicated in Figures 2.5 and 5.1 to unload barges carrying dredged material.

Dredged material management will require drainage area; the environmental assessment will determine the excavation method and the soil management strategy. Depending on the chosen management option, all or part of the dredged sediment could be managed on MPA's lands in Contrecoeur. In this case, earth mound barriers or road dikes could be used to contain water draining from the dredged material and assist the stockpiling and handling of this material.

Deforestation may be necessary in certain MPA's work areas to accommodate temporary roads and dredged material management zones. Based on initial estimates, a total of approximately 9 ha may have to be cleared for these activities, depending on the amount of dredged material to be managed at the MPA's site.

### **2.5.2 Quay Construction**

The facade of the quay will consist of a wall of sheet pilings sunk in the ground and rock and then stabilized with tie rods fastened to piles driven into the shore. To raise the interior of the quay enclosure near the level of its final elevation, approximately 282,000 m<sup>3</sup> of borrowed material with suitable geotechnical characteristics will be needed.

### **2.5.3 Dredging in Berthing and Docking Areas**

Berthing and docking zones will be dredged to a depth of -11.3 m CD since ships that will dock at the Contrecoeur maritime terminal require a minimum depth of 11.3 m. The dredging area covers 17.48 ha and requires excavating 832,000 m<sup>3</sup> of sediments.

The dredged material will be taken ashore by barges, loaded onto trucks at the temporary quay and then carried to their management site. This work could be performed 24 hours a day in an effort to complete all dredging work as quickly as possible. The pace and duration of the dredging work will primarily depend on the dredged material management strategy and the window of time permitted by the applicable regulations and weather conditions.



#### **2.5.4 Overpass Construction**

An overpass will have to be built on Route 132 to ensure the fluid circulation of local vehicle traffic. The overpass will be built with the approval of the Ministère des Transports du Québec (MTQ) and in compliance with design and safety rules.

#### **2.5.5 Terminal Area Development, Building Construction and Utility/Equipment Installation**

As soon as work on the terminal's primary infrastructures reaches a sufficiently advanced construction stage, utilities such as water supply, storm drains, sanitary sewers and electricity will be installed.

Once the utilities are in place, the surface of areas like the container yard, intermodal yard or truck control area will be leveled, traffic lanes paved and tracks laid.

Lastly, mobile equipment, such as the various hoisting systems (ship-to-shore gantry cranes, yard gantry cranes, etc.) will be installed. The various buildings can be constructed in tandem with these activities.

#### **2.5.6 Site Demobilization and Development**

Upon completion of the work, the contractors will demobilize their equipment and the site can be restored. This involves dismantling temporary roads and temporary infrastructures for site workers and machinery, and restoring affected areas by planting trees or seeding exposed soil, among other things.

#### **2.5.7 Proposed Schedule, Duration and Sequencing**

The work listed in the schedule summarized in Table 2.3 is expected to last approximately four years from the start date of the contractor's mobilization phase.

#### **2.5.8 Decommissioning and Abandonment**

Considering that the terminal is expected to operate beyond the foreseeable time horizon, no decommissioning or abandonment plans for the terminal were assessed. However, if certain assets are decommissioned and transferred from the terminal following a change in its vocation, the MPA will demonstrate diligence in establishing a process to clearly identify the division of responsibility with the operator for restoring the sites concerned in accordance with the applicable regulations.





## 2.6 EMISSIONS, DISCHARGES AND WASTE

### 2.6.1 Dredged Material Management

The vast majority of the sediments to be dredged consist of "cohesive" solid sediment, i.e., silt and clay from the Champlain sea. Since this type of material lacks the geotechnical characteristics needed for terminal construction, it is unsuitable for MPA's infrastructures, except those with a low load-bearing capacity requirement, such as curtain walls (visual and/or acoustic) around the outside edges of the terminal.

Three options for managing dredged material are being considered:

- Dredged material could be trucked off-site and used in restoration projects. These sites would accept dredged materials in accordance with and as authorized by the applicable regulations for the purpose of soil restoration.
- All dredged material could be managed on MPA's property. Waterlogged materials and dredged materials difficult to handle with machinery should be placed in drainage areas developed during the site mobilization and preparation phase. Figure 2.8 shows the areas on MPA's property able to accommodate such material. Water drained from the sediment would be channeled to a water treatment system before being discharged into the St. Lawrence, in accordance with the applicable regulations. Once drained, surfaces would be redeveloped, with priority given to leasing for agricultural uses where possible. Where this use is impractical, areas would simply be revegetated. Given the poor loadbearing capacity of the drained material, no large structures could be built in these areas.
- A combination of the two options described above: this would involve using the dredged material at an off-site location by day and on MPA's property by night, thus enabling continuous dredging activities 24 hours a day, if necessary. The amount of sediment for disposal remains to be determined for each option.



### 2.6.2 Liquid Discharge Sources and Locations

For planning purposes, it has been considered that the Contrecoeur maritime terminal would not be serviced by a municipal sewage system. During the terminal operating phase, waste water (sanitary) and storm water would be processed by treatment units set up on site to ensure the discharge complies with the regulations in force.

Waste oil resulting from mechanical maintenance activities would be recovered and disposed of by the appropriate accredited supplier in keeping with industry best practice. Work areas and vehicle/machinery cleaning areas will be surfaced with a non-porous concrete slab. A separate drainage system will collect and channel used wash water to a water recovery system connected to an oil separator. The oil recovered will be discarded in the same manner as waste oil generated from mechanical maintenance.

### 2.6.3 Air Pollution

Air pollution generated during development of the new facilities and whilst terminal operations primarily consists of greenhouse gases (GHG), nitrogen oxides (NO, NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), volatile organic compounds (VOC) and particulate matter (PM). Mobile equipment used during construction work and terminal activities are the sources of most of these emissions.

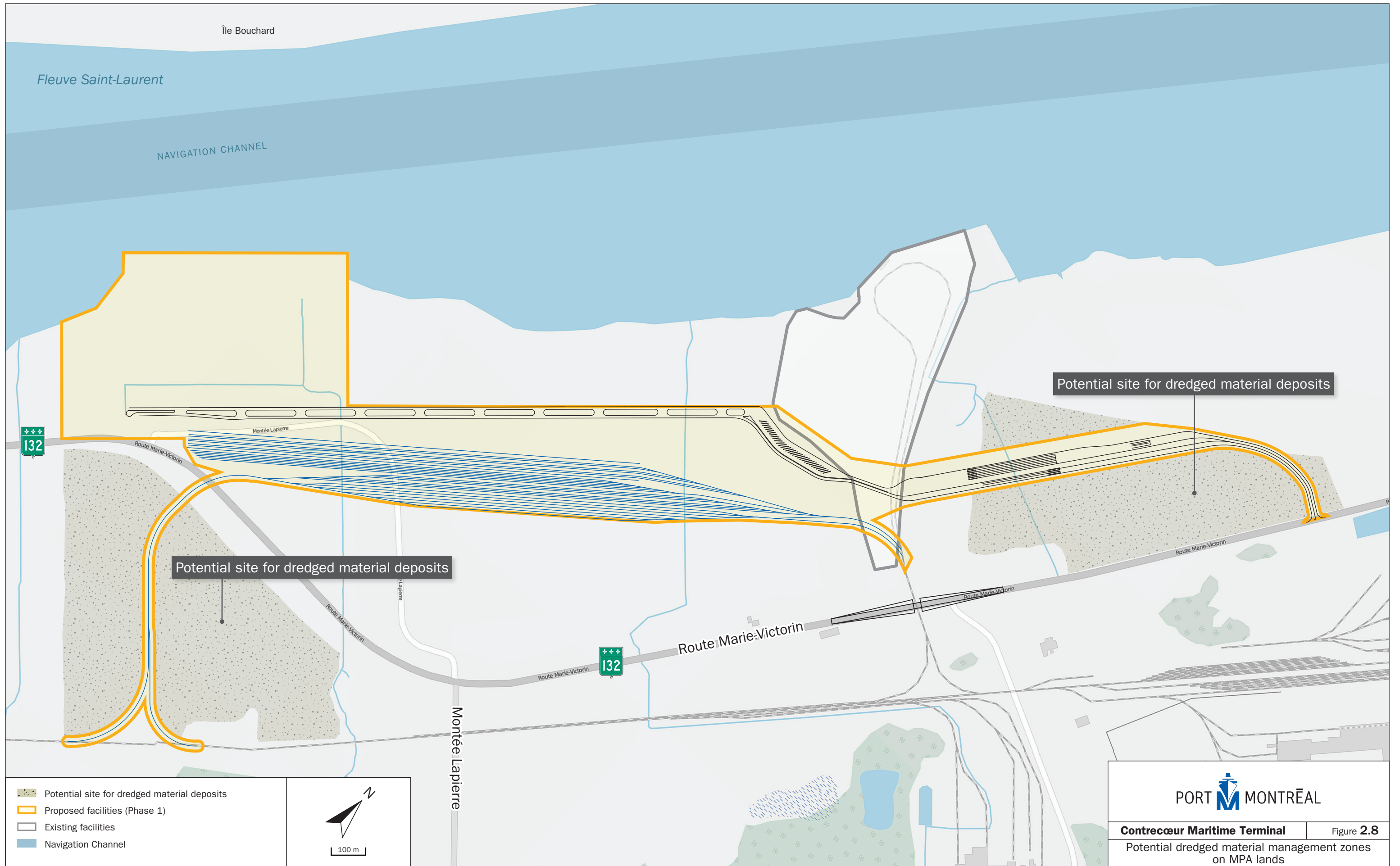
### 2.6.4 Types of Waste and Disposal Plans

Ships must sometimes discard household waste. This waste is managed by ships officers who enlist the services of a duly authorized company to pick up waste from the ships. This waste is then treated in accordance with the applicable regulations.

Household waste produced by staff during development work or maritime terminal activities will be sent off-site to facilities with the required regulatory authorizations.

During the winter months, snow removal from terminal surfaces will generate snow banks. The possibility of hauling snow off-site to an authorized location will be assessed, along with the possibility of developing snow dump sites at the terminal designed in accordance with existing standards and regulations governing its seasonal storage. A runoff and groundwater quality monitoring program will be implemented to ensure the snow storage area and drainage system function effectively.





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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 3 – LAND USE PLAN AND LAND OWNERSHIP**

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### **3 LAND USE PLAN AND LAND OWNERSHIP**

As provided in the MPA's land use plan (2000), and in accordance with its development strategy, the west sector of the Contrecœur property is earmarked for the development of a container handling and storage area.

The entire MPA's land holding is located within the Town of Contrecœur, in the Regional County Municipality (RCM) of Marguerite-D'Youville.

Of the 468 ha that make up the land reserve administered by the MPA in Contrecœur, approximately 30 ha is currently being used for dry bulk handling activities. The area of the expansion project concerned by the environmental assessment will cover approximately 89 ha, including some 83 ha on federal land administered by the MPA, and approximately 6 ha corresponding to a section of the quay built on the St. Lawrence River bed, on provincial land. In 2014, the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) [in English: Minister of Sustainable Development, Environment and the Fight against Climate Change], agent of the Government of Québec, granted the MPA rights to the water lots for the construction of two quays.

Figure 3.1 illustrates the MPA's property holdings and the provincial land (waterlots) required by the project.





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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 4 – FEDERAL INVOLVEMENT– FINANCIAL SUPPORT AND STATUTORY REQUIREMENTS**

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#### **4 FEDERAL INVOLVEMENT– FINANCIAL SUPPORT AND STATUTORY REQUIREMENTS**

The project will be developed and financed with a mix of MPA and private funds, commercial contribution agreements and federal and provincial government funding sources.

Approximately 93% of the expansion project will be built on Crown lands managed by the MPA. Figure 3.1 provides details concerning the federal and provincial lands in question. The remainder is located on a provincially own river bed.

In addition to approval under the CEAA 2012, the project may require environmental permits and authorizations, as summarized in Table 4.1.



**Table 4.1 Permits and Authorizations**

Applicable statute	Required authorization (department)	Triggering statute	Description of project-related issues
<p><i>Fisheries Act</i>, paragraph 35(2)b) Subsection 35(1)</p> <p><i>Applications for Authorization under Paragraph 35(2)(b) of the Fisheries Act Regulations</i></p>	<p>Authorization to carry on a work, undertaking or activity that results in serious harm to fish (Department of Fisheries and Oceans Canada (DFO))</p>	<p>“No person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery.” <i>Fisheries Act</i>, Subsection 35(1)</p>	<p>Destruction and disturbance of fish habitat within dredging and backfilling areas.</p>
<p><i>Species at Risk Act (SARA)</i> Subsection 32(1) Subsection 58(1) Section 73</p>	<p>Permit (DFO for aquatic species, Environment Canada for land species)</p> <p>“The competent minister may enter into an agreement with a person, or issue a permit to a person, authorizing the person to engage in an activity affecting a listed wildlife species, any part of its critical habitat or the residences of its individuals.” SARA, Subsection 73(1)</p>	<p>No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species. SARA, Subsection 32(1).</p> <p>“Subject to this section, no person shall destroy any part of the critical habitat of any listed endangered species or of any listed threatened species — or of any listed extirpated species if a recovery strategy has recommended the reintroduction of the species into the wild in Canada — if</p> <ul style="list-style-type: none"> <li>a) the critical habitat is on federal land, in the exclusive economic zone of Canada or on the continental shelf of Canada;</li> <li>b) the listed species is an aquatic species; or</li> <li>c) the listed species is a species of migratory birds protected by the <i>Migratory Birds Convention Act, 1994</i>.” SARA, Subsection 58(1) </li></ul>	<p>Work performed near critical habitat of the copper redhorse.</p> <p>Potential presence of the eastern sand darter and channel darter in the work zone.</p>



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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 5 – ENVIRONMENTAL AND SOCIO-ECONOMIC CONTEXT**

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## **5 ENVIRONMENTAL AND SOCIOECONOMIC CONTEXT**

### **5.1 DESCRIPTION OF THE ENVIRONMENT**

#### **5.1.1 Physical Environment**

##### **5.1.1.1 Climate**

The Contrecoeur region has a humid continental climate with considerable seasonal temperature variations, long, cold winters and abundant precipitation. Total annual precipitation is approximately 1,019 mm, including 209 cm of snow. Snow cover is present 126 days of the year.

The region's prevailing winds are primarily from the west and south-west. The average annual wind speed is 15.9 km/h, with stronger winds in winter than in summer. Wind speed rarely exceeds 30 km/h.

##### **5.1.1.2 Geology**

Contrecoeur is located in the St. Lawrence Lowlands geological zone, more specifically, in the Nicolet Formation of the Lorraine Group (Upper Ordovician). The St. Lawrence Lowlands sit on a platform of sedimentary rock (limestone, shale and sandstone) deposited during the Paleozoic Era in horizontal and sub-horizontal strata.

Up to four stratigraphic horizons are present at the site: silty clay, fluvioglacial drift, glacial deposits (till) and rock.

##### **5.1.1.3 Nature and Quality of Soil**

Several types of soil are present on the surface of the Contrecoeur site, including backfill material, organic soil and disturbed soil.

Given that the project is expected to occupy the western end of the property where there is no recorded history of industrial use, no contaminated soil is expected at these locations.

Phases I and II environmental site assessments are planned at the proposed site of the new terminal in 2016.



#### **5.1.1.4 Nature and Quality of Sediment**

A cohesive deposit of 15 m to 19 m thick, primarily consisting of silty clay with traces of sand, is present throughout the site of the proposed dredging work. This silty clay, comprised of postglacial clay from the Champlain Sea, ranges from stiff to very stiff. On the surface, alluvial sediment containing sand and variable quantities of silt and clay cover the river bed in a portion of the area to be dredged.

Alluvial sediments in the areas targeted by dredging or excavation work are usually of good quality, and the concentrations in the analyzed samples do not exceed the Occasional Effect Level (OEL) of the Criteria for the Assessment of Sediment Quality in Quebec (CASQQ) or Criteria A of the MDDELCC Soil Protection and Contaminated Sites Rehabilitation Policy. All of the levels measured in samples containing postglacial clay produced exceedances of the Occasional Effect Level (OEL), but remained below the Frequent Effect Level (FEL) of the CASQQ or within the A-B range of the MDDELCC Soil Protection and Contaminated Sites Rehabilitation Policy. The exceedances are related to naturally-occurring levels of certain metals in postglacial clay.

#### **5.1.1.5 Surface and Drainage Water**

Surface water on the MPA's property in Contrecoeur drains into three streams that cross the area from south to north and flow into the St. Lawrence River (Figure 5.1). Stream 1 flows through the eastern portion of the area, gathering effluent from the Contrecoeur-East ArcelorMittal factory. Stream 2 crosses through the center portion of the property and receives effluent from the Contrecoeur-West ArcelorMittal factory. The third stream, *Fossé noir*, drains the western part of the MPA's property and surrounding land, including the wooded area south of Route 132. This stream crosses the proposed site for the terminal. All three streams cross Route 132 before reaching MPA's lands collecting run-off drainage ditch along the way.

On the St. Lawrence River's shore, a portion of MPA's property sits on the flood plain. Areas that are flooded during typical high water periods (two-year recurrence interval flood zones reaching a geoidal height of up to 7.35 m) are illustrated in Figure 5.1. Depressions within these areas remain flooded and form marshlands cut off from the river during low water periods.



#### **5.1.1.6 Groundwater**

Near the St. Lawrence River, the groundwater level is very close to the surface and may vary from year to year, season to season and according to weather conditions. The site's hydrostratigraphic units (class III) are characterized by poor hydraulic characteristics and the absence of drinking water wells. Groundwater quality will be assessed in 2016 during the phases I and II environmental site assessments for the proposed new terminal site.

#### **5.1.1.7 Bathymetry**

On the west side of the existing terminal, the St. Lawrence River bed near the shoreline forms a vast, shallow plateau with a water depth ranging from 0 to 1 m, running along the shore over a width of approximately 200 m. In the water off this plateau, the depth gradually increases to 12.9 m. In the section further upstream, however, at the site of the proposed terminal, the slope off the plateau drops more sharply to quickly reach a depth of 15.4 m (Figure 5.1).

#### **5.1.1.8 Water Quality**

Generally speaking, bacteriological contamination of the area downstream from Montreal originates from the purification plants of Montreal, Longueuil and Repentigny, which do not fully disinfect their treated waste water, and from the overflow from the sewer systems during periods of heavy rain in the Montreal area. Water quality between Varennes and Trois-Rivières near the north shore varies considerably, while water quality near the south shore is good or satisfactory.

In terms of the other parameters usually measured (phosphorus, nitrite, nitrate, ammoniacal nitrogen, total chlorophyll a), most of the stations reported a median level in 2006-2008 lower than or equal to the water quality criteria. No metallic content exceedance in river water was recorded in the Contrecoeur region between 1999 and 2008, based on criteria governing the protection of aquatic life.

#### **5.1.1.9 Air Quality**

Local industrial activities and, to a lesser extent, road traffic and farming activities are among the major activities likely to affect current air quality in the Contrecoeur area. These activities can add to the levels of air-borne total particulates and fine particulates, carbon monoxide, nitrogen oxides, sulfur dioxide, metals and volatile organic compounds (VOC).



#### **5.1.1.10 Noise Environment**

The major sources of noise in the area are traffic on Route 132 and Montée Lapierre, local industrial activities, rail traffic and, to a lesser extent, farming activities and overhead aircraft.

### **5.1.2 Biological Environment**

#### **5.1.2.1 Terrestrial Environment**

MPA's property in Contrecoeur contains various kinds of terrestrial environments, including land leased out for agricultural purposes, fallow lands and wooded areas.

The area between stream 2 and Fossé noir, affected by the proposed intermodal and switching yard, primarily consists of land leased for agricultural purposes. In the western part of this area, herbaceous fallow lands between the agricultural lands and shoreline habitats are dominated by reed canary grass (*Phalaris arundinacea*). Silver maple (*Acer saccharinum*) dominates the northern edge of the fallow lands, while red ash (*Fraxinus pennsylvanica*) dominates in the south. The fallow lands are interspersed with clusters of red-osier dogwood (*Cornus stolonifera*) and shrubby willow. A fallow area is also present to the south of the agricultural lands. It is primarily dominated by tall goldenrod (*Solidago altissima*), spotted jewelweed (*Impatiens capensis*), teasel burr (*Cirsium* sp.) and raspberry (*Rubus idaeus*). A wooded strip dominated by Eastern cottonwood (*Populus deltoides*), red ash and Manitoba maple (*Acer negundo*) is also found south of the agricultural fields.

Used primarily for agriculture, the western portion of the property includes an herbaceous fallow area separated by a stand of mature willow and red ash. The fallow area and wooded area are mesic environments that show signs of wetlands in specific spots.

#### **5.1.2.2 Wetlands**

The shore area of MPA's property is occupied by riverside swamps and marshlands (Figure 5.1).

To the west of Fossé noir, at the site proposed for the construction of new berths, the most westerly section of the shore is sparsely vegetated atop a rocky substrate, while reed canary grass occupies the eastern part. The area intended for the new quay also includes a small section of riverside swamp and marshland up to the east of Fossé noir. The principal species that have colonized the shoreline marshes are prairie cord grass (*Spartina pectinata*), common water reed (*Phragmites australis*) and American bulrush (*Schoenoplectus pungens*). Swamplands are primarily dominated by the silver maple, red ash and Eastern cottonwood.



### 5.1.2.3 Submerged Vegetation

The submerged shoreline in front of the MPA's property in Contrecoeur is colonized by submerged vegetation. Most of the submerged vegetation between the existing maritime terminal and the proposed site of the new terminal is found in several areas of unbroken cover, while coverage is somewhat patchy in other areas (Figure 5.1). To the east of the existing terminal, submerged vegetation cover is continuous and the main vegetation bed may extend beyond the eastern boundary of the property to join the submerged vegetation surrounding the Contrecoeur islands.

This area is homogeneous and characterized by low current speed, dense vegetation cover, an average water depth of approximately one meter, and a silty sand substrate. The dominant plants are tapegrass (*Vallisneria americana*), which makes up 92% of the vegetation cover on average, and pondweed (*Potamogeton* sp.). Eurasian water-milfoil (*Myriophyllum spicatum*) is also present.

Some areas on the clay bottoms found in front of the most westerly section of MPA's lands where construction of the new quay is planned, contain low-growing aquatic plants that form a patchy vegetation cover.

### 5.1.2.4 Benthic Invertebrates

Samples taken from river sediments collected in front of MPA's lands in Contrecoeur indicate that benthic populations primarily consist of chironomidae, amphipoda, ceratopogonidae, annelids, oligochaeta and hydropsychidae.

The most densely populated sites are usually dominated by a single taxon, the chironomidae. The bottoms of deeper water areas west of the existing terminal consist of compacted, post-glacial clay and rock, a substrate that supports sparse benthic populations lacking diversity.

Benthic life associated with areas of submerged vegetation is dominated by amphipods followed by annelids.

### 5.1.2.5 Fish

MPA's property in Contrecoeur includes habitats used by fish, such as the St. Lawrence River, streams and ditches and wetlands in the river's flood plain. These habitats have been the site of fish sampling intended to identify how they are used by fish.

Approximately twenty species have been caught in the shoreline marshlands along the St. Lawrence River, where fry rearing sites have also been confirmed. Most fry belong to the cyprinids and catostomid families. These marshes are used by small specimens of game fish such as the walleye (*Sander vitreus*), northern pike (*Esox lucius*) and yellow perch



(*Perca flavescens*). Catostomid fry, and larger fish such as the channel catfish (*Ictalurus punctatus*) and quillback (*Carpionodes cyprinus*) have been seen at the mouth of stream 2. Cyprinid fry have also been caught at the mouth of Fossé noir.

Fish surveys at streams running through the area reveal the presence of species including the brook stickleback (*Culea inconstans*), creek chub (*Semotilus atromaculatus*), pearl dace (*Margariscus margarita*) and rosyface shiner (*Notropis rubellus*).

The Ministère des Forêts, de la Faune et des Parcs (MFFP) [In English: Ministry of Forests, Wildlife and Parks] reports the presence of other fish species in the Contrecoeur area, including the brown bullhead (*Ameiurus nebulosus*), mottled sculpin (*Cottus bairdi*), copper redhorse (*Moxostoma hubbsi*), sauger (*Stizostedion canadense*), lake sturgeon (*Acipenser fulvescens*), muskellunge (*Esox masquinongy*), fallfish (*Semotilus corporalis*) and shorthead redhorse (*Moxostoma macrolepidotum*).

Spawning areas have been inventoried in the Contrecoeur region. Those closest to the Contrecoeur maritime terminal are located at the western tip of Île Bouchard and around the Contrecoeur Islands.

#### 5.1.2.6 Birds

Bird surveys performed on MPA's lands in Contrecoeur between 2008 and 2012 identified approximately one hundred bird species.

Shoreline marshes and wetlands, including those east of the Fossé noir, are used by waterfowl during the spring migration. Species such as the wood duck (*Aix sponsa*), gadwall (*Anas strepera*), mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*) and common goldeneye (*Bucephala clangula*) and the Canada goose (*Branta canadensis*) have been seen in these environments. Shorebird sightings have not confirmed a definite presence in the shoreline area. Other species associated with aquatic environments also use the shoreline, including cormorants, gulls, terns and herons.

In wooded areas and fallow lands at the site, the species best represented are the song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), yellow warbler (*Dendroica petechia*), common yellowthroat (*Geothlypis trichas*), veery (*Catharus fuscescens*) and the American robin (*Turdus migratorius*). In the mature forests south of the railway track, avifauna is dominated by forest species, including the veery, wood thrush (*Hylocichla mustelina*), ovenbird (*Seiurus aurocapilla*), yellow-bellied sapsucker (*Sphyrapicus varius*) and the eastern wood pewee (*Contopus virens*).



### 5.1.2.7 Mammals

Field surveys have reported sightings of some sixteen mammal species on MPA's lands in Contrecoeur. The identified species are all common and tolerate human activity relatively well:

- Cinereus shrew (*Sorex cinereus*);
- Star-nosed mole (*Condylura cristata*);
- Deer mouse (*Peromyscus maniculatus*);
- White-footed mouse (*Peromyscus leucopus*);
- Meadow jumping mouse (*Zapus hudsonius*);
- Woodland jumping mouse (*Napeozapus insignis*);
- Eastern chipmunk (*Tamias striatus*);
- Eastern gray squirrel (*Sciurus carolinensis*);
- Red squirrel (*Tamiasciurus hudsonicus*);
- Groundhog (*Marmota monax*);
- Common muskrat (*Ondatra zibethicus*);
- White-tailed deer (*Odocoileus virginianus*);
- Coyote (*Canis latrans*);
- Red fox (*Vulpes vulpes*);
- Striped skunk (*Mephitis mephitis*);
- Raccoon (*Procyon lotor*).

### 5.1.2.8 Herpetofauna

Herpetofauna surveys have confirmed the presence of nine species of amphibians and two species of reptiles on or near MPA's lands:

- Northern leopard frog (*Rana pipiens*);
- Wood frog (*Rana sylvatica*);
- Green frog (*Rana clamitans*);
- American bullfrog (*Rana catesbeiana*);
- Western chorus frog (*Pseudacris triseriata*);
- Spring peeper (*Pseudacris crucifer*);
- Gray tree frog (*Hyla versicolor*);
- American toad (*Bufo americanus*);
- Blue-spotted salamander (*Ambystoma laterale*);
- Common garter snake (*Thamnophis sirtalis*);
- Painted turtle (*Chrysemis picta*).

The most important sites for amphibian reproduction include the marshland between Fossé noir and Stream 2; these sites are used by the northern leopard frog, the wood frog and the green frog. The swamp and forested wetland zones south of the railway track are used by



the wood frog, western chorus frog, spring peeper and blue-spotted salamander. This sector is outside the scope of the project. The reproduction sites of the green frog and the American toad are more scattered throughout the site.

#### 5.1.2.9 Species at Risk

Given the variety of habitats on MPA's lands in Contrecoeur, certain species at risk listed in Schedule 1 of the federal *Species at Risk Act* (SARA) or designated threatened or vulnerable in *An Act respecting threatened or vulnerable species* of Québec (ARTVS) could potentially be present.

In terms of mammals, no species at risk could potentially be present at the site. Bird species at risk and potentially present on site include: the eastern whip-poor-will, the short-eared owl, the golden-winged warbler, the Canada warbler, the least bittern, the loggerhead shrike, the red-headed woodpecker, the rusty blackbird, the bald eagle and the peregrine falcon. Of these species, the rusty blackbird, peregrine falcon, bald eagle and least bittern have been sighted on MPA's lands, though not in the area concerned by the new developments.

All reptile species at risk with a geographic range overlapping to the study area could potentially find suitable habitats on the property, including: the eastern milk snake, the wood turtle, the northern map turtle and the common snapping turtle. The *Conseil de données sur le patrimoine naturel du Québec* (CDPNQ) [In English: Québec's natural heritage data centre] reports sightings of the northern map turtle in the St. Lawrence at the Contrecoeur Islands.

For amphibians, the western chorus frog has been confirmed present in the MPA's land south of the railway tracks. Found in Quebec at the north-eastern limit of its range, this species is designated endangered under the SARA and vulnerable according to ARTVS. It is not present in the proposed work area.

Concerning fish, three species at risk have been confirmed in the region: the copper redhorse, the river redhorse and the bridle shiner. The eastern sand darter and channel darter could also be potentially present along the river's sandy shores.

As for invertebrates, the monarch, listed in Schedule 1 of the SARA, is likely present in the area since it includes sections covered with flowering plants, including milkweed, which is vital to this butterfly's life cycle.



### 5.1.3 Human Environment

#### 5.1.3.1 Social Context

The Town of Contrecoeur is located in the northern section of the Marguerite-D'Youville RCM. It covers 62 km<sup>2</sup>, and much of the territory is located along the shores of the St. Lawrence River.

In 2011 the Town of Contrecoeur had a population of 6,252 residents, reflecting a 10.1% change in the 2006 population, or twice the national average growth rate (5.9%). The percentage of residents of working age (15 to 64 years) was 67.8%, consistent with the national average.

Contrecoeur's industrial sector includes some twenty manufacturing companies. This sector of activity remains strong, and is vitally important to the local economy considering it covers 1,315 ha of land and generates 3,000 direct jobs. Steel production, processing and related activities make up the bulk of its industrial activity.

Several factors attract companies to the area and create jobs in the manufacturing and industrial sectors in Contrecoeur: Highway 30, a rail line and the local availability of a high-flow natural gas system (Figure 2.2). No oil pipeline is found on or near the site.

#### 5.1.3.2 Land Use and Zoning

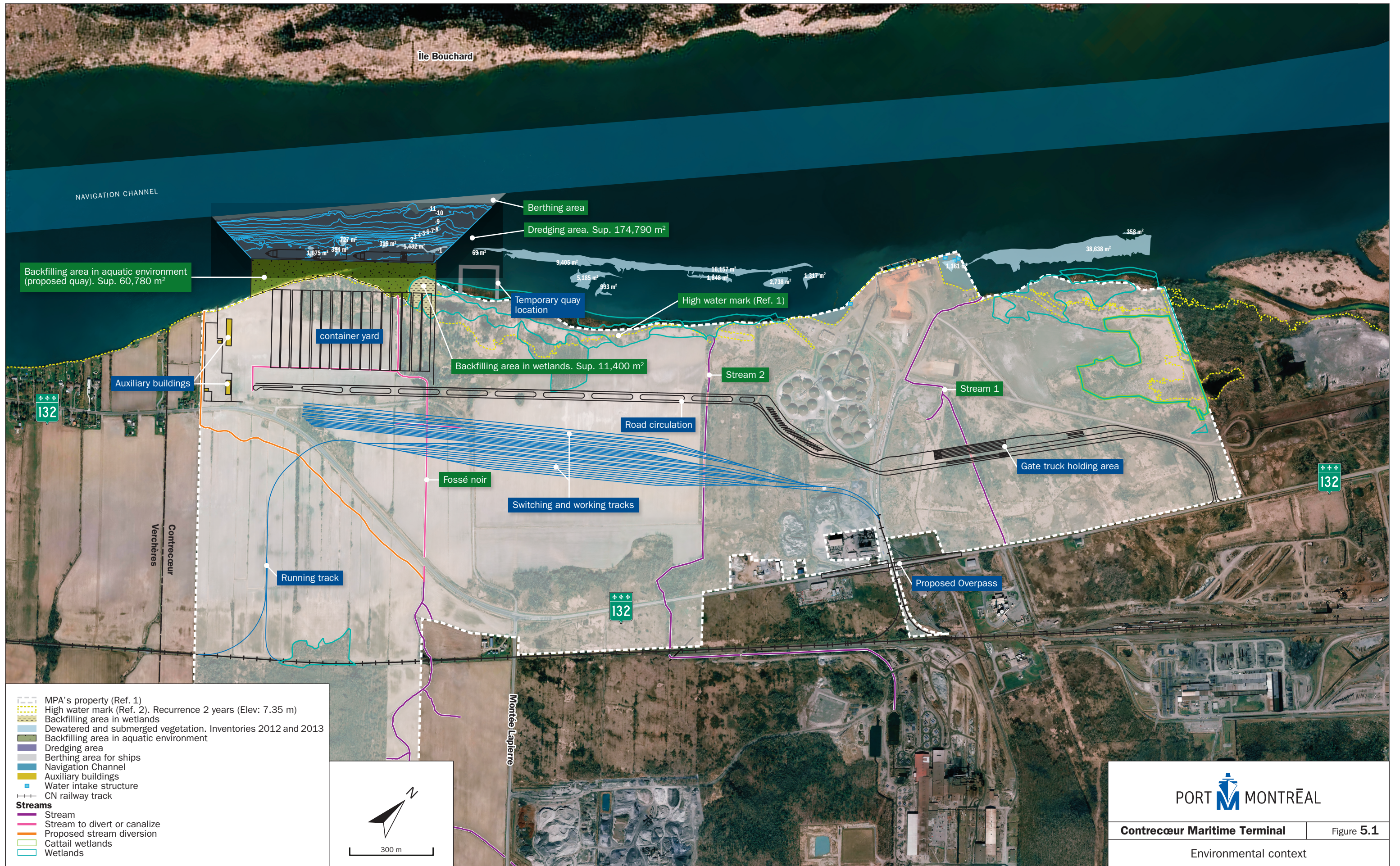
Figure 5.2 shows zoning for the Town of Contrecoeur. The portions of MPA's land north of Route 132 and east of Montée Lapierre are zoned exclusively for "heavy industry". Permitted uses include heavy industry, mining and the waste and recyclables industry. The area is currently the site of industrial activity.

The agricultural zone covers 47.5% of the Town of Contrecoeur's area. The area south of Route 132 and west of Montée Lapierre is an agricultural zone. After the MPA acquired its land holdings between 1988 and 1992, the entire property was earmarked for maritime terminal activities in accordance with its letters patent. The MPA has since agreed to lease out a portion of its lands, which is intended for port development, for agriculture. Land in the Town of Verchères, adjacent to the Town of Contrecoeur and approximately 160 m west of the MPA's land, is zoned for agricultural uses.

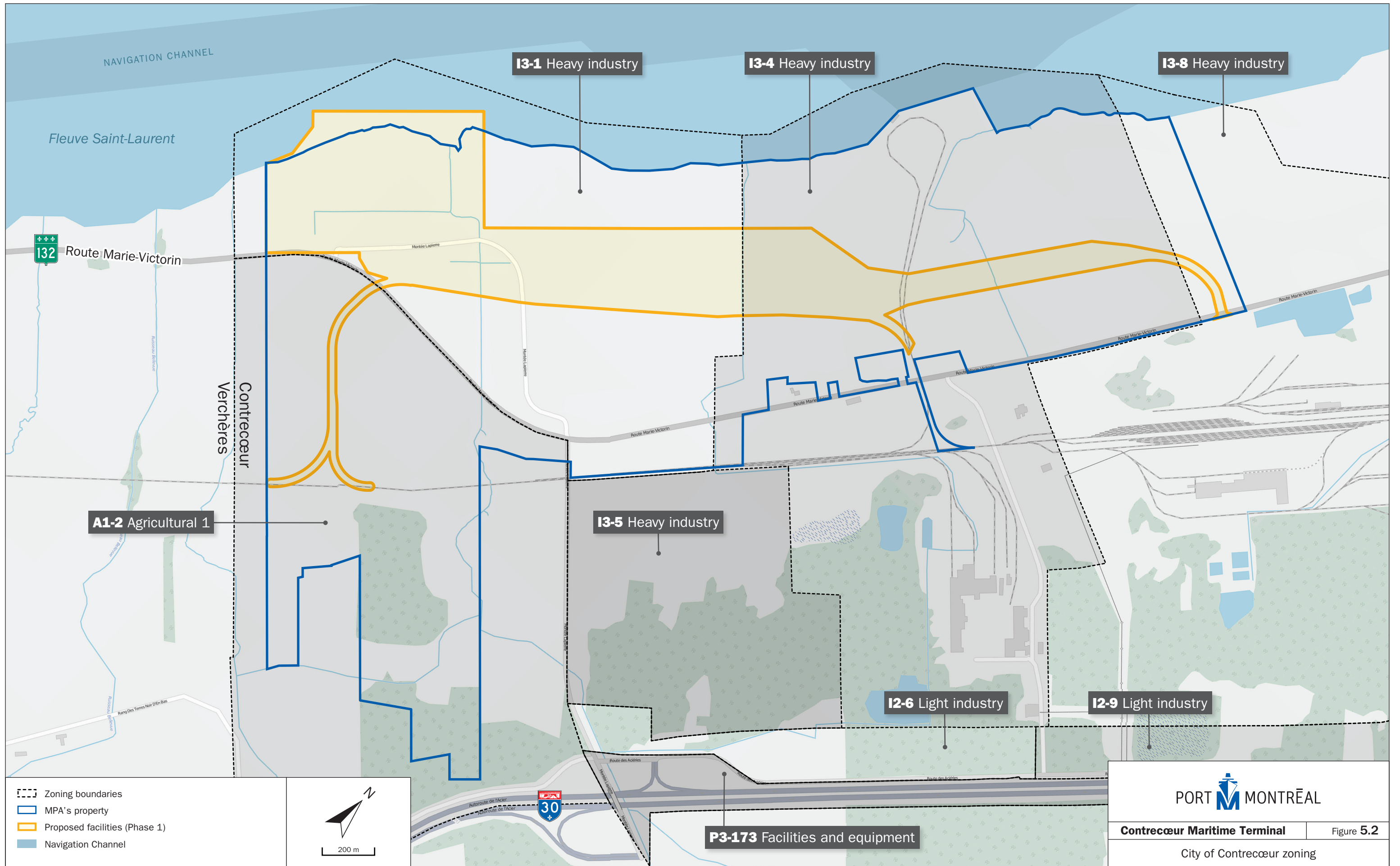
The residential zone is characterized by two residential pockets: one of low density, along the edge of the river, and another of greater density, comprising the urban core located to the east of the town between Highway 30 and Route 132.

A residential area is also present in Verchères, between Route 132 and the river, approximately 200 m west of the boundary with Contrecoeur.





Ref. 1: According to the land survey statement conducted on October 30, 2013, by Berthier Beaulieu Minute A.G. 2042. Ref. 2: LAPOINTE, Denis (1990) Zones inondables - Fleuve Saint-Laurent, Calcul des niveaux de récurrences 2, 5, 10, 20, 50 et 100 ans. Tronçon: Varennes-Grondines, MH-90-05, Ministère de l'environnement, Direction du Domaine hydrique. Oblique Aerial Photograph 2013



### 5.1.3.3 Heritage Sites

Wildlife habitats protected under Quebec's *Regulation respecting wildlife habitats* are present in the Contrecœur terminal area (Figure 5.3). The portion of the river along MPA's land contains an aquatic bird gathering area. Areas of common muskrat habitat are present on Contrecœur Islands, downstream from MPA's property, and on Bouchard Island. A heronry is also present on Bouchard Island.

The Îles de Contrecœur National Wildlife Area is located 2.5 km upstream from the existing terminal. The area is made up of islets and low islands spread over 10 km from Dragon Island to the west to Cœur de Pierre Island to the east.

The Île-Beauregard Nature Reserve was created in 1992 at the Verchères Islands, approximately 10 km downstream from the MPA's lands, by the *Nature Conservancy of Canada* and safeguarded in perpetuity since 2002 under *An Act Respecting Nature Reserves on Private Land*, now incorporated into the *Natural Heritage Conservation Act*.

No cultural heritage sites have been inventoried on MPA's property in Contrecœur.

### 5.1.3.4 Facilities

The current facilities on MPA's property in Contrecœur are primarily related to dry bulk transshipment activities at the maritime terminal. They include a quay, road and rail points of entry to the terminal and the electrical system, as well as buildings and related warehouses. Four non-potable water intakes are present on site, along with an aid to navigation which includes two towers of alignment lights (navigation towers) operated by Fisheries and Oceans Canada (Figure 2.2).

### 5.1.3.5 Transportation

#### Road

A ramp leading to Route 132, 4.5 km south west of the centre of the Town of Contrecœur, provides access to the existing terminal. To exit the existing terminal from Route 132, vehicles can merge onto Highway 30 via Montée Lapierre, 1.4 km south west of the current terminal entrance, or Montée de la Pomme-d'Or, 2.6 km away.

In 2010, annual average daily traffic on Route 132 amounted to 3,400 vehicles between Contrecœur and Verchères, from 12,900 on Highway 30 to the east of Montée Lapierre and 15,000 to the west of it. Heavy vehicles are not permitted on Route 132 over 1.3 km west of Montée Lapierre, except for local deliveries.



### *Rail*

A Canadian National (CN) rail line passes near or through MPA's property, directly south of Route 132. Currently, there is approximately one train passage per day.

### *Navigation*

The St. Lawrence River is a major transportation corridor for commercial shipping. Commercial shipping traffic at Sorel totalled 9,340 and 9,010 passing ships between 20 and 294 metres long in 2013 and 2012, respectively. In 2013, some 161 ships moored at existing Port of Montreal facilities in Contrecoeur, compared to 127 in 2012.

#### **5.1.3.6 Commercial and Industrial Activities**

Activities performed at the site of the existing terminal primarily consist of dry bulk handling and stockpiling, and include the following:

- ArcelorMittal: reception of raw materials (iron ore pellets) transported by ship;
- Yara Canada: distribution centre for fertilizer transported by ship, truck and train and distributed by truck and train;
- Logistec Arrimage: terminal operator providing stevedoring services for Yara Canada and ArcelorMittal.

In the terminal's immediate vicinity are the Grantech plant and two ArcelorMittal plants to the east and south-east of the maritime terminal. To the south of the terminal, on Montée Lapierre, Les Minéraux Harsco develops environmental solutions for managing waste materials in the metallurgical industry (Figure 2.2).

The Contrecoeur industrial park is located to the east of the ArcelorMittal facilities, heading toward downtown Contrecoeur. More than ten companies operating primarily in the fields of industrial ecology, environmental technology, precision mechanics, machining and transportation are located in this park.

Commercial fishing zones are located downstream from the site proposed for construction of the new container terminal. In these zones, two fishermen are authorized to fish carp using gill nets from April 1 to June 13.

#### **5.1.3.7 Recreation and Tourism**

The area contains recreational boating facilities, including a marina, a public dock and a boat launch in Contrecoeur, approximately 4 km downstream from the maritime terminal. The adjacent waters from the proposed maritime terminal are regularly used for recreational boating. However, existing terminal facilities are not used for recreational purposes or swimming.



Bouchard Island across the navigation channel from the MPA's property is used among others for Bouche-Art winery operations and visits. The boat being the only way to access the island, visitors arrive on their own vessel or by taking a cruise from Saint-Sulpice or Montreal.

Anglers fish the waters of the existing terminal area, from their boats. In winter, ice fishermen primarily use the narrow portion of the river between the Contrecoeur Islands and the Town of Contrecoeur (approximately 6 km downstream from the terminal) and the sector near the Verchères dock (approximately 11 km upstream from the terminal).

The Contrecoeur area has waterfowl hunting sites on Bouchard Island and on islands in the Contrecoeur archipelago (Duval Island, Saint-Ours Island, Aux Rats Island). Waterfowl hunting is permitted in the Îles de Contrecoeur National Wildlife Area during the fall migration period.

In the Contrecoeur area, the primary birdwatching sites include the Contrecoeur Islands and the north-east tip of Bouchard Island.

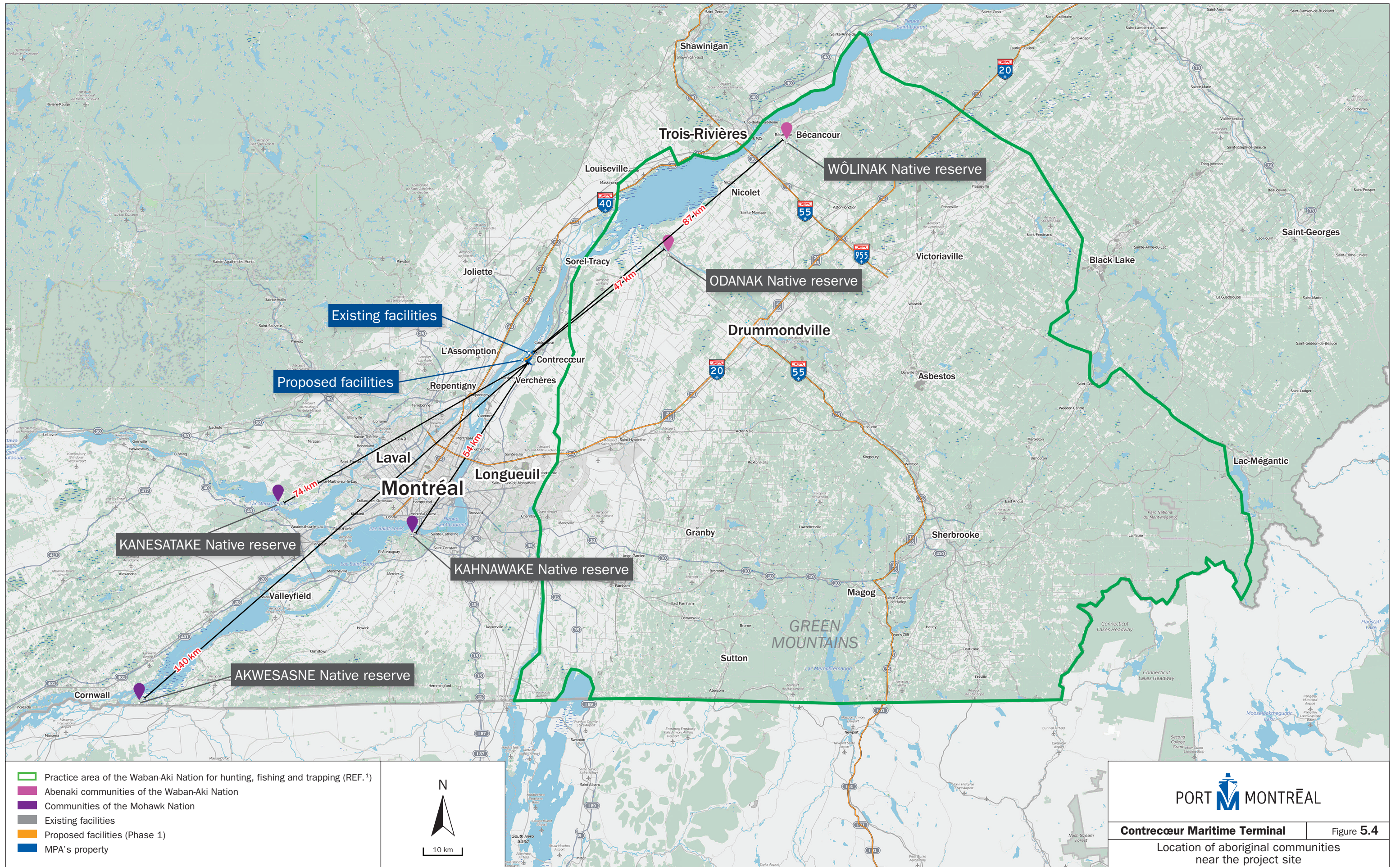
## 5.2 ABORIGINAL COMMUNITIES

Two Aboriginal communities are located downstream from the Contrecoeur facilities at approximately 47 km and 87 km, respectively (Figure 5.4). Both are reserves of the Abenaki, members of the Wabanaki Nation: the Odanak reserve, located to south-west of Trois-Rivières near Nicolet, along the St-François River, and the Wôlinak reserve, located between Précieux-Sang and Bécancour, along the Bécancour River. These communities have populations of approximately 2,387 and 333, respectively. The hunting, fishing and trapping area of the Wabanaki Nation is shown in Figure 5.4 [Reference of an historical research report published only in French : Rapport de recherche historique par Mario Marchand, historien, Bureau du Ndakinna, Grand Conseil de la Nation Waban-Aki, avril 2015].

Upstream from the project location, the nearest Aboriginal communities are the Kahnawake (10,669 inhabitants), the Kanesatake (2,424 inhabitants) and the Akwenasne (5,609 inhabitants) of the Mohawk Nation. These communities are located at approximately 54 km, 74 km and 140 km from the Contrecoeur facilities, respectively (Figure 5.4).







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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 6 – ENVIRONMENTAL EFFECTS**

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## **6 ENVIRONMENTAL EFFECTS**

Current knowledge regarding anticipated environmental effects are primarily based on data gathered during preliminary studies performed to date by the MPA and other organizations, as well as information provided by various stakeholders during the pre-consultation process meetings. Environmental effects will be clarified over the course of the environmental assessment through additional studies and consultations to enhance the understanding of the issues and ensure that mitigation measures can be set on a solid footing to avoid or limit the potential effects identified.

Accordingly, the public and stakeholders can expect CEAA's consultation periods to be held throughout the environmental assessment process to discuss environmental and socio-economic issues, in addition to the consultations that the MPA will also hold during the same period.

### **6.1 ENVIRONMENTAL EFFECTS ON ORGANIZATIONS UNDER THE LEGISLATIVE AUTHORITY OF PARLIAMENT IN ACCORDANCE WITH THE CEAA 2012**

#### **6.1.1 Effects on Fish**

The major potential effects on fish are as follows:

- Underwater noise and vibrations, particularly when sinking the sheet pilings to build the quay. Mitigation measures could be implemented, such as adapted work procedures and equipment;
- Changes in water quality, especially from the suspension of fine particulate during dredging work. These effects will mostly be felt in the work area, but could also extend some distance downstream. They could be mitigated by prohibiting certain types of work during the most sensitive periods for fish, such as spring spawning periods;
- Encroachment at the site of the proposed quay and the depth change at the berthing area will result in the loss or deterioration of spawning, fry rearing and feeding habitats. Although the berthing remains an aquatic environment, regular disruptions caused by shipping activities will negatively affect its quality. A compensation program will be implemented in cooperation with the appropriate authorities to ensure that the proposed activities do not result in a net loss of habitat.



### 6.1.2 Effects on Benthic Fauna

Construction of the terminal will destroy benthic fauna in backfilled or dredged areas. Manoeuvring areas and quayside berths may be recolonized by certain organisms, but these will remain poor environments due to port activities.

### 6.1.3 Effects on Submerged Vegetation

Backfilling work performed to construct the new quay and dredging of the berthing area will destroy small areas of submerged vegetation. However, the work will not affect the largest and highest quality submerged plant beds further to the east, between the proposed quay and the existing terminal, and to the east of the existing terminal.

### 6.1.4 Effects on Migratory Birds

Construction and operation of the new Contrecoeur terminal will have the following effects on migratory birds:

- Construction and operation of the new quay will affect shoreline habitat used by waterfowl as rest areas during the spring migration. Operations could reduce the use of adjacent areas given the disruption and noise associated with port activities.
- The encroachment into wooded areas and fallow lands behind the quay will result in the loss of habitats used by certain bird species for nesting and as feeding and rest areas during migration.
- The movement of trucks and equipment and the presence of lighting masts entail a risk of collision, and could cause bird deaths.
- The presence of lighting masts in the container yard could affect bird behaviour at night.

## 6.2 ENVIRONMENTAL EFFECTS ON FEDERAL LAND

### 6.2.1 Effects on the Nature and Quality of Soils

Foundation material, imported to level grade, will cover natural soil currently leased for agriculture purposes. As the covering material is contaminant-free, no significant impact on soil quality is expected.



### 6.2.2 Effects on Surface Water, Drainage and Groundwater

The installation of structures (sheet pilings, fill and coarse rock) in the water will disturb the existing bottom and could suspend fine particulates during construction, causing temporary local turbidity. Dredging work could also affect water quality with losses of material and temporary suspension of fine particulates by the dredge.

Quay structures, the intermodal yard and the gate truck holding area cross streams. Streams 1 and 2, partly blocked by the intermodal yard and gate truck holding areas, will be canalized towards a point where the railway tracks and traffic lanes meet. The mouth of the Fossé noir and its last 1.2 km section, along with its primary tributary, an agricultural ditch approximately 640 m long traversed by quay structures and the intermodal yard, will be filled in during quay and container yard construction. To offset this loss, the stream bed will be moved and recreated to the west of the work area over a distance of approximately 1.5 km, bypassing the new terminal and draining into the St. Lawrence River.

The effects of terminal operations on water quality will be negligible. Container transfer is not an activity that generates any harmful environmental discharges. However, activities will result in the following discharges:

- Waste water from the sanitation system;
- Runoff water collected by storm drains (possibly containing oil, antifreeze, abrasives, etc.);
- Drainage water from work areas and vehicle/machinery cleaning areas – oil/water separators (possible oil and grease leaks);
- Snowmelt.

To manage these discharges and mitigate the impact on water quality, they will be channeled to treatment systems equipped to meet the regulatory requirements in force.

### 6.2.3 Effects on St. Lawrence River Hydrodynamics

The new shoreline configuration, very close to the current natural line, will create small recirculation eddies upstream and downstream from the new quay, without necessarily having a significant impact on the river's hydrodynamics. A hydrodynamic modelling study is planned to more accurately assess these effects.



#### 6.2.4 Potential Health Effects

The health effects during construction and operation of the terminal primarily concern potential accidents, equipment malfunction and changes in air quality (i.e., hydrocarbon leaks when filling a transfer unit, dust during trucking operations) and noise levels.

#### 6.2.5 Effects on Air Quality

Terminal construction work is not expected to significantly affect air quality. Machinery traffic on access roads, the placement of backfilled materials, possible dynamic compaction and finishing work could generate dust that will be manageable with the regular application of a dust control product. Since the prevailing winds are out of the south-west, these temporary effects will primarily be felt in adjacent industrial areas.

The new Port facility will primarily be used for container transfers. This activity is not known to generate dust. The effects of the operating phase on air quality will relate more to the emission of greenhouse gasses in the exhaust from trucks, transfer units, trains and ships serving the terminal.

#### 6.2.6 Effects on the Noise Environment

Considering that terminal construction and operation activities will occur in an area where no industrial activity is currently taking place, these activities are expected to increase local ambient noise. The effects will be most noticeable by the community to the west of the new terminal.

During terminal operation, activities related to the presence of ships, transfer containers, train movements in the intermodal yard and circulating motor vehicles will be the main sources of noise.

The use of mobile electrical equipment and quay electrification (*shore power*), as well as noise dampening screens created from dredged sediment, are some of the mitigation measures to be considered during the environmental assessment.



### 6.2.7 Visual Effects and Lighting

Development of the terminal will have visual effects on the landscape, including:

- The natural and vegetated shore of the river will be replaced by a quay and maritime equipment over approximately 650 m, visible to users of the river and from Bouchard Island.
- Given their height, the gantry cranes will be visible over long distances, but the impact will be mitigated by the use of neutral colours.
- The project will alter the landscape seen by residents to the west of MPA's property, and by users of Route 132 and Montée Lapierre, substituting a rural landscape with an industrial area. This effect can be mitigated, particularly by installing visual screens and maintaining and/or adding wooded areas along Route 132 and the edge of the property.

The installation of adequate lighting is vital to protect the safety of terminal users and the general public. Whether lighting is installed temporarily, to accommodate construction work, or permanently, during operation of the new terminal, the effects for residents to the west and users of Route 132 will be notable.

During the environmental assessment, simulations of these effects will reinforce the choice of the most appropriate mitigation measures.

### 6.2.8 Effects on Wetlands

The effect of construction in wetlands will be to destroy a portion of the riverside marshlands and swamps at the site proposed for the new terminal, especially east of the mouth of the *Fossé noir*. The greater part of these wetlands will be preserved given their location outside the areas concerned by the new terminal. These wetlands are below the St. Lawrence River high water mark, and will be covered by the compensation program to reach the goal of preventing any net loss of fish habitat.

### 6.2.9 Effects on Terrestrial Wildlife and its Habitat

The project's major effects on terrestrial wildlife and its habitat are as follows:

- Creation of an area behind the quay that encroaches on woodland and wildland habitats;
- The noise associated with terminal construction and operation could affect wildlife in neighbouring areas;
- The presence of lighting masts in the container yard could affect the behaviour of terrestrial wildlife at night;
- The movement of trucks and equipment entails a risk of collisions with terrestrial wildlife.



### 6.2.10 Effects on Species at Risk

The terrestrial and aquatic habitats affected by construction of the new terminal offer some potential for use by species at risk.

Two species with a critical habitat, as detailed in their respective recovery programs in accordance with the SARA, are present near areas of concern to the proposed facilities: the copper redhorse and the western chorus frog. The critical habitat of the copper redhorse consists of continuous submerged vegetation located downstream from the proposed site of the new terminal (Figure 5.1). Some five discontinuous beds of submerged vegetation covering a combined area of approximately 30 m by 100 m located at the tip of this habitat will be lost. However, the vast majority of this habitat, including all of the highest quality portions, will remain untouched. Temporary effects related to water quality and the underwater noise are probable.

The fallow land and wooded habitat of the western chorus frog is present south of the CN railway track where its reproduction has been confirmed (Figure 5.1). Since no developments are planned in this area, no loss of this specie's critical habitat is expected.

### 6.2.11 Effects on Land Use

The terminal will be built on land already zoned and intended for industrial port use. Incidentally, this land sits adjacent to heavy industry. However, subject to a leasing arrangement following its acquisition by the MPA approximately 25 years ago, the primary existing use of the land in question is agriculture. Consequently, the project will alter the use of a portion of the land. To the extent possible, the MPA plans to maintain the agricultural use on a leased basis of certain parcels of land not used for port facility development.

### 6.2.12 Effects on Existing Facilities

The major effects of the new developments on existing facilities pertain to possible disruptions affecting:

- Road and rail access to the bulk terminal during terminal construction and operation;
- Water quality at the four non potable water intakes caused by the temporary suspension of particles during construction work and dredging activities.



### **6.3 CROSSBORDER ENVIRONMENTAL EFFECTS**

Given the long distances between the expansion project location and provincial and international borders, no significant crossborder environmental effects are expected.

### **6.4 ENVIRONMENTAL EFFECTS ON ABORIGINAL COMMUNITIES**

Although no significant environmental effects are expected related to this project on the Abenaki and Mohawk communities, a technical analysis will be conducted as part of the environmental impact study, including potential destruction of fish habitat at the terminal site and the potential effects against aboriginal fishing activities.

### **6.5 SOCIO-ECONOMIC AND SOCIO-COMMUNITY EFFECTS**

#### **6.5.1 Effects on the Labour Market and Economy**

Excluding the structuring effects and all other value added activities, the major effects directly pertaining to the labour market and economy during terminal construction and operation can be summed up as follows:

##### **6.5.1.1 Construction**

- Creation of over 5,000 direct jobs per year for the duration of the work, with 80% located in Quebec;
- Tax revenues of nearly \$100 millions payable to governments;
- Equipment acquisitions (cranes, trucks, etc.);
- Local population growth fuelled by job opportunities;
- Increase in the demand for community services and facilities.

##### **6.5.1.2 Operation**

- Over 1,000 direct jobs during each year of operation;
- Annual tax revenues of close to \$28 million payable to governments;
- Local population growth fuelled by job opportunities;
- Increase in the demand for community services and facilities.



## 6.5.2 Effects on Transportation

### 6.5.2.1 Road Transportation

The construction work will temporarily increase the use of the local and regional road systems. This increase is the inevitable outcome of the presence of equipment, construction material and workers on the construction site.

During the operation of the new terminal, truck movements will increase over time at the new terminal. The flow of traffic expected once the new terminal is operating at full capacity is approximately 2,200 vehicles per day. These vehicles will arrive on Montée de la Pomme-d'Or and Montée Lapierre from Highway 30. However, the effects of local road traffic will not be significant given the direct access to Highway 30. Furthermore, based on the design currently being studied, the entrance to the existing terminal will be retained to provide access via Route 132 ramps. An overpass on Route 132 will allow rail convoys to travel to and from the existing terminal as well as the new terminal without disrupting traffic on Route 132.

New road features designed to assist the flow of traffic, such as left and right turning lanes, traffic lights and truck acceleration-deceleration lanes near terminal entrances will be analyzed and deployed as needed to make traffic flow as fluid as possible and to minimize the impact of trucking on local traffic. Heavy vehicle traffic toward Verchères on Route 132, west of Montée Lapierre, is not expected given that such traffic is prohibited.

A detailed assessment of road traffic and its consequences will be developed during future environmental assessments.

### 6.5.2.2 Rail Transportation

Operation of the new terminal will result in increased rail shipments. Based on current estimates, train frequency will be one to two trains per day, once the new terminal is operating at full capacity.

A railway track crossing through MPA's property currently connects the existing maritime terminal to the CN main line. Two access tracks to the existing and new terminal will be constructed based on the design studied. An overpass on Route 132 will avoid queuing due to the passages of trains entering or leaving the area. An additional track will be installed at the west end of the property to connect the CN main line and the working tracks. This line will cross Route 132. For the most part, lead locomotives will use it after taking trains to the working track in order to return to the main CN line and pick up trains on the east side.

A detailed assessment of rail traffic and its consequences will be prepared as part of the future environmental studies.



### 6.5.2.3 Navigation

The project will result in a slight increase in ship traffic. Once the facilities are operating at full capacity, they should be able to accommodate two or three ships per week at the two quayside berths.

A detailed assessment of ship traffic and its consequences will be prepared during the upcoming environmental studies.

### 6.5.3 Effects on Heritage Sites

In the absence of any cultural heritage sites or potential archeological sites near the work area, no effects are anticipated for these items. Some possible effects to the natural heritage have been identified and will be taken into consideration during the future environmental studies, namely:

- Water quality as a result of dredging;
- Wave action from passing boats on the Contrecoeur Islands;
- A gathering area for aquatic birds and wildlife habitats protected under the *Regulation respecting wildlife habitats*.

### 6.5.4 Effects on Recreational/Tourism Activities

The project is not expected to have a significant impact on recreational or tourism facilities or activities. The terminal's presence and operation, as well as ship manoeuvres, will have few direct impacts on recreational boating, game fishing, hunting or ecotourism, activities that take place outside MPA lands.

### 6.5.5 Effects on Public Safety and Security

Container terminal construction and operation do not pose a serious risk to public safety or security. Nevertheless, the MPA considers them important issues, and is committed to applying the same high standards at Contrecoeur that it enforces at its Montreal facilities that have made it a pioneer in this field among Canadian ports.

The most important items covered in the MPA's safety and security plans concern surveillance, controlled access and the emergency response plan.

Automated access control ensures that all stakeholders are identified and registered.

In terms of responders, the MPA has a qualified fire prevention team, ready to respond to problems involving hazardous substances, and a Control Centre open 24 hours a day, 365 days a year to coordinate response activities and manage incidents and complaints. In addition to the individual plans of terminal operators, the MPA has its own emergency response plan.



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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 7 – STAKEHOLDER CONSULTATIONS**

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#### **7 STAKEHOLDER CONSULTATIONS**

For the MPA, the information and consultation process is not only vital to the project's success but also to achieving positive spinoffs for the entire community. To ensure that its project integrates positively into the community, the MPA launched a consultation activity as far back as the spring of 2014 with all identified stakeholders. The purpose of this pre-consultation phase was to:

- Present the project;
- Answer requests for information and questions from the various stakeholders and ensure the necessary follow-up;
- Understand local concerns regarding the project in order to develop appropriate mitigation measures to the extent possible in preparation of the full environmental impact study.

Initially, government authorities, local and regional authorities, interest groups and clients, tenants and operators were included in the pre-consultation. In all, the MPA contacted 94 stakeholders representing 22 groups or organizations during the pre-consultation phase.

Then, in the fall of 2014, the MPA met with residents living in communities directly affected by the project. Private meetings were held with the residents of properties directly adjacent to MPA's lands. MPA's representatives were able to take the time during these conversations to present the project and listen to specific, individual concerns.

This was followed by an invitation to the residents of the Contrecoeur and Verchères municipalities to a public information session held by the MPA on December 1<sup>st</sup>, 2014. In a letter sent to approximately 6,000 homes in the two municipalities, the residents were welcomed to participate in the process. Over 200 people took part in the activity.

Table 7.1 lists the various discussions held during the pre-consultation process with stakeholders identified by the MPA.



**Table 7.1 Stakeholders contacted by the MPA during the pre-consultation process**

Type of Stakeholder	Stakeholders	Date	Number of Participants	Meeting Format
<b>Local and regional authorities</b>	Town of Contrecoeur	2014-04-30	3	Meeting
	Town of Verchères	2014-06-06	2	Meeting
	Town of Varennes	2014-06-11	2	Meeting
	Town of Boucherville	2014-06-27	2	Meeting
	Town of Sorel-Tracy and Société des Parcs industriels et du Port de Sorel-Tracy	2014-07-02	3	Meeting
	Town of Contrecoeur	2014-07-03	1	Meeting
	RCM Marguerite-D'Youville (management)	2014-09-15	3	Meeting
	Town of Contrecoeur	2014-08-25	9	Meeting
	Town of Longueuil	2014-09-08	2	Meeting
	RCM Marguerite-D'Youville (elected officials)	2014-09-15	10	Meeting
<b>Clients, tenants and operators</b>	Yara	2014-10-20	1	Telephone
	Grantech	2014-10-20	1	Telephone
	Bourgeois	2014-10-22	2	Telephone
	Logistec	2014-10-22	1	Telephone
	ArcelorMittal	2014-10-29	1	Telephone
	Ferme M. Messier	2014-11-20	1	Telephone
	Fermes Ménanmar	2014-11-20	1	Telephone
	Termont	October	1	Telephone
	MGTP	October	1	Telephone
<b>NGOs</b>	ZIP Jacques-Cartier	2014-09-10	9	Meeting
	ZIP du lac Saint-Pierre	2014-09-12	2	Meeting
	ZIP des Seigneuries	2014-09-12	4	Meeting
	Conseil patronal de l'environnement du Québec (CPEQ)	2014-10-08	1	Meeting
	Comité de concertation Navigation (CCN)	2014-10-15	21	Meeting
	CRE Montérégie (Board of Directors)	2014-11-13	10	Meeting
<b>Local residents</b>	Neighbouring shoreline residents	2014-11-04	3	Meeting
	Neighbouring shoreline residents	2014-11-04	2	Meeting
	Neighbouring shoreline residents	2014-11-04	1	Meeting
	Neighbouring shoreline residents	2014-11-12	2	Meeting
	Neighbouring shoreline residents	2014-11-12	1	Meeting
	General public (primarily Contrecoeur and Verchères residents)	2014-12-01	203	Public information meeting



The majority of the stakeholders consulted supported the project, especially considering the economic spinoffs expected for local communities. Table 7.2 summarizes the main concerns raised by participants during the pre-consultation activities. Among the stakeholders consulted, the increase in rail transport and shipping, along with related nuisances caused by noise, dust and interference with the flow of vehicles were mentioned as a concern.

The information gathered during this initial consultation phase launched by the MPA will allow for the optimization of future project development phases and improve the design of detailed site development plans.

The MPA also considers it is essential to achieve the best possible alignment between the consultation process established by the Canadian Environmental Assessment Agency and its own continued efforts to communicate with stakeholders.

The project is currently in its fifth year of planning and development within a ten-year schedule. In this regard, the MPA is committed to ensuring monitoring thorough follow-up with all stakeholders throughout the planning, construction and operational phases.



**Table 7.2 Major Concerns Raised During the Pre-Consultation Process**

Topic	Concern	Partial Answers	Stakeholders Concerned
<b>AGRICULTURAL ENVIRONMENT</b>	Encroachment on farmland	The proposed development of MPA lands is located in a sector already zoned for industrial maritime use. To the extent possible, the MPA intends to continue leasing certain parcels of land for agricultural use of, as it has historically done after purchasing them.	CRE Montérégie Neighbouring shoreline residents Union des Producteurs Agricoles du Québec (UPA)
<b>HUMAN ENVIRONMENT</b>	Operating hours during construction and operation	During construction work tentatively scheduled from Monday to Friday, 7 a.m. to 5 p.m. Once completed, the terminal will operate 24 hours a day. However, trucking activities will primarily occur from Monday to Friday, 7 a.m. to 3 p.m.	Neighbouring shoreline residents Participants at the public information session on December 1, 2014
	Impact of increased trucking on traffic flow (Highway 20 and 30, and Route 132)	A traffic study is in progress. The MPA estimates that up to 2,200 trucks will travel the road daily once Phase 1 of the terminal is operating at full capacity.	Town of Boucherville Town of Longueuil CRE Montérégie Neighbouring shoreline residents Participants at the public information session on December 1, 2014 MDDELCC
	Impact of increase in the number of vessels	Two to three ships are expected per week once Phase 1 of the project is complete and operating at full capacity.	Town of Longueuil Participants at the public information session on December 1, 2014
	Project's impact on bicycle path (Green Route)	The impact on the bicycle path will be considered during project development.	Town of Contrecoeur Town of Verchères Participants at the public information session on December 1, 2014
	Impact on landscaping, especially view of River from Route 132	The impact on the landscape will be examined in the environmental impact study.	Town of Verchères Comité ZIP Des Seigneuries Neighbouring shoreline residents Participants at the public information session on December 1, 2014



Topic	Concern	Partial Answers	Stakeholders Concerned
	Creation of a complaints management procedure.	The MPA operates a telephone line connected to the Control Centre that can be reached 24 hours a day, 7 days a week and used by residents (514 283-7022). Other means of communication will also be put in place prior to the construction period (ex.: website, email address, etc.).	Neighbouring shoreline residents
	Nuisances associated with increased rail traffic, including noise, vibration and the impact on traffic flow in town (especially at level railway crossings, given the length of the trains).	A traffic study is in progress.  The MPA estimates train frequency at one per day or two per day once Phase I reaches full capacity.	Town of Varennes Town of Verchères Town of Boucherville Town of Longueuil RCM Marguerite-D'Youville CRE Montérégie Participants at the public information session on December 1, 2014
	Nuisances caused by construction in the west part of the property (in proximity to dwellings) rather than in the east portion of the site.	This decision was made after analyzing the various options based on environmental, technical and economic criteria.	Neighbouring shoreline residents Participants at the public information session on December 1, 2014
	Lowered property values of homes located near the site.	It is too early to determine the project's impact on property values. Over the coming year, project development will continue and different studies will make it possible to assess any impact the project might have on the neighbourhood, and identify possible mitigation measures to limit such impact. In particular, the studies will include various sound (noise) and visual simulations to generate additional information as a basis for more detailed discussions of this issue with property owners affected by the project.	Neighbouring shoreline residents Participants at the public information session on December 1, 2014



Topic	Concern	Partial Answers	Stakeholders Concerned
	<p>Air pollution (i.e., dust) during the terminal construction and operation phases, especially related to trucking.</p>	<p>An inventory of airborne emissions related to operation of the new terminal will be performed continuously during operation. The installation of air quality measurement stations will also be considered during construction. The impact analysis will also take account of various factors, such as shipping by truck or rail, transfer and cargo handling equipment, docked ships, tug boats, the operator’s vehicle fleet, the temporary storage area for reefer containers and buildings. If necessary, mitigation measures will be introduced in response to any impact of airborne emissions arising from the new terminal’s operations. Electric portal cranes should have less of an impact than the diesel-powered cranes used today. Lastly, trucking activities will occur primarily between 7 a.m. and 3 p.m. on weekdays only.</p>	<p>RCM Marguerite-D’Youville Neighbouring shoreline residents Participants at the public information session on December 1, 2014</p>
	<p>Light pollution caused in particular by lighting towers.</p>	<p>The use of a new type of light (LED) will significantly reduce light pollution.</p>	<p>Neighbouring shoreline residents Participants at the public information session on December 1, 2014</p>
	<p>Sound pollution (noises and whistles) and vibrations caused by terminal-related activities (construction and operation) and trucking.</p>	<p>Studies have been performed to assess the impact on immediate neighbours using noise measurements and simulation. A monitoring program will be introduced during construction and operation. During the commissioning of Phase I, various items of equipment will operated electronically and generate less sound pollution and vibration, such as electric cranes. Trucking activities will occur primarily between 7 a.m. and 3 p.m. on weekdays only.</p>	<p>Town of Verchères Neighbouring shoreline residents Town of Contrecoeur Participants at the public information session on December 1, 2014</p>
	<p>Risk of interference between commercial ships and fishing boats or recreational craft.</p>	<p>The commissioning of the new terminal will result in a minor increase in passing commercial ships. The MPA estimates that two to three more ships per week will pass through the area once Phase I of the</p>	<p>Town of Contrecoeur RCM Marguerite-D’Youville Environment Canada</p>



Topic	Concern	Partial Answers	Stakeholders Concerned
		<p>project is complete and operating at full capacity. This change is unlikely to affect joint use of the shipping channel by commercial ships and fishing boats or recreational craft.</p>	
<p><b>NATURAL ENVIRONMENT</b></p>	<p>Sediment dispersal during dredging</p>	<p>With the outcome of environmental studies still awaited, no decision has been reached concerning the technique to be used or the sediment management model.</p>	<p>Comité ZIP Jacques-Cartier Comité ZIP du lac Saint-Pierre Participants at the public information session on December 1, 2014</p>
	<p>Greenhouse gas (GHG) emissions</p>	<p>Shipping is the most ecologically sound means of transportation in terms of GHG emissions. Extensive transshipment equipment is now electrically powered, which substantially reduces GHG production.</p>	<p>Participants at the public information session on December 1, 2014</p>
	<p>Shoreline erosion caused by wave action from passing boats, especially large ships (i.e., post-Panamax)</p>	<p>The waves caused by passing post-Panamax ships are no larger than those of ships that currently navigate the river. Furthermore, the new terminal will increase the number of passing commercial ships only slightly. The MPA estimates that only 2 or 3 more ships per week will pass through the sector once Phase I of the project is completing and operating at full capacity.</p>	<p>Town of Sorel-Tracy and Société des Parcs industriels and du Port de Sorel-Tracy Comité de concertation Navigation (CCN) Comité ZIP Jacques-Cartier Comité ZIP du lac Saint-Pierre MDDELCC</p>
	<p>Impact of increased trucking on wildlife (deer)</p>	<p>This item will be assessed in the environmental impact study.</p>	<p>Participants at the public information session on December 1, 2014</p>
	<p>Impact on streams and wetlands located on or near the property (i.e., diversion of Fossé noir stream)</p>	<p>The MPA plans to take the necessary steps to avoid affecting wetlands located on its property as much as possible. Given that the design is not yet complete, it is too early to confirm whether they can be completed avoided. A response plan and compensation measures will be proposed to divert surface water and drainage water, as necessary.</p>	<p>RCM Marguerite-D'Youville Comité ZIP Des Seigneuries Town of Verchères Environment Canada</p>
	<p>Impact on migratory birds, especially on the Contrecoeur Islands (largest</p>	<p>The periods of least risk for migratory birds will be given priority during deforestation work. This item will be assessed in the environmental impact study.</p>	<p>Environment Canada</p>



Topic	Concern	Partial Answers	Stakeholders Concerned
	nesting ground of the gadwall)		
	Impact on fish habitat, especially the copper redhorse, a species at risk.	<p>As required by the Department of Fisheries and Oceans Canada (DFO), a project that causes the loss of a fish habitat requires a permit and a compensation plan based on the size of the altered area. The dredging and excavation work required to build the new terminal will require a permit issued by DFO and a compensation plan. As for all similar projects, DFO has asked the MPA to document the feasibility of various project designs to reduce the harmful effects on fish habitat and aquatic species at risk as well as their critical habitat.</p> <p>Since 2008, the MPA has performed wildlife inventories, including two targeting the copper redhorse (in 2012 and 2013). To date, these inventories show that the submerged vegetation area likely to constitute an habitat for the copper redhorse in the west sector of the project comprises five small areas of discontinuous submerged vegetation, with a total combined area amounting to 30 m by 100 m. However, this fish was not detected in the vicinity of the Contrecoeur maritime terminal during these inventories. Based on the MPA's information, the last specimen identified in the area was found in 2008, near Lanoraie. Regardless of the scope, the MPA takes the environmental issues involved in its project very seriously, and will comply with the applicable regulatory framework, particularly as it concerns compensation required, as applicable.</p>	<p>Comité ZIP Des Seigneuries                  CRE Montérégie                  Participants at the public information session on December 1, 2014</p>



Topic	Concern	Partial Answers	Stakeholders Concerned
	Creation of a compensation program	An inventory will be developed to identify which habitats will be altered and to determine relevant compensation projects with the departments concerned in order to recreate damaged habitats.	CRE Montérégie Town of Verchères Comité ZIP Des Seigneuries MDDELCC
	Loss of forest cover caused by the development of port facilities	The options available to compensate for forest cover lost following development of the maritime terminal facilities will be analyzed during the environmental impact study.	Comité ZIP Des Seigneuries Neighbouring shoreline residents
	Use of clay from dredging for fill	The geotechnical characteristics of the dredging material preclude the possibility of using it as fill.	Comité ZIP du lac Saint-Pierre
<b>CONSULTATION PROCESS</b>	The MPA must ensure the project's acceptability to tenants (container terminals)	The MPA has established a stakeholder consultation process that includes terminal operators.	CPEQ
<b>ECONOMIC SPINOFFS</b>	Impact of new terminal on the shipment of goods via the Saint-Hubert airport	The mass arrival of containers on the South Shore, combined with the proximity of the Saint-Hubert airport, offers the airport and adjacent lands (buffer zone) opportunities for creating economic activities.	City of Longueuil
	Impact on companies operating in the area (access roads, encroachment on their lands)	The daily flow of trucks and workers will generate economic activity. Local companies will benefit.	Terminal operators Participants at the public information session on December 1, 2014
	Impact on MPA's facilities in Montreal	The goal of commissioning a new terminal in Contrecoeur is not to compete with or wipe out the Montreal market but rather be able to meet growth in demand once any of the facilities on Montreal Island reaches its full capacity. The new Contrecoeur container terminal will complement port activities on Montreal Island.	Comité de concertation Navigation (CCN) Comité ZIP du lac Saint-Pierre Comité ZIP Des Seigneuries RCM Marguerite-D'Youville CRE Montérégie CPEQ MDDELCC
	Economic benefits for surrounding municipalities (i.e., Sorel-Tracy, Verchères)	Activities at a terminal like Contrecoeur generate economic benefits for the communities around	Town of Sorel-Tracy and Société des Parcs industriels et du Port de Sorel-Tracy



Topic	Concern	Partial Answers	Stakeholders Concerned
		them. Neighbouring municipalities will certainly have a chance to seize opportunities.	Participants at the public information session on December 1, 2014
	Benefits in terms of additional jobs in the area	A recent study assessed that the project would create 5,000 person-years of employment during the construction phase, and 1,000 person-years during operation.	Neighbouring shoreline residents Participants at the public information session on December 1, 2014
	Condition (obsolescence) of the railway track	The railway track owned by CN, a Class A railroad company, is in very good condition. It is also regularly monitored in accordance with federal regulations. CN recently began replacing the wooden railway ties and inspecting culverts and other structures.	Town of Boucherville
<b>SAFETY</b>	Impact of the new terminal on RCM fire prevention plans and training budgets.	The MPA has an existing emergency response plan (ERP) developed in collaboration with the Montreal fire department and the MPA anticipates similar collaboration with local services.	Town of Varennes
	Concerns about the potential shipment of hazardous substances by train and by boat	It is important to clarify that the new terminal will receive only container goods. All hazardous goods received are regulated, and controlled, as they are in Montreal. For some product categories, MPA's fire prevention inspectors will check the packages.	Town of Verchères Comité ZIP du lac Saint-Pierre Participants at the public information session on December 1, 2014
	Concerns about the potential transport of petroleum products by train, boat and pipeline	No petroleum products will be shipped since the new terminal will receive only container goods.	Town of Longueuil RCM Marguerite-D'Youville Town of Contrecoeur Comité de concertation Navigation (CCN) CRE Montérégie Neighbouring shoreline residents
	Train speed and lack of level crossing barriers	A traffic study is in progress.	Town of Verchères Participants at the public information session on December 1, 2014



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## **CONTRECŒUR MARITIME TERMINAL EXPANSION PROJECT**

### **CHAPTER 8 – CONSULTATIONS WITH PROVINCIAL AND FEDERAL GOVERNMENTS AND ABORIGINAL GROUPS**

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#### **8 CONSULTATIONS WITH PROVINCIAL AND FEDERAL GOVERNMENTS, AND ABORIGINAL GROUPS**

To date, the MPA has met with the following government agencies and departments concerning the project:

- Federal government :
  - Infrastructure Canada;
  - Environment Canada, Canadian Wildlife Service;
  - Department of Fisheries and Oceans Canada.
- Provincial government:
  - Minister of Sustainable Development, Environment and the Fight against Climate Change

The purpose of these meetings was to outline the project, discuss regulatory provisions and anticipate any issues that might be raised during design, construction or operation of the terminal.

Table 8.1 summarizes the consultation activities conducted to date with government authorities identified by the MPA as stakeholders, including the Department of Fisheries and Oceans Canada, which is being asked to issue permits under the *Fisheries Act* and the *Species at Risk Act*.



**Table 8.1 Government Authorities met by the MPA**

Type of Stakeholder	Stakeholders	Date	Number of participants	Meeting Format
Federal government	Infrastructure Canada	2014-06-04	3	Meeting
	Environment Canada, Canadian Wildlife Service	2014-10-03	9	Meeting
	Department of Fisheries and Oceans Canada (DFO)	2014-2015		Information sharing
Provincial government	Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) [in English: Minister of Sustainable Development, Environment and the Fight against Climate Change]	2014-11-28	6	Meeting

No pre-consultation activity was held with Aboriginal groups. In the event that the Waban-Aki or Mohawk nations express interest, the MPA agrees to consult them about project details and take their concerns into account when developing the project.



