



PORT of  
**vancouver**

# **PROJECT AND ENVIRONMENTAL REVIEW REPORT**

**PER NO. 15-012  
CENTERM EXPANSION PROJECT**

Prepared for:  
Project and Environmental Review Committee

April 18, 2018

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		<b>VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT</b>	
<b>PER No.:</b>	<b>15-012</b>		
<b>Tenant:</b>	<b>Dubai Ports World Vancouver</b>		
<b>Project:</b>	<b>Centerm Expansion Project</b>		
<b>Project Location</b>	<b>777 Centennial Road, Vancouver</b>		
<b>VFPA SID No.:</b>	<b>VAN 032</b>		
<b>Land Use Designation:</b>	<b>Port Terminal</b>		
<b>Applicant(s):</b>	<b>Infrastructure Delivery, Vancouver Fraser Port Authority</b>		
<b>Applicant Address:</b>	<b>100 The Pointe, 999 Canada Place, Vancouver</b>		
<b>Category of Review:</b>	<b>D</b>		
<b>Recommendation:</b>	<b>That PER No. 15-012 for the Centerm Expansion Project be approved.</b>		

## 1 INTRODUCTION

The Vancouver Fraser Port Authority (VFPA), a federal port authority, manages lands under the purview of the *Canada Marine Act*, which imparts responsibilities for environmental protection. VFPA accordingly conducts project and environmental reviews of works and activities undertaken on these lands to ensure that the works and activities will not likely cause significant adverse environmental effects. This project and environmental review report documents VFPA's project and environmental review (PER) No. 15-012: Centerm Expansion Project (the Project) proposed Vancouver Fraser Port Authority Infrastructure Delivery (the Applicant).

This project and environmental review was carried out to address VFPA's responsibilities under the *Canada Marine Act*, and to meet the requirements of the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012), as applicable. The proposed Project is not a CEAA 2012 "designated project" and an environmental assessment as described in CEAA 2012 is not required. However, VFPA authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 67 of CEAA 2012 requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. This review provides that assurance. In addition, VFPA considers other interests, impacts and mitigations through the project and environmental review.

The project and environmental review considered the application along with supporting studies, assessments and consultations carried out or commissioned by the Applicant, as well as other information provided by the Applicant. In addition, this project and environmental review considered other information available to VFPA and other consultations carried out by VFPA. A full list of information sources germane to the review is provided in Appendix B.

This project and environmental review report is NOT a project authorization. It is a prerequisite to the issuance of a project permit (the permit) and the conclusions described in this report require compliance with the conditions in the permit.

## 2 PROJECT DESCRIPTION

The Applicant proposes to construct a series of improvements to the existing Centerm container terminal (the terminal) at 777 Centennial Road, Vancouver, as well as to off-terminal road and rail.

The expansion to container capacity and related off-terminal improvements are intended to meet anticipated near-term demand for containers to be shipped through Vancouver. The application includes the South Shore Access Project, which include off-terminal works to improve infrastructure that would benefit the entire south shore port area. Collectively, they are referred to as “the Project.”

The terminal is currently operated by Dubai Ports World Vancouver (DP World), and has been in operation since approximately 1946. It is a dedicated container terminal today, having evolved from a combined products terminal in the past. The proposed improvements are intended to increase terminal capacity from a current maximum of 900,000 containers (or TEU) annually to 1.5 million annually, with a proposed sustainable capacity of 1.3 million TEU annually, which is the typical peak operating condition. Actual volumes handled are driven by market conditions.

The Project includes expansion and upgrades to the site (on-terminal), as well as improvements to adjacent road and rail access that are both within and outside VFPA’s jurisdiction (off-terminal). On-terminal works include the expansion of the existing container terminal west and east, and significant reconfiguration within it. The western expansion includes lengthening of the existing wharf structure by the installation of concrete caissons, dredging, perimeter rock dykes, and earth fill. The eastern expansion consists of rehabilitation of the existing Ballantyne Pier with rock dykes and earth fill, removal of most of the Ballantyne shed, and installation of new utilities in the area. Off-terminal works includes a new VACS gate and the extension of Waterfront Road to provide a connection to Main Street, as well as removal of the Heatley Avenue overpass, construction of the CROP and works to re-align rail in the area to the south of the terminal. Some of these components are destined to become VFPA assets.

The Project includes an increase to the terminal footprint through infilling a portion of Burrard Inlet, extending the main berth by 58 metres (256 feet) to 724 metres (2375 feet) in length, expanding the intermodal yard, new buildings and significant reconfiguration of terminal operations to increase container capacity, including a re-orientation of container stacks on the entire east half of the terminal. The Project is proposed in order to meet expected increases in demand for containerized traffic through the west coast of Canada, consisting of imported products such as clothing, food and electronics, as well as export products, such as pulp, lumber, and specialty grains.

The existing Centerm marine berth is 646 metres (2119 feet) long and the terminal is defined as a single modern berth or limited-capacity two-berth terminal. The expanded berth length of 724 metres would allow the terminal to accommodate two medium to large vessels, and to load and unload them simultaneously. Vessel calls to the terminal are proposed to gradually increase from current levels of approximately 235 calls per year to approximately 300 when operating at full capacity.

The South Shore Access Project, reviewed as part of this Project but separately funded, includes a new Centennial Road Overpass removal of the Heatley Avenue overpass and rail reconfiguration, reconfigured Clark Drive/Centennial intersection, an extension to Waterfront Road, and related off-terminal works. The improvements are intended to address road congestion and increase vehicle fluidity and efficiency within the port by removing three at-grade rail crossings for vehicles, and removing port-related traffic from surrounding roads, while providing a continuous port road from Main Street to Highway 1. These improvements contribute to the port’s long-term objective to improve goods movement and vehicle access along the entire south shore area.

The construction and enhancement of marine habitat, to offset Project impacts on fish and fish habitat, is also anticipated. The physical works to construct this habitat are not included as part of

the review of the Project, and are expected to be subject to a separate review under PER. This application is anticipated in 2018.

## 2.1 Proposed Works

Physical works are broken down into three broad categories:

### 1. Marine

- Demolishing the old pile-supported docks at the east end of Centerm.
- Removal of the western portion of the Southern Rail dock to facilitate infill
- Expanding the land area at both the west and east ends of the existing terminal into approximately 4.2 hectares (10 acres) of marine area on the west and 4.0 hectares (9 acres) on the east by:
  - Dredging of approximately 390,000 m<sup>3</sup> of sediments from an area of 63,630 m<sup>2</sup> to remove unstable substrates at the eastern and western ends of Centerm and backfill them with competent material (sand). Sediments will be reused or disposed of as follows:
    - Upland disposal at an approved facility of approximately 5,400 m<sup>3</sup> of sediments that do not meet applicable Canadian Council of Ministers of Environment (CCME) Soil Quality Guidelines for Industrial Land Use nor Disposal at Sea criteria.
    - Reuse as fill for the terminal's eastern expansion of approximately 58,200 m<sup>3</sup> of sediments that meet applicable CCME Soil Quality Guidelines for Industrial Land Use.
    - Disposal by barge at the Point Grey Disposal at Sea site of approximately 326,400 m<sup>3</sup> of sediment that meet Disposal at Sea criteria (subject to approval from Environment and Climate Change Canada).
  - Constructing new rock dykes.
  - Infilling areas within the dykes.
  - Densification of a zone behind the dyke (e.g., by vibro-densification and dynamic compaction).
  - Installing caissons at the west end of the terminal's berth extension area.
  - Dredging of a 3,300 m<sup>2</sup> area between Centerm and the SeaBus south terminal (navigation turning basin) to provide adequate depth for cruise ships berthing at the East Canada Place cruise ship berth. Approximately 5,950 m<sup>3</sup> of sediments meeting applicable CCME Soil Quality Guidelines for Industrial Land Use would be reused in the reclamation of the eastern expansion area of the terminal and 850 m<sup>3</sup> of sediments that do not meet these guidelines will be disposed of on land at an approved facility.

### 2. Land

- Removing existing warehouse structures and rehabilitating the Ballantyne Pier (while retaining the Ballantyne Pier heritage façade and constructing a new office and operations building)
- Reconfiguring the terminal intermodal yard to extend the existing tracks
- Reconfiguring the terminal container yard
- Establishing new storage facilities, increasing terminal parking
- Reconfiguring the terminal entrance area
- Upgrading terminal control systems and yard equipment
- Replacing two quay cranes with larger versions, installing up to five new electrified rail mounted gantry cranes
- Adding up to 20 new diesel-powered internal transfer vehicles
- Installation of a new Vehicle Access Control (VACS) Gate at Main Street,

- Installation of new terminal fences and gates
- Demolition of the existing DP World office building located within the curved Heatley overpass ramp
- Installation of conduits for the future provision of shore power at Berth 5 (but not including shore power hardware)
- Construction of an equipment shed at the north east corner of the eastern infill area

### 3. Off-terminal

- Constructing an overpass to the entrance of the terminal (Centennial Road Overpass Project)
- Removing the Southern Railway rail crossing at Centennial Road
- Removing the Heatley Avenue overpass
- Rail yard modifications to the CP tracks south of the terminal
- Extension of Waterfront Road
- Reconfiguration of the Mission to Seafarers parking area
- Demolition of part of the Canadian Fishing Company (Canfisco) boiler building closest to Waterfront Road
- Various utility replacements, extensions, and relocations throughout the work area, including a diversion of the Metro Vancouver Harbour West Interceptor, and
- Fence installation at the eastern edge of CRAB Park at Portside.

Other works proposed but not itemized above include:

- The use of several construction staging areas including the installation of temporary buildings

One component of work included in the permit application and scope, has been excluded from review as it has not yet been designed to a level of detail at which they can be reviewed. This item is referred to as the DPW Delivery Components, Terminal Outfitting Package, and is limited to the "Container Yard and Intermodal Yard Gate control systems" item of the agreement. The terminal operator will therefore be required to submit a separate PER application for this component once the designs, specifications, and performance for the gate systems are confirmed.

## 2.2 Phasing, Construction, and Permits

The Project is proposed using the Design-Build procurement model, with the selected contractor responsible for completion of the design, and able to employ alternate methodologies based on the preliminary design authorized, and performance criteria as specified in the contract. It is expected that, as with any project, there may be some variation between what has been authorized and the final design. Substantial variations from the authorized design may require permit amendments or other authorizations. It is also expected that the schedule at the time of application is tentative, as are the relative phasing of works over the course of the construction period.

The Project is proposed to be constructed continuously over an approximately three year period beginning in Q2 2018, until approximately Q2 2021. The off-terminal works including the Centennial Road overpass are proposed to be constructed first, followed by the land infill and in-water works, and concluding with the terminal upgrades and equipment installations. This phasing is intended to address any traffic flow challenges associated with the Centennial Road overpass construction and Heatley Avenue overpass removal, prior to commencing works at the terminal that may impact operations, and also to complete the offsite infrastructure upgrades prior to increasing terminal capacity.

The terminal is proposed to remain operational throughout construction, with traffic re-direction and modifications to traffic flows both on the terminal and along Centennial Road required.

Construction staging and parking areas are expected to be required, as are lane closures and traffic re-directions, but these are not specified in the application. New construction associated with staging and parking areas not included in this review may require separate authorization. The works are anticipated to be conducted from both land and water using multiple types of equipment.

Generally, construction activities are proposed to be conducted between 7:00AM and 8:00PM, Monday to Saturday, in accordance with regular VFPA construction hours. However, select components of the Project are expected to require 24/7 work: marine construction, the Centennial Road overpass portion of the Project, and work in the rail yard to the south of the terminal. These aspects of the Project are proposed to be conducted continuously in order to shorten the overall construction timeline, lessen traffic disruption, and to allow work during times when rail traffic is lowest. These proposed extended work hours were considered as part of the review. The Permit Holder would be required to obtain a separate authorization to conduct additional activities outside of regular VFPA construction hours beyond those specified in the permit.

Significant utility relocations, reconstruction, extension and improvements are proposed on the eastern half of the existing terminal footprint. Many utility modifications are proposed outside of the terminal as well, including improvements to storm water capture and treatment in certain road sections outside the terminal, modifications to a trunk sanitary line, and new roadway lighting.

Works covering the supply and installation of new cranes, installation of technology for the new truck gate, the final fit out of building interiors, and the purchase of any mobile equipment and vehicles, are referred to as the DPW Delivery Components and are the responsibility of Dubai Ports World. All of these works are integral to the Project and included in the scope of the Project – they are included in this review. Additional review of container yard and intermodal yard gate control systems is required.

The works contemplated under this Project represent a capital investment value of approximately \$450 million at the time of application.

### **3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS**

The following VFPA departments have reviewed the application and have the following project considerations.

#### **3.1 Planning**

Planning has reviewed the application and has the following comments.

##### ***3.1.1 Land Use Designation***

The proposed terminal use conforms to the designation of “Port Terminal” in Vancouver Fraser Port Authority’s Land Use Plan. A small portion of the in-water works are in an area designated “Port Water” in the Land Use Plan. No amendments to the Land Use Plan are required as a result of this Project.

Some portions of the work area, such as the easternmost infill area, the road areas to the east of the terminal, some road works to the east of Rogers Sugar / Lantic, and the south portion of the Heatley Avenue overpass, fall outside of VFPA jurisdiction and as such are un-designated.

### **3.1.2 Existing Land Use Policies**

A small portion of the proposed Project is within the Central Waterfront Port Lands Policy Statement (1994) area, the only existing policy in the area, which was jointly adopted by VFPA and the City of Vancouver in 1994. The remainder of the Project is immediately to the north and east of the plan area. The Project does not affect the statement, but changes resulting from the Project may require review should this document be revisited in the future.

### **3.1.3 Building Permit Requirements**

The proposed container operations facility, the various ancillary terminal buildings, and any renovations or reconfigurations to other terminal buildings affected by the Project will require review under the 2015 National Building Code and 2015 National Fire Code of Canada.

VFPA building permits are anticipated to be required for the partial demolition of Ballantyne Shed and conversion of the remainder to a new operations facility, the construction of any other truck gates or sheds, and for the modifications required to the Canfisco boiler building. In addition, building permits may also be required for final fit out of various buildings.

The Applicant has not yet submitted Building Permit applications, the responsibility for which is expected to be delegated to the successful design-build contractor or to other parties such as affected tenants. The Applicant is required to obtain a VFPA building permit before proceeding with construction of those works and cannot occupy these new or modified structures until they have obtained a VFPA occupancy permit.

Planning supports the recommendation to approve the Project subject to adherence with permit conditions.

## **3.2 Engineering**

VFPA Engineering provided advice to the Applicant in the pre-application stage, and reviewed the PER application. The scope of the review included technical feedback, seismic and performance criteria, and preparation of associated permit conditions that are suited to the nature of the Project.

The grade at the east end of the terminal (i.e. at approximately Elevation 4.6m+ Geodetic) will be adjusted to be consistent with the west half of the terminal. With the exception of some localized low spots in the inboard areas of the terminal to facilitate site drainage, the Flood Construction Level of the majority of the Site is at or above 4.0m Geodetic, which is sufficient to accommodate the worst effects of anticipated sea level rise by Year 2100. Most, if not all, of the existing and proposed infrastructure will have reached the end of their useful service lives before Year 2100. As such, it is anticipated that the effects of sea level rise will be fully accounted for in the design of future replacement of infrastructure at the terminal and in areas to the south. Other terminal modifications that might mitigate future sea-level rise were not proposed, and were not required as part of this Permit.

The seismic performance criteria for the caisson wharf structure is required to be as follows:

- Under the A100 design event, any damage shall be minor and easily repairable with no interruptions to operations;
- Under the A475 design event, any damage shall be repairable with some interruptions to operation.

In general, seismic failure of the perimeter dykes proposed at the east and west ends of the terminal are not likely to be life-threatening or result in major impact to terminal operations, but could require significant restoration effort. As such, the perimeters are required to be designed to limit maximum permanent lateral displacement at the crest of the foreshore slope, to 1000 mm, in the A100 design event.

The Centennial Road Overpass has been designed in accordance with CSA-S6-14, with an Importance Category designation of *'Major Route'*, for seismic design purposes.

Other engineering requirements for components that will ultimately become VFPA assets have been specified to the Applicant outside of the PER process, for inclusion in the performance criteria for the selected contractor.

Engineering reviewed the application and requires the Applicant to submit signed and sealed BC certified engineer-stamped drawings for all proposed works prior to the commencement of construction. The Applicant is required to review the final design drawings produced by the Design-Builder, to ensure that they meet the Project performance criteria.

A standard permit condition requires that the Applicant is required to remove all abandoned utilities. In this Project, given the significant utility works proposed, a permit condition allows that in instances where the Applicant has demonstrated to the satisfaction of VFPA that the removal of abandoned utilities would be impractical, the Applicant shall develop and submit final plans showing any utilities which are proposed to be abandoned in place. Any utilities not identified on this plan, both underground and above ground, shall be removed and capped at lease boundaries, to the satisfaction of VFPA. This is condition No. 48 of in the permit.

The proposal meets Engineering's requirements, subject to adherence with permit conditions.

### **3.3 Transportation and Land Operations**

Transportation Planning and Land Operations provided input the Applicant during the pre-application stage, as well as during the course of review. This input related to performance criteria, and technical input.

The Project proposes significant changes to the road network near the terminal, as well as to on-terminal circulation, increasing the capacity of the facility to handle containers delivered by road. It also proposes to significantly lengthen, and to widen from 4 tracks to 5, the intermodal yard within the terminal, a change which adds significant rail capacity.

With a conservative assumption of a 15% double-ended move rate (when a truck carries a container for both the arrival and departure leg of a terminal visit, whether the container is laden or empty), it was estimated by the Applicant that upon reaching the projected sustainable throughput capacity, the Project will generate a net increase of approximately 1,400 container trucks per 24 hour period (700 in and 700 out) above and beyond what would occur if the Centerm container terminal were to operate at the existing sustainable capacity. This equates to an additional 126 trucks per hour assuming 12 hours of daily gate operation, assuming evenly distributed traffic.

To mitigate this increase in estimated truck arrivals, the Applicant has planned for the installation of high-efficiency terminal gate systems (up to 190 trucks/hour processing capacity) and a series of port roadway improvements in order to support internal truck and vehicular movements. The overall efficiency and fluidity of the port's south shore traffic network is highly sensitive to the CEP

terminal and gate design and operation and its integration with off-terminal infrastructure improvements, so the increase in traffic contemplated was rigorously reviewed.

Transportation and Land Operations requires that the terminal operator develop a Traffic Management Plan for the implementation of terminal equipment and gate systems, which will clearly define the new expanded terminal's traffic operating criteria and system processes. The development and implementation of this plan will assist in ensuring the fluidity and efficiency of port roadways adjacent to the terminal. As noted in Section 2.1, this terminal gate system had not been designed at the time of application, and will also require the terminal operator to make a separate application under PER, including performance specifications of the gate systems contemplated.

The Centerm intermodal yard expansion would both extend the four existing intermodal yard tracks by 305 metres (1,000 ft.) each and add an additional 615 metres (3,000 ft.) track, for a total of 4,572 metres (15,000 ft.) of intermodal track within the expanded terminal. In addition, due to the changes resulting from the removal of the Heatley Avenue overpass and Waterfront Road extension, rail-track reconfigurations are required in the Waterfront rail yard immediately south of the terminal. The terminal operator is responsible for entering into commercial arrangements with railway operators that service the terminal.

Although the increased rail capacity will be available after Project completion, it is expected that an increase in Centerm related rail volume will occur gradually over a period of time as container traffic demand through the expanded terminal grows to the modelled throughput capacity. The eventual split between rail and road demand is not anticipated to change significantly from the split in 2017, but the portion carried by rail is expected to grow more quickly than the portion carried by road.

A Construction Traffic Management plan is required to be submitted to the satisfaction of VFPA. This plan will be shared with stakeholders as needed. Construction parking is addressed in the requirement for a Construction Staging Plan, which addresses both land and marine construction matters.

Transportation and Land Operations have reviewed the application and require the Applicant (and in the first instance the Applicant and terminal operator) to ensure the following:

- Develop a Traffic Management Plan with the input of VFPA Land Operations with respect to traffic operating criteria and system processes for the new gate systems, to mitigate against south shore road congestion and to ensure the overall fluidity and efficiency of roadways, including annual updates to the plan;
- Demonstrate to the satisfaction of VFPA that the final roadway design achieves performance equal or better than Level of Service "D" during AM/PM peak periods as well as that agreements are in place with the railways (CN or CP) on any planned rail works that may impact rail operations servicing the south shore;
- Submit a Construction Traffic Management Plan to the satisfaction of VFPA, and;
- Submit a Construction Staging Plan, including staging, operations, marine, and parking elements.

These are reflected in conditions numbered 78, 33, 30 and 35 in the permit.

The Applicant and terminal operator have committed to continue to work with the VFPA Land Operations department and the City of Vancouver on managing the project-related traffic at adjacent city street intersections, in order to mitigate any unforeseen impacts during the construction period or upon completion. This is further discussed in Section 4.1 below.

This proposal meets Transportation Planning's requirements, subject to adherence with permit conditions.

### 3.4 Marine Operations

Marine Operations provided input to the Applicant during the pre-application stage, as well as during the course of review. This input related to performance criteria for the marine transportation impact study required, and technical review of potential construction staging impacts.

The eastern land expansion portion of the Project involves marine infilling (between Centerm and SRY) rendering this area partly un-navigable. As a result Centerm berth #1 will be decommissioned, but port marine operations are otherwise unaffected. The western land expansion will narrow the navigable waterway between Canada Place and Centerm from 412m to approximately 317m wide. The largest vessels using this waterway are cruise ships accessing the east berth of the Canada Place cruise terminal.

To assess the navigation impacts of the narrowing, a berthing simulation of the Project and surrounding area was undertaken prior to the application being made, to enable cruise ship operators and pilots to conduct vessel maneuvers with the simulated expansion area incorporated. This simulation also enabled cruise ship operators and pilots to practice navigating cruise ships arriving to and departing from the east berth at Canada Place in order to anticipate the effects of the narrowed navigable waterway.

The current preferred practice for cruise ships berthing at the Canada Place east berth, specifically when berthing port side to, is to navigate through the channel between Canada Place and Centerm, rotating the vessel inside the basin and berthing port side. It was concluded as a result of the simulation that this method of approach does not have sufficient clearance distance to safely pass all obstructions because of the Project.

As a result of the more constrained operating environment during in-water work periods and post-expansion, cruise ship operators will conduct their turning maneuvers north of Canada Place, with the vessel making a stern approach towards the Canada Place east berth. Although the cruise ships could experience more wind and tidal stream effect as well as the potential of impeding another cruise vessels approaching Canada Place, this stern approach maneuver is entirely practical in most operating conditions. The simulation however recommends that initially this stern approach maneuver for port side landings not be attempted when the combined tidal stream velocity exceeds 3.0 knots in First Narrows, and the sustained wind exceeds 20 knots, without tug assistance. It remains at the discretion of the captain and pilot based on their familiarity with the extension works and the maneuverability of their vessel. Based on the results of initial berthings, a decision will be made about the conditions under which the stern approach can be made.

In addition, there is an existing shallow between Canada Place and the SeaBus terminal that limits large cruise vessels from maneuvering safely within the basin adjacent to the east berth of Canada Place. The minimum depth of the shallow is -6.2m and larger vessels will be restricted in their ability to maneuver in the area when the tide is less than 2.5m. The simulation thus also recommended dredging the shallow fronting the Sea Bus terminal to mitigate the constraint the west terminal expansion will impose on cruise vessels arriving onto or departing away from the Canada Place east berth, and this was incorporated into the proposal.

Navigation impacts to other vessels accessing facilities located between Canada Place and Centerm, including the SeaBus operated by Translink, were considered in the review of the proposed expansion. Vessels like the SeaBus, and of similar size or less, should not be impacted by the

westward land expansion. The navigable waterway between Canada Place and Centerm will narrow from 412 metres wide to approximately 317 metres wide, which provides ample space for these highly maneuverable vessels to safely navigate. However, it should be anticipated that some minor inconveniences to marine users will be experienced as a result of the Project in-water construction phases, related to both the eastern and western expansion.

Therefore, the permit holder will be required to develop and submit a Construction Staging Plan, which clearly describes in-water construction areas and activities, and provides details on the vessels conducting these activities. It will also be a requirement for the contractor to establish a marine user communication group to disseminate the plan and relevant updates throughout the construction process, and receive, consider and consider feedback from the marine users related to safe and efficient port operations. These are reflected in permit conditions 35 and 36.

The proposal meets Marine Operations' requirements, subject to adherence with permit conditions.

## **4 STAKEHOLDER CONSULTATION**

The proposed Project was assessed to have potential impacts to stakeholders and the local community and consultation activities were required. The following sections describe the stakeholder and public consultation activities undertaken by the Applicant and VFPA as part of the project and environmental review.

Different stakeholder groups are organized below by type. All stakeholders other than the City of Vancouver were notified by letter on February 7, 2017.

### **4.1 Municipal Consultation**

The proposed Project was assessed by Planning to have potential impacts to municipal interests. The City of Vancouver is the adjacent municipality, and the only one directly impacted by the Project. As a result of this, an approach to the review of the Project was established with the City of Vancouver prior to the application being made, in early 2016, which set out expected steps for the review and identified respective contacts at the City.

At that time, the City requested a copy of the application prior to completeness of the application being confirmed. This copy was provided in November 2016.

A formal referral letter was sent to the City of Vancouver, as well as the Vancouver Police Department, on January 6, 2017 notifying them of the proposed Project. The City of Vancouver responded with comments on March 3, 2017.

Below is a table summarizing the comments received and how they were considered as part of the project and environmental review. Included in the table is comments received directly from the Vancouver Board of Parks and Recreation, and comments that the Vancouver Police Department had that were expressed directly to the Applicant.

Issue	Mitigations and Permit Conditions	Rationale
<p>The traffic study does not assess all the components of the South Shore Access Study and does not include analysis of the Waterfront Road Extension.</p>	<p>Condition No. 78 of the permit requires that the permit holder develop an agreement with VFPA with respect to traffic operating criteria and system processes for the new gate systems to mitigate against south shore road congestion events and to ensure the overall fluidity and efficiency of roadways. This agreement will have the effect of allowing VFPA further ability to manage truck traffic near the terminal, with the goal of minimizing off-site impacts that may affect City roadways under various volumes and operational circumstances.</p>	<p>The Applicant confirmed that the Traffic Impact Study was completed under the conservative assumption that the Waterfront Road extension would not be implemented. As noted in the Study, sensitivity testing indicated that if the extension were implemented there would be a 1-2% reduction in overall vehicular travel on the major east-west roads in the Downtown Eastside. Since the study results conservatively estimate the impacts to the road network, an updated model to include WRE was not deemed to be required.</p>
<p>The Clark / Commissioner traffic modelling results were not considered sufficient for the City to understand the impacts to the street network around the Main Street overpass.</p>	<p>None required.</p>	<p>The traffic volumes for the area around Main Street after construction are not considered significant compared to the volumes today. VFPA expects to continue to work with the City on understanding whether future changes to signaling might be necessary resulting from additional future development in the Central Waterfront area.</p>
<p>The traffic analysis should include consideration of the relocation of the VACS gate under the Main Street overpass, in relation to the proximity and intersection control to the Main St/Waterfront Rd intersection, increased vehicles using the gate, and changes of usage patterns on Waterfront Rd.</p>	<p>None required. Standard permit condition specifies that prior to construction, final plans must be submitted for review.</p>	<p>The design of the VACS Gate area has been updated to include a variable gate system that allows unimpeded vehicle access to the Main Street Dock area without a Port Pass during daytime hours. Traffic volumes at this location are anticipated to remain low, given the proposed installation of the VACS Gate.</p>
<p>More documentation of existing traffic conditions requested, for example overpass traffic, container terminal trips, road/rail split, daily distribution.</p>	<p>None required.</p>	<p>This request for information was deemed to be beyond the scope of the Project.</p>

Issue	Mitigations and Permit Conditions	Rationale
Non-vehicular access	None required.	The Project allows more direct access between Waterfront Station and south shore area terminals to the east, including new sidewalks and the possibility of bicycle access on those sidewalks given low pedestrian volumes in these areas.
Sensitivities related to gate operations and truck queuing	Condition No. 78 of the permit requires that the permit holder develop an agreement with VFPA with respect to traffic operating criteria and system processes for the new gate systems to mitigate against south shore road congestion events and to ensure the overall fluidity and efficiency of roadways. This agreement will have the effect of allowing VFPA further ability to manage truck traffic near the terminal, with the goal of minimizing off-site impacts that may affect City roadways under various volumes and operational circumstances.	The gate system proposed to be installed at the terminal has not been selected, and is the responsibility of the terminal operator.
Road and rail split, and future traffic trends.	None required.	The split between road and rail traffic is not anticipated to change significantly, but rail traffic is expected to grow more quickly than road. Should unanticipated changes occur, VFPA will work with the City to mitigate the effects of market changes.
Double ended moves	None required.	VFPA expects to work with the terminal operator, and other terminal operators in the region, to implement measures to increase the rate of double-ended moves across the region. This is unrelated to this particular project.

Issue	Mitigations and Permit Conditions	Rationale
Vanterm access	None required.	The Project does not affect access to Vanterm, which will continue to require that truck traffic access the terminal from the east. This is due to the location of staging areas that could be used to mitigate traffic disruptions to the east of the terminal.
Construction Traffic Management	Condition No. 30 of the permit requires that a Construction Traffic Management Plan be developed by the Applicant and submitted 20 business days prior to the start of construction. The plan will likely be updated for each phase of construction that affects road traffic.	The preparation and submission of a Construction Traffic Management Plan is a standard condition of a project of this scale, and the submission timing allows for consultation with stakeholders such as the City.
Notice for removal of the Heatley Avenue overpass	Condition No. 26 requires that the permit holder notify the City of Vancouver 1 year in advance of the removal of the Heatley Avenue overpass, and the Applicant has committed to remove piers to a minimum of 3m below finished grade.	Allowing a reasonable notification period and removing concrete piers such that they not encumber future development.
Outfall at Ballantyne Pier	Condition No. 31 requires that the permit holder provide a new outfall to replace the existing combined outfall, and to provide the City of Vancouver the opportunity to review the detailed design.	It is standard practice to extend outfalls when marine infill projects are proposed. The storm volumes of the outfall are generated upland in City jurisdiction, and not contributed to by this Project.
Storm sewer at Rogers Street	Condition No. 32 requires that the permit holder confirm the need to alter storm sewers at this location, and provide the detailed design drawings to the City for review 20 business days in advance of works commencing.	It is standard practice to notify utility owners should their infrastructure be proposed to be modified.

Issue	Mitigations and Permit Conditions	Rationale
Rogers Street Overpass	None required.	VFPA has committed to work with the City to establish an aerial crossing agreement where the Centennial Road Overpass crosses Rogers Street, consistent with arrangements made at other such crossings.
Rogers Street – responsibility for median and paint markings	None required.	The median and paint markings are proposed to be substantially similar to what exists today.
Metro Vancouver sewer along Stewart and Commissioner Street	None required.	VFPA is working with Metro Vancouver on the relocation of this sewer to facilitate installation of the overpass.
Heritage – Rogers Sugar Building	None required. The Applicant did communicate with the City about potential artistic treatment of the Centennial Road Overpass which is located directly in front of the building, and committed to work with the Design Builder to incorporate this treatment.	The Rogers Sugar building is not directly impacted by the proposed Project.
Heritage – Ballantyne Shed	None required.	The Project proposes to re-use the façade and structure of the south part of this building as a new terminal operations building, which are the components with heritage interest.
Heritage – Mission to Seafarers Building	None required.	This Project re-configures the parking area to the south of the building, but does not affect the structure, and continues to provide sufficient area adjacent the building for parking.
Heritage – concerns of the Heritage Commission including those noted above, and impact of the proposed Main Street VACS gate on the Mission to Seafarers building	None required.	The Main Street VACS gates are not anticipated to impact the viability of the building, and holders of valid identification will be able to pass the gate to visit the building.

Issue	Mitigations and Permit Conditions	Rationale
Heritage – including request for a VFPA interpretation and visitation strategy, strategy for the re-use of the Mission to Seafarers building, and artistic treatment of the Centennial Street Overpass	None required. These requests are beyond the scope of the Project.	The Applicant has committed to including a requirement of the design build contractor to propose an artistic treatment for the Centennial Street Overpass.
Recommendation that the port complete the Neighbourhood Fit Evaluation tool	None required.	The tool is intended to help new development and businesses to fit better into the Downtown Eastside neighbourhood. It is relevant to development located within a community, not well suited to development adjacent to it. However, some of the objectives of the tool are addressed elsewhere in this report.
View Impacts	None required.	The view and shade study completed did contemplate views from public viewpoints, and satisfactorily demonstrated that view impacts as a result of the Project are not anticipated to be significant.
Notification	None required.	Notification conducted as part of this review exceeded the VFPA guidelines for public consultation.
Community Benefit Agreement	None required.	No mitigations are required as community contributions are not a requirement under project and environmental review. While this topic has been extensively discussed, and several suggestions for community investment were received, at the time of decision no commitment on funding has been made, and the applicant is considering the suggestions received. This is further discussed in Section 5.3.

Issue	Mitigations and Permit Conditions	Rationale
Building Code and sprinklering	Permit condition No. 34 requires that any structures reviewable under the National Building Code apply for a VFPA Building Permit.	This is a standard condition when structures are proposed which may be subject to the National Building Code, of which there are several in this Project.

In addition to the consultation undertaken by VFPA as part of the PER process, the Applicant undertook significant engagement with City of Vancouver staff and departments such as the Fire Department, and the Vancouver Police Department. This engagement commenced prior to the application being submitted (in March 2016) in order to receive preliminary feedback on the Project concept, and continued during the course of the review. The Applicant solicited feedback specifically with respect to engineering, fire protection, traffic, and any issues related to CRAB Park at Portside.

A specific concern of the City of Vancouver Fire Rescue Services that was not included in the formal city comments in the above table was the potential for changes to emergency response time as a result of the removal of the Heatley Avenue overpass. In particular, potential response times to south shore terminals including Centerm and Rogers Sugar / Lantic, on Rogers Street, both in proximity to the overpass, and affected by rail crossings that are occasionally blocked by rail traffic. In order to analyze the response times to the Rogers Street area as a result of the Project, the Applicant commissioned an additional report at the request of the City to supplement the South Shore Emergency Access Study submitted as part of the application.

The report finds that the removal of the Heatley overpass, the construction of Waterfront Road connection, and the South Shore Access component of the Project results in estimated weighted average response times for Rogers Street that are better than existing conditions. The single largest variable is whether a train is blocking one of the rail crossings that will remain after the completion of the Project, in particular those two that cross Rogers Street at the intersection with Stewart Street. The Applicant has committed to continue to work with Vancouver Fire and Rescue to explore measures to address this concern, such as construction of additional paving to provide an emergency access lane adjacent to the Alliance Grain Terminal tail track (at the south east corner of the Rogers building). In addition, the Applicant continues to explore the development of a protocol between emergency services and the railways to prevent rail tracks from becoming blocked, in the case of an emergency response initiated at a time when rail crossings are not blocked. These two topics are addressed in permit conditions 40 and 41.

The Applicant met with representatives from the Vancouver Police Department, who had expressed concerns with the ability to access Main Street Dock, which was proposed to be behind a new security (VACS) gate at Main Street. The result of several discussions on potential resolutions to this issue was a reconfiguration of the gate such that free access to Main Street Dock could be accommodated using one arrangement during daytime hours (7:00 AM to 5:00 PM Monday to Friday), and a second arrangement adopted at night. Other scenarios to restrict access based on other criteria were also developed, which together satisfied the concerns of the police department.

VFPA is satisfied that the issues raised by the City of Vancouver have been addressed satisfactorily through Project design, commitments made by the Applicant, and through permit conditions.

## 4.2 Regional Agency Consultation

The proposed Project was assessed by Planning and Environmental Programs to be of potential interest to regional agencies. A referral letter was sent to the following agencies notifying them of the proposed Project:

- Metro Vancouver
- Vancouver Coastal Health Authority
- TransLink

All three agencies responded with comments on the proposed Project. Below are three tables summarizing the comments received and how they were considered as part of the project and environmental review.

Metro Vancouver Issue	Mitigations and Permit Conditions	Rationale
Traffic - Population and employment growth projections – assumption of 0% traffic growth; inclusion of traffic mitigation measures.	The Applicant has committed to continue to work with the City of Vancouver on managing the project-related traffic at adjacent city street intersections, in order to mitigate any unforeseen impacts during the construction period or upon completion.	The scope of the traffic study, and the assumptions made, were based on input from the City of Vancouver on this subject.
Traffic - Maximizing rail split	None required.	Rail vs. truck traffic split is based on historical and projected volumes. VFPA does not unilaterally require measures that would alter the competitive landscape between competing terminals by distorting the road/rail split for individual terminals, but remains interested in the maximizing the efficiency of road and rail networks.
Traffic - Maximizing double-ended moves	None required.	VFPA encourages opportunities to increase double-ended moves, but does not unilaterally require measures that would alter the competitive landscape between competing terminals by distorting the road/rail split for individual terminals, but remains interested in the maximizing the efficiency of road and rail networks.

Metro Vancouver Issue	Mitigations and Permit Conditions	Rationale
Traffic - Temporal distribution of truck calls	Permit condition No. 78 requires that the permit holder and terminal operator develop a Traffic Management Plan with respect to traffic operating criteria and system processes for the new gate systems.	The installation of the new gate system is the responsibility of the terminal, and the specifications of the system are not yet known, but expected to be able to manage traffic more robustly than the system that currently exists. It remains in VFPA's interest to effectively manage terminal traffic in the best interests of the adjacent roadways and the host communities.
Traffic - Transportation Demand Management	None required.	VFPA has no policy on this topic. However, it is anticipated that the construction of the Waterfront Road extension, including sidewalks for the entire length of the south shore roadway, will facilitate alternative mode choices for this terminal and other south shore terminals and employers.
Potable water demand	None required. The Project is not expected to result in any change to water demand beyond domestic consumption by employees.	The Applicant has committed to work with Metro Vancouver to quantify water use and to confirm the adequacy of the water supply network.
Sewer collection facilities	None required.	The Applicant has committed to work with Metro Vancouver on the relocation of Metro Vancouver assets.
Invasive species	Permit conditions numbered 63 and 64 address the potential spread of invasive species.	These are standard conditions for construction impacting soils or where imported fill is expected.
Native vegetation	None required.	The Applicant has committed to considering the guidance provided by Metro Vancouver.
Aquatic invasive species	None required.	There are measures in place both federally and internationally to address this issue, and it is not project specific.

Metro Vancouver Issue	Mitigations and Permit Conditions	Rationale
Air quality – ongoing operations and mitigations.	Permit condition No. 79 requires the permit holder to submit an Air Emissions Management Plan within 180 days of permit issuance.	<p>Project design and scope includes elements which limit the growth of air emissions, such as replacement of diesel powered gantries with electrically operated units.</p> <p>It is also understood and generally expected that emissions will increase when terminal throughput rises, all other factors remaining equal.</p>
Air quality – cumulative effects	None required.	Cumulative effects are not required to be specifically considered in individual applications. However, VFPA does consider them when reviewing projects under the project and environmental review process. See also Section 7 of this report for more detail on this topic.
<p>Air quality – Various topics including:</p> <ul style="list-style-type: none"> <li>• emission scenarios</li> <li>• source parameterization</li> <li>• emissions estimates - detailed concerns</li> <li>• CALMET</li> <li>• emission source details</li> <li>• ocean going vessels and tugs</li> <li>• additional sensitive receptors</li> <li>• frequency of exceedances</li> <li>• air dispersion modelling plan</li> </ul>		<p>VFPA directed the Applicant to substantially revise the Environmental Air Assessment in order to capture the full scope of the Project, and address numerous technical concerns.</p> <p>A memo on source parameterization assumptions was submitted, and provided to Metro Vancouver on March 14, 2018.</p>
Air quality – Knight Street corridor		The scope for the study area for road traffic was along the east-west road supply chain to the Hastings/Clark intersection, in keeping with the scope established for other similar reviews.

Vancouver Coastal Health Authority Issue	Mitigations and Permit Conditions	Rationale
Air quality – diesel particulate matter	Permit condition No. 79 requires the permit holder to provide an Air Emissions Management Plan (AEMP).	The results of the revised Environmental Air Assessment indicated that emissions from the terminal would increase. An AEMP allows VFPA to ensure that overall site emissions, largely resulting from mobile combustion engines operating at the terminal, are managed.
Noise – construction and operational noise concerns	<p>Condition No. 47 addresses noise during construction, setting out construction hours.</p> <p>Condition No. 80 requires that noise monitoring be completed post-construction to confirm the results of the modelling.</p> <p>Condition No. 81 requires the submission an inventory of all alarms used, to confirm that best industry practices are being observed.</p>	These conditions are in keeping with reviews of projects of this scale, and consistent with other projects with similar potential noise impacts.
Natural elements – CRAB Park	None required.	There are no perceptible impacts to CRAB Park at Portside. The Applicant has committed to making a contribution to the park, subject to further discussion with the Vancouver Board of Parks and Recreation.
Community Investment	None required.	The Applicant sought input from the community and stakeholders on potential community investments. At the time of decision, a specific commitment on investment had not been made, but the Applicant has committed to continuing to work with the City of Vancouver on identifying an investment.

<b>Vancouver Coastal Health Authority Issue</b>	<b>Mitigations and Permit Conditions</b>	<b>Rationale</b>
Light	Condition No. 49 addresses the submission of a detailed lighting plan including modelling, spillage, light levels, and fixtures specified.	The nature of a design build project such as this means that certain details were not resolved at the time of application, and are the responsibility of the selected contractor. The Applicant has committed to modelling and refinement of the lighting design for the terminal.
Traffic & active transportation	None required.	The application includes a dedicated and continuous sidewalk that will connect east-west through the subject area.
Emergency Response	None required.	The terminal maintains an emergency response plan that will be updated after the expansion is completed, and is updated annually.

<b>TransLink Issue</b>	<b>Mitigations and Permit Conditions</b>	<b>Rationale</b>
Road traffic – request for an expanded traffic study; request to monitor truck distribution to validate the study.	Condition No. 78 requires the development of a Traffic Management Plan to mitigate against south shore road congestion. The condition requires that this plan be updated annually.	The traffic study scope was developed with the input of the City of Vancouver, VFPA Transportation Planning, and in keeping with VFPA guidelines on scoping these types of studies.
Transit operations – Seabus.	Condition No. 25 requires that the Director of SeaBus Operations be notified 40 days prior to the commencement of in-water works in proximity to the SeaBus route, for the purposes of SeaBus scheduling considerations.	The dredging plan was shared with SeaBus when this request was received. Providing notification to allow potential schedule coordination is a reasonable construction mitigation.
Transit operations – rail traffic implications for West Coast Express.	None required.	The concern relating to servicing of West Coast Express trains requires the involvement of the operating railways in order to arrive at a solution, and is not specific to the Project.

TransLink Issue	Mitigations and Permit Conditions	Rationale
Transit operations – bus.	Condition No. 25 requires that the manager of Coast Mountain Bus Service Planning be notified 40 days prior to the commencement of works that will affect road traffic near the terminal, for the purposes of bus scheduling considerations.	Providing notification to allow potential schedule coordination is a reasonable construction mitigation.
Goods movement – Major Road Network and eastbound trucks along Hastings and Powell Streets.	None required.	The Applicant has confirmed that truck traffic during construction can be physically accommodated within existing roadways and using existing truck routes. The findings as they related to truck traffic impacts during the 2017 road closure were shared with TransLink.

VFPA is satisfied that the issues raised by regional agencies have been addressed satisfactorily through Project design, commitments made by the Applicant, and through permit conditions.

### 4.3 Federal and Provincial Agency Consultation

The proposed Project was assessed by Planning and Environmental Programs to be of potential interest to Federal and Provincial agencies. The following agencies were engaged during the course of the review, notifying them of the proposed Project and seeking input on potential project impacts and authorization considerations:

- Environment & Climate Change Canada
- Fisheries and Oceans Canada
- Transport Canada
- Health Canada
- Canada Border Services Agency

VFPA received feedback during the review from the first three agencies noted above. Feedback received from these agencies was not formal comments on the technical review being undertaken, but in relation to coordination of the reviews being conducted by the agencies with the review being undertaken by VFPA. In addition, staff to staff communication took place with respect to the applications that the Applicant had made, or expected to make, to these other agencies. Several meetings were held with these agencies, and additional meetings are anticipated following VFPA decision.

VFPA is satisfied that topics or issues raised by federal agencies have been addressed satisfactorily through adherence to permit conditions, or will be through any authorizations issued by these other agencies directly.

## 4.4 Adjacent Tenant Consultation

The proposed Project was assessed by Planning to have potential impacts to adjacent VFPA tenants. A referral letter was sent to the following VFPA tenants notifying them of the proposed Project:

- 825 Powell Investments Ltd.
- Alliance Grain Terminal Ltd.
- Canadian Fishing Company Ltd.
- DP World (Canada) Inc.
- GCT Canada Limited Partnership
- Helijet International Inc.
- Lafarge
- Lantic Inc. (Rogers Sugar)
- Mission to Seafarers
- Tymac Launch Service Ltd.
- Vancouver Aquarium Marine Science Centre
- West Coast Marine Response Corporation
- West Coast Reduction Ltd.

Four of the consulted tenants responded with comments on the proposed Project. Below is a table summarizing the comments received from each of these parties, and how they were considered as part of the project and environmental review.

Canadian Fishing Company Issue	Mitigations and Permit Conditions	Rationale
Impact of proposed security (VACS) gate at Main Street	None required.	The Applicant met with the Canadian Fishing Company to discuss the proposed security arrangement and VACS gates. As a result of the meeting, the gate design was modified. The reconfigured VACS gates along with the Waterfront Road extension also resulted in modified lease boundaries around the south edge of the Canfisco plant.

GCT Canada responded by letter on March 24, 2017, and again on June 1, 2017. VFPA responded by letter.

GCT Canada Issue	Mitigations and Permit Conditions	Rationale
Competitiveness concerns given proposed investment in a competing terminal	None required.	The Applicant met GCT Canada, and reviewed the potential impacts of construction and traffic on the terminal, along with

		several other topics including rail traffic. VFPA also responded by letter on July 18, 2017 addressing each of the concerns raised.
Future land use or alterations to land use on the south shore	None required.	VFPA responded to the Applicant to outline the expectations for future land use in the area, and referred to the VFPA Land Use Plan.
Traffic and construction related concerns.	Condition No. 30 requires the Applicant to develop a Construction Traffic Management Plan that will be used to mitigate adjacent tenant traffic concerns.	The development of this plan and ongoing engagement with potentially affected stakeholders will address these concerns.

The Mission to Seafarers responded to the Applicant directly, and met with the Applicant to discuss their concerns.

<b>Mission to Seafarers Issue</b>	<b>Mitigations and Permit Conditions</b>	<b>Rationale</b>
Impact of proposed security (VACS) gate at Main Street.	None required.	The Applicant met with representatives from the Mission to Seafarers to discuss the proposed VACS gates. The reconfigured VACS gates change how the public can access the Mission, while also enhancing security for the area. Through discussion with the Mission, the concerns were able to be resolved. Public access through the gate for visitors to the Mission is maintained.

West Coast Reduction responded to the referral, and met with the Applicant and VFPA staff to discuss their concerns.

<b>West Coast Reduction Issue</b>	<b>Mitigations and Permit Conditions</b>	<b>Rationale</b>
Traffic during construction, and rail deliveries to their terminal.	None required.	This terminal contacted VFPA staff and met to discuss concerns about the Project, and to ask questions. The required Construction Traffic Management Plan will address these concerns.

VFPA is satisfied that the issues raised by adjacent and potentially affected tenants will be addressed through adherence to implemented permit conditions, and the ongoing dialogue between the port authority and tenants.

#### 4.5 Marine Users Consultation

The proposed Project was assessed by Marine Operations to have potential impacts to marine users. A referral letter was sent to the Cruise Lines International Association on February 7, 2017 notifying them of the proposed Project. The association responded by letter. Below is a table summarizing the comments received from this stakeholder and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Maneuvering of cruise vessels.	Condition No. 16 requires that the Applicant be responsible for any additional costs arising from additional simulations and the use of tugs during the first 12 approaches with cruise vessels greater than PANAMAX size.	The simulations conducted concluded with the recommendation that the use of tugs be required under certain tidal and wind conditions.
Need for dredging within the embayment east of Canada Place.	None required.	The Applicant has included dredging of the shallow to the east of Canada Place as part of the Project scope.

These topics are also discussed in Section 3.4 above.

#### 4.6 Other Consultation

In addition to the consultation undertaken by VFPA, the Applicant conducted outreach as described in their Public Consultation Summary Report (Round 1). They conducted small group meetings to which tenants were invited, and held meetings with individual stakeholders prior to and during the preliminary comment period to present and discuss technical aspects of the Project. Meetings were hosted by the Applicant with the following groups:

- City of Vancouver, November 10, 2015 and January 25, 2016
- Southern Railway of British Columbia, November 17 and 24, 2015
- East Vancouver Port Lands and Liaison Committee, December 8, 2015
- Alliance Grain Terminal, December 14, 2015
- Canadian Pacific Railway, December 14, 2015
- NAV CANADA, December 17, 2015 and January 18, 2016
- Lantic Inc., January 5, 2016
- GCT Global Container Terminals Inc., January 15, 2016
- City of Vancouver's Active Transportation Policy Committee, January 21, 2016
- Canfisco, January 29, 2016
- Helijet, February 4, 2016
- Vancouver Aquarium's Marine Mammal Rescue Centre, February 4, 2016
- Canadian National Railway, February 16, 2016
- TransLink and SeaBus, February 19, 2016

VFPA has reviewed the record of consultation and related documents and is of the view that the Project has adequately addressed the concerns raised during stakeholder consultation.

## 5 PUBLIC CONSULTATION

### 5.1 Scope of Public Consultation

The Project was assessed by Community and Aboriginal Affairs to have potential impacts to community interests in the surrounding area during construction activities and during operations, including increases in traffic, potential environmental and health effects, emergency response times, and impacts to CRAB Park at Portside.

As a Category D project, public consultation was required to be conducted by the Applicant during the preliminary review and application review phase. The Applicant was required to conduct a 20-business day preliminary comment period prior to submitting a complete permit application to VFPA. As part of the application review of the proposed Project, the Applicant was then also required to conduct an additional round of public consultation activities with a 20-business day public comment period. As a result of the feedback received, the Applicant then chose to host a third round of public consultation during the review period.

VFPA reviewed the complete record of public consultation, including all comments received and the Applicant's response to comments in both rounds of consultation, in determining mitigation requirements and in making a decision on the Project.

### 5.2 Summary of Public Consultation – Preliminary Review

The Applicant carried out the preliminary comment period from January 18 to February 12, 2016 to gather feedback from the public and stakeholders regarding the scope of technical and environmental studies to be undertaken for the proposed Project, and on a potential community amenity for inclusion in the scope of the Project, as voluntarily proposed by the Applicant. VFPA reviewed the record of consultation from the preliminary comment period, and considered the comments and the Applicant's responses in finalizing the application submission requirements, including public consultation requirements for the Applicant.

A summary description of the Project was posted on VFPA's website in January 2016 to notify the public of the preliminary review of the Project. Details of the Applicant's preliminary comment period and small group meetings were posted on VFPA's website and links were provided to the Applicant's website for detailed information. This included posting Project information and consultation materials on [www.porttalk.ca/centermexpansion](http://www.porttalk.ca/centermexpansion).

Public consultation and engagement activities conducted from January 18 to February 12, 2016 included the following:

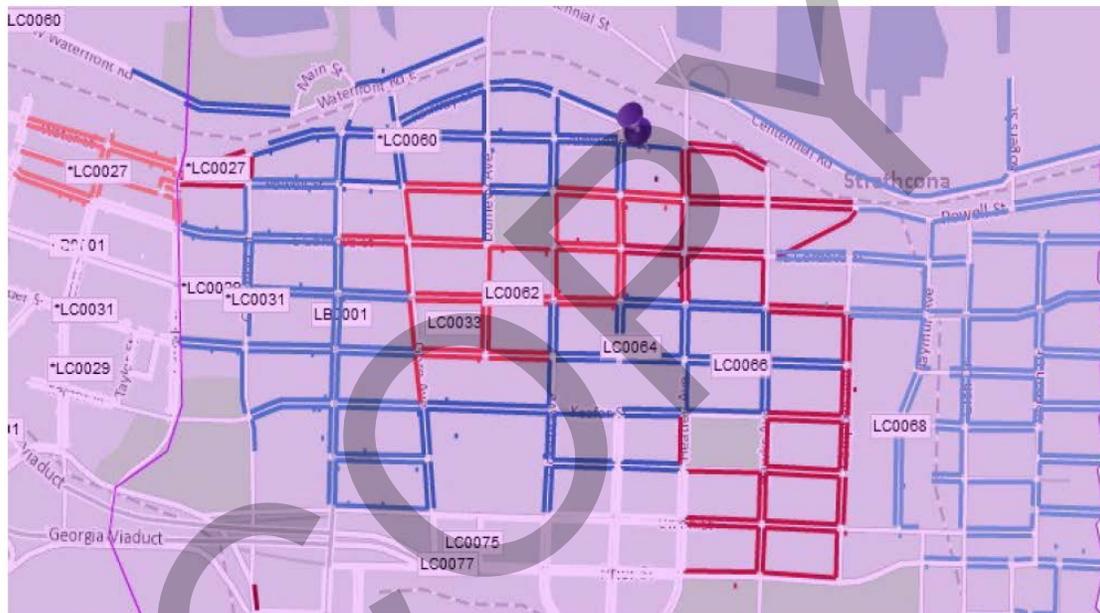
- On-line portal to solicit feedback;
- Hosting two small group meetings on January 25 and 27, 2016 in Vancouver;
- Developing a discussion guide with key information about the Project;
- Hand-delivering and mailing notification letters to residents and businesses in Vancouver;
- Sending invitation emails and postcards to residents to inform them of engagement and opportunities for participation;
- Placing an advertisement in the Vancouver Sun and Vancouver Courier (January 14, 2016) regarding the preliminary comment period and small group meetings;
- Advertising the small group meetings on social media;

- Creating a feedback form to collect community input;
- Providing an email address and telephone number for inquiries and submissions;
- Posting all project-related materials on the Applicant's website; and
- Holding meetings with individual stakeholders outside and during the preliminary comment period to present and discuss technical aspects of the Project.

The Applicant hand-delivered/mailed notification letters and postcards to all residents and businesses in the area near Centerm, between Cambie Street and Clark Drive and north of Hastings Street, during the week of January 11, 2016, with information about the proposed Project and upcoming preliminary comment period and small group meetings. The notification area included all residents and businesses within approximately four blocks (500 m) from the Project site. The area of notification captured approximately 6,200 residents and businesses.

### Mail drop area for public notification

The red and blue highlighted lines represent the postal routes where postcards were delivered.



Both small group meetings were held at the Morris J. Wosk Centre for Dialogue in Vancouver, the first between 1:00 p.m. – 3:00 p.m., and the second between 6:00 p.m. – 8:00 p.m. A total of 150 stakeholders were identified by the Centerm Expansion Project Team and were directly invited to attend the small group meetings.

The small group meetings provided information about the Project scope, design, environmental and other technical assessments, construction activities and construction management. The Applicant had Project and technical consultants available to answer questions from the public. Staff from VFPA also attended.

During the consultation period, public participation was as follows:

- 15 individuals attended the small group meetings;
- 29 individuals completed the feedback form;
- 28 submissions were received by the Applicant via emails, letters and phone calls from the public; and
- VFPA received comments via email, letter and phone call from two members of the public.

Comments from the public were mainly related to the impacts of the increase in traffic, the public consultation process, potential environmental and health effects, construction activities, impacts from operations, emergency response, and potential impacts to CRAB Park at Portside.

The Applicant provided a detailed summary of the public consultation process and all comments received in a Preliminary Comment Period Consultation Summary Report. The Applicant also provided a Preliminary Comment Period Consideration Report with the Applicant's formal responses to public comments received, by theme. VFPA reviewed the documents and found them both to be acceptable. These reports were posted on VFPA and the Applicant's websites in November 2016.

### 5.3 Summary of Public Consultation – Application Review

Two rounds of public consultation were held in the Application Review phase. Round 1 was held from February 20 to March 24, 2017 and included the following:

- Hosting three open houses in downtown Vancouver (March 2, 4, and 7, 2017);
- Hosting two small group meetings in Vancouver (March 8 and 10, 2017). These meetings were open to anyone who wished to participate.
- Developing a discussion guide with key information about the Project;
- Hand-delivering and mailing postcards to residents and businesses in Vancouver;
- Sending emails and notifications to stakeholders on their database;
- Placing advertisements in the Vancouver Sun (February 17, 2017) and the Vancouver Courier (February 23, March 2 and March 9, 2017) regarding the public consultation period, the open houses and small group meetings;
- Advertising this round of public consultation on social media;
- Creating a feedback form to collect community input;
- Providing an email address and telephone number for inquiries and submissions; and
- Posting all Project-related materials on the Applicant's website.

The Applicant mailed approximately 11,300 postcards to residences and businesses in downtown Vancouver in advance of the consultation period on Tuesday, February 21, 2017, with information about the proposed Project and upcoming comment period, open houses and small group meetings. The area targeted was larger than in the first round, due to feedback received during preliminary review phase consultation.

#### Mail drop area for public notification

The highlighted lines represent the postal routes where postcards were delivered.



Two of the open houses were held at the Japanese Language School, and one open house was held at the Goldcorp Centre for the Arts, Djavad Mowafaghian World Art Centre. The first open house was held on Thursday, March 2, 2017 between 4:00 p.m. – 7:00 p.m., the second was held on Saturday, March 4, 2017 between 10:00 a.m. – 1:00 p.m., the third was held on Tuesday, March 7, 2017 between 4:00 p.m. – 8:00 p.m.

The open houses provided information about the Project scope, design, environmental and other technical assessments, construction activities, construction management, and information on the potential for a community amenity. The Applicant had Project and technical consultants available to answer questions from the public. Staff from VFPA also attended.

During one of the events, approximately 32 people attended to express concerns regarding the Project's potential effects on CRAB Park at Portside. They presented four petitions to the Applicant with a combined total of 12,622 signatures. With the exception of a separate petition to the House of Commons, the petitions focused on the importance of CRAB Park at Portside to the Downtown Eastside community.

The petition to the House of Commons requested that Parliament conduct a full review of the port authority, port activities and conduct an independent environmental assessment process for the Project.

One of the small group meetings was held at the Strathcona Community Centre on March 8, 2017 between 6:00 p.m. – 8:00 p.m., and the second was held at the Morris J. Wosk Centre for Dialogue on March 10, 2017 between 1:00 – 3:00 p.m. The small group meetings provided information about the Project scope, and the attendees were encouraged to engage in dialogue with the Project team. The Applicant had Project and technical consultants available to answer questions from the public. Staff from VFPA also attended.

During the consultation period, public participation was as follows:

- 90 people attended three open houses;
- 19 people attended two small group meetings;
- 38 people completed the feedback form;
- 43 submissions were received via emails, including four petitions with a total of 12,622 signatures; and
- VFPA received comments via email, letter and phone call from four members of the public.

Comments from the public were mainly related to the impacts of the increase in traffic, the public consultation process, environmental and health effects (including marine mammals), construction activities, impacts from operations, emergency response and potential impacts to CRAB Park at Portside.

Similar comments and concerns were raised at the two small group meetings including mitigation requests for road and rail traffic, emergency response access, noise, access/potential impact to CRAB Park at Portside and the potential for other community investment opportunities.

The Applicant provided a detailed summary of the public consultation process and all comments received in an Application Review Phase – Round 1 Consultation Summary Report. The Applicant also provided an Application Review Phase – Round 1 Consideration Report, with the Applicant's formal responses to public comments received, by theme. VFPA reviewed the documents and found them both to be acceptable. These reports were posted on VFPA and the Applicant's websites as of May 2017.

An additional round of consultation, referred to as Round 2 in the submitted consultation summary reports and in the table below, was held from May 15 to June 2, 2017. This round, which exceeded VFPA consultation guidelines, enabled the Applicant to report back on what was heard in the first two rounds and to provide updates on more technical information. This final round included the following:

- Hosting two open houses in downtown Vancouver (May 25 and May 27, 2017);
- Developing a discussion guide with key information about the Project;
- Hand-delivering and mailing postcards to residents and business in Vancouver;
- Sending emails and notifications to stakeholders on their database;
- Placing advertisements in the Vancouver Sun (Thursday, May 11 and Saturday May 20, 2017) and the Vancouver Courier (Thursday, May 11, 18 and 25, 2017) regarding the consultation period and open houses;
- Advertising this round of public consultation on social media;
- Creating a feedback form to collect community input;
- Providing an email address and telephone number for inquiries and submissions; and
- Posting all Project-related materials on the Applicant's website.

The Applicant mailed approximately 11,300 postcards to residences and businesses in advance of the consultation period on May 10, 2017, with information about the proposed Project and upcoming comment period and open houses. Mail drop area for public notification in this final round was the same as in Round 1.

The first open house for Round 2 was held at the Japanese Language School, and the second was held at the Morris J. Wosk Centre for Dialogue. The first open house was held on Thursday, May 25, 2017 between 4:00 p.m. – 7:00 p.m., the second was held on Saturday, May 27, 2017 between 1:00 p.m. – 4:00 p.m. The open houses provided information about the Project scope, design, environmental and other technical assessments, construction activities and construction management. There was also an opportunity for comments and feedback to be received regarding a proposed Community Investment Program associated with the Project. The Applicant had Project and technical consultants available to answer questions from the public. Staff from VFPA also attended.

During the consultation period, public participation was as follows:

- 48 people attended two open houses;
- 12 people completed the feedback form;
- 34 submissions were received via emails; and
- VFPA received comments via email, letter and phone call from five members of the public.

Comments from the public were mainly related to the impacts of the increase in traffic, the public consultation process, environmental and health effects, construction activities, impacts from operations, emergency response and any potential impacts to CRAB Park at Portside.

The Applicant provided a detailed summary of the public consultation process and all comments received in an Application Review Phase – Round 2 Consultation Summary Report dated June 2017. The Applicant also provided an Application Review Phase – Round 2 Consideration Report dated June 2017, with the Applicant's formal responses to public comments received, by theme. VFPA reviewed the documents and found them both to be acceptable. These reports were posted on VFPA and the Applicant's websites as of June 2017.

Below is a table summarizing issues raised by the public in the two rounds of consultation conducted during the application review phase of the PER process, and how they were considered

by VFPA as part of the review. References to the rounds 1 and 2 of public consultation are consistent with those above, and both rounds reference consultation undertaken during the project and environmental review, rather than the preliminary review phase.

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Air Quality</b> Concerns raised regarding air quality issues in relation to the increase in truck and rail traffic.</p>	<p>The Applicant conducted an Environmental Air Assessment in accordance with VFPA guidelines and requirements. For more information, see Section 7.2.</p>		<p>Permit condition No.79 requires the permit holder to submit an Air Emissions Management Plan in accordance with VFPA guidelines.</p>
<p><b>Community Investments</b></p>	<p>VFPA does not require community investment contributions as part of the PER process. However, the Applicant is committed to providing opportunities for the local community to benefit directly from this Project. During each round of consultation, suggestions for proposed community investments were sought and the Applicant is considering these. Below are several suggestions made during public consultation.</p>		<p>None required.</p>
	<ul style="list-style-type: none"> <li>• Improvements to CRAB Park at Portside</li> <li>• Community grants supporting youth, heritage, culture, arts, environment and Aboriginal initiatives in the Downtown Eastside</li> <li>• Contributions to Strathcona Community Centre and Ray-Cam Co-operative Centre</li> <li>• Contributions to Aboriginal initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Investing in adjacent local communities</li> <li>• Investing larger amounts in Aboriginal initiatives</li> <li>• St Paul’s Hospital</li> <li>• Carnegie Centre</li> <li>• Connecting the seawall eastward from the Vancouver Convention Centre</li> </ul>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<b>Construction Communications</b>	<p>During Round 2 concerns were raised regarding construction communication.</p> <p>The Applicant will develop a Construction Communications Plan which will detail how the community and port road users will be notified about construction activities throughout the various construction phases.</p>	<p>Condition No. 28 requires the Applicant to submit a Construction Communications Plan to keep the community informed about construction activities and potential impacts.</p> <p>Condition No. 29 requires the Applicant to distribute construction notifications to the community 10 business days prior to the start of construction.</p>	
<b>Construction Management</b> Concerns raised regarding impacts on the neighbourhood and the hours/days allowed for construction works.	<p>Issues regarding construction related impacts to the community were raised in Round 2 of consultation.</p> <p>The Applicant will develop a Construction Communication Plan which will detail how stakeholders, the community and port road users will be notified prior to construction work.</p> <p>For the majority of construction activities, the Applicant will adhere to VFPA's standard hours of construction: Monday to Saturday, 7:00 am to 8:00pm. However, the construction of certain Project components such as marine construction, the Centennial Road Overpass, and work in the rail yard are expected to require 24/7 work.</p> <p>These works will need to be conducted continuously in order to lessen the overall construction timeline, lessen traffic disruption, and work during times when rail traffic is lowest. Mitigation measures for these works will be outlined in the Construction Communications Plan the Applicant will submit to VFPA.</p> <p>Should additional activities require work outside of standard hours of construction, the Applicant is required to obtain a separate authorization.</p>	<p>Condition No. 28 requires the Applicant to submit a Construction Communications Plan to keep the community informed about construction activities and potential impacts.</p> <p>Condition No. 29 requires the Applicant to distribute construction notifications to the community 10 business days prior to the start of construction detailing work hours/days and potential impacts.</p> <p>Condition No. 47 restricts construction hours (Monday – Saturday: 7:00am to 8:00pm) with specific exceptions including marine construction, the Centennial Road Overpass, and work in the rail yard noted, and subject to confirmation in the Project schedule to be provided in condition No. 17.</p>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Consultation &amp; Notification</b> Concerns raised over the length of consultation and notification practices and also how input provided was considered.</p>	<p>The Applicant encouraged participation in the consultation process within the community, holding one round of consultation during the Preliminary Review and two rounds during the Applications review. Over 11,300 residents/businesses received mail-drops during rounds 1 and 2, and consultation activities were further advertised by newspaper, posters and via social media.</p>		<p>None required, as consultation activities exceeded VFPA requirements.</p>
	<p>As a result of public feedback the Applicant expanded the reach of consultation notifications between the Preliminary consultation period and the Application Review consultation period.</p> <p>An additional 5,100 addresses were added to the Project mail-drop list and a total of 11,300 homes and businesses received direct mail notification for consultation during the final two rounds of the Application Review consultation period.</p>	<p>As a result of public feedback the Applicant refined several Project mitigations:</p> <ul style="list-style-type: none"> <li>• Expanded traffic and noise studies to include the Downtown Eastside.</li> <li>• Expanded the scope of environmental review to include tidal flushing and expanded the view/shade study area.</li> <li>• Explored ways to provide training and employment for the local community.</li> <li>• Refined the Community Investment program.</li> </ul>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>CRAB Park at Portside</b> Concerns regarding tranquility, views, and water quality were raised.</p>	<p>The Applicant submitted a View and Shade Impact Assessment after concerns were raised regarding impacts to CRAB Park at Portside. The assessment concluded that view impacts are not expected to be significant. VFPA concurs with the results.</p>	<p>The Applicant completed computer modelling of tidal flushing within the bay bordering Centerm and CRAB Park at Portside due to concerns raised through the public consultation process.</p> <p>Modelling showed that natural tide cycles would continue to completely flush and replenish the bay after the proposed expansion and there would be no significant adverse environmental effects for the water quality in the bay.</p>	<p>None required.</p>
<p><b>Emergency Response &amp; Safety: Terminal</b></p>	<p>Safety and Emergency preparedness were considered as part of the review.</p> <p>Concerns were raised during Round 1 of consultation relating to terminal emergency access.</p> <p>The Applicant undertook an Emergency Access Study which was then submitted as part of the review process. The study compared emergency response times pre- and post-construction and found a minimal difference.</p> <p>The terminal maintains an emergency response plan that will be updated after the expansion is completed, and this plan is updated annually.</p>		<p>None required.</p>

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Emergency Response &amp; Safety: Marine</b> Spill prevention and emergency response</p>	<p>Concerns were raised during Round 1 of consultation relating to spill prevention and emergency response to marine spills.</p> <p>The port authority is not the lead agency with respect to marine emergency responses, but the marine patrol and port authority's Operations Centre would provide assistance to first responders. With regards to a recoverable spill, the Canadian Coast Guard would lead the response and cleanup.</p>		<p>None required.</p> <p>Condition No. 20 requires the Applicant to submit an updated Construction Environmental Management Plan (CEMP) which includes a spill prevention and emergency response plan.</p>
<p><b>Environmental Mitigation</b> Concerns raised over potential impacts to marine mammals, tidal bay flushing and potential environmental impacts due to accidents and spills.</p>	<p>During Round 1, concerns were raised regarding the impact of the Project to marine life. The Applicant undertook a Marine Resource Study as part of the application to determine potential impacts to fish, fish habitat, marine birds and mammals.</p> <p>The study found that the proposed Project would have minimal effects on marine mammals.</p> <p>The Project would require an authorization from Fisheries and Oceans Canada under the <i>Fisheries Act</i>. As part of this authorization, the Applicant proposes to offset the loss of deep subtidal mudflats at the proposed site with a habitat restoration site located on port land within Burrard Inlet.</p> <p>The proposed 24-hour construction window for marine construction will shorten the construction period and therefore reduce impacts to fish and their habitat.</p> <p>The Applicant also completed modeling of tidal flushing within the bay and found natural tide cycles would continue to completely flush the bay.</p>		<p>Condition No. 21 requires the Applicant to submit an updated Storm Water Pollution Prevention Plan 30 days prior to the start of construction.</p> <p>Condition No. 23 requires the Applicant to obtain and submit a copy of a <i>Fisheries Act</i> Authorization issued by Fisheries and Oceans Canada.</p> <p>Condition No. 74 requires work to be halted if the Project has harmed fish or their habitat (including observation of dead fish).</p>

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Federal Regulation</b> Calls for the federal government to undertake an independent environmental assessment of the Project.</p>	<p>During Round 1 of the consultation process, a petition calling for the federal government to undertake an independent environmental assessment of the Project was received.</p> <p>The Project is located on federal port lands. The VFPA administers a project and environmental review (PER) process to fulfill its responsibilities under the <i>Canada Marine Act</i> and the <i>Canadian Environmental Assessment Act, 2012</i> and to ensure that proposed works and activities within the port authority's jurisdiction are carefully considered before determining if they should proceed.</p> <p>VFPA required the Applicant to undertake comprehensive technical studies, develop plans and consult with the public, stakeholders and Aboriginal groups.</p> <p>The Project would also require additional permits and approvals from other federal agencies including: Environment and Climate Change Canada, and Fisheries and Oceans Canada.</p>	<p>None required.</p>	
<p><b>Greenhouse Gas Emissions (GHG)</b></p>	<p>Concerns regarding Greenhouse Gas Emissions was raised in Round 1 of consultation.</p> <p>The Project is anticipated to increase emissions by 95 per cent as compared to the existing facility operating at full capacity. GHGs for the assessment constitute CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O and are reported as CO<sub>2</sub>e (CO<sub>2</sub> equivalency) at the 100 year time horizon.</p> <p>Greenhouse Gas Emissions are included in the revised Environmental Air Assessment and examined the degree of change and impact associated with the Project. For more information, see Section 7.2.</p>	<p>Condition No. 79 requires the permit holder to submit an Air Emissions Management Plan. The terminal operator will be required to reduce emissions over the lifetime of the terminal by demonstrating continuous improvement.</p>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Heritage</b> Maintain and preserve historical buildings.</p>	<p>The Applicant has incorporated the façade and structure of the Ballantyne building into the Project design after heritage conservation concerns were raised in Round 1 of consultation.</p> <p>The façade of the Ballantyne building and concrete structural elements of historic importance will be repurposed and incorporated into a new LEED Gold certified building.</p> <p>Rogers Sugar building is not physically impacted, but the lower three floors will be partially obscured by the construction of the Centennial Road overpass.</p>	<p>None required.</p>	
<p><b>Light Impacts</b></p>	<p>In Round 2 of consultation, the effects of light pollution during construction and operation were raised.</p> <p>To mitigate these effects, the Applicant will focus light only where it is needed to ensure work is conducted safely during the construction phase of the Project. For more information, see Section 7.2.</p>	<p>Condition No. 49 requires the Applicant to submit a final lighting design to address and mitigate potential light impacts from new outdoor lighting at the terminal.</p>	
<p><b>Location of Project</b></p>	<p>In Round 2 of consultation, the location of the Project was questioned.</p> <p>Under the <i>Canada Marine Act</i>, the purpose of the VFPA, amongst other things, is to facilitate Canada’s trade through the port.</p> <p>As the trade of goods shipped in containers continues to rise, VFPA needs to accommodate and meet the demand in order to fulfill its legal mandate. Faced with a limitation on available land to expand, the port authority explored opportunities to increase capacity at existing facilities such as Centerm, and determined that expansion at Centerm should be considered.</p>	<p>None required.</p>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Marine Environmental Impacts</b> Concerns regarding the size/number of vessels, environmental impacts on wildlife from the Project (including oil spills), and requests for enhanced water quality monitoring.</p>	<p>The Applicant provided information relating to the anticipated marine traffic and vessel size associated with the Project. Growth in marine traffic associated with the Project is expected to be limited to one vessel per week, since the larger vessels that are calling at the terminal can deliver larger volumes per ship.</p> <p>In addition, the terminal maintains an emergency response plan that addresses procedures in case of spills and that will be updated after the expansion is completed, and annually thereafter.</p> <p>The Applicant undertook a Marine Resource Study to determine how the Project would impact fish, fish habitat, marine birds and mammals. The study found there would be minimal impact to marine birds but that it had the potential to harm fish and their habitat.</p> <p>The Department of Fisheries and Oceans Canada (DFO) would also be required to authorize the Project and approve habitat off-setting measures.</p> <p>Mitigation measures described in the CEMP and elsewhere in the proposed permit conditions would reduce potential adverse effects on water quality.</p>	<p>Condition No. 20 requires the Applicant to submit a Construction Environmental Management Plan (CEMP) 30 days prior to construction works.</p> <p>The CEMP requires the Applicant to provide environmental monitoring reports to VFPA.</p>	
<p><b>Marine Impacts: Vessel Noise</b></p>	<p>In Round 2 of consultation, concerns about vessel noise associated with the potential increase in vessel traffic. The Applicant undertook a Marine Resources Study and determined that risks to marine mammals would be very low. Marine traffic is anticipated to increase by one vessel per week (or 1% over current traffic levels in Burrard Inlet) with the increase in terminal capacity primarily achieved by a forecast increase of vessel size over an increase in the number of vessels.</p>	<p>None required.</p> <p>The Applicant has committed to slow start-up procedures for dredging, infilling, and vibro-densification in-water work. This will allow marine mammals in the vicinity of the activity to leave the area, concurrent with monitoring activities.</p>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<b>Marine Impacts: Vessel Traffic</b>	<p>In Round 2 of consultation, issues were raised regarding the number of vessels and cumulative effects this may have on the Burrard Inlet.</p> <p>The Applicant undertook a Marine Transportation Impact Study and found growth associated with the Project would be achieved through an increase in vessel size rather than an increase in the number of vessels. Therefore, the project-related impacts to marine mammals would be very low.</p> <p>VFPA does not anticipate additional vessel congestion in Burrard Inlet.</p>		None required.
<b>Marine Impacts: Spill Response</b> Concerns regarding oil spill prevention and response.	<p>Concerns were raised in Round 2 of consultation relating to marine response to oil spills and prevention. The terminal maintains an emergency response plan that addresses procedures in case of spills and that will be updated after the expansion is completed, and annually thereafter.</p> <p>The port authority has robust practices and procedures which are to be followed by all vessels operating within the port. These promote safe navigation, environmental protection and oil spill prevention.</p> <p>The port authority is not the lead agency with respect to marine emergency responses, but the marine patrol and port authority's Operations Centre would provide assistance to first responders. With regard to a recoverable spill, the Canadian Coast Guard would lead the response and cleanup.</p>		None required.
<b>Noise: Project-Related</b>	<p>Noise will be produced during the construction of the terminal expansion, including from dredging, fill placement, and general activities associated with construction.</p> <p>Noise levels are also expected to increase slightly once the Project is operational. This is further discussed in Section 7.1.</p>		<p>Condition No. 20 requires the Applicant to submit a Construction Environmental Management Plan (CEMP) 30 days prior to construction works.</p> <p>Condition No. 47 restricts construction hours (Monday – Saturday: 7:00am to</p>

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
	<p>The Applicant conducted a Noise Assessment. As a result, a number of noise mitigation measures have been included in the proposed Project including using electric rail-mounted gantry cranes.</p>	<p>A supplementary baseline noise study was conducted in response to technical review comments.</p> <p>To further mitigate any noise associated with construction, the Applicant is required to develop a Construction Environmental Management Plan.</p>	<p>8:00pm) with specific exceptions including marine construction, the Centennial Road Overpass, and work in the rail yard noted.</p> <p>Upon completion of the Project, condition No. 80 requires the Applicant to conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment Study.</p>
<b>Permitting &amp; Accountability</b>	<p>In Round 1, concerns were raised regarding accountability with respect to the port authority's permitting process for port activities.</p> <p>Because the Project is located on federal port lands, authorization is required from the port authority under the Project and Environmental Review (PER) process.</p> <p>PER requires the Applicant to undertake comprehensive technical studies, develop plans and consult with the public, stakeholders and Aboriginal groups.</p> <p>The Project would also require additional permits and approvals from other federal agencies including Environment and Climate Change Canada and Fisheries and Oceans Canada.</p>		<p>None required.</p>

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<b>Project Need</b>	<p>In Round 1 of consultation, the need of the Project was questioned.</p> <p>Under the <i>Canada Marine Act</i>, the purpose of the VFPA, amongst other things, is to contribute to the growth, competitiveness, and prosperity of the Canadian economy.</p> <p>As the trade of goods shipped in containers continues to rise, VFPA needs to accommodate and meet the demand. Faced with a limitation on available land to expand, the port authority explored opportunities to increase capacity at existing facilities such as Centerm. The expansion of Centerm will meet the near-term container capacity needed at the Port of Vancouver by 2022.</p>		None required.
<b>Project Ownership</b>	<p>In Round 1 of consultation, there was a request for clarification on the relationship between DP World Vancouver (Dubai Ports World) and the port authority regarding ownership of the Project and funding.</p> <p>The Vancouver Fraser Port Authority is established by the Government of Canada pursuant to the <i>Canada Marine Act</i>, and accountable to the federal minister of transport.</p> <p>Dubai Ports World leases and operates the Centerm terminal which is located on federal lands and waters managed by the port authority.</p> <p>VFPA is proposing the Project, but is subject to the PER process which applies to all proposed works and development activities on federal lands and waters managed by the port authority.</p>		None required.
<b>Rail Impacts to the Community</b>	<p>To address potential rail impacts to the immediate community, the Applicant has proposed a number of improvements into the design of the Project. Increasing the length of the intermodal yard achieves a reduction in the number of train movements because longer trains mean fewer rail switches and less overall noise and emissions.</p>		None required.

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<p><b>Safety Considerations</b> Relating to an increase in rail and road traffic.</p>	<p>In Round 2 of consultation, safety concerns were raised relating to an increase in rail and road traffic and a prior emergency event at the Centerm Terminal in 2015.</p> <p>Safety and emergency preparedness were considered as part of the review. The Applicant undertook an Emergency Access Study which compared emergency response times pre-and post-construction and found a small difference in response times from the Main Street fire hall to the Rogers/Lantic site, depending on whether a train is blocking one of the remaining at-grade crossings. Emergency response to other locations is either improved or unaffected by the Project.</p> <p>The City of Vancouver Fire Department would respond in the event of a fire.</p> <p>The transportation of all goods via rail is regulated by Transport Canada through the <i>Transportation of Dangerous Goods Act</i> and regulations.</p> <p>The terminal has its own site-specific emergency response plan which would be updated to include the expansion of the facility.</p>	<p>None required.</p>	
<p><b>Terminal Expansion Project Design</b></p>	<p>In Round 1 of consultation, the public raised the question as to if the proposed expansion could be relocated to the east of the existing terminal instead of the west.</p> <p>The Applicant conducted a thorough review of the Centerm site and surrounding area for potential expansion options. It was concluded that in order to achieve the desired terminal capacity, five 3,000 foot intermodal yard rail tracks are essential. These tracks could most efficiently be accommodated on the west side of the existing terminal. Expanding to the east impacts other terminals and has significant impacts to the rail network for all south shore terminals.</p>	<p>None required.</p>	

Issue	VFPA Considerations		Mitigations and Permit Conditions
	Round 1	Round 2	
<b>Transportation – General</b>	<p>In Round 1 of consultation, there was interest and support for promoting alternative and active transportation options.</p> <p>The extension of Waterfront Road to Centennial Road greatly improves the connectivity to the Waterfront Station transit hub for port employees, port users and provides opportunity for alternative transportation options in the future.</p> <p>DP World Vancouver proposes to install a number of electric vehicle charging stations at the Centerm facility for use by DP World Vancouver employees and terminal users.</p>		None required.
<b>Traffic</b> Concerns raised regarding the increased in traffic and pollution during and post construction.	<p>The Applicant undertook a Traffic Impact Study and a number of mitigation measures resulting from the study were included in the development of a draft Construction Traffic Management Plan.</p> <p>Changes proposed in the South Shore Access Project will improve goods movement along port roads, reduce congestion, improve efficiency within the port, and will help remove port-related traffic from surrounding city streets.</p>		<p>Condition No. 30 requires the submission of a Construction Traffic Management Plan 20 business days prior to any lane closures</p> <p>Condition No. 61 requires air emissions for vehicle/equipment exhaust, dust and vapours shall be minimized and managed to avoid effects on and off the Project site.</p> <p>Condition No. 79 requires the Applicant to provide an Air Emissions Management Plan upon completion to address these concerns.</p>
	<p>The Applicant undertook a Traffic Impact Study to fully understand the effects of the proposed Project on the community.</p> <p>The study concluded that including the Waterfront Road extension into the Project would reduce traffic slightly in the Downtown Eastside.</p>	<p>It was found that the overall combined effects of additional vehicles, as well as the rerouting of vehicles currently using the Heatley Avenue overpass, would have a minor traffic impact on city streets.</p>	

VFPA has reviewed the record of public consultation, and is satisfied that any topics or issues raised through consultation have been addressed satisfactorily through adherence to permit conditions, or through other mitigations incorporated by the Applicant.

## 6 ABORIGINAL CONSULTATION

VFPA reviewed the proposed works and determined that the Project may have the potential to adversely impact Aboriginal rights. Therefore, Aboriginal consultation was required.

VFPA delegated the procedural aspects of consultation to the Applicant, VFPA's Infrastructure Delivery Division. The roles and responsibilities for both VFPA and the Applicant in regards to Aboriginal consultation are described in the December 15, 2016 letter to Aboriginal groups.

The Applicant conducted the procedural aspects of consultation for the proposed Project.

### 6.1 Scope of Aboriginal Consultation

The proposed Project falls within the traditional territory of the following Aboriginal groups:

- Tsleil-Waututh Nation
- Squamish Nation
- Musqueam Indian Band
- Sto:lo Nation
- Stz'uminus First Nation
- Lake Cowichan First Nation
- Halalt First Nation
- Lyackson First Nation
- Penelakut Tribe
- Cowichan Tribes

All Aboriginal groups listed above were consulted on the Project.

### 6.2 Overview of Aboriginal Consultation Activities

#### 6.2.1 Preliminary Review Consultation

##### *Consultation Activities Conducted by the Applicant*

Prior to submitting a permit application to VFPA, the Applicant conducted pre-application consultation activities. The Applicant summarized these activities in the Aboriginal Consultation Plan, dated November 2016, that was submitted to VFPA as part of the PER application. Pre-application consultation activities included the following:

- Notification letters and phone calls
- Project update emails
- Sharing Project information
- Sharing of information relating to environmental studies
- Sharing of draft PER application
- Project overview meetings
- Seeking feedback related to conceptual design, potential impacts and/or concerns, proposed environmental studies and development of mitigation
- Sharing of draft Archaeological Overview Assessment for review and comment
- Sharing of draft Biophysical Assessment Report for review and comment
- Sharing of draft environmental studies prepared for the PER application for review and comment
- Meetings and presentation regarding methodology and results of environmental studies prepared for the PER application

- Responding to comments and concerns through emails, phone calls, meetings and written letters

#### *Consultation Activities Conducted by VFPA*

In addition to the consultation activities undertaken by the Applicant, VFPA consulted with Aboriginal groups by responding to questions and comments on a number of topics, including the PER process, VFPA's approach to assessing cumulative effects, and VFPA's approach to sustainability. VFPA responded to concerns raised by Aboriginal groups in letters and emails.

### **6.2.2 Application Review Consultation**

#### *Consultation Activities Conducted by the Applicant*

During the application review phase, the Applicant conducted consultation activities. The Applicant summarized these activities in the Record of Aboriginal Consultation, dated May 2017, that was submitted to VFPA as per the requirements set out in the December 16, 2016 letter.

Consultation activities included the following:

- Sharing of Project information
- Project update phone calls, emails and letters
- Project update meetings and continued discussions regarding proposed Project activities, offsetting, mitigation, alternatives and permitting
- Sharing of Project information and environmental studies required by other government agencies and departments
- Providing the draft Aboriginal Consultation Record for review and comment
- Responding to comments and concerns through emails, phone calls, meetings and written letters

#### *Consultation Activities Conducted by VFPA*

On December 16, 2016, VFPA sent a letter to all potentially affected Aboriginal groups indicating that the port authority had received a complete application from the Applicant. In the letter, VFPA notified Aboriginal groups that they were delegating the procedural aspects of consultation for the proposed Project to the Applicant. VFPA invited Aboriginal groups to provide comments on the delegation of procedural aspects. No Aboriginal groups responded with comments on the delegation of procedural aspects.

Throughout the application review phase, VFPA remained updated and apprised of Aboriginal consultation activities through regular meetings with the Applicant. When raised by the Applicant, VFPA responded to Aboriginal groups' concerns about the PER process, corporate VFPA matters and VFPA's review of the proposed Project.

On October 25, 2017, VFPA shared with those Aboriginal groups who participated in the review of the proposed Project a draft summary of consultation. This included a summary of issues raised by Aboriginal groups and how VFPA considered and addressed those issues. Aboriginal groups were invited to provide comments on VFPA's conclusions. VFPA responded to all comments received from Aboriginal groups.

### 6.2.3 Summary of Commitments

The Applicant made a number of commitments to Aboriginal groups during consultation activities, summarized in a submission to VFPA in November 2017. A summary of those commitments follows:

- Sharing of revised air quality assessment and revised noise assessment
- Sharing of revised draft plans with Aboriginal groups for review and comment, including the CEMP, Chance Find Protocol, Total Suspended Solids (TSS)/Turbidity Monitoring Plan, and Stormwater Pollution Prevention Plan
- Implement recommendations of the Archeological Overview Assessment
- Provide updates regarding procurement, training and employment opportunities and work to enable access to employment, training and contracting opportunities associated with the Project
- Work with Aboriginal groups with respect to involvement in monitoring during construction activities, and
- Sharing of Project updates, Project timing and construction activities.

Permit condition No. 15 requires that the Applicant honor the commitments made to Aboriginal groups.

### 6.3 Summary of Issues Raised

Issue	VFPA Considerations	Mitigations and Permit Conditions
Impacts to air quality.  Requirement for monitoring.	The Environmental Air Assessment predicted air quality objective exceedances over a small percentage of the hours modelled, and exceedances were only predicted to occur in areas inaccessible to the public.  VFPA recognizes that follow up air quality monitoring is an important aspect of managing environmental impacts.	Condition No. 79 requires the Applicant to develop an Air Emissions Management Plan that would be able to address future monitoring aspects. Consultation with relevant stakeholders including Aboriginal groups will be part of the plan review and approval process.
Impacts to archaeological resources.  Involvement of Aboriginal groups in archaeological monitoring.	The Applicant's Archeological Overview Assessment (AOA) concluded that with the application of mitigation measures, including archaeological monitoring and implementation of a Chance Find Protocol during construction, there is low residual risk that archaeological sites could be disturbed by the proposed Project.  The Applicant committed to working with Aboriginal groups with respect to involvement in	Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.  Condition No. 38 requires the Applicant to provide opportunities to Aboriginal groups to participate in archaeological monitoring for all Project activities impacting deposits associated with the original shoreline. Such opportunities are to be communicated to Aboriginal groups in a timely manner, and at least 10 business days prior to

Issue	VFPA Considerations	Mitigations and Permit Conditions
	<p>monitoring during Project construction.</p> <p>The Applicant committed to ensure that Aboriginal groups have the chance to review and provide comment on the Chance Find Protocol when it is developed.</p>	<p>commencing work near the original shoreline.</p> <p>Condition No. 51 requires that an appropriately qualified archaeological monitor be present during all Project activities impacting deposits associated with the original shoreline.</p> <p>Condition No. 39 requires the Applicant to implement a Chance Find Protocol.</p>
<p>Construction - Aboriginal groups requested the opportunity to review and provide comment on the Construction Environmental Management Plan.</p>	<p>The Applicant committed to sharing the CEMP with Aboriginal groups for review and comment.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p>
<p>The PER process is inadequate for Aboriginal consultation.</p>	<p>VFPA offered to meet with Aboriginal groups to better understand their concerns with the PER process and VFPA's approach to consultation.</p> <p>VFPA remains willing to work with Aboriginal groups toward a mutual understanding of how consultation can occur on projects proposed for the lands and waters managed by VFPA.</p>	<p>VFPA will continue to seek opportunities to discuss VFPA's approach to consultation with Aboriginal groups.</p>
<p>Cultural Heritage - Potential to impact K'emk'emelay, an important place.</p>	<p>VFPA acknowledges that this is an important area to Aboriginal groups and thanked Aboriginal groups for the contribution of this knowledge.</p>	<p>See response to the topic of archaeological resources above.</p>
<p>Cumulative effects of port development to Burrard Inlet.</p>	<p>Though VFPA does not have a legislative requirement to explicitly consider cumulative effects in PER, the past and current effects of development on the environment provides the context for our assessment of Project effects and, accordingly, consideration of cumulative effects is inherently integrated into our environmental reviews.</p>	<p>None.</p>

Issue	VFPA Considerations	Mitigations and Permit Conditions
	<p>During consultation, the Applicant advised Aboriginal groups that they would be interested in funding a Burrard Inlet traditional use study involving Aboriginal groups in order to better understand, going forward, cumulative effects relating to the Project.</p>	
<p>Current Use of Lands and Resources for Traditional Purposes - Effect of any change to the environment on the current use of lands and resources for traditional purposes.</p> <p>Impacts to rights-based activities, including fishing and marine navigation.</p> <p>Impacts stemming from increased vessel wait time and congestion in Burrard Inlet.</p>	<p>At the time of preparation of the Record of Aboriginal Consultation, the Applicant had not identified any current use of lands and resources for traditional purposes that could potentially interact with the Project.</p> <p>With projections of one additional vessel per week (from five to six), VFPA does not expect the Project to increase interference of marine navigation or use of Burrard Inlet for cultural purposes. The Applicant does not anticipate additional vessel congestion in Burrard Inlet.</p> <p>VFPA understands that the Project has the potential to impact fish and fish habitat which could affect Aboriginal fishing activities. The Applicant has developed a plan to offset for potential adverse effects on fish and fish habitat as part of their <i>Fisheries Act</i> authorization application. VFPA reviewed a conceptual offsetting plan during the project and environmental review.</p> <p>VFPA understands that the Applicant consulted Aboriginal groups on the development of an offsetting plan and that consultation on the offsetting plan will continue through ongoing plan development and the <i>Fisheries Act</i> Authorization process.</p>	<p>See response to Environmental Monitoring and fish habitat questions below.</p>

Issue	VFPA Considerations	Mitigations and Permit Conditions
<p>Interest in training and employment opportunities.</p> <p>Interest in business, partnerships and procurement opportunities, including apprenticeship programs.</p>	<p>The Applicant sent Aboriginal groups a list of potential sub-contracting opportunities and an update on the design-build contractor.</p> <p>The Applicant committed to continuing to provide updates to Aboriginal groups regarding procurement and employment and training opportunities, and to working to enable Aboriginal groups to access employment, training and contracting opportunities.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p>
<p>Requirement for an emergency management and accidents and malfunctions plan.</p> <p>Risk of spills and presence of boom on site.</p>	<p>A boom will be present on site, as well as several spill kits throughout the terminal. The CEMP includes an Emergency Spill Response Plan.</p> <p>The Applicant committed to sharing the CEMP with Aboriginal groups for review and comment.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p>
<p>Environmental Monitoring - Aboriginal groups requested meaningful input into the development and implementation of the project monitoring plan.</p> <p>Aboriginal groups requested involvement in environmental monitoring during dredging activities.</p> <p>Aboriginal groups requested coordination between the project's environmental monitor and monitors from Aboriginal groups.</p>	<p>The Applicant committed to working with Aboriginal groups with respect to their involvement in monitoring during Project construction, including dredging.</p> <p>The Applicant committed to seeking input from Aboriginal groups on the monitoring plan, including sharing the CEMP with Aboriginal groups for review and comment.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p>
<p>Fish and Fish Habitat - Offsetting.</p>	<p>VFPA reviewed a conceptual offsetting plan during the project and environmental review.</p> <p>VFPA understands that the Applicant consulted Aboriginal groups on the development of an</p>	<p>Condition No. 23 requires the Applicant to obtain a <i>Fisheries Act</i> Authorization.</p>

Issue	VFPA Considerations	Mitigations and Permit Conditions
	<p>offsetting plan and that consultation on, and further development of, the offsetting plan will continue through the <i>Fisheries Act</i> Authorization process.</p>	
<p>Impacts to fish and fish habitat.</p>	<p>The proposed project includes several activities with the potential to affect fish and fish habitat. In addition, changes in sediments and water quality related to re-suspended sediment and construction and operation related discharges and wastes can also affect fish and fish habitat.</p> <p>VFPA reviewed a conceptual offsetting plan during the project and environmental review.</p> <p>Offsetting is required due to the impacts to fish and fish habitat. VFPA understands that the Applicant consulted Aboriginal groups on the development of an offsetting plan and that consultation on, and further development of, the offsetting plan will continue through the <i>Fisheries Act</i> Authorization process.</p>	<p>VFPA added the following conditions requiring the Applicant to:</p> <ul style="list-style-type: none"> <li>• Submit and implement an updated Construction Environmental Management Plan (CEMP)</li> <li>• Manage turbidity in as described in the CEMP and TSS/Turbidity Monitoring Plan</li> <li>• Have a qualified environmental monitor during all works that have the potential to adversely impact fish and fish habitat</li> <li>• Refrain from depositing deleterious substances in to the water or adversely affect fish or fish habitat</li> <li>• Refrain from dredging during the fisheries sensitive period</li> <li>• Refrain from operating machinery or equipment on the intertidal foreshore outside the work area</li> <li>• Carry out all upland activities in a manner that prevents the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment</li> <li>• that shall not deposit sediments, debris, concrete (cured or uncured), and concrete fines into the aquatic environment, either directly or indirectly</li> <li>• Immediately cease work and notify VFPA if harm to fish or fish habitat is suspected.</li> </ul>
<p>Effects of changes to the environment on Aboriginal health and</p>	<p>The Project is located within an urban environment therefore, potential Aboriginal health effects</p>	<p>See response to the topic of air quality above.</p>

Issue	VFPA Considerations	Mitigations and Permit Conditions
<p>socio-economic conditions.</p> <p>Impacts to Aboriginal health.</p>	<p>can be considered as part of the general community.</p> <p>See response to the air quality topic above.</p> <p>Further, note that there is no Commercial, Aboriginal or Recreational fishery located in the Project area.</p>	
<p>Marine Environment - Management of contaminated water from dredged material.</p> <p>Handling and use of contaminated sediments.</p> <p>Water quality monitoring and management.</p>	<p>Water that does not meet CCME Water Quality Guidelines is not to be discharged to the aquatic environment. It is to be tested and treated to meet the guidelines before it is discharged or disposed of at an appropriate facility.</p> <p>Sediment resuspension, dispersal and deposition during dredging will be addressed through best practices and mitigation measures for dredging proposed by the Applicant. These will be described in the CEMP Plan and any sub-plans.</p> <p>The Applicant committed to sharing the updated CEMP and the Water Quality Monitoring Plan with Aboriginal groups for review and comment.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p> <p>Condition No. 42 requires the Applicant to manage turbidity in compliance with all applicable water quality criteria.</p> <p>Condition No. 20 requires that the Applicant abide by an updated CEMP and any sub-plans contained within the CEMP.</p> <p>Condition No. 69 requires that all upland activities be carried out in a manner that prevents the release of sediment or turbid waters to the aquatic environment.</p>
<p>Marine Environment - Improvements to the stormwater management system.</p> <p>Impact of water runoff from concrete.</p> <p>Request to use permeable concrete to reduce runoff.</p>	<p>The existing stormwater management system will be maintained and expanded during construction to handle the surface flow from the new surfaces including stormwater treatment for the road and reflected in the revised Storm Water Pollution Prevention Plan. Permeable concrete is not proposed to be used.</p> <p>The design-build contractor will be required to develop a containment system around concrete pours in the CEMP.</p>	<p>Condition No. 15 requires the Applicant to adhere to all commitments made to Aboriginal groups.</p> <p>Condition No. 21 requires the Applicant to submit an updated Storm Water Pollution Prevention Plan in accordance with VFPA guidelines.</p> <p>Condition No. 20 requires the Applicant to abide by the updated CEMP and relevant sub-plans contained within the CEMP.</p>

Issue	VFPA Considerations	Mitigations and Permit Conditions
	The Applicant committed to sharing the CEMP and the Stormwater Management and Pollution Prevention Plan with TWN for review and comment.	
Marine Resources - Impacts of lighting.	<p>The Centerm terminal has already completed a conversion to LED fixtures for outdoor areas. The change to LED lighting is expected to improve off-site light impacts by limiting light spillage and requiring less electricity.</p> <p>The Applicant will complete a Lighting Management Plan that includes best management practices to minimize fugitive lighting. Proposed mitigations are outlined in the CEMP.</p>	<p>Condition No. 20 requires the Applicant to abide by the updated CEMP and relevant sub-plans contained within the CEMP.</p> <p>Condition No. 49 requires the Applicant to submit a lighting design and a lighting-related Energy Study for the permanent outdoor lighting.</p>

VFPA has reviewed the record of Aboriginal consultation and is of the view that the duty to consult has been met.

## 7 ENVIRONMENTAL REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and CEEA, 2012, VFPA must make a determination on the potential environmental effects of a proposed project on VFPA managed lands and waters prior to authorizing those works to proceed. To make that determination, VFPA considers the residual adverse effects of the Project, that is, the effects after mitigation measures have been taken into account. In addition, should a project be approved, VFPA includes additional environmental conditions in the project permit to further reduce the identified potential impacts.

This section of the project and environmental review report summarizes the environmental review conducted for the Project, and provides the environmental review decision in Section 7.3. The environmental review also considered the information provided in the previous sections of this report.

### 7.1 Scope of Environmental Review

The environmental review includes consideration of the potential environmental effects of the proposed Project, taking into account mitigation measures to avoid or reduce those effects. This review considered the Project components and physical activities described in Section 2.

The temporal scope of the review includes site preparation and staging, Project construction, and operations. The environmental review considered potential adverse environmental and social effects of the Project on 14 environmental components (e.g., species with special status, aquatic species and their habitat, recreational interests, etc.), and from Accidents and Malfunctions. The environmental components are aspects of the biophysical and socio-economic environment considered to have ecological, economic, social, cultural, archaeological, or historical importance.

The environmental components assessed by the VFPA are presented in Section 7.2 and include the environmental effects listed in section 5(1) and 5(2) of CEAA 2012.

Section 7.2 summarizes the results of the environmental review.

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Air quality</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	■	□	<p>The equipment, trucks, trains and vessels active during operations and used during construction of the Project will release air emissions. As a result of the Project, total annual air emissions from the terminal are predicted to increase across all pollutants. These air emissions could adversely affect residents in the surrounding community.</p> <p>Air emissions from construction are predicted to occur occasionally on a daily basis and for a duration of approximately 3 years, localized to within a kilometer of the terminal, and will cease after the construction period.</p> <p>An Air Emissions Management Plan, condition No. 76, developed in accordance with the VFPA guidelines, will address the ongoing management of air emissions. The terminal operator will be required to reduce emissions over the lifetime of the terminal by demonstrating continuous improvement through adoption of cleaner equipment (tier 4, hybridization, retrofits, etc.) and advancement of cleaner technologies (shore power, equipment electrification, etc.).</p> <p>Residual effects during terminal operation, would occur daily throughout the life of terminal operations (i.e. &gt; 25 years), would be localized to within a kilometer of the terminal, and would be reversible if the terminal is decommissioned. The effects predicted from terminal operations have a higher than normal level of uncertainty due to the methods utilized to represent the Project scenario within the level 2 dispersion modelling component of the Environmental Air Assessment.</p> <p>Particulate matter concentrations within the community are predicted to remain below the current regional air quality objective for annual PM<sub>2.5</sub> of 8 µg/m<sup>3</sup> and are close to or above the future regional planning goal for annual PM<sub>2.5</sub> of 6 µg/m<sup>3</sup>. The future annual concentration levels at the Receptors of Interest and throughout the</p>	□	■

			<p>community are estimated between 5.6 to 7.7 µg/m<sup>3</sup> which includes a background level of 5.5 µg/m<sup>3</sup>. The yard truck and gantry crane terminal equipment are the primary source(s) that contribute to particulate matter emissions and are expected to improve over time as the fleet is replaced with cleaner equipment and technology. The residual effects are predicted to be low to moderate in magnitude and have a relatively small adverse effect on air quality. However, given the regional planning context, to meet future air quality objectives, the terminal fleet will likely need to adopt and implement improved technologies at a faster than normal equipment life-time turnover rate.</p> <p>With the mitigation measures described in the CEMP and permit condition requiring an Air Emissions Management Plan, residual adverse effects of the Project on air quality are predicted to be not significant.</p>		
<p><b>Lighting</b></p>	<p>■ □</p>	<p>□</p>	<p>There is potential for adverse effects from exterior construction and terminal lights on residents and marine users.</p> <p>Land-based construction activities will primarily be conducted during regular work hours (condition No. 47), however, a detailed Lighting Management Plan will be developed as a sub-plan in the final CEMP (condition No. 20). The plan will incorporate mitigation measures for temporary lighting such as the use of directional lighting (away from neighbouring sites and the water), light shielding and motion activated lighting where feasible.</p> <p>For permanent facility lights, VFPA requires a final lighting design, which will include adequate measures such as directing the lights towards the facility, motion activated lighting and use of LED lights (condition No. 49).</p> <p>The residual adverse effects from lighting on local residents and marine users are predicted to be low in magnitude, and their extent limited to areas directly adjacent to the terminal. Potential adverse effects will be greatest during the construction period (daily for up to 3 years) and minimal during operations. The effects would be reversible when the Project is decommissioned. With these measures and conditions in place, the residual adverse effects from lighting are predicted to be not significant.</p>	<p>□</p>	<p>■</p>

<p><b>Noise (in-air noise)</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<p>■</p>	<p>□</p>	<p>The equipment, trucks, trains and vessels active during operations and used during construction of the Project will generate in-air noise. There are residents throughout the surrounding community that could be adversely affected by construction noise and expanded terminal operations.</p> <p>Construction work will largely be conducted during regular construction hours. Some works are planned outside of regular hours, including marine works (constrained partially by sensitive fisheries windows), overpass construction, and rail yard modifications (constrained by operations).</p> <p>Post construction follow-up noise monitoring, condition No. 80, will be required to confirm the predictions of the noise assessment and to inform VFPA of whether additional operational noise mitigation measures are warranted.</p> <p>The effects during the construction period are predicted to occur occasionally on a daily basis and for a duration of approximately 3 years, to be localized to within a kilometer of the terminal, and to cease at the end of the construction period.</p> <p>Residual effects during terminal operation would occur daily throughout the life of terminal operations, would be localized within a kilometer of the terminal, and would be reversible if the terminal is decommissioned. Noise from the terminal and supporting supply chain are the controlling noise sources during the night time. Night time noise is predicted to increase by 1 to 2 dBA, which is considered to be low in magnitude.</p> <p>With the conditions listed in the permit and the mitigation measures described in the CEMP the residual adverse effects of the Project on noise are predicted to be not significant.</p>	<p>□</p>	<p>■</p>
<p><b>Soils</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<p>■</p>	<p>□</p>	<p>The Project has potential to affect soil quality through the introduction of contaminants during placement of fill, excavations, and other ground alterations such as regrading and surfacing.</p> <p>Contaminants could be introduced into soils through the placement of fill including the proposed reuse of sediments and concrete. Fill used on site will meet applicable standards (condition No. 63). For the reuse of sediments as fill, procedures for handling, testing, stockpiling and transferring sediments will be further developed (as part of the CEMP; condition No. 20). Only sediments that meet CCME Soil Guidelines for Industrial Land Use will be reused. In addition, concrete reuse will be limited to sources that are free of contaminants (Condition</p>	<p>□</p>	<p>■</p>

		<p>No. 68) and follow the requirements described in the CEMP (condition No. 20).</p> <p>During excavations, if contaminated soils are encountered, the procedures and mitigation measures described in the CEMP and Soil Management Plan will be followed to adequately test, isolate and dispose of the contaminated material (conditions numbered 20, 59 and 75).</p> <p>With the proposed mitigation measures and permit conditions in place, the Project is not anticipated to result in residual adverse effects on soils.</p>		
<p><b>Sediments</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<p>■ □</p>	<p>The Project has potential to affect sediment quality through proposed dredging of approximately 396,800 m<sup>3</sup> of sediments and land reclamation in three locations totaling ~67,000 m<sup>2</sup>. Effects may occur through removal of surface sediment and associated contaminants (i.e., areas with elevated metal and polycyclic aromatic hydrocarbons (PAH) in excess of disposal at sea criteria), and through deposition of re-suspended sediments with associated contaminants.</p> <p>Some areas have surficial sediments (top ~0.6 m) with concentrations of contaminants above the criteria for disposal at sea. Sediments from the top 1 m will be removed from the marine environment and replaced with clean sand. This is anticipated to improve the sediment quality within the dredge footprint. Surface sediments within the navigation turning basin area will also be removed and result in improved surficial sediment quality in that area.</p> <p>However, during dredging, the sediments with associated contaminants will be re-suspended, disperse, and be redeposited on the seabed. An environmental clamshell bucket would be used to reduce resuspension of sediment present within the top 1 m.</p> <p>Silt curtains and other mitigation measures described in the CEMP (e.g., controlled rate of ascent and timing relative to tidal cycle to limit dispersal; condition No. 20) would also be used to reduce the resuspension and dispersal of sediments. Furthermore, total suspended solids (TSS) will be monitored as described in the TSS/Turbidity Monitoring Plan and if turbidity exceeds the thresholds described in the monitoring plan, adaptive management measures will be implemented to further reduce the spread of re-suspended (and redeposited) sediments (condition No. 69).</p> <p>The residual adverse effects on sediments are predicted to be low in magnitude (because</p>	<p>□ ■</p>	

		<p>sediment quality in the dredge footprint will generally improve), and sediment deposition outside of the dredge footprint will be minimal (&lt;10 mm in thickness) and unlikely to result in measurable increases in surface contaminants. These effects will occur daily during dredging, short term (over approximately 4.5 months), and the extent will be limited to the dredge footprint. With proposed mitigation measures and permit conditions, residual effects on sediment are predicted to be not significant.</p>		
<p><b>Ground water</b> Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<p>■ □</p>	<p>The Project has potential to affect ground water quality through the placement of fill, including the proposed reuse of sediments and concrete, and through excavations and other ground alterations. Contaminants could be introduced into ground water through the reuse of sediments or concrete as fill. Only sediments that meet CCME Soil Guidelines for Industrial Land Use will be reused. To reduce the potential for introducing contaminants to ground water through sediment pore water, the sediments will be decanted before placement as fill as described in the CEMP (condition No. 20). In addition, concrete reuse will be limited to uses that pose low risk to ground water and follow the requirements described in the CEMP and condition No. 70 which addresses the re-use of concrete. The placement of fill for creating new land and use of recycled concrete could potentially cause the release of contaminants into ground water in the Project area. The proposed design and criteria for fill placement will reduce this potential risk. In addition, conditions numbered 72 and 73 require the Applicant to develop a ground water monitoring plan for areas where reused sediments and recycled concrete have been used to confirm that contaminants do not affect ground water quality. During excavations, if contaminated soils or ground water are encountered, the procedures and mitigation measures described in the CEMP and Soil Management Plan will be followed to adequately test, isolate and dispose of the contaminated material and reduce potential adverse effects to ground water (conditions numbered 20, 59 and 75). The depth of ground water at the site is approximately 2 m below grade, which is deeper than most areas where excavations will occur. Dewatering of excavations and ground water management is not currently anticipated. Should dewatering be required, a Dewatering Plan will need to be submitted to VFPA and approved prior to</p>	<p>□</p>	<p>■</p>

		<p>conducting any dewatering to ensure that measures are in place to protect ground water (condition No. 65).</p> <p>The residual effects on ground water are predicted to be low in magnitude, site-specific in extent, could occur sporadically during the construction period or gradually throughout the life of the Project. Should contamination of ground water occur, it could be detected through monitoring and the effects would be reversible through remediation.</p> <p>With mitigation measures proposed and permit conditions in place, the residual adverse effects on ground water are predicted to be not significant.</p>		
<p><b>Surface water and water bodies</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<p>■ □</p>	<p>The Project has the potential to affect water quality within Burrard Inlet during land-based construction activities, in-water works and operations (via storm water).</p> <p>During land-based construction activities (e.g., site preparation, soil excavation and demolition) could affect water quality if sediments or contaminants are mobilized and have a pathway to the aquatic environment. The measures described in the CEMP for sediment and erosion control and storm water management will be implemented to reduce potential adverse effects on water quality in Burrard Inlet (condition No. 20). This includes storm water treatment throughout the construction period and a spill response plan to prevent contaminants from entering surface waters.</p> <p>In-water works also have the potential to re-suspend sediments and introduce contaminants into the waters of Burrard Inlet. Fugitive sediments from dredging, fill placement, pile removal and caisson placement would increase TSS and turbidity in the water column. Silt curtains and other mitigation measures described in the CEMP would be in place to reduce the potential quantity and dispersal of re-suspended sediments. For sediments that escape the dredge, contaminants are anticipated to be primarily bound to the sediment particles which will resettle relatively quickly (within hours), and to therefore not measurably affect water quality. In addition, TSS/turbidity levels will be monitored by a qualified professional (condition No. 42) as described in the TSS/Turbidity Monitoring Plan, and if levels exceed the thresholds described in the monitoring plan, adaptive management measures would be implemented to further reduce impacts to water quality (condition No. 42). With these measures in place, it is anticipated that CCME</p>	<p>□ ■</p>	<p>■</p>

		<p>Water Quality Guidelines for the Protection of Aquatic Life would be met within 100 m or less from the Project's dredge footprint. The potential residual effects of elevated TSS within the Project footprint and 100 m buffer area are described in the aquatic resources section below as they pertain to protection of aquatic life.</p> <p>Operations also have the potential to introduce contaminants via storm water discharges. The Project will create additional impervious surfaces at the terminal. Storm water from rainfall can flow over surfaces (e.g., paved terminal and roads) and accumulate debris, soil and sediment, and pollutants (e.g., hydrocarbons and metals) that could affect the water quality of Burrard Inlet. An updated Storm water Pollution Prevention Plan will be developed and implemented to reduce potential adverse effects (condition No. 21). The plan includes the installation of storm water treatment devices for suspended solids and hydrocarbons on the terminal and affected roadways.</p> <p>The expansion of the terminal footprint will also result in changes in water circulation around the terminal and affect flushing. Model predictions estimate that residence time in the embayment near CRAB Park at Portside indicates that the Project will increase by 2-3 hours (from the current 5-11 hours). However, because the area will continue to be flushed regularly, long-term adverse effects are not anticipated.</p> <p>With mitigation measures such as those described in the CEMP (e.g. silt curtains, sediment and erosion control measures), turbidity monitoring and management as described in the TSS/Turbidity Monitoring Plan, and implementation of the final Storm water Pollution Prevention Plan and conditions described above, residual adverse effects of the Project on surface water and water bodies are likely, but should they occur, they are predicted to be low in magnitude (i.e., minor exceedances of CCME water quality criteria), localized in extent (small pockets within &lt;500 m from the terminal), short term in duration (hours to days during construction), occur sporadically during the construction period and operations, and reversible once the activities have ceased. Therefore, residual adverse effects from the Project on surface water and water bodies are predicted to be not significant.</p>		
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<p><b>Species/ habitat with special status</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p> <p>Assessed under section 79 of the Species at Risk Act, as applicable</p>	<p>□</p>	<p>■</p>	<p>The Project site is primarily paved and vegetation to be removed is primarily comprised of non-native and invasive plants present in some areas along the terminal margins and near the road. Some shrubs and trees are present (see Terrestrial Resources below). The existing vegetation to be removed does not provide habitat for species at risk.</p> <p>Similarly, no aquatic species at risk are likely to occur in close proximity to the Project. Should marine mammal species at risk (e.g., killer whales) occur near the Project, the implementation of mitigation measures described in the CEMP will minimize the risk of adverse effects to these species.</p> <p>Therefore, the Project is not anticipated to affect species with special status.</p>	<p>□</p>	<p>■</p>
<p><b>Terrestrial resources</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<p>■</p>	<p>□</p>	<p>The Project has potential to affect terrestrial resources through the removal of vegetation that provides wildlife habitat.</p> <p>Vegetation to be removed consists primarily of non-native and invasive plants. Shrub and small trees are present, including a few young black cottonwood trees, and four larger black cottonwoods at the terminal, and a small stand of coniferous trees in the vicinity of the Clark Street entrance (12 Douglas firs and 3 black pines, not yet of mature height). These trees may provide nesting habitat for migratory birds but in general, habitat quality provided by the existing vegetation is low. Limited opportunities exist in the Project footprint to replace the trees that would be removed. The Applicant committed to considering the planting of trees offsite in the local community as part of the community investment program.</p> <p>A vegetation mitigation plan will be required to address the loss of vegetation at Clark Drive (condition No. 56).</p> <p>Mitigation measures described in the CEMP (condition No. 20) will be implemented to reduce potential adverse effects. Invasive plants will be handled and disposed of in a manner to reduce the risk of spreading (condition No. 64). To reduce the risk of adverse effects on nesting birds, vegetation will be cleared outside the nesting season (April 1 to July 31; condition No. 19).</p> <p>Overall, residual effects on terrestrial resources will be low in magnitude (limited to &lt;20 immature trees, sparsely distributed, which will be addressed through a vegetation mitigation plan), site-specific, and occur only once during construction. The loss of</p>	<p>□</p>	<p>■</p>

			<p>terrestrial resources is long-term but reversible with implementation of permit conditions, and after Project decommissioning.</p> <p>Therefore, with mitigation measures in place, residual adverse effects on terrestrial resources are predicted to be not significant.</p>		
<b>Wetlands</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Project will not affect wetlands because there are no wetlands at the site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Aquatic resources</b> (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)</p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Marine construction includes several activities with the potential to affect aquatic resources: wharf demolition, dredging, sand placement, dyke construction, caisson placement, infilling for land reclamation and densification. Potential effects include habitat loss, mortality or physiological effects from changes in water and sediment quality, and underwater noise on aquatic organisms.</p> <p>Dredging and infilling to expand the terminal would cause habitat loss for aquatic species (e.g., fish, invertebrates and marine mammals) that use the waters and live on the seabed in the area. This includes the permanent loss of approximately 100,300 m<sup>2</sup> of predominantly deep subtidal mud habitat in the expansion areas, as well as temporary loss of rock habitat (9,900 m<sup>2</sup>) on existing dykes, and subtidal fine sediment habitat (26,800 m<sup>2</sup>) in the terminal dredge footprint and navigational turning basin.</p> <p>The adverse effects related to the permanent loss of habitat in the expansion areas will be offset by enhancing marine habitat as described in the Applicant's Conceptual Offsetting Plan. The plan proposes to restore marine habitat at Maplewood Flats, approximately 6.8 km from the Project site. The Applicant has submitted a <i>Fisheries Act</i> Authorization application. The final offsetting plan will be reviewed by Fisheries and Oceans Canada as part of the review of the Project's <i>Fisheries Act</i> Authorization application. VFPA's acceptance of the plan is contingent on the issuance of a <i>Fisheries Act</i> Authorization (condition No. 23).</p> <p>The effects associated with the temporary losses will be mitigated by the construction of similar rocky habitat at the terminal (40,000 m<sup>2</sup>) and the placement of clean sand in the dredge footprint (outside the dyke footprint). These habitats are anticipated to be recolonized within 1-2 years, therefore, the temporal loss of productivity of these habitats would be approximately 1-3 years.</p> <p>Construction activities also have the potential to</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		<p>cause mortality to fish and benthic organisms (e.g., clams).</p> <p>Mortality of sessile organisms such as clams, barnacles and sponges, is not anticipated to affect fisheries as they are not harvested in the Project footprint nor the local population because deep subtidal mud habitat is abundant in the inner harbour. Mortality due to smothering from sediment deposition is not anticipated because sediment deposition outside of the dredge and infill areas is estimated to be less than 10 mm. Mitigation measures include conducting dredging in the timing window of least risk for fish (condition No. 66). The CEMP (condition No. 20) also describes measures to reduce mortality such as salvaging of species (i.e., crab and sea cucumber) to the extent practicable.</p> <p>Changes in water quality around the terminal could also cause mortality, or physiological effects, in aquatic organisms (e.g., through clogging of gills). With mitigation measures described in the CEMP and TSS/Turbidity Monitoring Plan, turbidity generated by in-water activities is not predicted to affect aquatic organisms beyond 100 m from the boundary of the active dredge site. Elevated TSS within the dredge footprint and adjacent 100 m buffer is not predicted to adversely affect sessile invertebrates in the long-term. Adverse physiological effects on mobile species are also not anticipated because they can avoid the area to limit their exposure to elevated TSS.</p> <p>Project activities such as in-water works and vessel traffic would generate underwater noise that could affect aquatic organisms. The Project is not anticipated to generate underwater sound levels capable of causing injury or mortality. Underwater noise could cause behavioural disturbance of marine mammals, however this would be short-term and further mitigated through measures described in the CEMP.</p> <p>With the implementation of offsetting measures, mitigation measures and permit conditions, the residual effects are predicted to be moderate in magnitude during construction (approximately 3 years), primarily due to the temporal loss of habitat and local productivity, and, reduced to a low magnitude once in-water construction is completed and the offsetting measures have reached their intended productivity. The residual effects would occur continuously during dredging, and occasionally during other in-water works, and would be localized to waters within &lt;1 km from the Project. These effects are considered reversible at</p>		
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			the end of construction and once offsetting measures are implemented. The residual adverse effects of the Project on aquatic resources are predicted to be not significant.		
<p><b>Health and socio-economic conditions</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Based on the low magnitude of residual effects on air quality, lighting, noise, and aquatic resources, the Project is not expected to cause adverse effects on health of people, including Aboriginal people.</p> <p>The Project has the potential to benefit socio-economic conditions of Aboriginal people through an increase in procurement, training and business partnership opportunities. The Applicant committed to pursuing these discussions with Aboriginal groups. These impacts would be considered to be positive and as such, adverse impacts to socio-economic conditions are not expected.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Archaeological, physical, and cultural heritage resources</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The Project has the potential to impact physical and cultural heritage of people, including Aboriginal people, and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, through excavation activities that could impact native soil. Although the Project area is the site of heavy industrialization, and the majority of the Project is located on fill, some of the works will take place upland of the original shoreline. Through consultation, Aboriginal groups raised concerns about impacts to archaeological resources and that the Project is located near the historic village of K'emk'emelay.</p> <p>Key mitigation measures and permit conditions to reduce potential effects include:</p> <ul style="list-style-type: none"> <li>• Archaeological monitoring for works upland of original shoreline</li> <li>• Opportunities for Aboriginal groups to participate in archaeological monitoring</li> <li>• Implementation of a Chance Find Procedure</li> <li>• Sharing of Chance Find Procedure with Aboriginal groups for review and comment.</li> </ul> <p>The Project has the potential to affect heritage or historic places within or adjacent to the Project footprint, including the Ballantyne Pier Shed One, the Rogers Sugar building, and the Mission to Seafarers building.</p> <p>A mitigation measures that addresses heritage concerns is:</p> <ul style="list-style-type: none"> <li>• Retention of the brick façade and concrete frame of the Ballantyne Pier Shed One (the older of the two south facing facades) is proposed by the Applicant</li> </ul>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		<p>The Rogers Sugar building would have some of the views of the structure affected. Public view of the primary (southern) façade would be impacted, but not the building itself. The Mission to Seafarers building would not be directly affected by the Project.</p> <p>Based on the above-listed permit conditions and mitigation measures, residual effects on physical and cultural heritage and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, including with respect to Aboriginal peoples, are not expected.</p>		
<p><b>Current use of lands and resources for traditional purposes by Aboriginal peoples</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<p>■ □</p>	<p>The Project has the potential to impact the current use of lands and resources for traditional purposes, specifically the right to fish and harvest marine resources and the use of Burrard Inlet for travel and the pursuit of cultural purposes.</p> <p>Impacts to fish and fish habitat, and Aboriginal fishing, arise due to the marine works of the Project, including the dredging of contaminated sediments. The Applicant proposed a series of mitigation measures to reduce the impacts to fish and fish habitat (see Aquatic Resources, above).</p> <p>The Applicant has also proposed to undertake offsetting activities at a site known as “Maplewood Mudflats”, which is an area of cultural importance to Aboriginal groups. The effects of the proposed enhancement works are expected to be considered under a separate VFPA PER permit (PER 17-278). The Applicant has consulted with Aboriginal groups during the development of the Conceptual Offsetting Plan that will lead to this application, and has committed to continue consulting throughout the finalization of the offsetting plan. VFPA added the following conditions requiring the Applicant to:</p> <ul style="list-style-type: none"> <li>- Submit and implement a revised Construction Environmental Management Plan (condition No. 20)</li> <li>- Manage turbidity in compliance with the draft TSS/Turbidity Monitoring Plan (condition No. 42).</li> <li>- Have a qualified environmental monitor during all works that have the potential to adversely impact fish and fish habitat (condition No. 43).</li> </ul> <p>Impacts to travel, marine navigation and the use of Burrard Inlet for cultural purposes, including canoeing, could arise due to the increased vessel traffic. With projections of one additional vessel a week (from five to six), VFPA does not expect the</p>	<p>□ ■</p>	

			<p>Project to result in the interference of marine navigation or use of Burrard Inlet for cultural purposes.</p> <p>With mitigation and permit conditions, residual adverse effects on the current use of lands and resources for traditional purposes are not expected.</p>		
<p><b>Accidents and malfunctions</b></p> <p>Assessed as required by the <i>Canada Marine Act</i></p>	■	□	<p>There is potential for adverse effects on surface water and sediment from accidental equipment leaks or spills, or spills resulting from collisions. Mitigation measures will be implemented to reduce potential adverse, Project-related effects due to accidents and malfunctions. During construction and operations, the terminal will maintain an emergency response plan which will be in place and updated at a minimum annually. The terminal's existing storm water management system includes oil/water separators and remote-controlled outfalls that can be shut-off in the event of a spill on the terminal. This system will be maintained through construction and expanded to handle surface flow from all new land areas. As described in the CEMP, during on and off terminal construction, a construction-specific spill response plan will also be required as part of the final CEMP and will include an appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products and other deleterious substances, and minimizing the likelihood of collisions (condition No. 20).</p> <p>With these mitigations in place, the residual adverse effect, if it occurs, is expected to be not significant. Remediation of any residual adverse effect is anticipated to be achievable.</p>	□	■

## 7.2 Environmental Effects Summary

The above table summarizes the potential environmental effects the Project could have on the identified environmental components. Residual adverse effects (i.e., effects that remain with mitigation in place) were identified for the following environmental components:

- Air quality
- Lighting
- Noise
- Sediments
- Ground water
- Surface water and water bodies
- Terrestrial resources, and
- Aquatic resources.

Overall, the residual adverse effects of the Project on all of the environmental components are characterized as:

- Moderate in magnitude due to predicted increases (1 to 2 dBA at night) in terrestrial noise for residents in adjacent communities, increases in air emissions in the context of local air quality that is already at levels near future regional planning objectives, and temporal loss of habitat and productivity of aquatic resources during construction and until offsetting measures are completed.
- Local in geographic extent due to off-site effects on adjacent residents from in-air noise. In water, effects are predicted beyond the Project footprint on aquatic resources from re-suspended sediment, and underwater noise during construction.
- Long-term in duration because the effects on air quality and noise will last throughout the life of the expanded terminal.
- Frequent because the effects will occur nearly continuously during construction (~3 years) and continuously for air and noise effects during operations.
- Residual adverse effects of the Project would be reversible once the Project is completed.

In conclusion, based on the characterization above, the mitigation measures proposed by the Applicant and the application of permit conditions, the residual adverse effects of the Project are predicted to be not significant.

### 7.3 Environmental Review Decision

In completing the environmental review, VFPA has reviewed and taken into account relevant information available on the proposed Project, has considered the information and proposed mitigations provided by the Applicant and other information as listed elsewhere in this document, and concludes that with the implementation of proposed mitigation measures and Permit conditions, the Project is not likely to cause significant adverse environmental effects.

Original Copy Signed

April 18, 2018

**CARRIE BROWN**  
**DIRECTOR, ENVIRONMENTAL PROGRAMS**

**DATE OF DECISION**

## 8 RECOMMENDATION

In completing the project and environmental review, VFPA concludes that with the implementation of proposed mitigation measures and conditions described in the Permit, the Project has appropriately addressed all identified concerns.

It is the recommendation of staff that this application be approved subject to conformance with the project and environmental conditions listed in project permit **PER No. 15-012**.

## APPENDIX A Location Plan



### Centerm Expansion Project

PER #15-012

Project Location:  
777 Centennial Road  
Vancouver, BC

- Proposed Project Area
- VFPA Boundary

**PORT of  
vancouver**

VFPA Spatial Data Group  
March 19, 2018  
PLAN # G2018-039

Any areas marked "proposed" represent approximate locations.

## **APPENDIX B**

### **List of Information Sources**

**VFPA has relied on the following sources of information in the project and environmental review of the Project:**

- Application form and materials submitted by Applicant on November 4, 7, 9, 14, 22, and 23, 2016, and January 9, 2017;
- All Project correspondence from November 11, 2016 to February 26, 2018;
- All plans and drawings labelled PER No.15-012-A to K, and as submitted with the application in November 2016;
- Additional plans and documents submitted in support of the application, including the addendum package dated May 5, 2017;
- Aboriginal Group Table of Commitments, dated November 9, 2017;
- Updated studies, specifically
  - Latest Construction Environmental Management Plan dated January 31, 2018
  - Storm Water Pollution Prevention Plan dated September 21, 2017
  - Environmental Noise Assessment dated February 1, 2018
  - Environmental Air Assessment dated February 26, 2018
  - Conceptual Habitat Offsetting Plan dated November 8, 2017
  - Soil Management Plan dated June 27, 2017
  - TSS Water Quality and Management report dated October 5, 2017
  - TSS Turbidity Monitoring Plan date January 30, 2018
- Key correspondence:
  - AECOM, "Centerm Expansion Project: Air Quality Assessment Yard Truck Parametrization", February 2018
  - AECOM, "Centerm Expansion Project: Environment Air Assessment, Level 1 Emission Inventory", October 2017
  - VFPA, "EAA Source Characterization Review", Memo May 20, 2017
  - VFPA, "EAA Revised Report Level 1", Memo June 01, 2017
  - VFPA, "EAA, Level 2 Dispersion Modelling Reporting Requirements", Memo November 08, 2017
  - VFPA, "ENA Chapter 4 and Appendix A supplemental information", Memo November 18, 2017
  - VFPA, "EAA Report Content Guidance", Memo January 30, 2018
  - VFPA, "EAA Level 2 Dispersion Model – Project Case Representation", February 20, 2018
  - WSP, "Centerm Expansion Project – Quality Assurance / Quality Control and Senior Review of AECOM Air Quality Assessment Report (Level 2)", February 9, 2018
  - WSP, "Centerm Expansion Project – Quality Assurance / Quality Control and Senior Review of AECOM Air Quality Assessment Report (Level 1)", October 30, 2017
  - AECOM, "Fire Department Response Times to Rogers St" April 9, 2018