

EAO's Summary Evaluation Report on an Exemption from an Environmental Assessment Certificate

Centerm Expansion Project

Proponent:

Vancouver Fraser Port Authority

Draft Copy for 30 Day Public Comment Period

November 13, 2018

Pursuant to section 10 (1) (b) of the Environmental Assessment Act, S.B.C. 2002, c.43 (Act)

Acronyms and Abbreviations

Act	<i>Environmental Assessment Act</i>
Applicant	Vancouver Fraser Port Authority Infrastructure Delivery
BC	British Columbia
CAAQS	Canadian Ambient Air Quality Standards
CEAA, 2012	<i>Canadian Environmental Assessment Act, 2012</i>
Certificate	Environmental Assessment Certificate
CEMP	Construction Environmental Management Plan
CEP	Centerm Expansion Project
Community Representatives	Representatives of the Strathcona Residents Association, the Burrardview Residents Association, and the Raycam Community Association
COV	City of Vancouver
dba	A-Weighted Decibels
EA	Environmental Assessment
EAO	Environmental Assessment Office
ENV	Ministry of Environment and Climate Change Strategy
Exemption Order	An exemption order under Section 10(1)(b) of the <i>Environmental Assessment Act</i>
Indigenous Groups	Cowichan Tribes, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, Musqueam Indian Band, Penelakut Tribe, Squamish Nation, Sto:lo First Nation, Stz'uminus First Nation, and Tsleil-Waututh Nation
km	Kilometre
m	Metre
PER	Project and Environmental Review
PM	Particulate Matter
Report	Summary Evaluation Report
Terminal Operator	DP World Vancouver
VC	Valued Component
VFPA	Vancouver Fraser Port Authority

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1.0 OVERVIEW

The Centerm container terminal is an existing terminal on the south shore of Vancouver Harbour, managed by the Vancouver Fraser Port Authority (VFPA), and operated by DP World Vancouver (Terminal Operator). The Centerm Expansion Project (CEP) includes proposed improvements to the Centerm container terminal, port roads and rail lines. The improvements intend to help meet anticipated near-term demand for containers to be shipped through Vancouver.

Port development is federally regulated under the *Canada Marine Act* and Section 67 requirements of the *Canadian Environmental Assessment Act (2012)*. Under this federal legislation, a port authority acts as the applicant (through an arm's length entity) and the regulator of a port development. In the case of the CEP, the applicant is the Vancouver Fraser Port Authority Infrastructure Delivery (Applicant), and the regulator is the Vancouver Fraser Port Authority (VFPA). To develop or modify a port on lands partially or wholly within a port authority's jurisdiction, the Applicant must participate in a Project and Environmental Review (PER) process with Port Authority oversight. Once the Applicant completes the technical studies and Public consultation they submit their PER Application. The Port Authority reviews the PER Application and summarizes the effects in a PER Report. Based on the conclusions of the PER Report, the Port Authority will award a PER Permit (often with conditions) so that the project can commence construction.

Under the CEP PER Process, the Applicant looked at the potential for the project to cause significant adverse effects to the following environmental components:

- Air Quality
- Lighting
- Noise (in-air)
- Soils
- Sediments
- Ground water
- Surface water
- Species / Habitat with special status
- Terrestrial resources
- Wetlands
- Aquatic resources
- Health and socio-economic conditions
- Archaeological, physical, and cultural heritage resources
- Current use of lands and resources for traditional purposes by Aboriginal peoples
- Accidents and malfunctions

During the CEP PER review, the Applicant hosted three open houses, two small group meetings open to the public, and three public comment periods on the CEP Application; all meetings and comment periods were advertised in local media and via mailed postcards. In the CEP PER Report, the Applicant summarized the input from the various stakeholders including the City of Vancouver, Vancouver Coastal Health Authority, TransLink, Metro Vancouver, Centerm's

adjacent tenants and members of the public. On April 18, 2018, the VFPA produced a [PER Report for the CEP](#), which concluded there would be no significant residual effects from the Project. VFPA granted a PER [permit for the CEP the same day](#), which included 86 binding conditions.

With respect to Provincial regulations, the CEP is a reviewable transportation project under Section 8 of the Reviewable Projects Regulation of the *Environmental Assessment Act* (Act). The regulation states that modifications to a marine port facility are reviewable if it results in dredging, filling or other direct physical disturbance of (i) 1,000 or more metres (m) of linear shoreline, or (ii) two or more hectares of foreshore or submerged land, or a combination of the two, below the natural boundary of a marine coastline or marine estuary. CEP will result in 8.2 hectares of dredging and then infilling of submerged land in Vancouver Harbour.

In the spirit of regulatory cooperation between the VFPA and the Environmental Assessment Office (EAO), and a joint effort to minimize duplication while still meeting the legislative requirements under their respective statutes, the EAO opted to wait until the VFPA PER process was complete before determining if CEP required a provincial Environmental Assessment Certificate (Certificate) to proceed. The EAO also notes that the EAO and VFPA hold differing views on the applicability of the BC *Environmental Assessment Act* to the CEP, and to the extent VFPA has provided information referenced in this report it has done so on a without prejudice basis.

By order of Section 10(1)(b) of the Act, the Executive Director of the EAO is permitted to determine if a reviewable project does not require a Certificate. As part of this determination, the Executive Director may require legally binding conditions to a Section 10(1)(b) Order. The EAO undertakes an exemption review process and provides a Summary Evaluation Report to assist in the Executive Director's determination. In the absence of a Section 10(1)(b) Order, the proposed project cannot proceed until it undergoes an Environmental Assessment (EA) review and obtains a Certificate.

As part of the exemption review process, the EAO assessed the VFPA's PER Report, the CEP Permit conditions, as well as the Applicant's CEP Application submitted to the VFPA to determine whether the PER process was consistent with provincial EA requirements. The purpose of this review was to determine if the CEP would be a good candidate for an exemption review. Following this review, the EAO noted that:

- The CEP plans and project description are developed in sufficient detail to determine the potential for significant adverse effects;
- CEP is an expansion of existing infrastructure and facilities and the handling of containers and other cargo would continue, albeit at larger volumes;
- VFPA determined that the CEP would not result in significant adverse effects to heritage features or the environment in Vancouver Harbour;

- The VFPA CEP permit includes 86 enforceable conditions;
- VFPA consulted with potentially affected Indigenous groups and identified mitigation measures for potential impacts to their interests; and
- VFPA undertook public consultation and incorporated input from the public into their reporting.

Given the above, the EAO believes the CEP PER assessment and PER permit largely conform to the [EAO's Environmental Assessment](#) requirements. The EAO concluded that because the PER review for CEP is sufficiently similar to the EAO's EA review process in scope and rigour, a requirement to also undergo an EAO EA review would be an unnecessary duplication of process. As such, the EAO commenced an exemption review process of the CEP which is presented in this report.

2.0 CENTERM EXPANSION PROJECT DESCRIPTION

Centerm is one of three container terminals on the south shore of the Vancouver Harbour and it handles approximately one-fifth of the goods shipped in containers through Vancouver. The CEP is proposed in order to meet expected increases in demand for containerized traffic, consisting of imported products such as clothing, food and electronics, as well as export products, such as pulp, lumber and specialty grains, through the west coast of Canada.

The CEP would increase Centerm's annual terminal capacity from a current maximum of 900,000 containers to 1.5 million containers with a proposed sustainable capacity of 1.3 million containers annually. To achieve this, the Applicant proposes to expand the east and west ends of the container terminal by 4.2 hectares and 4.0 hectares respectively. The increased footprint of the container terminal would require dredging of approximately 390,000 cubic metres of sediment which would later be backfilled with sand. The total expanded berth length of 724 m would allow the terminal to accommodate two medium to large vessels, and to load and unload them simultaneously (Figure 1). CEP would allow Centerm to berth larger container ships than can currently be accommodated and vessel calls to the terminal are proposed to gradually increase from current levels of approximately 235 calls per year (approximately five vessel calls per week) to approximately 300 calls per year (approximately six vessel calls per week) when operating at full capacity.

CEP would result in an incremental increase in average daily containers shipped by truck from the current volumes of 949 inbound and outbound (two-way total of 1,898 trucks), to 1,584 inbound and outbound (two-way total of 3,168 trucks). Upgrades to the port roads would be undertaken to accommodate the estimated net increase. Upon reaching the projected sustainable throughput capacity Centerm Terminal would process an additional 75 trucks per hour above current operating capacity, assuming 17 hours of daily gate operation. To accommodate the increase in estimated truck arrivals, the Applicant proposes to install a new gate system with up to 190 trucks/hour processing capacity and a series of port roadway

improvements in order to support internal truck and vehicular movements (Figure 1 and 2). The traffic study indicates that the gates are open from 8am to 1am, and that the future distribution of truck arrivals throughout the day would be more even.

The intermodal rail yard expansion would extend the four existing intermodal yard tracks by 305 m each and add an additional 615 m track, for a total of 4,572 m of intermodal track within the expanded terminal (Figure 1).

DRAFT

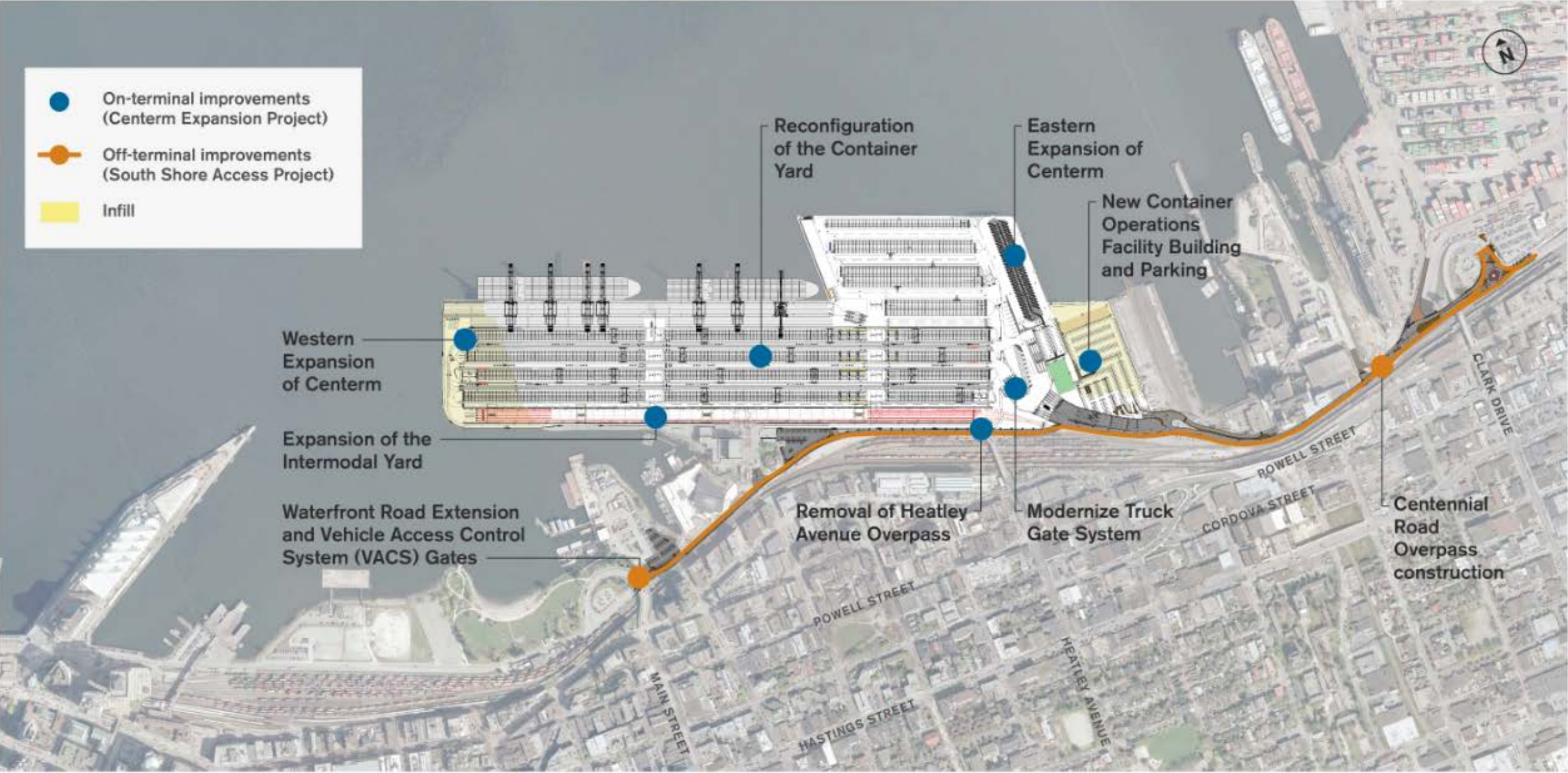


Figure 1. Proposed terminal design under the Centerm Expansion Project.

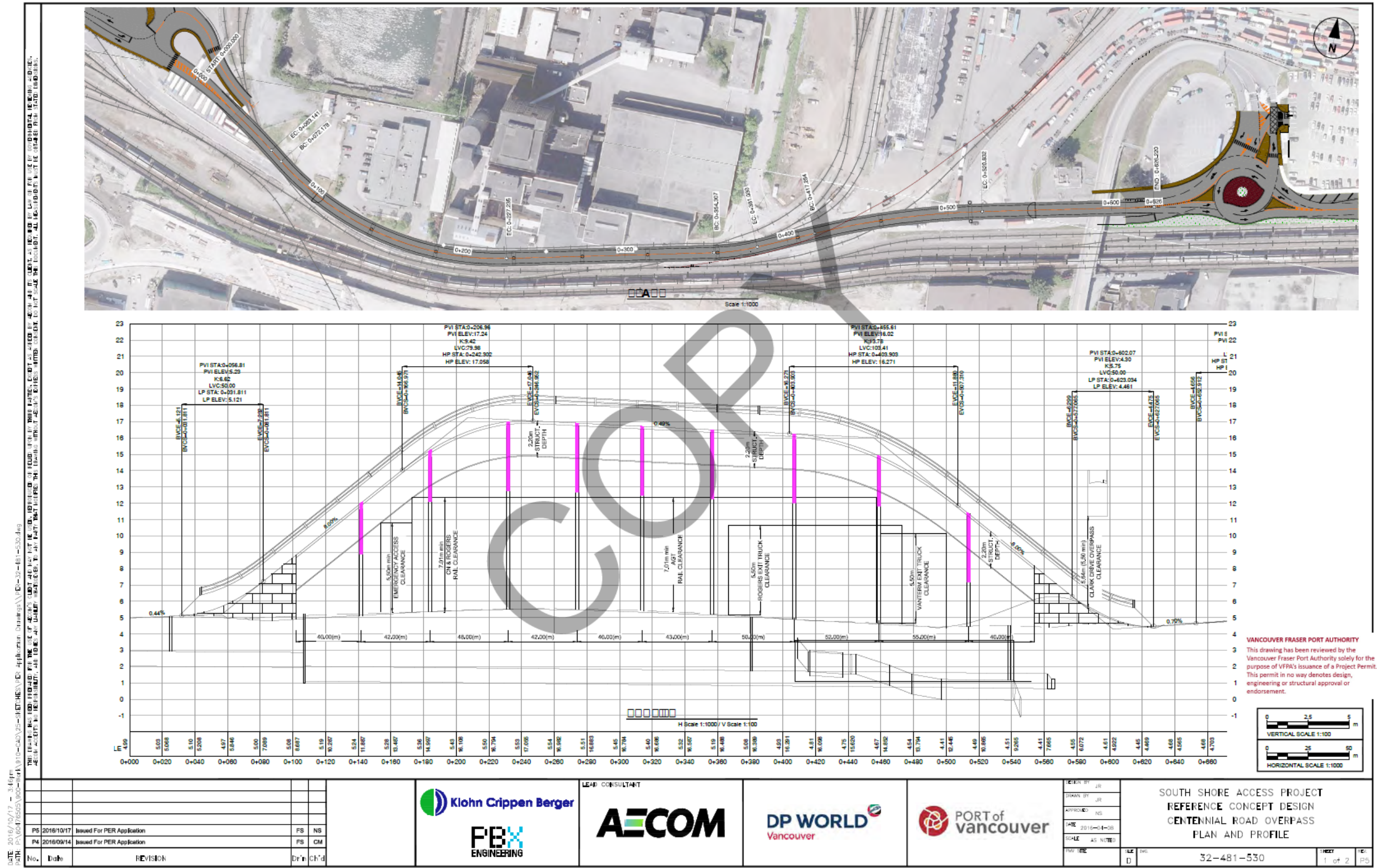


Figure 2. Proposed viaduct and terminal access roads including the Centennial Road over pass.

3.0 THE EAO EXEMPTION REVIEW

3.1 Exemption Review Process

To inform the EAO's Executive Director's decision under Section 10(1)(b) of the Act, the EAO undertook an exemption review process that involved consultation with provincial and municipal government agencies, potentially affected Indigenous groups, and public stakeholders. Through consultation activities, as well as review of the CEP PER documentation with respect to provincial interests, the EAO sought to determine whether the CEP could result in significant adverse environmental, economic, social, heritage or health effects, taking into account practical means of preventing or reducing to an acceptable level any potential adverse effects.

On August 20, 2018, the EAO advised potentially affected Indigenous groups, local community groups and the Applicant that the CEP was a candidate for an exemption review under Section 10(1)(b) of the Act. Notification letters to each party stated that the EAO would:

- 1) Consult with relevant government agencies, key stakeholder groups and potentially affected Indigenous groups regarding the potential for adverse effects;
- 2) Consult with relevant government agencies, key stakeholders and Indigenous groups to determine if specific conditions or mitigation measures are needed, in addition to the permit conditions issued by the VFPA, to address issues or concerns if the Executive Director decides to grant a certificate exemption; and
- 3) Prepare a draft Summary Evaluation Report that summarizes its findings and conclusions; consult with Indigenous groups, the VFPA and other agencies (as necessary), and hold a 30-day public comment period on the draft report.

On August 21, 2018, the EAO engaged with the Ministry of Environment and Climate Change Strategy (ENV) to evaluate the air quality studies presented in the PER report against provincial standards. ENV provided [a memo to the EAO on September 14, 2018](#). The EAO also engaged Metro Vancouver and the City of Vancouver. See Section 7 of this report for more details.

In fall 2018, the EAO met with representatives of the Strathcona Residents Association, the Burrardview Residents Association and the Raycam Community Association (hereafter the 'Community Representatives') to hear their concerns about the project and undertake a walking tour of the areas of Strathcona they consider would be affected by CEP. The EAO also met with a representative of the CRAB Park – Water for Life Society to hear concerns about potential impacts to CRAB Park, which is located on the south shore of Vancouver Harbour. See Section 6 of this report for more details on these engagements. At the conclusion of the consultation phase (Step 2), the EAO undertook a 30 day public comment period on the draft Exemption Assessment report (Step 3), and following this, the EAO submitted the CEP Summary Evaluation Report to the EAO Executive Director. Based on this report, as well as any other

relevant information, the Executive Director will determine whether to issue an Exemption Order and, if so, whether conditions are required. The order and any relevant supplementary information will be posted on the EAO's website.

3.2 Evaluation of the Project and Environmental Review

The EAO reviewed the Applicant's PER Application and technical studies that supported the conclusions of the CEP Application¹, the VFPA's PER Report and the CEP permit conditions, and considered:

- How the PER process selected and assessed environmental components;
- How potential project effects were determined;
- How the effects would be mitigated;
- The robustness of the residual effects assessment; and
- Whether the conditions were likely to be enforceable and thus effective.

The environmental studies and characterization of effects to support the PER process focused on impacts related to the physical works and activities associated with CEP on the selected environmental components (which the EAO considers equivalent to valued components² or VCs). The environmental components were selected based on the PER Application Submission Requirements and their potential interaction with the proposed Project. The Applicant's approach to assessing project effects included establishing baseline conditions and then modelling potential changes as a result of the project. This approach is consistent with the EAO's practice and policies for EA.

The CEP conditions, consisting largely of requirements for mitigating or monitoring the potential adverse effects identified in the PER Report, are listed in the PER permit, which was granted by VFPA on April 18, 2018.

3.3 Summary of Effects as Assessed in the PER Process

The PER Report notes that, following the application of mitigation measures, the CEP would result in residual adverse effects to: air quality, lighting, noise, sediments, ground water, surface water and water bodies, terrestrial resources and aquatic resources. The proposed mitigations either committed to in the PER Report or as required under the PER Permit are outlined in Appendix 1, Table A1.

Typically the EAO makes conclusions on the significance of residual effects for each VC (or in

¹ All studies from the Port's PER process, including the PER Report and Permit, are available [here](#).

² Valued components are elements of the natural and human environment that are considered by the public, Aboriginal groups, scientists and other technical specialists, and government agencies involved in the assessment process to have scientific, ecological, economic, social, cultural, archaeological, historical or other importance.

this case, environmental component) assessed. In general, the Applicant provided these conclusions in Section 7.2 of the PER Report and added a characterization of the overall residual adverse effects of the Project as follows:

- *Moderate magnitude* of residual effects due to predicted:
 - Increases in terrestrial noise of 1 to 2 A-Weighted Decibels (dBA) at night 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 (approximately three years) and continuously for air and noise effects during operations; and
- *Residual adverse effects* related to construction activities would be *reversible* once construction of the CEP is completed. Residual effects from operations of the expanded Centerm terminal would be reversible if the Centerm terminal is decommissioned.

VFPA concluded that, based on the characterization above, the mitigation measures outlined in the PER Report, and the CEP permit conditions, there would be *no significant residual effects* from the Project.

Based on the EAO's review of the PER materials and conclusions, the PER process and report largely conforms to the EAO's EA requirements with a few exceptions, which are discussed in the Summary of Issues and Effects (Section 7 of this report).

The EAO understands that VFPA runs "a compliance monitoring and enforcement program and works with its permit holders to resolve issues."³

3.4 Public Consultation on the EAO Exemption Report

Public consultation contributes to the collection and sharing of information related to the

³ <https://www.portvancouver.com/wp-content/uploads/2018/09/2018-Brochure-Project-and-Environmental-Review-Process-Final.pdf>. Based on the EAO's review the VFPA website contained no other information on the Port's compliance and enforcement activities for PER Permits.

potential environmental, economic, social, heritage and health effects of a proposed project. Consultation also intends to ensure that opportunities exist for the public to understand the proposed project and to have their comments appropriately considered in the EAO's conclusions within assessment reports.

The EAO sought input from the public on the exemption review through meetings with concerned community groups (see Section 3.1), and through a public comment period on the draft of this Summary Evaluation Report. The purpose of those meetings and the public comment period was to seek feedback from the public on their key concerns related to the CEP, and input on the EAO's draft decision materials. The EAO has endeavoured to reflect those key concerns and how they have been considered in this report.

On November 13, 2018, the EAO held a 30-day public comment period on the Summary Evaluation Report. The EAO received **XX** number of comments that raised issues with respect to:

- **PLACEHOLDER**

The issues raised by the public and Community Representatives during the exemption review process are discussed in detail in Section 6 of this report.

4.0 REGULATORY CONTEXT AND REQUIREMENTS

Through consultation with provincial permitting agencies, the EAO understands that no provincial permits are required for the CEP to proceed.

Metro Vancouver noted that the discharge of air contaminants must be approved by either an air emission permit (typical for large point source industrial developments such as the Parkland Refinery in Burrard Inlet) or through an emission regulation (typical for smaller, consistent point sources such as gas stations, boilers and process heaters, or non-road diesel engines). To date, Metro Vancouver has not identified permitting requirements for emissions from the CEP.

As noted in Section 1.0, the VFPA completed a PER process for the CEP as required under the *Canada Marine Act*, as well as to meet Section 67 requirements under CEAA 2012. The PER process applies to all proposed physical works and activities on federal lands and waters partially or wholly within VFPA jurisdiction; these works and activities are required to obtain a PER Permit, and any relevant building permits, in order to proceed.

5.0 INDIGENOUS GROUP CONSULTATION

CEP is located within the traditional territories of:

- Cowichan Tribes
- Halalt First Nation
- Penelakut Tribe
- Squamish Nation

- Lake Cowichan First Nation
- Lyackson First Nation
- Musqueam Indian Band
- Sto:lo First Nation
- Stz'uminus First Nation
- Tsleil-Waututh Nation

In reviewing the PER Report, the EAO sought to consult with these Indigenous Groups to identify potential impacts to their Aboriginal rights and title. The EAO wrote to the Indigenous groups to consult on the exemption review process, and to offer capacity funding to support consultation activities. In response, the EAO received a letter from the Cowichan tribes inquiring about cumulative impacts of shipping traffic as a result of PER. The EAO responded that in the PER Report, VFPA considered marine operations, as well as emergency response and safety. No residual effects related to marine shipping were identified in VFPA's review, and VFPA also noted that the port authority is not the lead agency with respect to marine emergency responses. The EAO noted that there are PER permit conditions regarding marine operations with respect to construction staging and marine user communication during construction. The EAO also noted that marine shipping is not provincially regulated.

The EAO did not receive any other responses from Indigenous Groups in regards to the CEP Exemption Review.

The EAO distributed the draft Exemption Assessment Report to Indigenous Groups for comment on November 13, 2018 for a 30 day review. [placeholder if comments received]

6.0 COMMUNITY ENGAGEMENT

On September 6, 2018, the EAO met with the Community Representatives to hear their concerns about the project and undertake a walking tour of the areas of Strathcona they consider would be affected by the CEP. The key concerns identified by the Community Representatives were:

- Air quality impacts to neighbourhoods of Strathcona and Burrardview, and corollary health effects to residents from the Port's supply chain emissions (that is ships, trucks, and trains);
- Noise and safety concerns from increased rail traffic along CN's Burrard Inlet Line;
- Noise and safety concerns from increased truck traffic on arterial roads and trains transiting "at grade" rail crossings; and
- Land use conflicts between the objectives of the Downtown Eastside Neighbourhood Plan and the CEP.

The EAO also met with a representative of the CRAB Water for Life Society, who was one of the founders of CRAB Park at Portside. CRAB Park is a 3.31-hectare park on the south shore of Vancouver Harbour, which borders Centerm's western most boundary. CRAB Park has the only nearby and accessible beach for residents of the Downtown Eastside. The park boasts views of

the North Shore Mountains and is the location of the annual CRAB Park Canada Day Festival, which showcases local entertainers and community initiatives. Through the meeting with the EAO, as well as phone correspondence and submission of written comments, the CRAB Park representative identified concerns related to the CEP regarding:

- Invasive species entering the water from the increased freighter traffic;
- Disruption of water flow from the proposed seven acre pier extension to the west;
- Spillages of bunker oil from freighters;
- Concern regarding dredging of potentially contaminated sediment and potential for water quality effects;
- Impacts to bathers from real or perceived reductions in marine water quality;
- Increase in freighter, rail and truck traffic and the resulting increase in noise, air and light pollution;
- Potential for an increase in marine accidents due to the increase in freighter traffic;
- Concerns regarding potentially dangerous ship cargo; and
- Aesthetic impacts to the view of the North Shore Mountains from the park.

7.0 SUMMARY OF ISSUES AND EFFECTS

The EAO evaluated the potential for CEP to have significant adverse environmental, social and health effects, including cumulative effects, taking into account practical means to reduce or avoid these effects. The EAO relied on information contained in the CEP PER Report and supporting studies, and comments received through consultation activities undertaken by the EAO. This section of the report provides a summary of key issues raised during the exemption review process, and consideration of the potential for significant adverse effects after avoidance and mitigation measures are applied.

7.1 Environment Effects

7.1.1 Air Quality

The CEP will increase road traffic, rail operations, marine vessels hoteling⁴ and in-transit, and use of container handling equipment during operation of Centerm, all of which contribute emissions from fuel combustion. The Applicant's Environmental Air Assessment notes that Vancouver's existing (as of 2018) baseline of criteria air contaminants⁵ are below the ambient

⁴ When a ship is at port but is neither loading nor unloading

⁵ The following common air contaminants were assessed: Nitrogen Oxides, NOX; Sulphur Oxides, SOX; Carbon Monoxide, CO; Particulate matter 10 micrometres or less in diameter, PM10; Particulate matter 2.5 micrometres or less in diameter, PM2.5; Diesel Particulate Matter, DPM; Volatile Organic Compounds, VOC; Carbon Dioxide, CO2; Methane, CH4; and Nitrous Oxide, N2O.

air quality objectives and standards assessed for CEP. The PER Report notes that as a result of the CEP, total annual air emissions from the terminal are predicted to increase across all pollutants, and that these air emissions could adversely affect residents in the surrounding community.

PER Permit condition #79 requires an Air Emissions Management Plan, which the Applicant asserts will reduce emissions over the lifetime of the terminal by demonstrating continuous improvement through adoption of cleaner equipment and advancement of cleaner technologies; for example, shore power for ships at berth and using an electric terminal fleet. As such, the PER Report concludes that project-related particulate matter emissions during operations are predicted to remain below current regional air quality objectives, and would be slightly above future annual allowable concentration levels at receptors of interest (that is daycares, schools, elder care facilities).

To meet future air quality objectives, which are slated to become more stringent over time, VFPA noted that their terminal fleet will likely need to adopt and implement improved technologies at a faster than normal equipment life-time turnover rate⁶. As well, the PER Report notes that future reductions required under MARPOL emission standards⁷, which require new vessels to phase in more stringent emission requirements, are anticipated to reduce future emissions from the Centerm port.

Following mitigation, VFPA characterized the operational emissions as occurring daily, localized to within one kilometre (km) of the terminal, low to moderate in magnitude, and having an overall relatively small adverse effect on local air quality.

Metro Vancouver reviewed [the CEP Air Quality \(AQ\) assessment materials](#) and provided comments to VFPA on May 9, 2018, following the issuance of the CEP Permit. Metro Vancouver air quality experts noted that the revised air quality assessment showed potential exceedances for both annual and 1-hour nitrogen dioxide (NO₂), as well as for 24-hour fine particulate matter (PM_{2.5} and PM₁₀). Metro Vancouver also noted that the CEP emissions might exceed the Canadian Ambient Air Quality Standards (CAAQS), which will come into effect in 2020. Metro Vancouver noted that the 2020 CAAQS were not referenced in the PER Report and, as such, they assumed the CAAQS thresholds were not accounted for in the VFPA monitoring or mitigation measures identified in the PER Report. To limit potential exceedances Metro Vancouver noted that the Air Emissions Management Plan (Condition #79 of the CEP Permit) must be implemented. Metro Vancouver also stated that additional mitigations to reduce CEP related NO₂ and PM_{2.5} emissions, as well as emissions from the supply chain (trucks and trains servicing the port) are advisable.

In their April 24, 2018, correspondence to the provincial Minister of Environment and during a

⁶ A complete summary of all VFPA commitments and PER Permit conditions is included in Appendix 1.

⁷ MARPOL Annex VI limits the main air pollutants contained in ships exhaust gas, including sulphur oxides (SOx) and nitrous oxides (NOx), and prohibits deliberate emissions of ozone depleting substances.

meeting with the EAO on September 6, 2018, the Community Representatives raised concerns about the scope of the CEP air quality assessment. The Community Representatives contend that the CEP PER process did not assess the contribution of CEP to the cumulative emission levels of the South Vancouver Harbour, an area that they assert is already close to regional air quality objectives for sulphur dioxide and particulate matter (PM₁₀ and PM_{2.5}). The Community Representatives expressed concern for residents in these areas, particularly vulnerable populations such as young children and the elderly.

The EAO notes that the study area of the air quality assessment for CEP truck emissions is along the east-west road supply chain (Figure 1) to the Hastings/Clark intersection, and limited to the physical boundaries of the terminal, including the area occupied by a vessel at berth. VFPA asserted this is in keeping with the scope established for other similar reviews; however, air quality experts at Metro Vancouver noted that it would have been desirable for supply chain emissions to have been more broadly defined, especially in the areas and neighbourhoods surrounding the terminal.

The EAO also engaged a provincial air quality expert at ENV, and at the request of the EAO, ENV submitted a memo to the EAO outlining their perspectives on the PER air quality assessment following their review of the PER Report, the Centerm Expansion Project: Environmental Air Assessment (February 2018), and the Metro Vancouver submission to VFPA (April 11, 2018). In the memo ENV noted that:

1. Further analysis is needed to determine if the increase in Nitrogen Oxide (NO_x) emissions attributable to CEP will lead to exceedance of 2020 Canadian Ambient Air Quality Standards (CAAQS) at or around sensitive receptors;
2. Confirmation that the data and the model used comply with British Columbia (BC) Air Quality Dispersion Modelling Guidelines; and
3. The VFPA commitment to monitor ambient air quality is imperative to ensure attainment of NO₂ CAAQS at sensitive receptors (such as daycares, schools, hospitals and retirement homes).

The EAO submitted the ENV comments to VFPA for their response on September 24, 2018. In their response dated October 4, 2018, VFPA noted their air quality assessment met the ambient air quality objectives and standards required under the PER assessment for the CEP. With respect to the BC Air Quality Dispersion Modelling Guidelines, the VFPA responded that the data used in the air dispersion model was appropriate to understand the behaviour of the emissions and that the results showed good continuity and behavior of the wind field relative to terrain and the land/sea boundary. With respect to the NO₂ CAAQS, the VFPA noted that “model results indicate that the project will meet the assessment’s air quality objectives at all receptors of interest.” The PER Report notes that the Environmental Air Assessment predicted air quality objective exceedances over a small percentage of the hours modelled in areas inaccessible to the public. As a result, VFPA confirmed that “follow up air quality monitoring is an important aspect of managing environmental impacts.”

The EAO is of the view that, at a high level, the Applicant's air quality assessment generally conforms to typical provincial EA requirements. However, based on follow up conversations with air quality experts at Metro Vancouver and ENV, as well as considerations from a provincial perspective, the EAO considers that the uncertainties they identified in their review of the dispersion model results are still relevant. Given that these uncertainties could result in an omission of potential adverse effects to air quality, the EAO is of the opinion that a requirement to monitor air quality should be a condition of any exemption order, if one is granted at the conclusion of this exemption review.

Potential human health effects from project-related pollutant emissions are discussed in Section 7.3.

7.1.2 Noise

The Applicant assessed potential noise emissions of the CEP during construction and operations using typical noise assessment guidelines utilized in provincial and federal EA. The PER Report concludes that construction noise will largely be limited to typical daytime construction hours and that only limited noise effects are anticipated. Operational noise effects are considered low magnitude (1-2 dBA increase in nighttime over current) and would be localized within one km of the terminal.

The Community Representatives raised concerns about CEP construction and operational noise related to pile driving for the terminal footprint expansion, and ongoing operation noise levels related to train passage and shunting along the Burrard Inlet Rail Line in particular, and within the CEP boundaries in general. The Community Representatives highlighted the narrow right-of-way of the Burrard Inlet Rail Line (that is, with respect to the close proximity of residences to the trains), the practice of shunting trains along it, and CN Rail's near-term plans to twin the Burrard Inlet line. The City of Vancouver has existing policy that seeks to improve the rail network within the False Creek Flats and Burrard Inlet Corridor, in an effort to support the Port of Vancouver operations and also reduce Port related truck movements on streets within Vancouver.

The EAO notes that PER Permit Conditions 20 and 47 address noise during construction by setting out construction hours (with limited exceptions). Specifically, Condition 80 requires that operations noise monitoring be completed post-construction to confirm the results of the modeling, and Condition 81 requires the submission an inventory of all alarms used to confirm that best industry practices are being observed. The EAO is of the opinion that the PER noise assessment conforms to typical provincial EA requirements, and that PER Permit conditions are suitably scoped to address noise emissions from the CEP during construction and operations.

VFPA concludes that, following implementation of mitigations outlined in the PER Permit, no residual noise effects would remain during operations. With consideration for the Applicant's noise assessment results and the PER Permit conditions, the EAO accepts the VFPA's conclusions with respect to residual noise effects from the project. As well, the EAO is of the

opinion that noise emissions from trains transiting and shunting on the Burrard inlet line and similar noise emissions along other rail lines that transit through Vancouver are outside the scope of this assessment. The EAO considers that complaints about noise emissions from urban rail lines are best addressed by the responsible authority (or owner) for each line.

7.2 Social Effects

7.2.1 Traffic

The Applicant assessed potential impacts to local automobile traffic during construction and operation of the CEP; traffic accident risk was not assessed in the Applicant's traffic impact assessment. The Applicant also identified a number of mitigation measures in the traffic impact assessment and stated that they would be included in a Construction Traffic Management Plan (a plan later required by PER Permit Condition 30). The PER Report concluded that the 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.

The Community Representatives raised concerns about CEP impacts to local traffic, which they asserted would affect traffic safety on local streets. They identified that, in addition to the safety concerns around increased semi-truck traffic on arterial streets, they were concerned that local and regional commuters would spill into local side streets in an attempt to avoid Centerm-related traffic. According to the Community Representatives, the induced traffic along local side streets could increase risks to pedestrians and local drivers. The Community Representatives also noted that vulnerable populations inhabit and transit the rail corridors in Strathcona and that there are insufficient safety measures in place to prevent accidents with trains for these populations. The Community Representatives asserted that existing safety infrastructure at the at-grade crossings and in some areas along the tracks that transit Strathcona do not conform to Transport Canada safety requirements for railway rights-of-way.

Metro Vancouver submitted comments to VFPA on the CEP traffic impact assessment. Metro Vancouver raised concerns about the assumption of zero percent growth in background municipal traffic, which Metro Vancouver suggested could be significantly higher. According to Metro Vancouver projections, the study area population is projected to grow on the order of 42% between 2011 and 2030. In addition, Metro Vancouver noted other information and analytical gaps in the traffic impact study, regarding assumptions that:

- The use of rail relative to road transportation (i.e. rail split) from the port will increase;
- The proportion of double-ended truck movements would increase; and
- There would be a significantly more stable distribution of truck arrival times and departure times at the port.

Metro Vancouver also noted the traffic impact study did not include an employee trip reduction program to reduce or manage employee vehicle travel and parking demand.

The EAO notes that PER Permit under Condition 30 requires the submission of a Construction Traffic Management Plan, to be submitted to the City of Vancouver twenty business days prior to any lane closures. The EAO confirmed with the City of Vancouver traffic engineers that traffic disruptions would be minimized through ongoing traffic planning with VFPA in the lead up to construction of the CEP.

The EAO is satisfied that VFPA considered the potential impacts to traffic and will establish appropriate traffic mitigation measures, such as the Construction Traffic Management Plan (PER Condition 30) and communication with the City of Vancouver, to address traffic impacts during construction of the CEP. The EAO also notes the increased processing capacity of the Centerm gate system as part of the CEP and the existing container truck reservation system should improve distribution of truck volumes during the day. As such, the EAO accepts VFPA's conclusion that additional container truck volumes associated with the CEP would have a minor traffic impact on city streets.

The EAO is of the opinion that community concerns about safety along urban rail lines are best addressed by the responsible authority (or owner) for each line.

7.2.2 Parks and Recreation

A representative of CRAB Park raised concerns about potential water quality impacts to bathers and concerns about how the CEP would degrade the view of the North Shore mountains from the park. The representative also emphasized the importance of CRAB Park as an important green space for local residents, particularly for vulnerable citizens in the Downtown Eastside.

In the PER Report, VFPA provides responses to these concerns, noting that although the CEP will result in a 2-3 hour increased residence time for ocean water in the bay, that the area will continue to be fully flushed by the tides on a regular basis, and that long-term adverse effects are not anticipated.

VFPA also noted that although they do not require community investment contributions as part of the PER Process, they are considering the public's requests to: fund improvements at CRAB Park; provide community grants supporting youth, heritage, culture, arts, environment and Aboriginal initiatives in the Downtown Eastside; and other investments in community infrastructure and programs.

7.2.3 Land Use and Local Area Planning

The PER Report did not expressly consider impacts to land use and local area planning beyond the boundaries of federally regulated port lands in Vancouver Harbour. Potential impacts to land use and local area planning were raised by the Community Representatives.

With consideration of the increased rail traffic on the Burrard Inlet Line and increased semi-truck traffic through Strathcona and Burrardview, the Community Representatives consider the CEP to be incongruent with the City's Downtown Eastside neighbourhood plan, which calls for

substantial increases in residential development along the Hastings Corridor. They concluded that “increased residential density and increased industrial activities are incompatible unless adequate monitoring and mitigation measures are in place.”

During a meeting with the EAO, City of Vancouver (COV) planners confirmed that the Downtown Eastside neighbourhood plan identifies the Hastings East corridor that borders the industrial zones closer to Centerm as an area slated for future residential growth. COV noted that the plan requires up to 20 percent of the future high-rise development along this corridor to be affordable housing (or “below market”) in order to help address persistent homelessness and poverty that has affected the Downtown Eastside for decades.

COV also noted their preference to increase movement of goods in and out of Vancouver by rail. COV noted increased rail use for goods could help reduce the volume of semi-trucks on the arterial streets of Vancouver with corollary benefits of lowered emissions and improved traffic flow for residents and as well as improved road safety along arterial roadways in and out of Vancouver.

Overall, the EAO is of the opinion that, while there are a number of complexities regarding land use and land use planning in this area, overall the CEP does not appear to be incompatible with respect to the Downtown Eastside plan.

7.3 Health Effects

The PER Process requires an Applicant to consider effects of changes to the environment on Aboriginal health. The Applicant noted the CEP is located within an urban environment therefore, potential Aboriginal health effects can be considered as part of the general community. The PER report concluded that 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 peoples.

Potential adverse health effects from increased common air contaminant emissions related to CEP was the foremost concern raised by the Community Representatives. The EAO is of the opinion that the Applicant’s health assessment does not conform to typical provincial EA requirements given that the assessment is focused on Aboriginal health and does not contemplate broader potential effects to human health.

Given the EAO’s conclusions on the air quality assessment, as outlined in Section 7.1.1, as well as the scope of consideration of potential effects to human health, the EAO is of the opinion that a requirement to monitor air quality be a condition of any exemption order, should one be granted.

7.4 Economic Effects

The EAO is of the opinion that the CEP would not result in potential adverse economic effects,

and that any potential economic effect would be positive, as a result of employment and use of local goods and services. This report, therefore, does not include a discussion of potential adverse economic effects.

7.5 Heritage Effects

VFPA assessed the potential for impacts to heritage values and developed measures to mitigate the potential impacts. Key mitigation measures and PER permit conditions to reduce potential heritage effects include:

- Archaeological monitoring programs;
- Opportunities for Indigenous groups to participate in archaeological monitoring;
- Implementation of a Chance Find Procedure; and
- Sharing of Chance Find Procedure with Indigenous groups for review and comment.

The PER Permit also provides enforceable mitigation measures for potential impacts to the Rogers Sugar Refinery and the Mission to Seafarers Building. Given the above, the industrial setting of the project and application of mitigations the EAO accepts VFPA's conclusion that the CEP poses no potential residual adverse effects to heritage.

7.6 Cumulative Effects

As cumulative effects are not a legislative requirement of the PER Process, VFPA did not formally assess the potential for cumulative effects from the CEP. As such, the CEP PER Report makes no conclusions on potential cumulative effects from the project. VFPA did note in the PER Report that while there is not a legislative requirement to explicitly consider cumulative effects in PER, the past and current effects of development on the environment provides the context for their assessment of project effects and, accordingly, consideration of cumulative effects is inherently integrated into their environmental reviews.

In the EAO's consultation with Community Representatives, cumulative effects of air emissions were identified as a key concern. The EAO acknowledges the concerns of the Community Representatives regarding cumulative effects and has made efforts to understand their concerns regarding air quality in the Metro Vancouver area. The EAO considered the requirements of the Metro Vancouver Regional District for air quality management under Section 31 of the *Environmental Management Act*, and the actions undertaken by Metro Vancouver to fulfill this role, including:

- Development and implementation of air quality and greenhouse gas management plans ([IAQGGMP 2011](#) and [Climate 2050](#));
- Compilation of an [emission inventory and forecasts](#) every five years;
- [Monitoring of ambient \(outdoor\) air quality](#) at over 30 locations from Horseshoe Bay to

Hope; and

- [Regulation of industrial and commercial air emission sources](#), issuing permits and assessing compliance with Metro Vancouver's bylaws.

Further, the EAO considered ongoing programs by VFPA related to reducing port-related air emissions, including:

- An emissions inventory to estimate port-related air emissions;
- The Northwest Ports Clean Air Strategy, in partnership with the ports of Seattle and Tacoma and the Northwest Seaport Alliance;
- Air quality monitoring in collaboration with Metro Vancouver;
- An EcoAction Program, whereby ships can receive harbor dues discounts by meeting voluntary best practices;
- Shore power installations to reduce diesel combustion;
- A Non-Road Diesel Emissions Program, to work with port tenants to upgrade equipment; and
- A truck licencing system to ensure that container trucks meet minimum environmental standards.

The EAO recognizes that CEP will contribute to air emissions concerns in the Vancouver area, and has proposed a condition to monitor air quality under a Section 10(1)(b) Exemption Order. The EAO believes that this condition, in conjunction with project mitigation measures in the CEP Permit, as well as ongoing initiatives related to air emissions being undertaken by Metro Vancouver and VFPA, should help to address concerns regarding the cumulative effects of the project on air quality.

8.0 CONCLUSIONS

Based on:

- The EAO's review of existing conditions of key VCs that might be potentially adversely affected by the proposed project;
- Whether proposed mitigation measures will rely on proven technologies/solutions;
- The level of confidence in the conclusions of potential effects, including the effectiveness of mitigation measures;
- The scope and nature of comments received from other provincial agencies and/or local governments regarding the potential adverse effects of the proposed project;
- The scope and nature of comments received from potentially affected Indigenous Groups regarding potential adverse effects to their asserted or proven Aboriginal rights and title, or Treaty rights; and

- In consideration of the proposed condition related to this exemption review,

The EAO is satisfied that:

- This exemption review has included an adequate assessment of the potential for the Centerm Expansion Project to result in significant adverse environmental, economic, social, heritage and human health effects;
- Practical means to prevent or reduce any potential adverse environmental, economic, social, heritage or health effects, including cumulative effects, of the proposed project have been identified, so that no significant adverse effects are likely to result from the proposed project;
- The potential for adverse effects on the Aboriginal Interests to the Indigenous Groups has been avoided, minimized or otherwise accommodated; and
- The duty to consult Indigenous Groups regarding a determination pursuant to Section 10(1)(b) of the Act for the Centerm Expansion Project has been met.

The EAO recommends to the Executive Director of Environmental Assessment Office, upon consideration of the conclusions in this report, that an Order be issued under Section 10(1)(b) of the *Environmental Assessment Act* to exempt the Centerm Expansion Project from a requirement for an Environmental Assessment under the Act.

Appendix 1

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Table A1 – Summary of the CEP commitments and mitigations by residual effect.

Environmental Component	Summary of commitments from the PER Report and PER Permit Conditions
Air Quality	<p>In the CEP PER materials VFPA noted:</p> <ul style="list-style-type: none"> • A commitment to undertake follow up air quality monitoring to manage environmental impacts; • The need to replace diesel powered gantries with electrically operated units; • 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, and so forth) and advancement of cleaner technologies (shore power, equipment electrification, and so forth); • The terminal fleet will likely need to adopt and implement improved technologies at a faster than normal equipment life-time turnover rate; and • MARPOL Annex VI emission standards require new vessels to phase in more stringent emission requirements. <p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> • Condition 79 requires 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; and • Condition 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.
Lighting	<p>In the CEP PER materials VFPA noted:</p> <ul style="list-style-type: none"> • To mitigate lighting effects during construction the Applicant will focus light only where it is needed to ensure work is conducted safely; • 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; and • With respect to lighting impacts on the marine environment, VFPA notes that 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>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> • Condition 20 requires a construction lighting management plan within the Construction Environmental Management Plan. 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; and • Condition 49 requires a detailed operational lighting plan including modelling, spillage, light levels, and fixtures specified and measures to mitigate potential light impacts from new outdoor lighting at the terminal.
Noise	<p>In the CEP PER materials VFPA noted:</p> <ul style="list-style-type: none"> • The Applicant has committed to slow start-up procedures for dredging, infilling and vibrodensification in-water work. This will allow marine mammals in the vicinity of the activity to leave the area, concurrent with monitoring activities; • Using electric rail-mounted gantry cranes to reduce operational noise;

Environmental Component	Summary of commitments from the PER Report and PER Permit Conditions
	<ul style="list-style-type: none"> To further mitigate any noise associated with construction, the Applicant is required to develop a Construction Environmental Management Plan; and 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>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> Condition No. 47 addresses noise during construction, setting out construction hours; Condition No. 80 requires that noise monitoring be completed post-construction to confirm the results of the predictions of the Environmental Noise Assessment Study; and Condition No. 81 requires the submission an inventory of all alarms used, to confirm that best industry practices are being observed.
Soils and Sediments	<p>In the CEP PER materials VFPA committed to:</p> <ul style="list-style-type: none"> Submit and implement an updated Construction Environmental Management Plan (CEMP); Manage turbidity in as described in the CEMP and TSS/Turbidity Monitoring Plan; Have a qualified environmental monitor during all works that have the potential to adversely impact fish and fish habitat; Refrain from depositing deleterious substances in to the water or adversely affect fish or fish habitat; Refrain from dredging during the fisheries sensitive period; Refrain from operating machinery or equipment on the intertidal foreshore outside the work area; Carry out all upland activities in a manner that prevents the release of sediment, sediment-laden waters and turbid waters to the aquatic environment; and Immediately cease work and notify VFPA if harm to fish or fish habitat is suspected. <p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> Condition 15 requires the Applicant to adhere to all commitments made to Aboriginal groups; Condition 42 requires the Applicant to manage turbidity in compliance with all applicable water quality criteria; Condition 20 requires that the Applicant abide by an updated CEMP and any sub-plans contained within the CEMP; and Condition 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.
Ground Water	<p>In the CEP PER materials VFPA committed to:</p> <ul style="list-style-type: none"> 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. <p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> Condition 20 requires the Applicant to submit a CEMP 30 days prior to construction works which will contain mitigation measures for water quality impacts. The CEMP

Environmental Component	Summary of commitments from the PER Report and PER Permit Conditions
	<p>requires the Applicant to provide environmental monitoring reports to VFPA; and</p> <ul style="list-style-type: none"> Conditions 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.
Surface Water	<p>In the CEP PER materials VFPA noted:</p> <ul style="list-style-type: none"> 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. This includes storm water treatment throughout the construction period and a spill response plan to prevent contaminants from entering surface waters; 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; and The Applicant committed to sharing the updated CEMP and the Water Quality Monitoring Plan with Aboriginal groups for review and comment <p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> Condition 15 requires the Applicant to adhere to all commitments made to Aboriginal groups; Condition 21 requires the Applicant to submit an updated Storm Water Pollution Prevention Plan in accordance with VFPA guidelines; Condition 20 requires the Applicant to abide by the updated CEMP and relevant sub-plans contained within the CEMP; Condition 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; and 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).
Terrestrial Resources	<p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> Condition 56 requires a vegetation mitigation plan will be required to address the loss of vegetation at Clark Drive; Condition 20 the CEMP will be implemented to reduce potential adverse effects; Condition 64 requires noxious weeds and other invasive species to be controlled using best management practices; and Condition 19 requires the holder to reduce the risk of adverse effects on nesting birds; vegetation will be cleared outside the nesting season (April 1 to July 31).
Aquatic Resources	<p>In the CEP PER materials VFPA noted:</p> <ul style="list-style-type: none"> 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; Should marine mammal species at risk (for example, 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; and The Applicant's Conceptual Offsetting Plan which is designed to restore marine habitat at Maplewood Flats, approximately 6.8 km from the Project site. The final offsetting plan

Environmental Component	Summary of commitments from the PER Report and PER Permit Conditions
	<p>will be reviewed by Fisheries and Oceans Canada as part of the review of the Project's Fisheries Act Authorization application.</p> <p>The PER Permit contains the following binding conditions:</p> <ul style="list-style-type: none"> • Condition 66 outlines mitigation measures including conducting dredging in the timing window of least risk for fish; • Condition 20 requires the CEMP which provides measures to reduce mortality such as salvaging of species (that is, crab and sea cucumber) to the extent practicable; and • Condition 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.