PORT of vancouver

Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver, B.C. Canada V6C 3T4
portvancouver.com

August 4, 2020

Mr. Casey McCawley
Parrish and Heimbecker Ltd.
710 – 1021 Hastings Street
Vancouver, BC
V6E 0C3

Dear Mr. McCawley:

Re: Fraser Grain Terminal Ltd. – Project Permit PER No. 15-041
Fraser Grain Terminal – Grain Export Facility – Amendment 05
Condition No. 36 – Request for Extended Construction Hours

Vancouver Fraser Port Authority (the port authority) has received a request from you on behalf of the Fraser Grain Terminal Ltd., to carry out certain construction and physical activities, related to the above project, outside the hours stated in Condition No. 36 of Project Permit PER No. 15-041. The requested schedule and scope of works is as follows:

(1) August 2, 2020 to October 4, 2020 (Sundays)

Physical activities related to the installation of the final utility protection slab and completion of the rail installation for the new rail loop between 7:30 a.m. and 4:00 p.m. on Sundays from August 2, 2020 to October 4, 2020. The port authority understands that this is being requested in order to maintain the construction schedule and support the completion of the rail loop track in advance of grain being received for the filling and settling of the grain storage bins. The project components associated with this request include the installation of the protection slab near the intersection of Robson Road and the FGT Main Access Road, to provide protection to the underground Metro Vancouver and Fortis Gas utilities. Other works include the installation of temporary shoring piles and helical screw piles, installation of vibration/settlement monitors, excavation, welding, installation of casing, wood forming, placing rebar, pouring concrete, stripping forms, patching and backfilling.

(2) August 31, 2020 to October 25, 2020 (Continuous)

Physical activities related to the filling and settling of the grain storage bins, as part of the construction of the Fraser Grain Terminal Grain Export Facility, continuously (24 hours, 7 days a week) for approximately 8 weeks in the period from August 31, 2020 to October 25, 2020. The port authority understands that this is being requested in order to help minimize any rail traffic impacts to the Port Authority Rail Yard (PARY) and to minimize stationary railcar times. The fill procedure will require the gradual and uniform loading of the bins in order that the foundation/soil mass beneath the bins experience an equal and uniform pressure. The facility will receive grain via railcars and load the grain into the bins using the conveyancing equipment

These activities were previously assessed to take place from Monday to Saturday, between 7.00am and 8.00pm, and the proposed change in timing of these works required additional review to determine if the proposed activities would result in significant adverse environmental effects.

The Vancouver Fraser Port Authority understands that noise levels in relation to the protection slab and rail installation works are anticipated to be consistent with current daytime noise levels observed at the Fraser Grain Terminal construction site. Noise generated in relation to the works concerning the filling and settling of the grain storage bins is expected to be consistent with anticipated noise levels once the site is operational.

The port authority has undertaken and completed a review of the requested extended hours works in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations, and section 82 of the *Impact Assessment Act*.

As part of our review, the port authority considered additional information provided in the following supporting documents:

1. Letter request to conduct construction activities outside of regular work hours (Protection Slab) June 20, 2020.
2. Letter request to conduct construction activities outside of regular work hours (Bin Fill) June 20, 2020.
3. All correspondence with Fraser Grain Terminal Ltd. and the FWS project team from June 20, 2020 to July 30, 2020

To meet the requirements of the *Impact Assessment Act*, the port authority posted a description of the requested extended hours works and notice of public participation to the Canadian Impact Assessment Registry and considered the factors set out in section 84. We concluded that the requested extended hours works, with supplementary conditions, are not likely to cause significant adverse environmental effects.

Accordingly, the port authority authorizes the extended construction hours request.

This amendment has been assigned Amendment PER No. 15-041-05. Please quote this reference number in all future correspondence. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Deborah Renn at 604-665-9561 or deborah.renn@portvancouver.com.

Yours truly,

Vancouver Fraser Port Authority

ORIGINAL COPY SIGNED

Peter Xotta
Vice president, planning & operations

cc James Crandles, director, planning & development, VFPA

encl (6) Amendment PER No. 15-041-04-01
Amendment PER No. 15-041-04
Amendment PER No. 15-041-03
Amendment PER No. 15-041-02
Amendment PER No. 15-041-01
Project Permit PER No. 15-041

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Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver, B.C. Canada V6C 3T4
portvancouver.com

July 30, 2020

Mr. Casey McCawley
Parrish and Heimbecker Ltd.
710 – 1021 Hastings Street
Vancouver, BC
V6E 0C3

Dear Mr. McCawley:

Re: Fraser Grain Terminal Ltd. – Project Permit PER No. 15-041
Fraser Grain Terminal – Grain Export Facility – Amendment 04-01
Condition No. 36 – Request for Extended Construction Hours

Vancouver Fraser Port Authority (the port authority) has received a request from you on behalf of the Fraser Grain Terminal Ltd., to carry out certain construction and physical activities, related to the above project, outside the hours stated in Condition No. 36 of Project Permit PER No. 15-041. The port authority understands that this is being requested in order to help minimize the impact to operations for the current tenant, and that the delivery of the shiploader has been delayed due to the COVID-19 pandemic. The requested schedule and scope of works is as follows:

(1) September 14, 2020 to December 14, 2020 (30 day period)

Physical activities related to the installation of the shiploader for the construction of the Fraser Grain Terminal Grain Export Facility continuously (24 hours, 7 days a week) for approximately 30 consecutive days in the period from September 14, 2020 to December 14, 2020. The project components associated with this request include the unloading and installation of the new Fraser Grain Terminal shiploader at FSD berths #3 and 4. Works also include the installation and completion of mechanical and electrical connections between the shiploader components.

(2) September 22, 2020 to March 21, 2021 (Sundays)

Physical activities related to electrical works for the construction of the Fraser Grain Terminal facility between 7:30 a.m. and 4:00 p.m. on Sundays, from September 22, 2020 to March 21, 2020. The project components associated with this request include the installation of cable trays and cable at grade level, and the installation of wiring and equipment in electrical rooms and buildings.

The Vancouver Fraser Port Authority understands that the works described above are not anticipated to generate significant noise.

The proposed construction hours in relation to this scope of works were previously assessed under section 82 of the *Impact Assessment Act* as part of Amendment PER No. 15-041-04(-01). The port authority determined that the proposed activities would not result in significant adverse environmental effects. In light of this previous determination, the port authority determined that the current proposal did not require an assessment under section 82 of the *Impact Assessment Act*. However, the port authority has undertaken

and completed a review of the requested extended hours works in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations.

As part of our review, the port authority considered additional information provided in the following supporting documents:

1. Letter request to conduct construction activities outside of regular work hours (Shiploader) May 27, 2020.
2. Letter request to conduct construction activities outside of regular work hours (Electrical works) July 3, 2020.
3. Amendment PER No. 15-041-04(-01), Request for Construction Outside of Regular Work Hours (approved March 17, 2020)
4. Amendment PER No. 15-041-02, Request for Construction Outside of Regular Work Hours (approved August 12, 2019)
5. All correspondence with Fraser Grain Terminal Ltd. and the FWS project team from May 27, 2020 to July 30, 2020

Accordingly, the port authority authorizes the extended construction hours request.

This amendment has been assigned Amendment PER No. 15-041-04-01. Please quote this reference number in all future correspondence. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Deborah Renn at 604-665-9561 or deborah.renn@portvancouver.com.

Yours truly,

Vancouver Fraser Port Authority

ORIGINAL COPY SIGNED

COPY

Peter Xotta
Vice president, planning & operations

cc Greg Yeomans, director, planning & development, VFPA

encl (5) Amendment PER No. 15-041-04
Amendment PER No. 15-041-03
Amendment PER No. 15-041-02
Amendment PER No. 15-041-01
Project Permit PER No. 15-041

PORT of vancouver

Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver, B.C. Canada V6C 3T4
portvancouver.com

March 17, 2020

Mr. Casey McCawley
Parrish and Heimbecker Ltd.
#640 – 355 Burrard Street,
Vancouver, BC V6C 2G8

Dear Mr. McCawley:

Re: Fraser Grain Terminal Ltd. – Project Permit PER No. 15-041
Fraser Grain Terminal – Grain Export Facility – Amendment 04
Condition No. 36 – Request for Extended hours

Vancouver Fraser Port Authority (the port authority) has received a request from you on behalf of the Fraser Grain Terminal Ltd., to carry out certain construction and physical activities, related to the above project, outside the hours stated in Condition No. 36 of Project Permit PER No. 15-041. The port authority understands that this is being requested in order to help minimize the impact to operations for the current tenant. The requested schedule and scope of works is as follows:

(1) March 22, 2020 to September 21, 2020 (Sundays)

Physical activities related to electrical works for the construction of the Fraser Grain Terminal facility between 7:30 a.m. and 4:00 p.m. on Sundays, from March 22, 2020 to September 21, 2020. The project components associated with this request include the installation of cable trays and cable at grade level, and the installation of wiring and equipment in electrical rooms and buildings.

(2) June 1, 2020 to August 31, 2020 (30 day period)

Physical activities related to the installation of the shiploader for the construction of the Fraser Grain Terminal Grain Export Facility continuously (24 hours, 7 days a week) for approximately 30 consecutive days in the period from June 1, 2020 to August 31, 2020. The project components associated with this request include the unloading and installation of the new Fraser Grain Terminal shiploader at FSD berths #3 and 4. Works also include the installation and completion of mechanical and electrical connections between the shiploader components.

The Vancouver Fraser Port Authority understands that the works described above are not anticipated to generate significant noise.

The port authority has undertaken and completed a review of the requested extended hours works in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations, and section 82 of the *Impact Assessment Act*.

As part of our review, the port authority considered additional information provided in the following supporting documents:

1. Letter request to conduct construction activities outside of regular work hours (Shiploader) November 12, 2019.
2. Letter request to conduct construction activities outside of regular work hours (Electrical works) February 3, 2020.
3. Amendment PER No. 15-041-02, Request for Construction Outside of Regular Work Hours (approved August 12, 2019)
4. All correspondence with Fraser Grain Terminal Ltd. and the FWS project team from November 5, 2019 to March 17, 2020

To meet the requirements of the *Impact Assessment Act*, the port authority posted a description of the requested extended hours works and notice of public participation to the Canadian Impact Assessment Registry and considered the factors set out in section 84. We concluded that the requested extended hours works, with supplementary conditions, are not likely to cause significant adverse environmental effects.

Accordingly, the port authority authorizes the extended hours request. The port authority also authorizes an amendment to Project Permit PER No. 15-041 to replace conditions No.27 and No.36 with the revised conditions No.27 and No.36, and to include supplementary condition No. 65, all as shown in the below table.

No.	REVISED CONDITION
27.	Prior to the commencement of any vessel-related activities, the Permit Holder must contact CCG Marine Communications and Traffic Services (MCTS), (email: NAVWARN.MCTSPrinceRupert@innav.gc.ca Telephone: 250-627-3070) regarding the issuance of a Navigational Warning (NAVWARN) to advise the marine community of potential hazards associated with the Project.
36.	All general construction and physical activities related to the Project shall be conducted from Monday to Saturday between the hours of 7:00 am and 8:00 pm. No construction and physical activities shall take place on Sundays or holidays. To modify these hours the Permit Holder must submit a plan, describing proposed activities and additional mitigation, to VFPA's satisfaction no less than 20 business days prior to the desired start date.
No.	**SUPPLEMENTARY CONDITIONS**
65.	The Permit holder shall ensure that when working during hours of darkness, lights exhibited will not interfere with marine traffic transiting the area.

This amendment has been assigned Amendment PER No. 15-041-04. Please quote this reference number in all future correspondence. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Deborah Renn at 604-665-9561 or deborah.renn@portvancouver.com.

Yours truly,

VANCOUVER FRASER PORT AUTHORITY

ORIGINAL COPY SIGNED

Peter Xotta
Vice-President, Planning & Operations

cc Greg Yeomans, Director, Planning & Development, VFPA
Carrie Brown, Director, Environmental Programs, VFPA

Deborah Renn, Planner, Planning, VFPA
Donna Hargreaves, Compliance Monitoring and Enforcement Specialist, VFPA
Catherine MacInnis, Senior Real Estate Specialist, Real Estate, VFPA

encl (4) Amendment PER No. 15-041-03
Amendment PER No. 15-041-02
Amendment PER No. 15-041-01
Project Permit PER No. 15-041

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December 24, 2019

Mr. Casey McCawley
Fraser Grain Terminal Ltd.
FGT Vancouver Office
#640 – 355 Burrard Street
Vancouver, BC, V6C 2G8

Dear Mr. McCawley:

Re: Vancouver Fraser Port Authority Project Permit No. 15-041-3 - Amendment
Fraser Grain Terminal Ltd. – Fraser Grain Terminal - Grain Export Facility

On behalf of the Vancouver Fraser Port Authority (VFPA), I am pleased to advise that the permit for the above-noted work has been amended.

Reference is made to the recent request from FWS made on behalf of Fraser Grain Terminal Ltd. (the Permit Holder) to amend Project Permit 15-041-2. The amendment requested is an update to the Project Description as a result of additional works and activities now proposed to be undertaken as part of the Project.

The Vancouver Fraser Port Authority (VFPA) understands that the Permit Holder has increased the scope of works being undertaken as part of this Project to now include extending the existing drainage ditch along the south side of Robson Road. This added component will involve the following works:

- Removal of the existing headwall;
- Infilling a portion of the existing drainage ditch;
- Installation of a new manhole; and
- Installation of a new 300 millimetre reinforced concrete pipe storm line, extending the existing line by 31 metres to the north.

VFPA has reviewed the request and all additional information provided in the following supporting documents:

- Letter from FWS Group of Companies – Permit # 15-041-2 – Permit Amendment 3, December 11, 2019
- Drawing No. 32022-C-07-07 Rev5 – South Drainage Plan, ISL Engineering and Land Services
- Drawing No. 32022-C-07-10 Rev10 – South Drainage Plan, ISL Engineering and Land Services

VFPA has reviewed the proposed works and determined that adverse impacts to Aboriginal or Treaty rights are not expected. To meet requirements of section 86 of the *Impact Assessment Act*, VFPA posted a description of the Project and notice of public participation to the Canadian Impact Assessment Registry to provide the public 30 calendar days to comment on the project and provide community knowledge. No public comments were received regarding this proposed project.

In completing the project and environmental review on the proposed project amendment, the port authority has reviewed and taken into account relevant information available on the proposed project and

has considered any adverse impact that the project may have on the rights of Indigenous peoples, Indigenous knowledge, community knowledge, comments received from the public, and measures that would mitigate any significant adverse environmental effects of the project. We conclude that with the implementation of proposed mitigation measures and adherence to all of the Permit conditions outlined in Project Permit 15-041, the Project is not likely to cause significant adverse environmental effects.

Pursuant to the Port Authorities Operations Regulations under the *Canada Marine Act* and, as applicable, Section 82 of the *Impact Assessment Act.*, by way of this letter, the proposed modifications are authorized to proceed provided that all of the Conditions outlined in Project Permit 15-041 are adhered to. As a result of the approval of this permit amendment, the project permit number has been amended to PER No. 15-041-3. Please quote this updated reference number in all future correspondence.

Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Jessica Mehigan at 604-665-9627 or jessica.mehigan@portvancouver.com.

Yours truly,

VANCOUVER FRASER PORT AUTHORITY

ORIGINAL COPY SIGNED

Peter Xotta
Vice President, Planning & Operations

ORIGINAL COPY SIGNED

Carrie Brown
Director, Environmental Programs

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cc Greg Yeomans, Director, Planning & Development, VFPA
Chris Bishop, Manager, Planning, VFPA
Jessica Mehigan, Supervisor, Planning, VFPA
Donna Hargreaves, Compliance Monitoring and Enforcement Specialist, VFPA
Catherine MacInnis, Senior Property Administrator, VFPA

encl (1) Project Permit No. 15-041

PORT of vancouver

Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver, B.C. Canada V6C 3T4
portvancouver.com

July 15, 2019

Mr. Casey McCawley
Fraser Grain Terminal Ltd.
FGT Vancouver Office
#640 – 355 Burrard Street
Vancouver, BC V6C 2G8

Dear Mr. McCawley:

RE: **Vancouver Fraser Port Authority Project Permit No. 15-041-2**
Fraser Grain Terminal – Grain Export Facility

On behalf of the Vancouver Fraser Port Authority (VFPA), I am pleased to advise that the permit for the above noted work has been amended.

Reference is made to your request of July 9, 2019, that the permit be assigned from Parrish & Heimbecker Ltd. to FGT. This amendment letter confirms that this request has been granted. The existing permit, issued November 9, 2018, and valid until November 30, 2022, remains valid. Amendment No. 15-141-1, issued May 15, 2019, which added additional scope to the original project, also remains valid. The Permit Holder is now FGT.

Should you have any questions, please contact Tim Blair at (604) 665-9378 or tim.blair@portvancouver.com

Yours Truly,

ORIGINAL COPY SIGNED

Peter Xotta
Vice-President, Planning & Operations

cc Jessica Mehigan, Senior Planner, Planning and Development, VFPA
Greg Yeomans, Director, Planning and Development, VFPA
Catherine MacInnis, Senior Property Administrator, Real Estate, VFPA

PORT of vancouver

May 15, 2019

Mr. Casey McCawley
Fraser Grain Terminal Ltd.
FGT Vancouver Office
#640 – 355 Burrard Street
Vancouver, BC, V6C 2G8

Dear Mr. McCawley:

Re: Vancouver Fraser Port Authority Project Permit No. 15-041-1 - Amendment Parrish & Heimbecker Ltd. – Fraser Grain Terminal - Grain Export Facility

On behalf of the Vancouver Fraser Port Authority (VFPA), I am pleased to advise that the permit for the above-noted work has been amended.

Reference is made to the February 15, 2019 request from FWS made on behalf of Parrish & Heimbecker Ltd. (the Permit Holder) to amend Project Permit 15-041. The amendment requested is an update to the Project Description as a result of additional works and activities now proposed to be undertaken as part of the Project.

The Vancouver Fraser Port Authority (VFPA) understands that the Permit Holder has increased the scope of works being undertaken as part of this Project to now include the construction of a new vehicular access road to the site from Robson Road. This work was previously reviewed and authorized under VFPA Project Permit 12-072-1, which has since been cancelled. This added component will involve the following works:

- vegetation clearing;
- installation of armour riprap;
- regrading 70m of an existing adjacent ditch to 0.1% slope;
- extension of the culvert to accommodate infilling of the pre-existing ditch;
- construction of asphalt road surface connecting the site directly to Robson Road;
- installation of concrete barrier curb along north eastern edge of the new road for drainage purposes; and
- installation of a stormwater drainage system directing run-off from the access road to the existing stormwater treatment device.

VFPA has reviewed the request and all additional information provided in the following supporting documents:

- Letter from FWS Group of Companies – Permit # 15-041 - Amendment Request, February 15, 2019
- Construction Environmental Management Plan Rev 3.0 - Fraser Grain Terminal, April 2019, Hemmera Envirochem Inc.

- Full Drawing Set 32022 - Drainage and Road Plans, April 03, 2019, ISL Engineering and Land Services.
- Grain Export Facility - New Terminal Rail Layout, submitted April 17, 2019, Mott MacDonald
- FGT Proposed Terminal Rail Layout Conceptual Crossing Design Robson Road Crossing Study Sightlines, submitted April 17, 2019, Mott MacDonald

Pursuant to the Port Authorities Operations Regulations under the Canada Marine Act, by way of this letter, the proposed modifications are authorized to proceed **provided that all of the Conditions outlined in Project Permit 15-041 and an additional Condition listed below are adhered to**:

Prior to operational use of the vehicular access road, the permit holder shall provide VFPA with a report, completed by a certified traffic engineer, on the safety review of introducing a new intersection to Robson Road. The report shall:

- document the findings of drawing 399356-MMD-00-P0-DR-RW-0101;
- include a swept path analysis documenting the turning requirements of traffic into and out of the site;
- document the sightline requirements of traffic exiting to Robson Road; and
- document any recommended pavement marking and signage requirements for the intersection to keep the intersection clear in proximity to adjacent rail tracks, and to ensure safe ingress and egress.

All other conditions approved under Permit No. 15-041 shall be strictly adhered to during works.

As a result of the approval of this permit amendment, the project permit number has been amended to PER No. 15-041-1. Please quote this updated reference number in all future correspondence.

Please submit all documents required to satisfy the conditions listed here and in the Project Permit to per@portvancouver.com.

Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Jessica Mehigan at 604-665-9627 or jessica.mehigan@portvancouver.com.

Yours truly,

VANCOUVER FRASER PORT AUTHORITY

ORIGINAL COPY SIGNED

Peter Xotta
Vice President, Planning & Operations

cc Greg Yeomans, Director, Planning & Development, VFPA
Chris Bishop, Manager, Planning, VFPA
Jessica Mehigan, Project Lead, Planning, VFPA
Anika Calder, Compliance Monitoring and Enforcement Specialist, VFPA
Catherine MacInnis, Senior Property Administrator, VFPA

encl (1) Project Permit No. 15-041

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VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW PROJECT PERMIT

PER No.:	**15-041**
Tenant:	**Parrish & Heimbecker Ltd.**
Project:	**Fraser Grain Terminal - Grain Export Facility**
Project Location:	**11041 Elevator Rd, Surrey, BC**
VFPA SID No.:	**SUR360**
Land Use Designation:	**Port Terminal**
Permit Holder(s):	**Parrish & Heimbecker Ltd.**
Category of Review:	**D**
Date of Approval:	**NOVEMBER 9, 2018**
Date of Expiry:	**NOVEMBER 30, 2022**

PROJECT DESCRIPTION

For the purposes of this project permit, (the Permit), the project is understood to include the following works on Vancouver Fraser Port Authority (VFPA) property:

- Removal of existing Bekaert building slab, foundations, utilities and existing rail spur;
- Demolition of existing 25kV substation;
- Installation of utilities (water supply, sanitary sewer, stormwater, and electrical);
- Ground densification works (grout filled Rammed Aggregate Piers);
- Construction of semi-loop rail track, receiving track and rail crossing;
- Extensions to 3 Port Authority Rail Yard (PARY) rail tracks (Off-site works);
- Realignment of portion of existing JV Rail track;
- Construction of Rail Unloading Station;
- Construction of 20 x 3,500 tonne above-ground corrugated and galvanized silos, 35.6m x 14.6m;
- Construction of 4 x 400 tonne above-ground storage bins, 16.5m x 7.3m;
- Construction of 1 x 710 tonne above-ground storage bins, 16.5m x 10m;
- Installation of transfer steel tower containing 2 bulk weighers, 2 grain samplers and 3 bucket elevators;
- Construction of conveying equipment (comprising enclosed belt conveyors, supported by steel trusses);
- Installation of 3 stationary shiploaders with choke fed or cascading type telescoping loading spouts;
- Installation of Dust suppression systems on material handling equipment;
- Construction of integrated truck and railcar loading facility and container loading facility with associated container storage yard; and
- Construction of ancillary buildings – administration building, maintenance shop and electrical rooms.

PROJECT AND ENVIRONMENTAL CONDITIONS

The Vancouver Fraser Port Authority (VFPA) has undertaken and completed a review of the Project in accordance with the *Canada Marine Act* and Section 5 of the Port Authorities Operations Regulations and, as applicable, Section 67 of the *Canadian Environmental Assessment Act*, 2012.

Canada

If at any time the Permit Holder fails to comply with any of the project and environmental conditions set out in the Permit below, or if VFPA determines that the Permit Holder has provided any incomplete, incorrect or misleading information in relation to the Project, VFPA may, in its sole and absolute discretion, cancel its authorization for the Project or change the project and environmental conditions to which such authorization is subject.

Pursuant to Section 29 of the Port Authorities Operations Regulations, VFPA may also cancel its authorization for the Project, or change the project and environmental conditions to which such authorization is subject, if new information is made available to VFPA at any time in relation to the potential adverse environmental and other effects of the Project.

The following are the project and environmental conditions that must be followed by the Permit Holder to mitigate potential or foreseeable adverse environmental and other effects.

All VFPA Guidelines and Record Drawing Standards referenced in this document can be located at: https://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/technical-guidelines/.

No.	GENERAL CONDITIONS
1.	The Permit Holder must have a valid lease, licence, or access agreement for the Project site prior to accessing the Project site or commencing construction or any other physical activities on the Project site. This Permit shall in no way limit any of the Permit Holder's obligations, or VFPA's rights, under such lease, licence, or access agreement.
2.	The Permit Holder shall at all times and in all respects, comply with and abide by all applicable statutes, laws, regulations and orders from time to time in force and effect, including all applicable environmental, labour and safety laws and regulations.
3.	This Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the construction of the Project, in accordance with the terms and conditions of this Permit.
4.	The Permit Holder shall indemnify and save harmless VFPA in respect of all claims, losses, costs, fines, penalties or other liabilities, including legal fees, arising out of: (a) any bodily injury or death, property damage or any loss or damage arising out of or in any way connected with the Project; and (b) any breach by the Permit Holder of its obligations under this Permit.
5.	The Permit Holder is responsible for locating all existing site services and utilities including any located underground. The Permit Holder is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project.
6.	The Permit Holder shall immediately notify Metro Vancouver of any actual or potential damage to Metro Vancouver infrastructure at: 604-985-1478.
7.	The Permit Holder shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with applicable standards and specifications set out in the sections above entitled Project Description and Information Sources, including the attached plans and drawings numbered **PER No. 15-041-A to V**. The

	Permit Holder shall not carry out any other physical activities unless expressly authorized by VFPA.
8.	The Permit Holder shall cooperate fully with VFPA in respect of any review by VFPA of the Permit Holder's compliance with this Permit, including providing information and documentation in a timely manner, as required by VFPA. The Permit Holder is solely responsible for demonstrating the Permit Holder's compliance with this Permit.
9.	The Permit Holder shall review the Permit with all employees, agents, contractors, licensees and invitees working on the Project site, prior to such parties participating in any construction or other physical activities on the Project site. The Permit Holder shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with this Permit.
10.	The Permit Holder shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Permit.
11.	Unless otherwise specified, the Permit Holder shall provide all plans, documents, and notices required under this Permit to the following email address: per@portvancouver.com and referencing **PER No.15-041**.
12.	Unless otherwise specified, all plans, schedules, and other Project-related documentation that the Permit Holder is required to provide under this Permit must be to VFPA's satisfaction.
13.	The Permit Holder shall prepare and submit a self-report form to VFPA demonstrating compliance with conditions at each of the following project phases: a) Prior to construction Conditions (self-report shall be submitted a minimum of 15 business days prior to the commencement of construction, or any physical activities, to a maximum of 90 business days prior to construction, or any physical activities) b) Construction Conditions (self-report shall be submitted bi-annually during construction) c) Conditions Upon Project Completion (self-report shall be submitted within 60 business days of completion of construction) d) Conditions Prior to Operations (self-report shall be submitted 15 business days prior to operation)
14.	VFPA shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice.
15.	The Permit Holder must maintain and retain any records associated with, or produced by, actions or activities undertaken to achieve compliance or that indicate non-compliance with project permit conditions. These records must be made available at the request of VFPA.
16.	The Permit Holder shall provide VFPA with updated mitigation plans for review and acceptance, such as the construction environmental management plan, if these plans are modified or new procedures are created to address site conditions not previously addressed in the plans submitted as part of the application.
17.	All non-road diesel equipment in use within VFPA jurisdiction shall be reported as required under the Non-Road Diesel Equipment Program (http://www.portvancouver.com/environment/air-energy-climate-action/cargo-handlingequipment/nrde/).
18.	All conditions in this Permit which expressly or by their nature survive expiration or termination of this Permit will remain in effect after the expiration or termination of this Permit.

	CONDITIONS - PRIOR TO COMMENCING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	SUBMISSION TIMING (business days)
19.	The Permit Holder shall submit signed and sealed drawings for proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia.	5 days prior to commencing construction or any physical activities on each work component
20.	The Permit Holder shall provide a draft construction notice to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines.	20 days prior to commencing construction or any physical activities
21.	The Permit Holder shall submit a construction communications plan and construction notice to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines. The plan shall outline how the Permit Holder will engage and communicate with the public and stakeholders from the date of permit issuance to the completion of construction. The plan shall be updated as necessary and upon request by VFPA to ensure public and stakeholders are provided with relevant information as it becomes available. The Permit Holder shall carry out the Project in accordance with the approved construction communications plan, and any subsequent amendments approved by VFPA.	20 days prior to commencing construction or any physical activities
22.	The Permit Holder shall distribute an approved construction notice to residents and businesses to an area to VFPA's satisfaction. The Permit Holder shall notify VFPA when such distribution has been completed.	10 days prior to commencing construction or any physical activities
23.	The Permit Holder shall submit a construction parking and traffic management plan to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the construction parking and traffic management plan, and any subsequent amendments approved by VFPA.	20 days prior to commencing construction or any physical activities
24.	The Permit Holder shall submit to VFPA for review and approval evidence and documentation to demonstrate that the final design and construction of the three ship loader configuration meets the performance level defined in the submitted Environmental Air Assessment for fugitive dust management.	Prior to completion of the procurement process for shiploader infrastructure
25.	The Permit Holder shall submit an Archaeological Chance Find Procedure for the Project site, to VFPA's satisfaction. The Procedure shall be drafted in consultation with interested Aboriginal groups, and must include the following: - photographic examples of archaeological resources; - descriptions of archaeological resources and sites; - visual aids to support training and tailgate meetings for crew.	30 days prior to commencing ground disturbing activities

	The Permit Holder shall carry out the Project in accordance with this Procedure, and any subsequent amendments approved by VFPA.	
26.	For structures and proposed interior changes to structures that are reviewable under the National Building Code and National Fire Code, the Permit Holder shall apply for a VFPA Building Permit.	40 days prior to commencing construction or any physical activities on any structures reviewable under the Code
27.	Prior to the commencement of any vessel-related activities, the Permit Holder must contact the appropriate Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) centre regarding the issuance of a Notice to Shipping (NOTSHIP) to advise the marine community of potential hazards associated with the Project.	As per Coast Guard requirements
28.	The Permit Holder shall provide a Project schedule to VFPA showing the anticipated start dates for all major phases of the Project as identified by VFPA. The Permit Holder shall notify VFPA of any material changes to the Project schedule and, upon request, shall provide an updated Project schedule.	20 days prior to commencing construction or any physical activities
29.	Prior to the commencement of any physical activities or works related to the proposed rail crossings of Robson Road, the Permit Holder shall submit to VFPA detailed design drawings to the satisfaction of VFPA of the proposed rail crossings, reflecting the specification requirements of Transport Canada's Grade Crossings Regulations and Grade Crossings Standards.	30 days prior to commencing construction of new rail crossings
30.	Prior to the commencement of construction of the Phase 2 rail works, as detailed in the submitted permit application, the Permit Holder shall submit a detailed design, including drawings, for the proposed works to the satisfaction of VFPA.	30 days prior to commencing construction or any physical activities related to Phase 2
31.	Prior to the commencement of any physical activities or works to, or within 30 metres of, any existing Metro Vancouver infrastructure, the Permit Holder shall provide an updated geotechnical report, detailed design drawings of the proposed works and an infrastructure protection and monitoring plan to Metro Vancouver.	10 days prior to commencing construction or any physical activities within 30m of Metro Vancouver infrastructure
32.	The Permit Holder shall submit a marine construction and staging plan to the satisfaction of VFPA, which includes: (a) staging and construction areas; (b) dates and hours of operations; (c) description of activities taking place; (d) participating equipment and vessels (dimensions must be included); (e) method of preferred communication; and (f) special requests and/or additional information.	30 days prior to commencing any construction activities on marine works

	The Permit Holder shall carry out the Project in accordance with the marine construction and staging plan, including any subsequent amendments approved by VFPA.	
33.	Prior to the commencement of any physical activities or works related to the pavement marking and signage, the Permit Holder shall submit to the satisfaction of VFPA detailed design drawings of the internal road layout, parking plan, and pavement marking and signage plan.	30 days prior to commencing construction of components affecting site layout
34.	Prior to the commencement of any physical activities or works on grain handling equipment, the Permit Holder shall submit an updated Fire Risk and Dust Hazard Analysis to the satisfaction of VFPA.	20 days prior to submission of a complete package of drawings to VFPA for the purposes of a building permit application for the rail unloading station superstructure
	CONDITIONS - DURING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES **All references to days in submission timing refer to business days.**	
35.	The Permit Holder shall notify VFPA upon commencement of construction, or any physical activities (e.g., mobilization to the Project site).	
36.	All general construction and physical activities related to the Project shall be conducted from **Monday to Saturday** between the hours of **7:00 am and 8:00 pm**. No construction and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of VFPA. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 20 days prior to the desired start date.	
37.	The Permit Holder shall notify VFPA of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.	
38.	The Permit Holder shall either remove from the project site all abandoned utilities or cap all abandoned utilities that conflict with the proposed Project, both underground and aboveground. At locations of connection to municipal work (i.e., at property lines), the abandoned utilities shall be capped.	
39.	The Permit Holder shall provide opportunities for interested Aboriginal groups to participate in the archaeological monitoring described in the construction environmental management plan.	
40.	If the Permit Holder encounters, expects to encounter, or should expect to encounter an actual or potential archaeological resource, the Permit Holder shall: a) Immediately stop any activities that may disturb the archaeological resource or the site in which it is contained (Site); b) Not move or otherwise disturb the archaeological resource or other remains present at the Site;	

	c) Stake or flag the Site to prevent additional disturbances; d) Immediately notify VFPA by email and phone, and e) Implement the approved Chance Find Procedure.
41.	The Permit Holder may place temporary construction trailers on the Project site while this Permit remains in effect, provided that the Permit Holder does not connect such trailers to any underground utilities without the prior written consent of VFPA which may require, at VFPA's discretion, a VFPA Building Permit.
42.	The Permit Holder, or their contractor, shall engage a qualified environmental professional to monitor the Project in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the construction environmental management plan, or VFPA, provided that monitoring will be full time when works are underway that have the potential to adversely affect fish or fish habitat.
43.	The Permit Holder shall provide weekly environmental monitoring reports to VFPA, or more frequently if VFPA requires. In addition, a summary report for the whole monitoring period shall be forwarded to VFPA within 30 days of the conclusion of the monitoring period.
44.	The Permit Holder shall carry out the Project in accordance with the construction environmental management plan provided by the Permit Holder, and any subsequent amendments accepted by VFPA.
45.	The Permit Holder shall retain a qualified environmental professional to act as an Independent Monitor responsible for reviewing the construction environmental records and on-site construction activities for compliance with the construction environmental management plan and this Permit. The Independent Monitor shall possess the following qualifications: a) Suitable education and knowledge demonstrating that they may be reasonably relied on to provide advice within their area of expertise; b) A minimum of five years of experience monitoring related types of construction activities in similar environments. The Independent Monitor shall not be an employee of the Permit Holder's organization or of a contractor/consultant retained by the Permit Holder to work on the Project in other capacities.
46.	The Permit Holder shall submit a Monitoring Work Plan. At a minimum, the Monitoring Work Plan shall describe the following: a) The role and responsibilities of the Independent Monitor, including the following provisions: i. The Independent Monitor shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice. ii. The Independent Monitor shall have the authority to direct the Permit Holder to stop a construction activity that is causing an adverse effect. iii. The Independent Monitor shall report directly to VFPA and obtain direction from VFPA on matters that arise during construction that are not described in the project permit and cannot be resolved by discussion with the Permit Holder.

	iv. The Independent Monitor shall concurrently submit compliance reports directly to the Permit Holder and VFPA within one week of site visits. b) The frequency of site visits by the Independent Monitor, with a higher frequency of site visits to occur during in-water works as compared to those scheduled for land-based construction activities. c) The manner in which notice will be given to the Permit Holder and VFPA for an activity not in compliance with permit conditions or having unforeseen adverse effects. d) The name and qualifications of the Independent Monitor. e) The name(s), role(s) and qualifications of other individuals providing specialized expertise or designated to act as the Independent Monitor during specific construction activities or times. The Permit Holder shall carry out the Project in accordance with the approved Monitoring Work Plan, and any subsequent amendments, to the satisfaction of VFPA.
47.	The Permit Holder shall avoid impacting existing groundwater monitoring wells, where reasonable. The following monitoring wells shall not be removed without approval from VFPA at least ten days prior to decommissioning: a) Within the FGT lease area: o MW19 o MW21 o MW13-5 o MW13-39 b) Within the FSD lease area: o MW18-1 o MW13-46 o MW14-2 o MW14-3 o MW14-4 o MW33FSD o MW34FSD o MW35FSD o MW36FSD Should any of the above listed monitoring wells need to be decommissioned for construction purposes or be damaged during construction, a plan for the installation of replacement monitoring well(s) shall be provided, to the satisfaction of VFPA. Without limiting the generality of permit condition No. 2, the Permit Holder shall decommission any groundwater monitoring wells approved for removal in compliance with the requirements set out in Appendix C of VFPA's Construction Environmental Management Plan Guideline.
48.	Without limiting the generality of permit condition No. 2, the Permit Holder shall conduct all activities within streambank lupine critical habitat in compliance with the *Species at Risk Act* (SARA) permit issued by Environment and Climate Change Canada. No activities within critical habitat shall commence prior to the Permit Holder receiving the SARA permit. The Permit Holder shall provide a copy of the SARA permit to VFPA at least 10 days prior to commencing activities within streambank lupine critical habitat.

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49.	The Permit Holder shall not discharge water from excavations to stormwater systems or the environment unless a dewatering and discharge plan, including water quality results, has been reviewed and accepted by VFPA. The plan must be submitted at least 10 days prior to the start of any such discharge.
50.	For each area where recycled concrete aggregate (RCA) has been re-used as road base, the Permit Holder shall conduct post-construction follow-up groundwater monitoring to confirm that the re-use of RCA has not adversely affected soils or groundwater, to the satisfaction of VFPA. The Permit Holder shall submit a groundwater monitoring plan to VFPA for review and acceptance at least 60 days prior to completion of the ground works in the subject area. The Permit Holder shall provide reports to VFPA as specified in the plan, and VFPA may require mitigation(s) based on the results. Groundwater monitoring shall continue until VFPA confirms in writing that the results are acceptable.
51.	The Permit Holder shall conduct post-construction follow-up groundwater monitoring to confirm that the installation of rammed aggregate piles through portions of the dissolved metal groundwater plume has not adversely affected groundwater quality or the movement of the plume. The Permit Holder shall submit a groundwater monitoring plan to VFPA for review and acceptance at least 60 days prior to completion of rammed aggregate pile installation. The Permit Holder shall provide reports to VFPA as specified in the plan, and VFPA may require mitigation(s) based on the results. Groundwater monitoring shall continue until VFPA confirms in writing that the results are acceptable.
52.	During pile driving construction activities onshore and in-water, the Permit Holder shall monitor the following terrestrial noise levels: a) Sound pressure measurements at a distance of 15m from equipment; b) 1-hour LAeq, and 1-min LAFmax levels and occurrence frequency from a representative location within the community. The Permit Holder shall submit a summary report detailing the noise levels recorded for each separate pile type driven in order to confirm that generated noise levels are within accepted industry standards. A summary report shall be submitted to VFPA within 5 days of initial pile driving for each representative pile type and to the satisfaction of VFPA.
	CONDITIONS – PRIOR TO OPERATION
53.	The Permit Holder shall submit to VFPA written confirmation, co-signed by Musqueam Indian Band, that a marine traffic protocol agreement addressing grain vessels calling at Fraser Grain Terminal has been established between Musqueam Indian Band and the Permit Holder. The written confirmation shall be submitted to VFPA within 12 months of permit issuance.
54.	Prior to the commencement of operations of the new shiploaders, the Permit holder shall provide written confirmation to VFPA that the existing shiploader operated at Berths #3 and #4 has been fully decommissioned.
55.	The Permit Holder shall submit an updated Stormwater Pollution Prevention Plan to the satisfaction of VFPA 90 business days prior to the commencement of operations. The Permit Holder shall carry out the Project in accordance with the updated stormwater pollution prevention plan, including any subsequent amendments approved by VFPA.
56.	The Permit Holder shall submit an updated Rail Operations Plan to the satisfaction of VFPA 90 business days prior of the commencement of operations, reflecting the opening day operating condition.

57.	Prior to the commencement of operations, the Permit Holder shall submit documentation to VFPA demonstrating opening day compliance of the rail crossing design with Transport Canada's Grade Crossings Regulations and Grade Crossings Standards.	
	CONDITIONS - UPON COMPLETION	**SUBMISSION TIMING (Business Days)**
58.	The Permit Holder shall notify VFPA upon completion of the Project.	Upon substantial completion
59.	The Permit Holder shall develop and implement an Air Emission Management Plan in accordance with VFPA guidelines and to the satisfaction of VFPA. The Permit Holder shall ensure that the Project and terminal operations are carried out in accordance with the plan, including any subsequent amendments approved by VFPA.	Draft submission: within 180 days after permit issuance. The plan must be finalized and approved upon completion of construction.
60.	The Permit Holder shall conduct dust filtration performance testing for representative filters of each class/type, during facility commissioning, to verify the assumptions of the Environmental Air Assessment. A summary report with supporting test data shall be provided to the satisfaction of VFPA, and VFPA may require additional mitigation measures based on results.	Within 40 days of completion
61.	The Permit Holder shall conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment and validate the effects on the surrounding community. The monitoring shall capture two weeks of valid noise data and be conducted in accordance with VFPA Environmental Noise Assessment Guidelines. Measurements shall be taken at VFPA approved locations. The Permit Holder shall provide the final report to VFPA, and VFPA may require mitigation(s) based on the results.	Within 240 days of completion or at the direction of VFPA.
62.	The Permit Holder shall provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.	Within 40 days of completion
63.	The Permit Holder shall provide record drawings in accordance with VFPA's Record Drawing Standards, in both AutoCAD and Adobe (PDF) format to VFPA, including a Project site plan that clearly identifies the location of works.	Within 40 days of completion
64.	The Permit Holder shall submit a Waste Management Report that documents the percentage of material diverted from landfills.	Within 20 days of completion

VFPA reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to VFPA.

LENGTH OF PERMIT VALIDITY

The Project must commence by November 30, 2019 (the Commencement Date) and be completed no later than November 30, 2022 (the Expiry Date).

AMENDMENTS

- Details of any material proposed changes to the Project, including days and hours when construction and any physical activities will be conducted, must be submitted to VFPA for consideration of an amendment to this Permit.
- For an extension to the Commencement Date, the Permit Holder must apply to VFPA in writing no later than 30 days prior to that date.
- For an extension to the Expiry Date, the Permit Holder must apply in writing to VFPA no later than 30 days prior to that date.

Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this Permit.

PROJECT AND ENVIRONMENTAL REVIEW DECISION

Project Permit PER No. 15-041 is approved by:

ORIGINAL COPY SIGNED

PETER XOTTA
VICE PRESIDENT, PLANNING & OPERATIONS
CHAIR OF PROJECT AND ENVIRONMENTAL REVIEW COMMITTEE

November 9, 2018
DATE OF APPROVAL

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PROJECT AND ENVIRONMENTAL REVIEW REPORT

PER NO. 15-041
FRASER GRAIN TERMINAL GRAIN EXPORT FACILITY

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Prepared for:
Project and Environmental Review Committee

November 9, 2018

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PORT of vancouver	**VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT**
PER No.:	**15-041**
Tenant:	**Parrish & Heimbecker Ltd.**
Project:	**Fraser Grain Terminal Grain Export Facility**
Project Location	**11041 Elevator Rd, Surrey, BC, V3V 2R8**
VFPA SID No.:	**SUR360**
Land Use Designation:	**Port Terminal**
Applicant(s):	**Casey McCawley, Parrish & Heimbecker Ltd.**
Applicant Address:	**Ste. 640, 355 Burrard St, Vancouver**
Category of Review:	**D**
Recommendation:	**That PER No. 15-041 for Fraser Grain Terminal Grain Export Facility be approved.**

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 of PER No. 15-041: Fraser Grain Terminal – Grain Export Facility (the Project) proposed by Geraldo Araujo working on behalf of Fraser Grain Terminal Ltd. (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

Fraser Grain Terminal Ltd. (FGT), proposes to construct a grain export facility at the former Bekaert steel site at 11041 Elevator Road, Surrey. The site is adjacent to the Fraser Surrey Docks (FSD) terminal, on the Fraser River. The new facility would utilize the existing FSD Terminal Berth #4 and a portion of Berth #3. Commodities proposed to be handled include wheat, barley, canola, soybeans, lentils, oats and peas.

The Project area is approximately 19 acres and the site is surrounded by industrial uses. The site is bound to the north by the FSD terminal, to the south by Elevator Road with Gunderson Slough beyond, to the east by Western Cleanwood Preservers and Robson Road, and to the west by the Fraser River. The site was previously in use as a steel manufacturing plant but has lain vacant for the past two years. The structures associated with the previous use of the site were cleared by the Applicant as part of a separate project permit (PER No. 17-035) approved in June 2017.

The new facility has been designed to handle a maximum throughput capacity of 3.5 million tonnes per annum (MT/a), with onsite storage of up to 72,000 tonnes in silos. There is an existing canola export operation at the FSD terminal, referred to as the JV facility. This is a joint venture between the Applicant and Fraser Surrey Docks Ltd and currently handles approximately 500,000 tonnes of canola per annum. This existing operation is proposed to remain, and updated infrastructure added as part of this Project would allow the JV facility to utilize the FGT shiploaders, resulting in a maximum throughput of 4 MT/a of agricultural products from the two facilities (FSD and FGT). FSD would discontinue use of the mobile shiploaders that are currently employed to load marine vessels at the terminal.

Grain would be received at the facility by rail. Upon receipt, the product may be loaded directly to a vessel if one is at berth, or stored in silos until it can be loaded. In addition to export via vessel, approximately 800,000 tonnes per annum of the product is proposed to be distributed locally by rail, bulk truck or container (also by truck).

2.1 Proposed Works

The proposed works would include the following components and activities:

- Removal of existing Bekaert building slab, foundations, utilities and existing rail spur;
- Demolition of existing 25kV substation;
- Installation of utilities (water supply, sanitary sewer, stormwater, and electrical);
- Ground densification works (grout filled Rammed Aggregate Piers);
- Construction of semi-loop rail track, receiving track and rail crossing;
- Extensions to 3 Port Authority Rail Yard (PARY) rail tracks (off-site works);
- Realignment of portion of existing JV rail track;
- Construction of Rail Unloading Station;
- Construction of 20 x 3,500 tonne above-ground corrugated and galvanized silos, 35.6m high x 14.6m diameter;
- Construction of 4 x 400 tonne above-ground storage bins, 16.5m high x 7.3m diameter;
- Construction of 1 x 710 tonne above-ground storage bin, 16.5m high x 10m diameter;
- Installation of transfer steel tower, 52m in height, containing 2 bulk weighers, 2 grain samplers and 3 bucket elevators;
- Construction of conveying equipment (comprising enclosed belt conveyors, supported by steel trusses);

- Installation of 3 stationary shiploaders, 43m in height, with choke fed or cascading type telescoping loading spouts;
- Installation of dust suppression systems on material handling equipment;
- Construction of integrated truck and railcar loading facility and container loading facility with associated container storage yard; and
- Construction of ancillary buildings – administration building, maintenance shop and electrical rooms.

The demolition and removal of the concrete slab and foundations would also include the removal and/or capping of existing abandoned utilities that conflict with the proposed Project, as well as the removal of two underground fuel storage tanks.

A portion of the proposed semi-loop rail track would be constructed through an area identified as critical habitat for streambank lupine, which is designated as endangered under Schedule 1 of the *Species at Risk Act* (SARA). The habitat is identified by Environment and Climate Change Canada (ECCC) as sub-population 2b. As a result, the Applicant has submitted an application to Environment and Climate Change Canada for a SARA permit for railway construction works within this critical habitat. Prior to any works commencing within this area, a SARA permit must be in place and all activities must be conducted in compliance with both the VFPA project permit and the SARA permit. As part of the SARA permit application, the Applicant has proposed to offset the disturbance by enhancing a nearby sub-population of streambank lupine, identified as 2a, located to the south of the site, near Alaska Way. Any works carried out to enhance the Alaska Way sub-population 2a under a SARA permit do not form part of this project permit application.

2.1.1 Associated Works not Included in Scope

In order to accommodate the construction of the new semi-loop rail track, an existing structure (Shed 4), which is located on the FSD terminal, would require demolition. This work was permitted under PER No. 12-072-1 and the work would be undertaken pursuant to that permit and does not form part of this Project.

In addition, the primary vehicular entrance to the new grain facility from Robson Road is proposed to be via a yet-to-be-constructed access road. This vehicular access was also permitted under PER No. 12-072-1 and this construction work also does not form part of the proposed Project. VFPA has received assurances from both FSD Ltd (the holders of the 12-072-1 permit) and FGT that this access would be constructed by one of these parties, under the existing permit, for the FGT Project.

2.2 Project Construction and Phasing

The proposed Project would utilize a design-build approach. As a result, some minor variation to project plans between what has been authorized and the final design is anticipated. Substantial variations to project plans may require amendment to the project permit, building permits, or both.

The construction work is anticipated to be carried out in two phases. The majority of the work detailed above would be undertaken as part of Phase 1, with an expected construction duration of 24 months. Phase 2 works would comprise extensions to rail tracks and rail switches within the PARY and would only be constructed should operating conditions at the FSD terminal change, and

require the modifications to be made – for example with the construction of the permitted direct transfer coal facility.

Mobilization to the site and establishing temporary services and power required for the construction phase would be followed by civil services works such as removal and/or capping of existing utilities and installation of various new services. Soil densification and pile driving activities would follow, along with construction of the rail unloading pit and transfer tunnel. The latter stages of Phase 1 construction activities would include assembly of the silos, erection of the shiploaders, installation of the container/rail/truck loading structure and construction of the semi-loop rail track and ancillary buildings.

As a result of the proposed phased approach to construction, the PER permit validity is recommended to be four years (until 2022).

Construction activities are anticipated to be conducted during normal VFPA construction hours of 7:00 AM to 8:00 PM, Monday to Saturday but not including holidays. Should the Applicant wish to undertake any activities outside of normal work hours, authorization from the VFPA would be required.

The works contemplated under the Project represent a capital investment value of approximately $125 million at the time of application.

2.3 Project Operations

The basic functions and operation of the various components of the Project are described below. The facility is anticipated to operate 24 hours per day, 7 days per week (excepting statutory holidays).

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Rail Service

Agricultural commodities would arrive at the facility in 112 rail car bulk unit trains. The rail carrier would deliver the unit train to the Port Authority Rail Yard (PARY), located to the northeast of the main facility. Here a site locomotive would split the train into strings of 14 cars and shunt from the PARY to the new facility.

Railcar Unloading

Upon arrival at the facility, the rail cars would be shunted through the rail unloading building by the indexer. The unloading station is enclosed by a steel frame building that accommodates two railcars plus a drip shed to the north as rain protection. Here, the product would be unloaded (2 railcars at a time) and transferred to the underground receiving conveyor in the unloading pit.

From the unloading pit, the product is directed through the steel transfer tower containing two bulkweighers, two grain samplers and three bucket elevators. The transfer tower would serve as the central receiving and dispatch point for directing grain flow from the unloading station via enclosed belt conveyors to either the onsite storage silos or to a waiting vessel via three new fixed shiploaders.

Grain Silos

25 silos of varying size are proposed for the purposes of bulk storage, providing an onsite storage capacity of 72,000 tonnes. The corrugated steel silos are each mounted on steel legs with a conical

bottom for discharge. A series of travelling belt conveyors installed above the storage silos would move grain to the appropriate storage compartment. A totally enclosed reclaim belt conveyor would be installed below each row of silos for shipping/transfer purposes.

Ship loading

Handy, Handymax and Panamax vessels with a maximum length overall (LOA) of 225 m and up to 32.3 m beam would call at the terminal for loading. The new facility would include three fixed tower shiploaders, capable of operating up to a combined maximum of 6,000 tonnes per hour. The shiploaders would also be capable of covering all the hatches of a 225 m LOA vessel, negating the need for vessel warping during loading. The larger class Panamax vessels would be loaded to the maximum capacity according to guidelines for the Fraser River draft (11.5m) and may then be topped up at another grain terminal in the region with sufficient available draft at berth.

Railcar and Truck Loading and Container Stuffing

A portion of the annual terminal throughput (approximately 800,000 tonnes) would be transferred to railcars, bulk trucks or containers for distribution to the local market via rail and truck. This local distribution element of the operation would utilize an integrated truck and railcar loading facility and container loading facility.

The integrated facility allows for a single feed system from the main storage silos to the loading facility. One bay would handle the railcars and bulk trucks, utilizing a semi-automated telescoping dust suppression hopper and the new rail spur track. The adjacent bay would handle container stuffing, utilizing a purpose-built tilting platform and a low velocity loading spout with local aspiration ducting. The container storage yard would have the capacity to store 400 TEU full and 800 TEU empty containers.

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 land use comments.

Planning supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.1.1 Land Use Designation & Policies

The Project site is located in an area designated as "Port Terminal" in the VFPA Land Use Plan. The site is additionally located in Planning Area 5 as identified in the VFPA Land Use Plan. The context statement for this Planning Area acknowledges that:

> *This area will continue to be the main hub of shipping and goods movement in the Fraser River, with anticipated intensification of use and growth in all cargo sectors.*

The proposed use of the site as a grain export facility is considered to be in conformance with the Land Use Plan context statement for Planning Area 5 and the land use designation of Port Terminal. No amendments to the Land Use Plan are required as a result of the Project.

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3.1.2 Building Permit Requirements

Prior to commencement of construction, the proposed grain silos, maintenance, administration and related buildings and some accessory structures require review under the 2015 National Building Code and 2015 National Fire Code of Canada.

The Applicant is required to obtain a VFPA building permit before proceeding with construction of those works and cannot occupy those structures until they have obtained a VFPA occupancy permit. The Applicant has not yet submitted a building permit application.

Specific conditions listed in the Project Permit that relate to Building and Code review are as follows:

- Condition No. 26 - For structures reviewable under the 2015 National Building Code, the Applicant shall obtain a VFPA building permit 40 days prior to commencement of construction;
- Condition No. 34 – The Applicant shall submit to VFPA an updated Fire Risk and Dust Hazard Analysis.

3.2 Engineering

The proposed Project intends to safely locate, clear, and remove and/or cap all existing site utilities in the areas where densification is required to meet seismic requirements, and where new utilities (water supply, sanitary sewer, stormwater, and electrical) need to be installed.

The existing 25Kv substation will be demolished and removed from site and a new substation constructed at the south end of the facility, which will be fed from the existing Robson Road line.

A new ring distribution water main will be installed around the silo area perimeter to provide water for domestic and fire-fighting services.

The Project's sanitary design includes several small pump stations that feed a collection system that discharges to the existing holding tank located in the south-west corner of the property and reduces the required depth of the new piping system.

The Project layout avoids interference with the existing Metro Vancouver Annacis Main No. 3 that crosses the site. Crossing slabs over the water main will be provided for vehicle and rail traffic.

Three new fixed shiploaders are proposed as part of the Project, all of which are required by VFPA to comply with American Society of Civil Engineers (ASCE) standards for seismic resistance, *ASCE 61-14*. In order to meet seismic performance requirements, the Applicant is proposing to utilize piled foundations fortified by a berm of densified soil to the east of the shiploader towers to mitigate for potential liquefaction.

The existing concrete slab under the former Bekaert building will be removed, including removal or capping of any underground utilities, pits, and tanks, to facilitate ground densification via Rammed Aggregate Piers (RAP) for the silo and shiploader foundations. In addition, seismic works will involve locally removing sections of the existing berth deck for pile installation, with no contact between the new piles and the existing deck or structural dock supports.

The terminal redevelopment was analyzed from the perspective of flood protection and sea level rise. The submitted assessment from Northwest Hydraulics concluded that the only elements which

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may be affected by the design flood are static structural elements of the shiploader which would be unaffected by short duration flooding. No other areas of the Project are at risk of flooding damage or contamination in a 1:200 year Annual Exceedance Probability (AEP) event.

Engineering supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.3 Transportation and Land Operations

The proposed Project includes delivery of all grain to the site by rail. To attain the stated throughput of 3.5 MT/a, the new operation is expected to receive and dispatch one 112 car unit train Monday through Saturday, and on four Sundays per year. Upon arrival at the PARY, the train will be broken into eight (8) strings of 14 cars, and a site locomotive will be used to shunt the cars to/from the facility, using the proposed new Robson Road rail crossing, to unload the grain. The total handling period for each unit train is anticipated to be 9.5 hours, which includes 7 hours of unloading grain as well as dwell time in the PARY.

This unloading process will result in a number of additional rail crossings of Robson Road per day. To attain the stated throughput of 3.5 MT/a, 309 trains need to be delivered over the course of a calendar year. With the facility assumed to be operating 7 days a week, it can be assumed that the terminal will be unloading a single train per day on a majority of days.

The unloading process will result in a number of additional rail crossings of Robson Road per day – one near Elevator Road and another near Plywood Road. For the purposes of a worst case assessment, the Applicant assumed a scenario of 2 unit trains per day arriving at the facility and analysed the traffic impact of the resultant rail crossings of Robson Road. The results use a level of service (LOS) report-card scale, which indicates the quality of traffic flow on roadway segments and at intersections, with ranges from A (free flow, little congestion) to F (forced flow, extreme congestion). The assessment found that each rail crossing event would result in a 3-minute blockage of the road, resulting in a total daily blockage time of approximately 25 minutes at each of the two crossing locations. The assessment also identified the AM peak hour as the most impacted due to higher vehicular traffic at this time, with the LOS deteriorating to LOS F along Robson Road in the AM peak hour. However, the associated AM peak hour maximum traffic queue length is approximately 120 metres, which is deemed acceptable. In addition, during the peak hour, vehicular traffic is anticipated to be exposed to a maximum of 2 rail crossings of Robson Road. The Transportation Impact Assessment concludes that the relative short duration of each rail blockage and its spread over the course of the day should have no significant impacts on the traffic network.

As a result of the design-build approach for this Project, the detailed design of the rail crossing has not yet been finalised and so the Applicant will be required to submit updated drawings prior to commencing construction. However, the Applicant has confirmed that the operation of the new Robson Road rail crossing will adhere to the rail operating procedures currently used by the terminal operator, Fraser Surrey Docks LLP. These procedures in turn comply with Transport Canada's *Grade Crossings Standards*, *July 2014*. As a result, the existing manual protection procedures would be adhered to, negating the need to construct physical crossing protection measures. Should these operating practices at FSD change or should the relevant standards be updated, a requirement for physical crossing protection may be triggered.

In addition to product being delivered by rail to the site, the operation will also generate a small amount of rail traffic for product being transferred from the facility to various feed mills in the region. Approximately 200,000 t/a of product will be transferred from the facility, which equates to 10 rail cars per day on a five day per week operation.

The rail infrastructure being proposed as part of the Project is intended to be delivered in two phases. Phase 1 includes the construction of a new semi-loop rail track to serve the proposed rail unloading building and a new spur line serving the proposed rail/truck loading structure. Phase 2 works would comprise extensions to rail tracks within the PARY and would only be constructed should operating conditions at the FSD terminal change – for example with the construction of the permitted direct transfer coal facility. To date, all rail track extension proposals are conceptual-level only, and the Applicant would be required to submit detailed drawings for approval prior to any construction commencing on the Phase 2 works. In addition, the proposed Phase 2 rail works are located on lands currently outside the Permit Holder's lease area. In accordance with Permit Condition No. 1, prior to any Phase 2 works commencing, tenure must be in place.
Road traffic resulting from the operation of the terminal, includes traffic from site employees as well as truck traffic for local grain distribution. Employee trip generation amounts to 53 vehicles per hour during the weekday AM peak and 55 vehicles per hour during the weekday PM peak hour. The new facility is expected to receive and dispatch 98 trucks daily. However, 16 of these trucks will move internally from FSD to FGT and back; and therefore, will not impact the network traffic. Therefore, the expected peak hour truck traffic is estimated to be 13 trucks inbound and 13 trucks outbound to/from the new FGT facility. The Transportation Impact Assessment concluded that when there is a rail crossing of Robson Road due to FGT, the FGT Access intersection is expected to operate at LOS C/A in the AM and PM peak hours respectively, which is within acceptable range for this operation.

The main vehicular access into the grain export facility was approved as part of a separate project permit for a Direct Transfer Coal Facility at the FSD site (PER No. 12-072-1). VFPA has received assurances from FSD (the holders of the 12-072-1 permit) and FGT that this access will be constructed in time for the FGT Project. To date, all internal site and road concepts are conceptual-level only, and must be reviewed at the time of submission of detailed site layout drawings.

Transportation has reviewed the application and requires the Applicant to ensure the following:

- Prior to commencing works related to the proposed rail crossings of Robson Road, the Permit Holder must submit to detailed design drawings of the new rail crossings.
- Prior to commencing works related to the pavement marking and signage, the Permit Holder must submit detailed design drawings of the internal road layout, parking plan, and pavement marking and signage plan.
- Prior to the commencement the Phase 2 rail works, the Permit Holder must submit a detailed design, including drawings, for the proposed works to VFPA for approval.
- The Permit Holder must submit an updated Rail Operations Plan which reflects the opening day operating conditions.
- Prior to operations, the Permit Holder will be required to demonstrate opening day compliance with Transport Canada's Grade Crossings Standards (July 2014) and Regulations (November, 2014).

These are reflected in Conditions No. 29, 30, 33, 56 and 57 in the Permit.

Transportation supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.4 Marine Operations

The proposed Project will result in additional marine vessel traffic on the Fraser River, as the majority of the product delivered to the facility will be exported via marine vessel. Vessels calling at the terminal will utilize the existing FSD Terminal Berths 3 and 4 and will range in size from Handy to Panamax, complying with Fraser River vessel size and draft restrictions outlined in the Port Information Guide.

The operations, which include handling the existing JV facility capacity of 500,000 tonnes per annum of agricultural product and the new throughput of 3.5 MT/a of grain will result in approximately 80 vessels per annum calling at the facility. Three new fixed shiploaders will be used to load the vessels and are designed to be capable of covering all the hatches of a vessel 225 m in length.

Marine Operations has reviewed the permit application and determined that there are no substantial changes to how vessel traffic currently operates at or near the terminal facility.

As a result of the design build approach, the construction methodology for the marine works has yet to be finalised. It is anticipated that the majority of works will take place from the land but there may also be marine-based rigs utilized to undertake the works. As a result, a condition has been included in the permit requiring the submission of a marine construction staging plan.

3.5 Environmental Programs

The review of the proposed project by Environmental Programs is reflected below in Section 7, Environmental Review.

4 STAKEHOLDER CONSULTATION

The proposed Project was assessed to have potential impacts to stakeholders and the local community and consultation activities were determined to be 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.

4.1 Municipal Consultation

The proposed Project was assessed by VFPA to have potential impacts to municipal interests. A referral letter was sent to the below municipalities on November 02, 2017 notifying them of the proposed Project.

- City of Surrey
- City of Delta
- City of New Westminster

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In addition, a follow up letter detailing a number of project design changes was issued on July 19, 2018.

Municipalities responded with comments on the proposed Project. Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Impact to emergency access as a result of increased rail crossings	None required.	This issue is outside the scope of this Project. However, the Applicant is liaising with the port authority, City of Delta, Fraser Surrey Docks LLP, and the Ministry of Transportation & Infrastructure to collaborate on a joint Fraser Surrey Port Lands Emergency Response Study.
Concern with public comment period being held during summer months.	None required.	The second round of public engagement referenced by this comment was considered appropriate, as it was a second round of public consultation that the Applicant was required to undertake as a result of design changes. The Applicant had carried out an earlier round of public consultation, including a 20-business day public comment period with two open house events in November and December of 2017.
Request to conduct a cumulative effects assessment of the community and environmental impacts of the proposed facilities.	None required.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review projects. The scope of the review conducted was consistent with other similar new grain terminal projects.
Implement mitigation measures to ensure that the concerns expressed by the community regarding the increased noise associated with the shunting of train cars, the blowing of train whistles are suitably addressed.	None required.	The sounding of train whistles at road crossings is a federally regulated safety requirement, outside of the control of both the facility operators and the port authority. In addition, the crossing in question is located outside of the Project site and outside of VFPA jurisdiction.

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		The Applicant anticipates that rail cars would typically move between the terminal and the rail yard during the daytime, to reduce shunting noise at night.
Construct a new grade separated road connection across the railway tracks and Highway 17 near Grace Road with direct access to Highway 17.	None required.	The South Fraser Perimeter Road (Highway 17) is a provincial highway that is located outside of the Project site boundary and is also located outside VFPA's jurisdiction. Decisions as to whether or not direct access could be provided to Highway 17 is not within the port authority's control. However, to specifically address emergency access concerns, the Applicant is liaising with the port authority, City of Delta, Fraser Surrey Docks LLP, and the Ministry of Transportation & Infrastructure to collaborate on a joint Fraser Surrey Port Lands Emergency Response Study.
Provide the low noise initiatives outlined in the previous BKL Consultants	Condition 61	Condition No. 61 requires the Applicant to undertake noise monitoring and submit data to VFPA to confirm the predictions of the Environmental Noise Assessment.
Develop a plan to provide flood protection for FSD lands and adjacent Surrey Lands.	None required.	With the exception of utilizing the FSD Terminal berths, the Project site is not located within FSD lands. The Flood Inundation Assessment submitted with the permit application concluded that the only elements which may be affected by the design flood are static structural elements of the shiploader, which would be unaffected by short duration flooding. No other areas of the Project are at risk of flooding damage or contamination in a 1:200 year Annual Exceedance Probability (AEP) event

4.2 Regional Agency Consultation

The proposed Project was assessed by VFPA to be of potential interest to regional agencies. A referral letter was sent to Metro Vancouver on July 19, 2018 notifying them of the proposed Project.

Metro Vancouver responded with comments on the proposed Project. Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Environmental Air Assessment - the assessment should consider the new NO_2 CAAQS for the 1-hour and annual averaging period.	None required.	The ambient air quality objectives considered for NO_2 in the assessment were agreed to with VFPA and coincide with Metro Vancouver's currently published NO_2 objectives.
Environmental Air Assessment - Request for details of location of sensitive receptors and exceedances.	None required.	There were no exceedances at any of the sensitive receptors.
Environmental Air Assessment – Querying inclusion of PARY in fence line.	None required.	The Project proposes works within the PARY so the Project boundary was extended to include this area.
Impact on existing Metro Vancouver Services.	Condition 31.	The Applicant has committed to ongoing engagement with Metro Vancouver and Condition No. 31, requiring submission of updated geotechnical reports and design drawings to Metro Vancouver in advance of relevant works, has been included in the project permit.
Invasive Species - Recommendation for the Applicant to use the Best Management Practices (BMPs), developed by Metro Vancouver in partnership with the Invasive Species Council of Metro Vancouver, to develop species-specific invasive species management protocols for the site.	None required.	The Applicant has committed to partner with the Invasive Species Council of BC (ISCBC) to deliver site-specific treatment for invasive species identified onsite in accordance with ISCBC BMPs.

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4.3 Federal and Provincial Agency Consultation

The proposed Project was assessed by VFPA to be of potential interest to Transport Canada's Navigation Protection Program. A referral letter was sent to Transport Canada on November 02, 2017 notifying them of the proposed Project, and a follow up letter detailing a number of project design changes was issued on July, 19, 2018.

Transport Canada's Navigation Protection Program (NPP) responded on November, 03, 2017, noting that they considered the proposed works to fall outside the mandate of the NPP.

4.4 Adjacent Tenant Consultation

The proposed Project was assessed by VFPA to have potential impacts to 24 adjacent VFPA tenant operations. A referral letter was sent to the following VFPA tenants on November 02, 2017 notifying them of the proposed Project and a follow up notification letter was sent on July 19, 2018 to advise of a number of design changes put forward by the Applicant:

- 425480 B.C. Ltd.
- Canadian Pacific Railway Company
- Catalyst Paper
- Fraser Surrey Docks Limited Partnership
- Freeport Properties Ltd.
- Interfor Corporation
- Mainland Sand and Gravel Ltd.
- Seaspan Ferries Corporation
- Republic Services of British Columbia, Inc.
- Wesik Enterprises Ltd.
- Western Cleanwood Preservers Limited Partnership
- Westran Intermodal Ltd.
- Data Audit Industries Inc.
- 661010 B.C. LTD
- Alpaca Marine LTD.
- Gary Anderson
- Glen Alstad
- Nordel Custom Marine LTD.
- North Delta Seafoods LTD.
- James Vestad
- Rick Kawano
- Jim Jones
- Snowfall Fishing CO. LTD.
- Variety Marine Services LTD.

Western Cleanwood Preservers responded with comments on the proposed Project, specifically querying the Project site boundary and potential impact to their tenanted area. VFPA responded to the tenant, clarifying that the Project does not include any works on lands currently under Western Cleanwood Preservers lease. No further action or mitigation is required.

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4.5 Marine Users Consultation

The proposed Project was assessed by VFPA to have potential impacts to marine users. A referral letter was sent to the following Marine Users Group on November 02, 2017 notifying them of the proposed Project, and a follow up letter detailing a number of project design changes was issued on July, 19, 2018:

- Pacific Pilotage Authority
- Fraser River Pilots

The Chairman of the Fraser River Pilots responded via email on November 3, 2017, to advise of the pilots' support for the proposed Project.

4.6 Industry Association Consultation

The proposed Project was assessed by VFPA to be of potential interest to Industry Associations. A referral letter was sent to the following industrial associations on November 02, 2017 notifying them of the proposed Project:

- Council of Marine Carriers
- Shipping Federation of Canada
- Chamber of Shipping BC

VFPA did not receive any comments from the industry associations.

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.

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5 PUBLIC CONSULTATION

The proposed Project was assessed by VFPA to be a Category D Project with potential impacts to community interests in the surrounding area during operations and construction activities. These include potential impacts such as increases in traffic, and potential environmental and health effects.

As a Category D Project, public consultation was required to be conducted by the Applicant during both the Preliminary Review and Application Review phases.

The Applicant was required to conduct a 20-business day preliminary comment period prior to submitting a complete project permit application to VFPA. The Applicant carried out the preliminary comment period, referred to within this Report as Round One, in November and December 2016. As part of the Application Review of the proposed Project, the Applicant was also required to conduct public consultation activities with a 20-business day public comment period and to host public information sessions. The Applicant carried out these public consultation activities on the proposed Project in November and December 2017. These activities are referred to as Round Two.

After conducting the Round Two public consultation, the Applicant notified VFPA of their intention to make design changes to the proposed Project. This resulted in an additional round of public consultation being required in July and August of 2018. These activities are referred to within this Report as Round Three.

5.1 Summary of Public Consultation – Preliminary Review | Round One

The Applicant carried out the Round One public consultation in November and December 2017 to gather feedback from public and stakeholders regarding the proposed Project, and the scope of technical and environmental studies to be undertaken.

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 second round of consultation.

Public consultation and engagement activities

The following were conducted by the Applicant from November 3 to December 1, 2016:

- Project website developed and launched;
- On-line feedback form developed;
- Information brochure developed for download or hardcopy, which provided background information on the proposed Project, potential technical studies and details on how to participate in the comment period;
- Two public information sessions hosted; one in Delta (November 16, 2016) and one in New Westminster (November 26, 2016).

The following notifications for the Round One comment period were undertaken:

- Mailing 6,800 letters to residents in Surrey, Delta and New Westminster (see maps below);
- Hand-delivering 200 letters to residents in Surrey and Delta in the areas adjacent to River Road;
- Placing advertisements in the New Westminster Record (November 3, 2016), the Surrey Leader (November 4, 2016) and the Delta Optimist (November 4, 2016) regarding the preliminary comment period and the public information sessions.

The maps below detail the notification areas for the residential notification.

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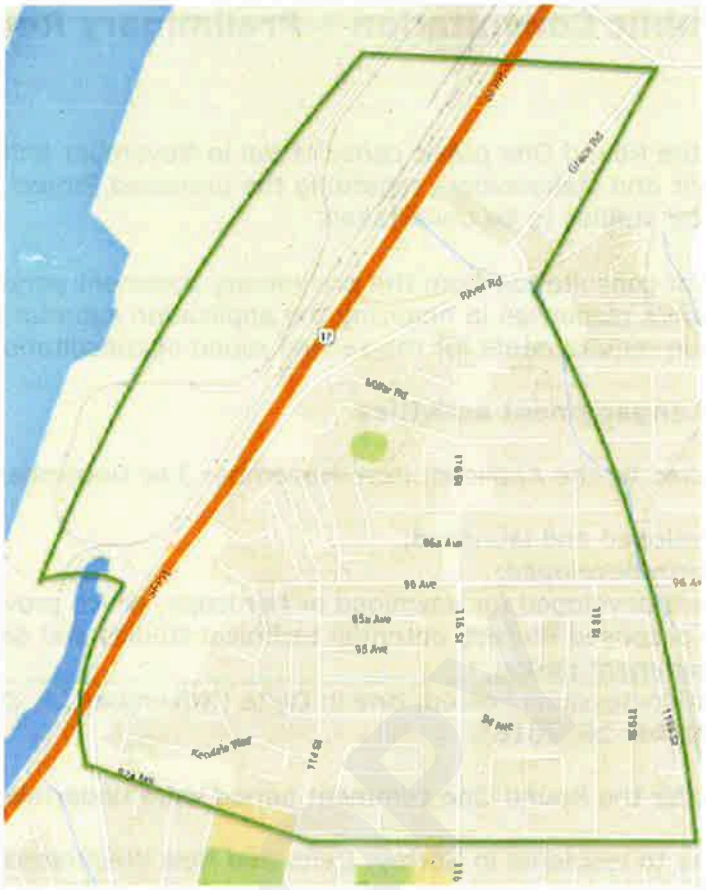

Figure A – Residential notification area – Surrey/Delta

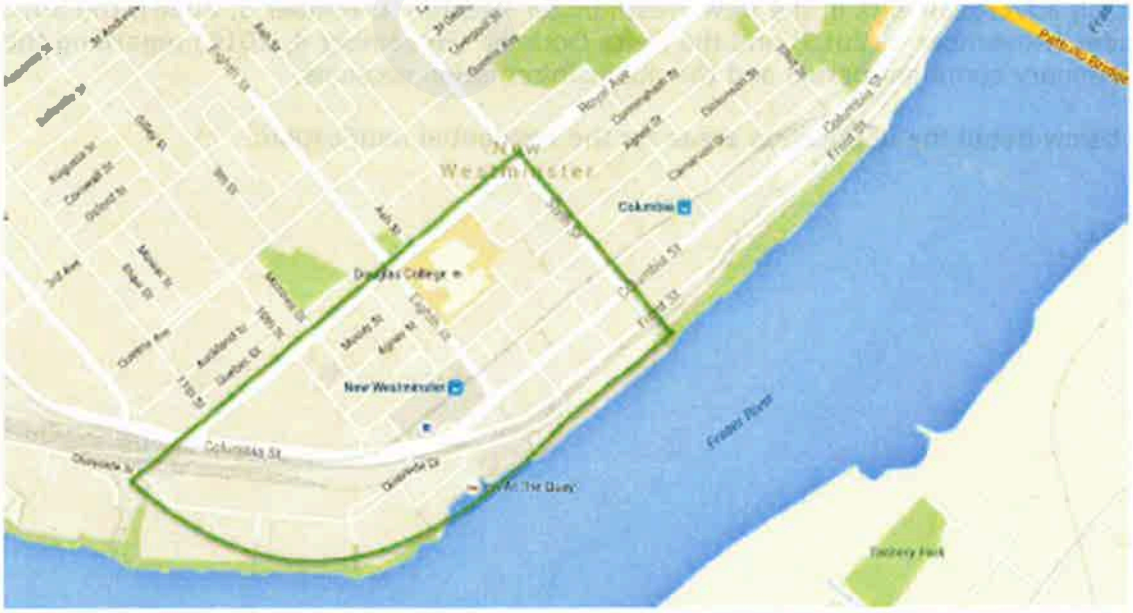

Figure B – Residential notification area – New Westminster

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Figure C – Residential notification area – New Westminster (Queensborough)

Information sessions

Two information sessions were held for Round 1 public consultation. These sessions were drop-in events with printed materials available for review and take-away. Staff and technical experts from the Applicant's Project team were available to provide additional information and to answer questions. Representatives from VFPA were in attendance to answer questions regarding the PER process.

The first session was held on Wednesday, November 16, 2016 at Trinity Lutheran Church in Delta from 4:00 p.m. to 6:00 p.m. and 41 people were in attendance. The second event was held on Saturday, November 26, 2016 at the Old Crow Coffee Co. in New Westminster from 2:00 p.m. to 4:00 p.m. and 21 people attended.

During the consultation period, public participation was as follows:

- 62 individuals attended the two information sessions;
- 29 individuals completed the online feedback form;
- 13 people requested a follow up by the Project team;
- Four written submissions were received by email; and
- 90 people requested to be added to the newly created Project database to receive updates about the proposed Project.

Comments from the public were mainly related to the impacts of the increase in traffic and associated noise from vehicles and trains, potential environmental and health effects (especially dust), light pollution, spill prevention and response procedures, and view impacts.

A summary description of the Project was posted on VFPA's website in January 2017.

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. The reports were posted on VFPA's and the Applicant's websites in January and March 2017 respectively.

5.2 Summary of Public Consultation – Application Review | Round Two and Round Three

The objective of public consultation during the Application Review phase is to solicit feedback from the public on the proposed Project, the completed technical studies, and proposed mitigations during construction and operation.

Two rounds of public consultation were held in the Application Review phase due to the Applicant making substantial changes to the design of the Project in early 2018.

VFPA considered the records of public consultation, including all comments received and the Applicant's responses to comments, when determining mitigation requirements and in making a decision on the proposed Project.

5.2.1 Public Consultation Round Two

Round Two of public consultation was held from November 15 to December 12, 2017 and included the following:

- Updating the Project website;
- Hosting two open houses; one in New Westminster (Thursday, November 30, 2017) and one in Surrey (Saturday, December 2, 2017);
- Developing a discussion guide and boards with key information about the Project;
- Hand-delivering and mailing postcards/letters to local residents and businesses;
- Sending email notifications to stakeholders on the Project database;
- Emailing notifications to industry organizations, municipal and provincial contacts;
- Placing advertisements in the Delta Optimist (November 15, 2017), Surrey Now-Leader (November 15, 2017), North Delta Reporter (November 16, 2017), and the New Westminster Record (November 16, 2017) regarding the public consultation period and the open houses;
- 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 and hand-delivered notifications to the same populous as per the Round One public consultation detailed above. The notification letter, detailing the consultation period and the upcoming open houses, was sent November 15, 2017. On the same day, an e-mail was also sent out to those who had signed-up to receive Project updates via the Project database.

Open houses
The first open house was held on Thursday, November 30, 2017 between 5:30 p.m. and 8:30 p.m. at the Inn at the Quay in New Westminster and was attended by 13 people. The second was held

on Saturday, December 2, 2017 between 11:00 a.m. and 2:00 p.m. at Royal Heights Elementary School in Surrey and was attended by 10 people.

The open houses 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:

- 23 people attended two open houses;
- 13 people completed the feedback form;
- 3 submissions were received via email;
- 36 people requested to be added to the Project database; and
- VFPA received comments via email from one member of the public, who sits on the VFPA's Delta Port Community Liaison Committee.

Comments from the public were mainly related to the potential impacts from increased traffic (rail and truck), environmental and health effects (including air quality, dust suppression and lighting), and noise concerns during both construction and operations.

The Applicant provided a detailed summary of the public consultation process and all comments received in an *Application Review Phase Consultation Summary Report*. The Applicant also provided an *Application Review Phase 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's and the Applicant's websites in January and March 2018 respectively.

5.2.2 Public Consultation Round Three

An additional 15-business day round of online public consultation, referred to as Design Amendments Consultation in the submitted consultation summary and consideration reports, was held from July 23 to August 13, 2018.

This round of consultation was held online only, and was requested due to the significant design changes put forward by the Applicant after completion of the Round Two consultation in late 2017. This final round of consultation included the following:

- Updating the Applicant's Project website;
- Developing an online presentation with key information about the design amendments to the Project;
- Hand-delivering and mailing postcards/letters to residents and businesses;
- Sending email notifications to stakeholders on their Project database;
- Placing advertisements in the North Delta Reporter and the New Westminster Record (July 19, 2018), and the Delta Optimist and Surrey Now-Leader (July 20, 2018), to notify the public of the online consultation period;
- Creating an online 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 and hand-delivered notifications to the same populous as per the Round One and Round Two public consultation detailed above. The notification letter, detailing the online

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consultation period was sent on July 23, 2018. An email was also sent out to 181 people on July 24, 2018 to those who had signed up to receive Project updates via the Project database.

During the online consultation period, public participation was as follows:

- 13 people completed the feedback form;
- Three submissions were received via emails; and

Comments from the public were mainly related to the potential impacts from increased traffic (rail and truck), environmental and health effects (including air quality, dust suppression, noise, and lighting), and noise concerns during both construction and operations.

The Applicant provided a detailed summary of the public consultation process and all comments received in an Application Review Phase – Design Amendments Consultation Summary Report dated September, 2018. The Applicant also provided an Application Review Phase – Design Amendments Consideration Report dated September 2018, 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's and the Applicant's websites in October, 2018.

Below is a table summarizing issues raised by the public in the three rounds of consultation conducted during the PER process, and how they were considered by VFPA as part of the review.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Air Quality		
Air emissions & assessment: Concerns raised in Rounds One and Two regarding air quality issues in relation to the increase in truck, vessel and rail traffic, with a focus on whether the scope of the Environmental Air Assessment included supply chain and PARY works.	In Round One the Applicant confirmed that the Environmental Air Assessment would include marine, rail, on-road, non-road, stationary and fugitive emissions as well as supply chain activities within the port authority jurisdiction. Further confirming that a Level 2 Assessment would be conducted. In Round Two the Applicant again confirmed that all truck, rail and marine traffic sources, and all rail traffic in the PARY were included in the Environmental Air Assessment.	None required.
Dust: Concerns were noted regarding the unloading, conveying and loading of grain throughout the terminal.	The applicant undertook a number of studies and refined their designs to include the following: • A fully enclosed conveying system with a built-in-dust suppression system; • Shiploaders equipped with enclosed loading spouts to minimize dust emissions; • Replacing the current shiploader at berths 3 and 4 with a new ship loader that will also load grain from the Joint Venture facility; • Constructing the storage silos to ensure that the air velocity is below the minimum velocity which keeps dust airborne.	Condition No. 54 requires the Applicant to decommission the existing shiploader operated at berths #3 and #4. This ship loader currently loads grain from the Joint Venture facility. Condition No. 24 ensures that the final design and construction of the three shiploaders meet the fugitive dust management performance levels set out in the Environmental Air Assessment. . Condition No. 59 requires the Applicant to develop and implement an Air Emissions Management Plan and to ensure that the terminal is operated in accordance with the plan. Condition No. 60 requires the Applicant to conduct

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
		dust filtration performance testing for representative filters of each class/type, during facility commissioning, to verify the assumptions made in the Environmental Air Assessment. Additional mitigation measures may be required based on results.
Inclusion of Shore Power	At present only a very limited number of bulk grain marine vessels are equipped with Shore Power capability, therefore it was deemed not effective from a cost or environmental benefit perspective to install this technology or include it in any assessments. Modern ships and improved emissions standards will however help reduced emissions in the coming years.	None required.
Joint venture Emissions: Inclusion in the Air Assessment scope	The Applicant confirmed that emissions from the Joint Venture site were included in all data provided for the baseline Environmental Air Assessment.	None required.
Climate Change: Request for the Environmental Management Plan to include operational mitigation measures and measures to adapt to climate change impacts.	The Applicant undertook a Flood Inundation Assessment as part of their application submission to the port authority, which reviewed a 1:200 year Annual Exceedance Probability event. The report concluded that the only elements which may be affected by such a flood would be the static structural elements of the ship loaders, which would be unaffected by short duration flooding. The elevation of the site itself and design features, such as elevated silos, ensure the terminal will withstand flood events and climate change effects of a 0.5m sea level rise.	None required.
Coal at FSD: Queries during Rounds One and Two about the	The Applicant stated that they could only comment on matters relating to the Fraser Grain Terminal permit and that the two projects were separate and unrelated.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
compatibility of the proposed Project with the approved coal Project and the potential for cross-contamination between coal and grain.	With regards to potential cross-contamination issues, the Applicant noted that a number of grain terminals currently operate in Vancouver in close proximity to other non-grain terminals. The following mitigation measures have been built into the design to ensure grain is not compromised: • Totally enclosed conveyors; • Totally enclosed grain elevators; • Enclosed silos; • Covered receiving pits.	
Public Consultation: During Round Three of public consultation, the credibility of the consultation process in New Westminster was questioned.	The respondent had believed that consultation for the Project had taken place only once in New Westminster. The Applicant detailed all the previous rounds of public consultation including the dates and locations of meetings held in New Westminster.	None required.
Contaminated Soil: Suggestion during Round One to remove all of the contaminated soil from the Project site to allow for more flexibility in design and allow for a greater number of smaller silos so as to reduce the view/shade effects of the Project on the	The Applicant considered the cost and potential risks and impacts associated with the removal of soil and groundwater contamination when designing the Project. The final orientation and number of silos minimized ground densification over contaminated soils, which will result in less ground disturbance. The Construction Environmental Management plan (CEMP) and Soil and Groundwater Management Plan will be implemented to reduce potential adverse environmental effects during construction.	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
surrounding community.		
Cumulative Effects: In Rounds One and Two, the issue of cumulative effects from the Project were raised both in relation to other existing or proposed Projects and the impacts of increased rail traffic and emissions.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review Projects. 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.	None required.
Dredging: In Round One the need for dredging was raised in relation to the Project.	The Applicant confirmed that no dredging would be required for the Project.	None required.
Fish, Wildlife, Vegetation and species-at-risk		
Review by Environment and Climate Change Canada (ECCC): During Round Two, ECCC participation in the review of the Project was requested.	The Applicant confirmed that ECCC had been contacted with regard to potential effects to Streambank Lupine critical habitat. A *Species at Risk Act* (SARA) permit would need to be obtained from ECCC before works in the critical habitat zone can proceed.	Condition No. 48 requires that the Applicant shall conduct all activities within Streambank Lupine critical habitat in compliance with a SARA permit to be issued by ECCC. No activities can take place without receiving the SARA permit. A copy of the SARA permit must be sent to VFPA 10 days prior to commencing activities within Streambank Lupine critical habitat.
Invasive species: During Round Two, the issue	The Applicant submitted a CEMP, which includes a provision for an invasive species management plan for vegetation and	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
of the removal of invasive species was raised.	wildlife including mitigation measures for invasive plant management.	new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.
Human Health Assessment: In Round One, it was suggested that a Human Health Assessment should be added into the scope of technical studies.	VFPA does not require that a Human Health Risk Assessment be undertaken as part of the PER process. However, air quality and noise considerations were included in the review process.	None required.
Lighting: During all rounds of public consultation, the issue of lighting for the proposed facility was highlighted as a potential issue and concern to the community.	A Lighting Plan and Lighting Impact Statement were submitted as part of the permit application, which described the Project design considerations and proposed lighting mitigations. Light spill/sky-glow effects to nearby residential areas have been assessed as being minimal, due in part to the distance to local residences and effective light designs incorporating industry best practices. Lights in the container and shipping areas, as well as those on the walkway to the ship loading area, have the most potential for light trespass. These lights will be aimed downwards and away from residences. At night, exterior lighting will be operated at exterior-emergency levels and full lighting will only be turned on when required for nighttime operations. Light shields may be adjusted during installation should adverse effects to nearby residences be detected.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Noise		
Environmental Noise Assessment: During Round Two, questions were asked regarding how noise sensitive receptors were chosen and if rail traffic (including shunting and whistles) were assessed as part of the Environmental Noise Assessment report.	Noise sensitive receptors were selected as per VFPA PER requirements and included the first two rows of dwellings on both sides of the Fraser River. Rail traffic noise was assessed as part of the Environmental Noise Assessment with additional penalties applied for shunting and whistles to account for the increased annoyance from these particular sources.	None required.
Construction noise: During Rounds Two and Three, questions were raised regarding what mitigation measures would be in place to combat noise during construction, especially pile driving.	The Applicant submitted a CEMP, which outlines a number of mitigation methods to help minimize disruptions from noise during construction as follows: • Undertake construction activities within VFPA's standard hours of construction: Monday to Saturday, 7:00 a.m. to 8:00 p.m.; • Provide residents and businesses with 10 business days' notice prior to noisy work beginning; • Turn off equipment when not in use; and • Enforce speed limits on site.	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP. Condition No. 22 requires the Applicant to distribute a construction notice to residents and businesses 10 businesses days prior to work commencing. Condition No. 36 restricts construction hours (Monday – Saturday: 7:00 a.m. to 8:00 p.m.). Condition No. 52 requires the Applicant to monitor terrestrial noise levels

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
		during pile driving construction activities onshore and in-water. The Applicant is to submit a summary report detailing the noise levels recorded for each separate pile type driven in order to confirm that generated noise levels are with the accepted industry standards.
Current noise levels: In Rounds One and Two, concerns were raised regarding current noise levels in the area and how these could be impacted by the construction and operation of the proposed facility. Community members were also concerned regarding increases in vessel and train traffic, especially whistles.	The Applicant undertook an Environmental Noise Assessment Report, which benchmarked current noise levels in the community. The report predicted the increase of noise as a result of the Project would be less than 1 dBA with a maximum increase of approximately 2 dBA when the facility is operating at full capacity. The Environmental Noise Assessment Report also concluded that the dominant source of noise in the area is Highway 17, and that an increase of less than 3 dBA over time is likely to go unnoticed.	Condition No. 61 requires the Applicant to conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment report and validate the effects on the surrounding community. Additional mitigation measures may be required based on the results of the post construction monitoring.
Operational noise: In Rounds One and Two, operational noise questions were raised relating to what kind of noise could be expected, what	A number of low noise initiatives have been built in to the design of the Project by the Applicant such as: • Installing fan silencers; • Using fully enclosed conveyor systems with low noise rollers; and • Limiting container yard activities to daytime/weekdays.	Condition No. 61 requires the Applicant to conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment report and validate the effects on the surrounding community. Additional mitigation measures may be required

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
mitigation methods would be in place and what the hours of operation would be.	The Applicant noted that although activities in the container yard would be restricted to daytime/weekday only, shipping and unloading of rail cars could occur at any time – i.e. 24 hours per day / 7 days a week.	based on the results of the post construction monitoring. Condition No. 62 requires the Applicant to provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.
Train noise (whistles & horns): Throughout the public consultation period, the issue of train noise (whistles, horns and shunting) especially at night was raised as a major concern.	The Applicant noted that the sounding of train whistles at road crossings is a federally regulated safety requirement, mandated to provide heightened safety at rail crossings for road users. In addition, the crossing in question is outside of both the Project site and VFPA's jurisdiction. Rail cars will typically move between the terminal and the rail yard during the daytime. Loading of vessels and the receiving and unloading of rail cars could occur at any time – i.e. 24 hours per day / 7 days a week.	None required.
Odour: In Round One, the issue of odour was raised.	The Applicant stated that there would be no odour associated with grain storage or transportation. This would be achieved by ensuring the grain did not spoil by: keeping it dry, minimizing storage time (an average of 8 days) and minimizing time for product deterioration.	None required.
Port Development / Land Use:	The Applicant responded that in the current VFPA Land Use Plan, the land is designated	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
During Rounds One and Three, a number of land use and development questions were raised including the need for a land use re-designation, site choice clarification given proximity to residential uses and inclusion of green space in the design.	as industrial land and the facility will replace an existing derelict facility. The site is the preferred location due to ease of access to existing marine, road and rail modes. Incorporating a green space is outside the scope of the Project and would be counter to the current Land Use Designation for the area.	
Rodent Control: In Round One, the control of rodents at the facility was queried.	The Applicant has integrated the following design measures to mitigate rodents: • Fully enclosed conveying equipment; • Elevated steel silos; • House cleaning procedures to quickly eliminate any spilled product; • Frequent sweeping; and • Utilizing rodent capture devices.	None required.
Short-sea shipping: In Round One, it was queried whether the facility would be used for trucking or as a point of short-sea shipping.	The Applicant responded that the majority of the grain would be received via rail and transferred to the storage silos. A small amount of grain would be loaded directly onto vessels. From the silos, 7/8 (the majority) of the grain will be loaded on to vessels with the remaining product transferred into containers, rail cars or trucks. There may be opportunities to explore short-sea shipping in the future, however this is unlikely as this is not the most efficient supply chain arrangement for this commodity.	None required.
Spill Prevention & Emergency Response		

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Dust combustion: In Round One, information and mitigation measures were requested in relation to dust combustion.	The Applicant noted that the following design features have been included to combat dust: • A baffled and aspirated unloading pit; • Slow speed, totally enclosed conveyors; • Slow speed, totally enclosed elevators; • 'Bean ladders' with slatted baffles to reduce speed and distribute the product in the storage spouts; • Sealed and cascading ship loading spouts; • Sealed spouts for railcar, truck and container loading; and • Air cleaning systems at all transfer points to capture dust. With regards to combustion, the following design features have been built into the Project: • Individual dust filters to minimize intra-plant dust transport; • Heat and spark detectors will be used at critical points to avoid potentially hazardous situations; and • Countermeasures will be in place in case of explosions or fires in equipment which include explosion relief panels, sprinklers and deluge valves. The Applicant also undertook a Spill Prevention, Emergency Response and Hazardous Materials Handling Plan, and a Fire & Explosion Plan as part of the PER application. These reports detail emergency procedures should a dust combustion event occur.	Condition No. 34 requires the submission of an updated Dust Hazard Analysis.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Emergency response: During Rounds One and Two of public consultation, the emergency response capability of the facility was raised as a concern.	During Round One, access for first responders and how increases in traffic would impact response times was questioned. The Applicant undertook a Spill Prevention, Emergency Response and a Hazardous Materials Handling Plan, and a Fire & Explosion Plan. Both documents outlined that the facility is integrated within FSD's terminal dock infrastructure, and operated by FSD personnel. The facility will be under FSD jurisdiction, and all emergency procedures for the wharf area will follow FSD plans. In Round Two, it was suggested that Metro Vancouver's Proximal Work Requirements should be considered when developing an Emergency Response Plan. The Applicant stated that the construction contractor will be required to identify their procedures for avoiding damage to utilities and compliance with the utilities conditions for working around infrastructure including Metro Vancouver's Proximal Work Requirements.	Condition No. 62 requires the Applicant to provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not be limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.
ECCC participation: During Round Two, it was requested that ECCC enforce and address any product spill issues.	The Applicant responded that best practices described in the Spill Prevention, Emergency Response and Hazardous Materials Handling Plan are consistent with federal guidance. No issues requiring ECCC are anticipated.	None required.
Spills – general: During Rounds Two and Three, the issue of how spills would be managed and	The Applicant submitted a Spill Prevention, Emergency Response and Hazardous Materials Handling Plan as part of the permit application. The plan was developed in accordance with industry and regulatory best practices, as well as port authority guidelines. The plan includes procedures for emergency response, spill prevention,	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
mitigated were raised.	containment and clean up during facility operations. FSD also have a Spill Prevention Plan for the area as a whole. The CEMP also includes a section on spill prevention and emergency response during construction of the facility.	Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.
Spills – marine accident: During Round Three, concern was raised relating to how the size/numbers of vessels navigating the Fraser River could elevate the chance of a marine accident.	VFPA operations require all vessels to have navigational aids and the Fraser River is a mandatory pilotage area. Facility operators will therefore work closely with the port authority to ensure vessel safety.	None required.
Stormwater Pollution Prevention		
Groundwater treatment: During Round Two, a question was raised regarding the treatment of groundwater at the facility and whether the treatment centre discharged into the local sanitary or storm sewer.	VFPA understands that most stormwater runoff would be treated at the site's main oil and grit separator prior to discharge. The separator would remove sediment, total suspended solids, hydrocarbons and free oil from stormwater runoff. The Applicant indicated that the oil and grit separator will be inspected regularly and cleaned. Material removed by the separator will be disposed of at a facility permitted to take such waste. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River.	Condition No. 55 requires the Applicant to submit an updated Stormwater Pollution Prevention Plan (SPPP) prior to commencing operations.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Potential spill: During Round Two, a concern regarding how potential spills could affect stormwater runoff was raised.	The Applicant developed a Stormwater Pollution Prevention Plan (SPPP) as part of their PER application. The Plan, developed in accordance with industry best practices and VFPA guidance, details how spills will be managed and mitigated. This is aligned with the Applicant's Spill Prevention, Emergency Response and a Hazardous Materials Handling Plan.	Condition No. 55 requires the Applicant to submit an updated SPPP prior to commencing operations.
Traffic		
Cumulative effects: In Round Two of public consultation, the issue of cumulative effects from traffic (marine, rail and vehicle) in relation to other permitted or proposed developments at FSD were raised.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review Projects. 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.	None required.
Rail blockages at level crossings: During Round Two, the issue of overnight blockages at rail crossings and how this will result in noise from whistles and shunting was raised.	The Applicant noted that although the rail operators may deliver rail cars to the rail yard at any time, rail cars will typically move between the terminal and the rail yard during the daytime. There will be noise associated with this (shunting etc.) but it will likely be during the daytime as opposed to overnight. The Applicant noted that the sounding of train whistles at road crossings is a federally regulated safety requirement, mandated to provide heightened safety at rail crossings for road users.	None required.
Rail track extension:	The Applicant confirmed that the existing PARY configuration crosses multiple underground services. Each crossing is	Condition No. 63 requires the Applicant to provide

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
During Round One, a concern was raised over existing and future extensions of the rail tracks as they extend over Metro Vancouver water utilities.	designed according to required codes for the protection of these services. Any extension of the rail tracks would be designed and built according to these codes to ensure the buried services are not damaged.	record drawings of the Project including a Project site plan that clearly identifies the location of works. Condition No. 31 requires the Applicant to liaise with Metro Vancouver and supply detailed design information on any Project elements that may impact Metro Vancouver utilities.
Rail traffic increases: During all three rounds of public consultation questions were raised with regards to increases of rail traffic focusing on: number of rail cars per train, impact on level crossing congestion and compatibility with a separate proposed potash project in the vicinity.	The Applicant noted that all traffic interactions between road and rail were assessed as part of the PER process. It was also noted that longer blockages at rail crossings may occur during train arrival/departure times, but these are expected to occur overnight and therefore will have little impact to the road network. Each train will have up to 112 cars. With regards to the compatibility with other proposed developments in the area, the Applicant noted that other applicants, FSD and VFPA were in regular communication to ensure that the proposed designs were compatible with each other.	None required.
Shipping traffic increases: During Round One, questions were raised regarding: increases in ship traffic; the frequency and size of ships servicing the terminal; and the use of pilots and	The Applicant responded that the facility would receive between 80 and 100 bulk vessels per year (approximately 1 – 3 vessels per week), including Panamax, Supramax and Handy-size vessels. VFPA is responsible for the safe, efficient and reliable movement of marine traffic within their jurisdiction. VFPA operations require all vessels to have navigational aids and the Fraser River is a mandatory pilotage area. Facility operators will work closely with VFPA to ensure vessel safety.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
navigational aids.		
Vehicle traffic increases: During Rounds One and Two, concerns regarding a potential increase in vehicle traffic, especially trucks, were raised.	A Transportation Impact Assessment and a supplementary Study Memo were produced by the Applicant. Both documents concluded that impacts from the Project to the road network would be minimal.	None required.
View and Shade: During Rounds One and Two, potential impacts from the facility on the view from residential areas was raised.	The Applicant produced 'before and after' photos as part of their Viewscape and Shade Study, which also detailed other potential view and shade impacts of the facility. The Viewscape and Shade Study concluded that the Project will have minimal impact on views from the surrounding communities. Likewise, the shade impact on the site and surrounding areas would also be minimal, given the current industrial land-use zone surrounding the site, as well as the large distances from the site to any public place, roadway, pathway, gathering space or residence. The Applicant referenced the Viewscape and Shade Study which indicated that existing tall, dense vegetation in the Project area and surrounding community shields most of the new infrastructure from view. Any visual changes that do occur would however be consistent with existing industrial and transportation land uses in the area.	None required.

VFPA has reviewed the record of public consultation, and provided that the mitigation measures and conditions outlined in the table above are included in the Permit, is of the view that the Project has adequately addressed the concerns raised during public consultation.

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6 ABORIGINAL CONSULTATION

VFPA reviewed the proposed works and determined that the project may have the potential to adversely impact Aboriginal or Treaty rights.

Overview
The following Aboriginal groups have been consulted:

- Cowichan Tribes
- Halalt First Nation
- Hwlitsum First Nation
- Katzie First Nation
- Kwantlen First Nation, via Seyem Qwantlen Business Group
- Lake Cowichan First Nation
- Lyackson First Nation
- Musqueam Indian Band
- Penelakut Tribe
- Sto:lo Nation and Tribal Council, via People of the River Referrals Office
- Qayqayt First Nation
- Semiahmoo First Nation
- Stz'uminus First Nation
- Tsawwassen First Nation
- Tsleil-Waututh Nation.

The following consultation activities were conducted:

Pre-Application Phase:
Prior to submission of a permit application, the Applicant conducted preliminary engagement with the above-listed Aboriginal groups, as directed by VFPA. From February 2016 to February 2017, the Applicant sent introductory emails and project updates to all Aboriginal groups. The Applicant also met and corresponded with Aboriginal groups who expressed an interest in the proposed Project.

Application Phase:
Phase I: October 30, 2017-March 20, 2018
On October 30, 2017, VFPA sent a referral package to the Aboriginal groups listed above. The package include a consultation letter from VFPA as well as permit application documents. Initial comments were requested by December 11, 2017.

A number of First Nations provided comments to VFPA, however the Project was subsequently put On Hold as a result of design changes prior to finalizing responses to groups. On February 8, 2018, Aboriginal groups were notified that the Applicant had proposed design changes to their project, and that once VFPA had reviewed the proposed changes to determine their scope, VFPA would update Aboriginal groups.

On March 20, 2018 Aboriginal groups were advised that the project and environmental review of the proposed project was On Hold pending receipt of an updated application from the Applicant. VFPA informed Aboriginal groups that an updated permit application was anticipated to be submitted in mid-April, 2018. VFPA offered to proactively schedule project overview meetings with Aboriginal groups, to facilitate their review of the updated permit application once it was made available. Most Aboriginal groups declined the offer to schedule a meeting, however VFPA did

discuss the proposed Project at a separate meeting with one Aboriginal group while the project and environmental review process was on hold.

Phase II: July 27, 2018 - present
On July 27, 2018, VFPA sent updated referral packages to the Aboriginal groups listed above. Packages included a consultation letter from VFPA, updated permit application documents, and, for those Aboriginal groups who had provided comments during the first phase of consultation, responses to their questions and concerns. Initial comments on the revised permit application were requested by August 24, 2018. VFPA received written comments from several Aboriginal groups.

Below is a table summarizing the main issues raised by Aboriginal groups during the entire consultation process to date, and how they are being considered as part of the Project and Environmental Review.

Issue	Rationale	Mitigations and Permit Conditions
Impacts of development on archaeological resources, and involvement of Aboriginal groups in archaeological resource management.	The Applicant will be required to follow the recommendations made in the Archaeological Overview Assessment, submitted with the Permit Application. The Applicant will also be required to update their draft Chance Find Procedure to address concerns raised by Aboriginal groups.	The following Permit Conditions address this concern: Conditions #25, #39, and #40
Impacts to fish and fish habitat, particularly green and white sturgeon, eulachon, and salmon.	Impacts to fish and fish habitat are not expected, provided the Applicant adhere to commitments made in the Construction and Environmental Management Plan, its Appendices, and VFPA permit conditions.	See Section 7.2 Environmental Effects Summary for more detail.
Impacts to marine mammals from vessel traffic noise.	VFPA does not require the Applicant to assess noise impacts associated with marine shipping, as the Applicant is not responsible for the vessels that call the proposed terminal.	The concern is out of the scope of the project and environmental review of the proposed Project. To address noise impacts on marine mammals in the Salish Sea, VFPA is leading the Enhancing Cetacean Habitat and Observation Program (ECHO), an initiative aimed at better understanding and managing the impact of

		shipping activities on whales along the southern coast of B.C.
Impacts to fishing and navigation from increased vessel traffic.	VFPA has assessed the potential for project-related vessel traffic to impact Aboriginal fishing and navigation as low. The Applicant has agreed to develop a marine traffic protocol with the concerned Aboriginal group to mitigate the potential to impact their Aboriginal fishing practices.	The following permit condition addresses this concern: Condition #53
Impacts to Aboriginal fishing and navigation from cumulative vessel traffic.	A cumulative effects assessment is outside the scope of the project and environmental review of the proposed project. VFPA has considered potential impacts to Aboriginal fishing and navigation from project-related vessel traffic.	None.
Impacts to environment and Aboriginal rights from increased use of Gulf Island anchorages.	The Gulf Island Anchorages are outside VFPA jurisdiction, and outside the project and environmental review of the proposed project. The Oceans Protection Plan, National Anchorage Framework will be undertaking the studies and consultation necessary to develop principles that determine the location and management practices for anchorages outside of ports in the future. VFPA is aware that the federal government has, and will continue to, engage with the affected Indigenous groups on this basis.	VFPA raised the concern to Transport Canada, and provided the interested Indigenous group with a direct contact at Transport Canada to discuss further.
Cumulative effects on the environment from increased vessel traffic.	Although VFPA has not required that a cumulative effects assessment be conducted by the applicant, consideration of cumulative effects is inherently integrated into VFPA's environmental reviews and decisions; cumulative effects of the	See Section 7.2 Environmental Effects Summary for more detail.

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	project on health are considered through air and noise emissions studies; potential project effects on vegetation, wildlife, and fish and fish habitat are considered in the context of the existing environment taking into account past effects and current pressures on species.	
Concern regarding the "permanent loss of critical habitat" from the rail loop construction.	Options for environmental enhancement related to streambank lupine critical habitat are included in the Permit Application to Environment and Climate Change Canada.	None.

Conclusion:
VFPA has made a meaningful effort to consult with all potentially affected Aboriginal groups. Based on the record of consultation, VFPA is of the view that the duty to consult has been met, and adverse impacts to Aboriginal or Treaty rights are not expected.

7 ENVIRONMENTAL REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and CEAA 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. Additional Project information pertinent to the environmental review includes the following:

- An Environmental Air Assessment evaluated the change in emissions and potential impact on air quality as a result of the Project and the modified activities at the existing JV facility. The assessment determined that with the implementation of best available technology not entailing excessive cost (BATNEC), particularly replacing the existing shiploader with three new shiploaders, particulate matter emissions would decrease significantly. The estimated decrease is largely attributed to the cascading or choke fed type telescoping loading spouts that will be part of the new shiploaders. The elimination of marine warping activities and

associated combustion emissions were estimated to result in a decrease in combustion-related emissions.

- The Environmental Noise Assessment predicted an increase of 1 dBA or less with the Project operating at full capacity. The dominant noise source in both the baseline and future scenarios was predicted to be traffic on the South Fraser Perimeter Road. The change in the percentage of people highly annoyed by the overall noise environment was predicted to range from 0% to 2% depending on the neighbourhood, which is less than the Health Canada criterion of 6.5%.
- The Habitat Assessment report and CEMP identified specific mitigation measures to be implemented during construction, including timing activities to occur within least-risk work windows for aquatic and terrestrial species, monitoring by a qualified environmental professional, implementing a soil and groundwater management plan to manage suspect/contaminated material, and developing site-specific environmental protection plans describing the erosion and sediment controls that will be implemented.
- The Soil and Groundwater Management Plan noted areas where work (notably the rammed aggregate piles) will occur in areas of known groundwater contamination. The primary concerns noted were the potential movement of the groundwater plume and adverse effects to groundwater quality due to the new materials being installed into the groundwater environment. To minimize the potential impacts to groundwater, the plan includes several controls and a monitoring program during and after construction.
- The Habitat Assessment determined that the Project will result in the permanent loss of 0.95 ha of vegetated area. The majority of the cleared vegetation consists of invasive and non-native shrub and herbaceous species. Up to six cottonwood trees in the southern portion of the Project site will be removed. These represent habitat for nesting songbirds. With appropriate mitigation in place and good work practices, most construction effects on vegetation and terrestrial habitat were considered likely to be localized and of short duration. A section of the proposed semi-loop railway track overlaps critical habitat for streambank lupine, designated as endangered under Schedule 1 of SARA. An application for a SARA permit for Project-related railway construction, in addition to the construction of railway tracks associated with two other projects within critical habitat, has been submitted to ECCC. Between the three projects, an estimated 7,731 m^2 of streambank lupine critical habitat will be altered by railway track construction. Activities within critical habitat will be conducted in compliance with the SARA permit.
- The Habitat Assessment identified the permanent loss of approximately 70 m^2 of a ditch classified as non fish-bearing and with insignificant food and nutrient input. Along the Fraser River shoreline, approximately 310 m^2 of shoreline protection material will be temporarily disturbed to facilitate the installation of 19 in-water steel piles of 914 mm (36-inch) diameter. Under the Fraser River Estuary Management Program (FREMP) classification system, the shoreline in this area is considered to be low productivity. With the application of appropriate mitigation measures, significant adverse effects to aquatic organisms and habitat are not anticipated.

The temporal scope of the review includes Project site preparation and staging, construction and operation of the new facility which has been designed to handle a maximum throughput capacity of 3.5 MT/a.

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 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 review.

Though VFPA does not have a legislative requirement to conduct a cumulative effects assessment in our PER process, the past and current effects of development on the environment provides the context for our review of project effects, and so consideration of cumulative effects is inherently integrated into our environmental reviews and decisions. For example, both air and noise studies include model predictions of project effects. These effects are not considered in isolation, rather they are considered in addition to the current condition. Similarly, potential project effects on vegetation, wildlife, and fish are considered in the context of the existing environment taking into account past effects and current pressures on species.

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7.2 Environmental Effects Summary

The following table summarizes the potential environmental effects the Project could have on the identified environmental components.

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Air quality Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	The equipment, trucks, trains and vessels active during operations and used during construction of the Project will release air emissions. Key mitigation measures to minimize particulate emissions during operation are integrated into the project design. For example, grain will be transported by a network of enclosed conveyors with aspiration systems to collect dust and reduce dust release from transfer points. The shiploaders will be equipped with cascading or choke fed type telescoping loading spouts. As a result of the design build approach, the Applicant is yet to finalize the design (including spout choice) of the shiploader. As a result, Condition No. 24 requires the submission of updated drawings and written confirmation that fugitive dust performance levels outlined in Environmental Air Assessment are met, As a result of the Project, particulate matter and combustion emissions are predicted to decrease due to the replacement of the existing shiploader, currently the main source of particulate emissions, and elimination of marine warping activities. Condition No. 54 requires the Applicant to confirm that the existing shiploader has been fully decommissioned prior to operations commencing. The Applicant will develop and implement an air emissions management plan that includes verifying that the project mitigation measures perform as designed, operating procedures remain effective, and that the facility can demonstrate continuous improvement. Air emissions from construction are predicted to occur occasionally on a daily basis and for a duration of approximately 2 years. Dust mitigation measures will be implemented as described in the CEMP. With mitigation measures described in the CEMP and implementation of an air emissions management plan, residual adverse effects on air quality are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Lighting Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Exterior construction and terminal lights have the potential to affect residents and marine users. Mitigation measures will be implemented to minimize potential impacts from lighting. Construction activities will primarily occur from Monday to Saturday between 7:00 a.m. and 8:00 p.m. If temporary lighting is needed during construction, lights will be directed downward, toward the facility, with task lights placed as close to the operation as possible. Permanent facility lights will be directed downward and away from residences, LED lights – which have good optics and glare control – will be used, and shields and visors will be added where floodlights are proposed. The South Fraser Perimeter Road, which is illuminated according to standards for a four-lane expressway, is located between the Project and residences. Residual adverse effects from Project-related 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. With mitigation in place, residual adverse effects from lighting are anticipated to be not significant.	□	■

Canada

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Noise Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	The Project has the potential to affect noise levels. Noise will be generated during construction, including from concrete crushing, pile driving and building the facility. Project-related noise sources during operations will be from rail unloading, ship loading and container loading activities. The dominant noise source in the area is predicted to be the South Fraser Perimeter Road, which is located between the Project site and the nearest residential receptors. Construction activities will primarily occur from Monday to Saturday between 7:00 a.m. and 8:00 p.m. FGT will be required to notify residents in advance of any construction activities that would occur outside these hours. Key mitigation measures to reduce noise during operations are integrated into the project design. These include fitting filter unit fans with silencers, fully enclosing conveyors within a solid enclosure, greasing tracks to reduce rail squeal, and limiting loading operations in the container yard to daytime/weekday only. Post-construction follow-up noise monitoring will be conducted to confirm that the Project noise emissions are within predicted levels and to inform VFPA whether additional operational noise mitigation measures are warranted. Overall residual effects on the acoustic environment will be low in magnitude – an increase of 1 dBA or less at full operating capacity – and will have a small adverse effect on the adjacent community. The extent of residual effects will be local because the Project will not be the dominant noise source in the area. The terminal will produce noise daily and effects will occur throughout operations. The effects would be reversible if the Project is decommissioned. With mitigation in place, residual adverse effects on the acoustic environment are anticipated to be not significant.	□	■

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Soils Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Soil quality may be affected by spills, on-site storage of excavated contaminated soils, re-use of recycled concrete aggregate, and other ground alterations, such as regrading and surfacing. Mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse environmental effects. This includes storing temporary stockpiles on an impervious surface within a bermed area, collecting water in open excavations in a storage tank for testing and treatment, as applicable, prior to discharge, and having a spill response plan in place. Post-construction follow-up groundwater monitoring will be conducted to confirm that the re-use of recycled concrete aggregate has not adversely affected soils (Condition No. 50). With mitigation in place, residual adverse effects on soils are anticipated to be not significant.	□	■
Sediments Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Stormwater runoff has the potential to convey accumulated debris, sediment and contamination to adjacent water bodies and affect sediment quality. Spills or on-site storage of excavated contaminated soils may potentially affect sediment quality. Management practices outlined in the SPPP will be implemented to reduce potential adverse environmental effects during operation. The plan includes the installation of stormwater treatment devices to reduce suspended solids and capture hydrocarbons prior to discharge from the facility. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River. Mitigation measures outlined in the CEMP will be implemented to reduce potential adverse, environmental effects during construction. With mitigation measures in place, residual adverse effects on sediments are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Groundwater Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	As part of the Project, rammed aggregate piles (RAPs) will be installed through portions of a known dissolved metal groundwater plume. Groundwater may also be affected by spills, on-site storage of excavated contaminated soils, and re-use of recycled concrete aggregate as road base. The depth of groundwater at the site is approximately 3 m below ground surface and estimated to fluctuate by approximately 0.5 to 1 m depending on tidal and seasonal influences. Where groundwater is encountered in open excavations, mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse effects. In addition, Condition No. 49 requires that water quality results and a discharge plan will be provided to VFPA for review and acceptance prior to any discharge to stormwater systems or the aquatic environment. Post-construction follow-up groundwater monitoring will be conducted to confirm that the installation of the RAPs has not adversely affected groundwater quality or the movement of the plume (Condition No. 51). Condition No. 47 requires that the existing network of monitoring wells be maintained or replaced after construction. Post-construction follow-up groundwater monitoring will also be used to confirm that the re-use of recycled concrete aggregate has not adversely affected groundwater (Condition No. 51). The residual effects on groundwater are anticipated to be low in magnitude, site-specific in extent, and could occur sporadically during construction or gradually throughout the life of the Project. Should groundwater quality or the movement of the plume be affected, the changes are expected to be detected through monitoring and the effects would be reversible with remediation. With mitigation measures and follow-up monitoring in place, the residual adverse effects on groundwater are anticipated to be not significant.	□	■

Canada

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Surface water and water bodies Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Stormwater runoff has the potential to accumulate debris, sediment and contamination prior to entering adjacent water bodies. Spills or on-site storage of excavated contaminated soils may potentially affect surface water quality. In-water works have the potential to re-suspend sediments in the water column and introduce contaminants. Management practices outlined in the SPPP will be implemented to reduce potential adverse environmental effects during operation. The Plan, which is due to be further updated prior to operations (Condition No. 55), includes the installation of stormwater treatment devices to reduce suspended solids and capture hydrocarbons prior to discharge from the facility. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River. Mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse environmental effects during construction. This includes installing sediment and erosion control measures, conducting shoreline work in the dry where reasonable, and having a spill response plan in place. With mitigation measures in place, the likelihood of the Project resulting in residual adverse effects on surface water quality is low. If adverse effects do occur, they are most likely to occur during construction. The effects are anticipated to be low in magnitude, short-term in duration, occur infrequently, and be reversible after Project decommissioning. If residual adverse effects on surface water and water bodies occur, they are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Species/ habitat with special status Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	A section of the proposed semi-loop railway track overlaps critical habitat for streambank lupine, designated as endangered under Schedule 1 of SARA. An application for a SARA permit for Project-related activities within critical habitat has been submitted to ECCC. Activities within critical habitat will be conducted in compliance with the SARA permit (Condition No. 48). With mitigation measures in place and adherence to the requirements in the SARA permit, the residual adverse effects of the Project on streambank lupine are predicted to be not significant.	□	■
Terrestrial resources (e.g., vegetation, wildlife, etc.) Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	The Project will result in the permanent loss of 0.95 ha of vegetated area, consisting predominantly of invasive and non-native species. Shrubs and small trees are present and may provide nesting habitat for migratory birds. In general, the habitat value of the existing vegetation is low. Mitigation measures outlined in the CEMP will be implemented to reduce potential adverse effects. This includes implementing an invasive species management plan and conducting pre-clearing surveys prior to any vegetation removal occurring outside the least-risk window for breeding birds. In addition, activities within streambank lupine critical habitat will be conducted in compliance with the SARA permit. With appropriate mitigation measures in place and adherence to the requirements in the SARA permit, overall residual effects on terrestrial resources are anticipated to be low in magnitude. The extent of effects will be site-specific and low in frequency (vegetation removal will occur only once), however, the loss of terrestrial resources will be long-term in duration and would be reversible after Project decommissioning. With mitigation in place, residual adverse effects on terrestrial resources are anticipated to be not significant.	□	■
Wetlands	□	■	The Project is not anticipated to affect wetlands. It is planned to be constructed on a previously developed site with no existing wetlands.	□	■

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.) Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	Project-related activities have the potential to disturb aquatic species and fish habitat (e.g., through induced turbidity and other changes to water quality, disruption to migrating fish populations, sensory disturbance of marine mammals, and accidental spills). Potential adverse effects will be reduced through the implementation of mitigation measures outlined in the CEMP and environmental protection plan, as well as through avoiding the period of peak juvenile salmonid migration in the area (March to mid-June). The Project will result in the permanent loss of approximately 70 m^2 of a ditch classified as non-fish bearing and with insignificant food and nutrient input. In addition, approximately 310 m^2 of shoreline protection material will be temporarily disturbed to facilitate the installation of 19 in-water steel piles of 914 mm (36-inch) diameter. Pile installation will result in the permanent loss of 12.5 m^2 of shoreline habitat. Under the Fraser River Estuary Management Program (FREMP) classification system, the shoreline in this area is considered to be low productivity. With the application of appropriate mitigation measures, adverse effects to aquatic organisms and habitat are anticipated to be not significant.	□	■
Health and socio-economic conditions Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	□	■	Based on the low magnitude of residual effects on air quality, lighting, noise, groundwater, surface water, and terrestrial resources, the Project is not anticipated to cause adverse effects on the health of people, including Aboriginal people.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Archaeological, physical, and cultural heritage resources Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Ground disturbance and excavation activities have the potential to affect archaeological, physical, and cultural heritage resources. Project-related ground-altering activities (excavations) are located within areas of moderate/low archaeological probability. Archaeological monitoring will be conducted during the excavation of three Project components: the receiving conveyor tunnel, boot pit of receiving and reclaim legs, and reclaim conveyor tunnel concrete slab. In addition, an archaeological chance find procedure will be implemented. With mitigation measures in place, the Project is not anticipated to result in significant residual adverse effects on archaeological, physical, and cultural heritage resources.	□	■
Current use of lands and resources for traditional purposes by Aboriginal peoples Assessed as required under subsection 5(1) of CEAA 2012	■	□	Section 6 provides an overview of the concerns raised by Aboriginal Groups during VFPA consultation about the Project. With mitigation measures in place (as described in Section 6) no significant residual adverse effects on Aboriginal Group interests are anticipated. However, consultation is still ongoing and these conclusions are preliminary until consultation is completed.	□	■
Accidents and malfunctions Assessed as required by the *Canada Marine Act*	■	□	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, including an appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products and other deleterious substances, and minimizing the likelihood of collisions. With mitigation 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.	□	■

Residual adverse effects (i.e., effects that remain with mitigation in place) were identified for the following environmental components:

- Air quality;
- Lighting;
- Noise;
- Soils;
- Sediments;
- Groundwater;
- Surface water and water bodies;
- Species at risk (streambank lupine); and
- Terrestrial resources.

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

- Moderate in magnitude due to the alteration of streambank lupine critical habitat;
- Local in geographic extent because the effects will be limited to the Project footprint and immediate vicinity;
- Long-term in duration because the effects on air quality, lighting, noise and streambank lupine will occur throughout the life of the facility;
- Isolated in frequency because the effects will largely be confined to the construction period; and
- Residual adverse effects of the Project would be reversible once the Project is decommissioned.

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

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7.3 Environmental Review Decision

In completing the environmental review, VFPA has reviewed and taken into account relevant information available on the proposed project, proposed mitigations provided by the Applicant, and additional technically and economically feasible mitigation measures. In accordance with section 67 of CEAA 2012, VFPA concludes that with the implementation of proposed mitigation measures and Permit conditions, the Project is not likely to cause significant adverse environmental effects.

C Brown — November 9, 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.

The review team recommends that this application be approved subject to conformance with the project and environmental conditions listed in project permit **PER No. 15-041**.

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APPENDIX A
Location Plan

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PER#: 15-041

FGT Site Location Plan

VFPA Boundary

Project Boundary

0 50 100 200 Meters

PORT of vancouver

VFPA Spatial Data Group
October 1, 2018
PLAN # G2018-104
Prepared by: NB

Any areas marked "proposed" represent approximate locations.

APPENDIX B
List of Information Sources

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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 behalf of the tenant on June, 27 2017, and updates related to design changes on June, 1, 2018.
- All Project correspondence from April, 10, 2017 to October, 04 2018
- All plans and drawings labelled PER No.15-041-A to V
- Additional and updated plans and documents submitted in support of the application, on July 3, 2018 August 23, 2018 and September 6, 2018; specifically:
  - Environmental Air Assessment (Rev 8), dated June 2018
  - Environmental Noise Assessment, dated June 2018
- Mott MacDonald Technical Note, *Fraser Grain Terminal Proposed Track – Coal Terminal Rail Track Integration,* dated August 1, 2018
- Stantec Consulting Inc. Memo, *Fraser Grain Terminal VFPA Review – Traffic Analysis for Updated Rail Crossings,* dated August 17, 2018
- Key correspondence:
  - Email dated 2018-03-18 from FWS on behalf of FGT Ltd. to VFPA, *15-041 FGT - VFPA Review of Technical Review Responses* with the following attachment:
    - *FGT-New Grain Export Facility TIA Comment Response* dated March 16, 2018, Stantec Consulting Inc.
  - Email dated 2018-09-12, from FWS on behalf of FGT Ltd. to VFPA, *15-041 FGT: TRNS 5 & 7 Comments for PER* with the following attachments:
    - *Response to Comments from Port of Vancouver – FGT Site* dated September 12, 2018, Peter A. Truch.
    - *Canadian Railway Operations Rules* excerpt, *Rule 103* (pages 35 – 36)
  - Email dated 2018-09-24, from FWS on behalf of FGT Ltd. to VFPA, *FGT Rail switching operation procedures* with the following attachments:
    - *BCMEA Waterfront General Railway Operating Rules*, May 2014,

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VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW PROJECT PERMIT

PER No.:	**15-041**
Tenant:	**Parrish & Heimbecker Ltd.**
Project:	**Fraser Grain Terminal - Grain Export Facility**
Project Location:	**11041 Elevator Rd, Surrey, BC**
VFPA SID No.:	**SUR360**
Land Use Designation:	**Port Terminal**
Permit Holder(s):	**Parrish & Heimbecker Ltd.**
Category of Review:	**D**
Date of Approval:	**NOVEMBER 9, 2018**
Date of Expiry:	**NOVEMBER 30, 2022**

PROJECT DESCRIPTION

For the purposes of this project permit, (the Permit), the project is understood to include the following works on Vancouver Fraser Port Authority (VFPA) property:

- Removal of existing Bekaert building slab, foundations, utilities and existing rail spur;
- Demolition of existing 25kV substation;
- Installation of utilities (water supply, sanitary sewer, stormwater, and electrical);
- Ground densification works (grout filled Rammed Aggregate Piers);
- Construction of semi-loop rail track, receiving track and rail crossing;
- Extensions to 3 Port Authority Rail Yard (PARY) rail tracks (Off-site works);
- Realignment of portion of existing JV Rail track;
- Construction of Rail Unloading Station;
- Construction of 20 x 3,500 tonne above-ground corrugated and galvanized silos, 35.6m x 14.6m;
- Construction of 4 x 400 tonne above-ground storage bins, 16.5m x 7.3m;
- Construction of 1 x 710 tonne above-ground storage bins, 16.5m x 10m;
- Installation of transfer steel tower containing 2 bulk weighers, 2 grain samplers and 3 bucket elevators;
- Construction of conveying equipment (comprising enclosed belt conveyors, supported by steel trusses);
- Installation of 3 stationary shiploaders with choke fed or cascading type telescoping loading spouts;
- Installation of Dust suppression systems on material handling equipment;
- Construction of integrated truck and railcar loading facility and container loading facility with associated container storage yard; and
- Construction of ancillary buildings – administration building, maintenance shop and electrical rooms.

PROJECT AND ENVIRONMENTAL CONDITIONS

The Vancouver Fraser Port Authority (VFPA) has undertaken and completed a review of the Project in accordance with the *Canada Marine Act* and Section 5 of the Port Authorities Operations Regulations and, as applicable, Section 67 of the *Canadian Environmental Assessment Act*, 2012.

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If at any time the Permit Holder fails to comply with any of the project and environmental conditions set out in the Permit below, or if VFPA determines that the Permit Holder has provided any incomplete, incorrect or misleading information in relation to the Project, VFPA may, in its sole and absolute discretion, cancel its authorization for the Project or change the project and environmental conditions to which such authorization is subject.

Pursuant to Section 29 of the Port Authorities Operations Regulations, VFPA may also cancel its authorization for the Project, or change the project and environmental conditions to which such authorization is subject, if new information is made available to VFPA at any time in relation to the potential adverse environmental and other effects of the Project.

The following are the project and environmental conditions that must be followed by the Permit Holder to mitigate potential or foreseeable adverse environmental and other effects.

All VFPA Guidelines and Record Drawing Standards referenced in this document can be located at: https://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/technical-guidelines/.

No.	GENERAL CONDITIONS
1.	The Permit Holder must have a valid lease, licence, or access agreement for the Project site prior to accessing the Project site or commencing construction or any other physical activities on the Project site. This Permit shall in no way limit any of the Permit Holder's obligations, or VFPA's rights, under such lease, licence, or access agreement.
2.	The Permit Holder shall at all times and in all respects, comply with and abide by all applicable statutes, laws, regulations and orders from time to time in force and effect, including all applicable environmental, labour and safety laws and regulations.
3.	This Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the construction of the Project, in accordance with the terms and conditions of this Permit.
4.	The Permit Holder shall indemnify and save harmless VFPA in respect of all claims, losses, costs, fines, penalties or other liabilities, including legal fees, arising out of: (a) any bodily injury or death, property damage or any loss or damage arising out of or in any way connected with the Project; and (b) any breach by the Permit Holder of its obligations under this Permit.
5.	The Permit Holder is responsible for locating all existing site services and utilities including any located underground. The Permit Holder is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project.
6.	The Permit Holder shall immediately notify Metro Vancouver of any actual or potential damage to Metro Vancouver infrastructure at: 604-985-1478.
7.	The Permit Holder shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with applicable standards and specifications set out in the sections above entitled Project Description and Information Sources, including the attached plans and drawings numbered **PER No. 15-041-A to V**. The

	Permit Holder shall not carry out any other physical activities unless expressly authorized by VFPA.
8.	The Permit Holder shall cooperate fully with VFPA in respect of any review by VFPA of the Permit Holder's compliance with this Permit, including providing information and documentation in a timely manner, as required by VFPA. The Permit Holder is solely responsible for demonstrating the Permit Holder's compliance with this Permit.
9.	The Permit Holder shall review the Permit with all employees, agents, contractors, licensees and invitees working on the Project site, prior to such parties participating in any construction or other physical activities on the Project site. The Permit Holder shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with this Permit.
10.	The Permit Holder shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Permit.
11.	Unless otherwise specified, the Permit Holder shall provide all plans, documents, and notices required under this Permit to the following email address: per@portvancouver.com and referencing **PER No.15-041**.
12.	Unless otherwise specified, all plans, schedules, and other Project-related documentation that the Permit Holder is required to provide under this Permit must be to VFPA's satisfaction.
13.	The Permit Holder shall prepare and submit a self-report form to VFPA demonstrating compliance with conditions at each of the following project phases: a) Prior to construction Conditions (self-report shall be submitted a minimum of 15 business days prior to the commencement of construction, or any physical activities, to a maximum of 90 business days prior to construction, or any physical activities) b) Construction Conditions (self-report shall be submitted bi-annually during construction) c) Conditions Upon Project Completion (self-report shall be submitted within 60 business days of completion of construction) d) Conditions Prior to Operations (self-report shall be submitted 15 business days prior to operation)
14.	VFPA shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice.
15.	The Permit Holder must maintain and retain any records associated with, or produced by, actions or activities undertaken to achieve compliance or that indicate non-compliance with project permit conditions. These records must be made available at the request of VFPA.
16.	The Permit Holder shall provide VFPA with updated mitigation plans for review and acceptance, such as the construction environmental management plan, if these plans are modified or new procedures are created to address site conditions not previously addressed in the plans submitted as part of the application.
17.	All non-road diesel equipment in use within VFPA jurisdiction shall be reported as required under the Non-Road Diesel Equipment Program (http://www.portvancouver.com/environment/air-energy-climate-action/cargo-handlingequipment/nrde/).
18.	All conditions in this Permit which expressly or by their nature survive expiration or termination of this Permit will remain in effect after the expiration or termination of this Permit.

	CONDITIONS - PRIOR TO COMMENCING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	SUBMISSION TIMING (business days)
19.	The Permit Holder shall submit signed and sealed drawings for proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia.	5 days prior to commencing construction or any physical activities on each work component
20.	The Permit Holder shall provide a draft construction notice to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines.	20 days prior to commencing construction or any physical activities
21.	The Permit Holder shall submit a construction communications plan and construction notice to VFPA's satisfaction in accordance with VFPA's Public Consultation Guidelines. The plan shall outline how the Permit Holder will engage and communicate with the public and stakeholders from the date of permit issuance to the completion of construction. The plan shall be updated as necessary and upon request by VFPA to ensure public and stakeholders are provided with relevant information as it becomes available. The Permit Holder shall carry out the Project in accordance with the approved construction communications plan, and any subsequent amendments approved by VFPA.	20 days prior to commencing construction or any physical activities
22.	The Permit Holder shall distribute an approved construction notice to residents and businesses to an area to VFPA's satisfaction. The Permit Holder shall notify VFPA when such distribution has been completed.	10 days prior to commencing construction or any physical activities
23.	The Permit Holder shall submit a construction parking and traffic management plan to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the construction parking and traffic management plan, and any subsequent amendments approved by VFPA.	20 days prior to commencing construction or any physical activities
24.	The Permit Holder shall submit to VFPA for review and approval evidence and documentation to demonstrate that the final design and construction of the three ship loader configuration meets the performance level defined in the submitted Environmental Air Assessment for fugitive dust management.	Prior to completion of the procurement process for shiploader infrastructure
25.	The Permit Holder shall submit an Archaeological Chance Find Procedure for the Project site, to VFPA's satisfaction. The Procedure shall be drafted in consultation with interested Aboriginal groups, and must include the following: - photographic examples of archaeological resources; - descriptions of archaeological resources and sites; - visual aids to support training and tailgate meetings for crew.	30 days prior to commencing ground disturbing activities

	The Permit Holder shall carry out the Project in accordance with this Procedure, and any subsequent amendments approved by VFPA.	
26.	For structures and proposed interior changes to structures that are reviewable under the National Building Code and National Fire Code, the Permit Holder shall apply for a VFPA Building Permit.	40 days prior to commencing construction or any physical activities on any structures reviewable under the Code
27.	Prior to the commencement of any vessel-related activities, the Permit Holder must contact the appropriate Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) centre regarding the issuance of a Notice to Shipping (NOTSHIP) to advise the marine community of potential hazards associated with the Project.	As per Coast Guard requirements
28.	The Permit Holder shall provide a Project schedule to VFPA showing the anticipated start dates for all major phases of the Project as identified by VFPA. The Permit Holder shall notify VFPA of any material changes to the Project schedule and, upon request, shall provide an updated Project schedule.	20 days prior to commencing construction or any physical activities
29.	Prior to the commencement of any physical activities or works related to the proposed rail crossings of Robson Road, the Permit Holder shall submit to VFPA detailed design drawings to the satisfaction of VFPA of the proposed rail crossings, reflecting the specification requirements of Transport Canada's Grade Crossings Regulations and Grade Crossings Standards.	30 days prior to commencing construction of new rail crossings
30.	Prior to the commencement of construction of the Phase 2 rail works, as detailed in the submitted permit application, the Permit Holder shall submit a detailed design, including drawings, for the proposed works to the satisfaction of VFPA.	30 days prior to commencing construction or any physical activities related to Phase 2
31.	Prior to the commencement of any physical activities or works to, or within 30 metres of, any existing Metro Vancouver infrastructure, the Permit Holder shall provide an updated geotechnical report, detailed design drawings of the proposed works and an infrastructure protection and monitoring plan to Metro Vancouver.	10 days prior to commencing construction or any physical activities within 30m of Metro Vancouver infrastructure
32.	The Permit Holder shall submit a marine construction and staging plan to the satisfaction of VFPA, which includes: (a) staging and construction areas; (b) dates and hours of operations; (c) description of activities taking place; (d) participating equipment and vessels (dimensions must be included); (e) method of preferred communication; and (f) special requests and/or additional information.	30 days prior to commencing any construction activities on marine works

	The Permit Holder shall carry out the Project in accordance with the marine construction and staging plan, including any subsequent amendments approved by VFPA.	
33.	Prior to the commencement of any physical activities or works related to the pavement marking and signage, the Permit Holder shall submit to the satisfaction of VFPA detailed design drawings of the internal road layout, parking plan, and pavement marking and signage plan.	30 days prior to commencing construction of components affecting site layout
34.	Prior to the commencement of any physical activities or works on grain handling equipment, the Permit Holder shall submit an updated Fire Risk and Dust Hazard Analysis to the satisfaction of VFPA.	20 days prior to submission of a complete package of drawings to VFPA for the purposes of a building permit application for the rail unloading station superstructure
	CONDITIONS - DURING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES **All references to days in submission timing refer to business days.**	
35.	The Permit Holder shall notify VFPA upon commencement of construction, or any physical activities (e.g., mobilization to the Project site).	
36.	All general construction and physical activities related to the Project shall be conducted from **Monday to Saturday** between the hours of **7:00 am and 8:00 pm**. No construction and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of VFPA. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 20 days prior to the desired start date.	
37.	The Permit Holder shall notify VFPA of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.	
38.	The Permit Holder shall either remove from the project site all abandoned utilities or cap all abandoned utilities that conflict with the proposed Project, both underground and aboveground. At locations of connection to municipal work (i.e., at property lines), the abandoned utilities shall be capped.	
39.	The Permit Holder shall provide opportunities for interested Aboriginal groups to participate in the archaeological monitoring described in the construction environmental management plan.	
40.	If the Permit Holder encounters, expects to encounter, or should expect to encounter an actual or potential archaeological resource, the Permit Holder shall: a) Immediately stop any activities that may disturb the archaeological resource or the site in which it is contained (Site); b) Not move or otherwise disturb the archaeological resource or other remains present at the Site;	

	c) Stake or flag the Site to prevent additional disturbances; d) Immediately notify VFPA by email and phone, and e) Implement the approved Chance Find Procedure.
41.	The Permit Holder may place temporary construction trailers on the Project site while this Permit remains in effect, provided that the Permit Holder does not connect such trailers to any underground utilities without the prior written consent of VFPA which may require, at VFPA's discretion, a VFPA Building Permit.
42.	The Permit Holder, or their contractor, shall engage a qualified environmental professional to monitor the Project in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the construction environmental management plan, or VFPA, provided that monitoring will be full time when works are underway that have the potential to adversely affect fish or fish habitat.
43.	The Permit Holder shall provide weekly environmental monitoring reports to VFPA, or more frequently if VFPA requires. In addition, a summary report for the whole monitoring period shall be forwarded to VFPA within 30 days of the conclusion of the monitoring period.
44.	The Permit Holder shall carry out the Project in accordance with the construction environmental management plan provided by the Permit Holder, and any subsequent amendments accepted by VFPA.
45.	The Permit Holder shall retain a qualified environmental professional to act as an Independent Monitor responsible for reviewing the construction environmental records and on-site construction activities for compliance with the construction environmental management plan and this Permit. The Independent Monitor shall possess the following qualifications: a) Suitable education and knowledge demonstrating that they may be reasonably relied on to provide advice within their area of expertise; b) A minimum of five years of experience monitoring related types of construction activities in similar environments. The Independent Monitor shall not be an employee of the Permit Holder's organization or of a contractor/consultant retained by the Permit Holder to work on the Project in other capacities.
46.	The Permit Holder shall submit a Monitoring Work Plan. At a minimum, the Monitoring Work Plan shall describe the following: a) The role and responsibilities of the Independent Monitor, including the following provisions: i. The Independent Monitor shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice. ii. The Independent Monitor shall have the authority to direct the Permit Holder to stop a construction activity that is causing an adverse effect. iii. The Independent Monitor shall report directly to VFPA and obtain direction from VFPA on matters that arise during construction that are not described in the project permit and cannot be resolved by discussion with the Permit Holder.

	iv. The Independent Monitor shall concurrently submit compliance reports directly to the Permit Holder and VFPA within one week of site visits. b) The frequency of site visits by the Independent Monitor, with a higher frequency of site visits to occur during in-water works as compared to those scheduled for land-based construction activities. c) The manner in which notice will be given to the Permit Holder and VFPA for an activity not in compliance with permit conditions or having unforeseen adverse effects. d) The name and qualifications of the Independent Monitor. e) The name(s), role(s) and qualifications of other individuals providing specialized expertise or designated to act as the Independent Monitor during specific construction activities or times. The Permit Holder shall carry out the Project in accordance with the approved Monitoring Work Plan, and any subsequent amendments, to the satisfaction of VFPA.
47.	The Permit Holder shall avoid impacting existing groundwater monitoring wells, where reasonable. The following monitoring wells shall not be removed without approval from VFPA at least ten days prior to decommissioning: a) Within the FGT lease area: o MW19 o MW21 o MW13-5 o MW13-39 b) Within the FSD lease area: o MW18-1 o MW13-46 o MW14-2 o MW14-3 o MW14-4 o MW33FSD o MW34FSD o MW35FSD o MW36FSD Should any of the above listed monitoring wells need to be decommissioned for construction purposes or be damaged during construction, a plan for the installation of replacement monitoring well(s) shall be provided, to the satisfaction of VFPA. Without limiting the generality of permit condition No. 2, the Permit Holder shall decommission any groundwater monitoring wells approved for removal in compliance with the requirements set out in Appendix C of VFPA's Construction Environmental Management Plan Guideline.
48.	Without limiting the generality of permit condition No. 2, the Permit Holder shall conduct all activities within streambank lupine critical habitat in compliance with the *Species at Risk Act* (SARA) permit issued by Environment and Climate Change Canada. No activities within critical habitat shall commence prior to the Permit Holder receiving the SARA permit. The Permit Holder shall provide a copy of the SARA permit to VFPA at least 10 days prior to commencing activities within streambank lupine critical habitat.

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49.	The Permit Holder shall not discharge water from excavations to stormwater systems or the environment unless a dewatering and discharge plan, including water quality results, has been reviewed and accepted by VFPA. The plan must be submitted at least 10 days prior to the start of any such discharge.
50.	For each area where recycled concrete aggregate (RCA) has been re-used as road base, the Permit Holder shall conduct post-construction follow-up groundwater monitoring to confirm that the re-use of RCA has not adversely affected soils or groundwater, to the satisfaction of VFPA. The Permit Holder shall submit a groundwater monitoring plan to VFPA for review and acceptance at least 60 days prior to completion of the ground works in the subject area. The Permit Holder shall provide reports to VFPA as specified in the plan, and VFPA may require mitigation(s) based on the results. Groundwater monitoring shall continue until VFPA confirms in writing that the results are acceptable.
51.	The Permit Holder shall conduct post-construction follow-up groundwater monitoring to confirm that the installation of rammed aggregate piles through portions of the dissolved metal groundwater plume has not adversely affected groundwater quality or the movement of the plume. The Permit Holder shall submit a groundwater monitoring plan to VFPA for review and acceptance at least 60 days prior to completion of rammed aggregate pile installation. The Permit Holder shall provide reports to VFPA as specified in the plan, and VFPA may require mitigation(s) based on the results. Groundwater monitoring shall continue until VFPA confirms in writing that the results are acceptable.
52.	During pile driving construction activities onshore and in-water, the Permit Holder shall monitor the following terrestrial noise levels: a) Sound pressure measurements at a distance of 15m from equipment; b) 1-hour LAeq, and 1-min LAFmax levels and occurrence frequency from a representative location within the community. The Permit Holder shall submit a summary report detailing the noise levels recorded for each separate pile type driven in order to confirm that generated noise levels are within accepted industry standards. A summary report shall be submitted to VFPA within 5 days of initial pile driving for each representative pile type and to the satisfaction of VFPA.
	CONDITIONS – PRIOR TO OPERATION
53.	The Permit Holder shall submit to VFPA written confirmation, co-signed by Musqueam Indian Band, that a marine traffic protocol agreement addressing grain vessels calling at Fraser Grain Terminal has been established between Musqueam Indian Band and the Permit Holder. The written confirmation shall be submitted to VFPA within 12 months of permit issuance.
54.	Prior to the commencement of operations of the new shiploaders, the Permit holder shall provide written confirmation to VFPA that the existing shiploader operated at Berths #3 and #4 has been fully decommissioned.
55.	The Permit Holder shall submit an updated Stormwater Pollution Prevention Plan to the satisfaction of VFPA 90 business days prior to the commencement of operations. The Permit Holder shall carry out the Project in accordance with the updated stormwater pollution prevention plan, including any subsequent amendments approved by VFPA.
56.	The Permit Holder shall submit an updated Rail Operations Plan to the satisfaction of VFPA 90 business days prior of the commencement of operations, reflecting the opening day operating condition.

57.	Prior to the commencement of operations, the Permit Holder shall submit documentation to VFPA demonstrating opening day compliance of the rail crossing design with Transport Canada's Grade Crossings Regulations and Grade Crossings Standards.	
	CONDITIONS - UPON COMPLETION	**SUBMISSION TIMING (Business Days)**
58.	The Permit Holder shall notify VFPA upon completion of the Project.	Upon substantial completion
59.	The Permit Holder shall develop and implement an Air Emission Management Plan in accordance with VFPA guidelines and to the satisfaction of VFPA. The Permit Holder shall ensure that the Project and terminal operations are carried out in accordance with the plan, including any subsequent amendments approved by VFPA.	Draft submission: within 180 days after permit issuance. The plan must be finalized and approved upon completion of construction.
60.	The Permit Holder shall conduct dust filtration performance testing for representative filters of each class/type, during facility commissioning, to verify the assumptions of the Environmental Air Assessment. A summary report with supporting test data shall be provided to the satisfaction of VFPA, and VFPA may require additional mitigation measures based on results.	Within 40 days of completion
61.	The Permit Holder shall conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment and validate the effects on the surrounding community. The monitoring shall capture two weeks of valid noise data and be conducted in accordance with VFPA Environmental Noise Assessment Guidelines. Measurements shall be taken at VFPA approved locations. The Permit Holder shall provide the final report to VFPA, and VFPA may require mitigation(s) based on the results.	Within 240 days of completion or at the direction of VFPA.
62.	The Permit Holder shall provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.	Within 40 days of completion
63.	The Permit Holder shall provide record drawings in accordance with VFPA's Record Drawing Standards, in both AutoCAD and Adobe (PDF) format to VFPA, including a Project site plan that clearly identifies the location of works.	Within 40 days of completion
64.	The Permit Holder shall submit a Waste Management Report that documents the percentage of material diverted from landfills.	Within 20 days of completion

VFPA reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to VFPA.

LENGTH OF PERMIT VALIDITY

The Project must commence by November 30, 2019 (the Commencement Date) and be completed no later than November 30, 2022 (the Expiry Date).

AMENDMENTS

- Details of any material proposed changes to the Project, including days and hours when construction and any physical activities will be conducted, must be submitted to VFPA for consideration of an amendment to this Permit.
- For an extension to the Commencement Date, the Permit Holder must apply to VFPA in writing no later than 30 days prior to that date.
- For an extension to the Expiry Date, the Permit Holder must apply in writing to VFPA no later than 30 days prior to that date.

Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this Permit.

PROJECT AND ENVIRONMENTAL REVIEW DECISION

Project Permit PER No. 15-041 is approved by:

PETER XOTTA
VICE PRESIDENT, PLANNING & OPERATIONS
CHAIR OF PROJECT AND ENVIRONMENTAL REVIEW COMMITTEE

November 9, 2018
DATE OF APPROVAL

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PROJECT AND ENVIRONMENTAL REVIEW REPORT

PER NO. 15-041
FRASER GRAIN TERMINAL GRAIN EXPORT FACILITY

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Prepared for:
Project and Environmental Review Committee

November 9, 2018

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PORT of vancouver	**VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT**
PER No.:	**15-041**
Tenant:	**Parrish & Heimbecker Ltd.**
Project:	**Fraser Grain Terminal Grain Export Facility**
Project Location	**11041 Elevator Rd, Surrey, BC, V3V 2R8**
VFPA SID No.:	**SUR360**
Land Use Designation:	**Port Terminal**
Applicant(s):	**Casey McCawley, Parrish & Heimbecker Ltd.**
Applicant Address:	**Ste. 640, 355 Burrard St, Vancouver**
Category of Review:	**D**
Recommendation:	**That PER No. 15-041 for Fraser Grain Terminal Grain Export Facility be approved.**

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 of PER No. 15-041: Fraser Grain Terminal – Grain Export Facility (the Project) proposed by Geraldo Araujo working on behalf of Fraser Grain Terminal Ltd. (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

Fraser Grain Terminal Ltd. (FGT), proposes to construct a grain export facility at the former Bekaert steel site at 11041 Elevator Road, Surrey. The site is adjacent to the Fraser Surrey Docks (FSD) terminal, on the Fraser River. The new facility would utilize the existing FSD Terminal Berth #4 and a portion of Berth #3. Commodities proposed to be handled include wheat, barley, canola, soybeans, lentils, oats and peas.

The Project area is approximately 19 acres and the site is surrounded by industrial uses. The site is bound to the north by the FSD terminal, to the south by Elevator Road with Gunderson Slough beyond, to the east by Western Cleanwood Preservers and Robson Road, and to the west by the Fraser River. The site was previously in use as a steel manufacturing plant but has lain vacant for the past two years. The structures associated with the previous use of the site were cleared by the Applicant as part of a separate project permit (PER No. 17-035) approved in June 2017.

The new facility has been designed to handle a maximum throughput capacity of 3.5 million tonnes per annum (MT/a), with onsite storage of up to 72,000 tonnes in silos. There is an existing canola export operation at the FSD terminal, referred to as the JV facility. This is a joint venture between the Applicant and Fraser Surrey Docks Ltd and currently handles approximately 500,000 tonnes of canola per annum. This existing operation is proposed to remain, and updated infrastructure added as part of this Project would allow the JV facility to utilize the FGT shiploaders, resulting in a maximum throughput of 4 MT/a of agricultural products from the two facilities (FSD and FGT). FSD would discontinue use of the mobile shiploaders that are currently employed to load marine vessels at the terminal.

Grain would be received at the facility by rail. Upon receipt, the product may be loaded directly to a vessel if one is at berth, or stored in silos until it can be loaded. In addition to export via vessel, approximately 800,000 tonnes per annum of the product is proposed to be distributed locally by rail, bulk truck or container (also by truck).

2.1 Proposed Works

The proposed works would include the following components and activities:

- Removal of existing Bekaert building slab, foundations, utilities and existing rail spur;
- Demolition of existing 25kV substation;
- Installation of utilities (water supply, sanitary sewer, stormwater, and electrical);
- Ground densification works (grout filled Rammed Aggregate Piers);
- Construction of semi-loop rail track, receiving track and rail crossing;
- Extensions to 3 Port Authority Rail Yard (PARY) rail tracks (off-site works);
- Realignment of portion of existing JV rail track;
- Construction of Rail Unloading Station;
- Construction of 20 x 3,500 tonne above-ground corrugated and galvanized silos, 35.6m high x 14.6m diameter;
- Construction of 4 x 400 tonne above-ground storage bins, 16.5m high x 7.3m diameter;
- Construction of 1 x 710 tonne above-ground storage bin, 16.5m high x 10m diameter;
- Installation of transfer steel tower, 52m in height, containing 2 bulk weighers, 2 grain samplers and 3 bucket elevators;
- Construction of conveying equipment (comprising enclosed belt conveyors, supported by steel trusses);

- Installation of 3 stationary shiploaders, 43m in height, with choke fed or cascading type telescoping loading spouts;
- Installation of dust suppression systems on material handling equipment;
- Construction of integrated truck and railcar loading facility and container loading facility with associated container storage yard; and
- Construction of ancillary buildings – administration building, maintenance shop and electrical rooms.

The demolition and removal of the concrete slab and foundations would also include the removal and/or capping of existing abandoned utilities that conflict with the proposed Project, as well as the removal of two underground fuel storage tanks.

A portion of the proposed semi-loop rail track would be constructed through an area identified as critical habitat for streambank lupine, which is designated as endangered under Schedule 1 of the *Species at Risk Act* (SARA). The habitat is identified by Environment and Climate Change Canada (ECCC) as sub-population 2b. As a result, the Applicant has submitted an application to Environment and Climate Change Canada for a SARA permit for railway construction works within this critical habitat. Prior to any works commencing within this area, a SARA permit must be in place and all activities must be conducted in compliance with both the VFPA project permit and the SARA permit. As part of the SARA permit application, the Applicant has proposed to offset the disturbance by enhancing a nearby sub-population of streambank lupine, identified as 2a, located to the south of the site, near Alaska Way. Any works carried out to enhance the Alaska Way sub-population 2a under a SARA permit do not form part of this project permit application.

2.1.1 Associated Works not Included in Scope

In order to accommodate the construction of the new semi-loop rail track, an existing structure (Shed 4), which is located on the FSD terminal, would require demolition. This work was permitted under PER No. 12-072-1 and the work would be undertaken pursuant to that permit and does not form part of this Project.

In addition, the primary vehicular entrance to the new grain facility from Robson Road is proposed to be via a yet-to-be-constructed access road. This vehicular access was also permitted under PER No. 12-072-1 and this construction work also does not form part of the proposed Project. VFPA has received assurances from both FSD Ltd (the holders of the 12-072-1 permit) and FGT that this access would be constructed by one of these parties, under the existing permit, for the FGT Project.

2.2 Project Construction and Phasing

The proposed Project would utilize a design-build approach. As a result, some minor variation to project plans between what has been authorized and the final design is anticipated. Substantial variations to project plans may require amendment to the project permit, building permits, or both.

The construction work is anticipated to be carried out in two phases. The majority of the work detailed above would be undertaken as part of Phase 1, with an expected construction duration of 24 months. Phase 2 works would comprise extensions to rail tracks and rail switches within the PARY and would only be constructed should operating conditions at the FSD terminal change, and

require the modifications to be made – for example with the construction of the permitted direct transfer coal facility.

Mobilization to the site and establishing temporary services and power required for the construction phase would be followed by civil services works such as removal and/or capping of existing utilities and installation of various new services. Soil densification and pile driving activities would follow, along with construction of the rail unloading pit and transfer tunnel. The latter stages of Phase 1 construction activities would include assembly of the silos, erection of the shiploaders, installation of the container/rail/truck loading structure and construction of the semi-loop rail track and ancillary buildings.

As a result of the proposed phased approach to construction, the PER permit validity is recommended to be four years (until 2022).

Construction activities are anticipated to be conducted during normal VFPA construction hours of 7:00 AM to 8:00 PM, Monday to Saturday but not including holidays. Should the Applicant wish to undertake any activities outside of normal work hours, authorization from the VFPA would be required.

The works contemplated under the Project represent a capital investment value of approximately $125 million at the time of application.

2.3 Project Operations

The basic functions and operation of the various components of the Project are described below. The facility is anticipated to operate 24 hours per day, 7 days per week (excepting statutory holidays).

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Rail Service

Agricultural commodities would arrive at the facility in 112 rail car bulk unit trains. The rail carrier would deliver the unit train to the Port Authority Rail Yard (PARY), located to the northeast of the main facility. Here a site locomotive would split the train into strings of 14 cars and shunt from the PARY to the new facility.

Railcar Unloading

Upon arrival at the facility, the rail cars would be shunted through the rail unloading building by the indexer. The unloading station is enclosed by a steel frame building that accommodates two railcars plus a drip shed to the north as rain protection. Here, the product would be unloaded (2 railcars at a time) and transferred to the underground receiving conveyor in the unloading pit.

From the unloading pit, the product is directed through the steel transfer tower containing two bulkweighers, two grain samplers and three bucket elevators. The transfer tower would serve as the central receiving and dispatch point for directing grain flow from the unloading station via enclosed belt conveyors to either the onsite storage silos or to a waiting vessel via three new fixed shiploaders.

Grain Silos

25 silos of varying size are proposed for the purposes of bulk storage, providing an onsite storage capacity of 72,000 tonnes. The corrugated steel silos are each mounted on steel legs with a conical

bottom for discharge. A series of travelling belt conveyors installed above the storage silos would move grain to the appropriate storage compartment. A totally enclosed reclaim belt conveyor would be installed below each row of silos for shipping/transfer purposes.

Ship loading

Handy, Handymax and Panamax vessels with a maximum length overall (LOA) of 225 m and up to 32.3 m beam would call at the terminal for loading. The new facility would include three fixed tower shiploaders, capable of operating up to a combined maximum of 6,000 tonnes per hour. The shiploaders would also be capable of covering all the hatches of a 225 m LOA vessel, negating the need for vessel warping during loading. The larger class Panamax vessels would be loaded to the maximum capacity according to guidelines for the Fraser River draft (11.5m) and may then be topped up at another grain terminal in the region with sufficient available draft at berth.

Railcar and Truck Loading and Container Stuffing

A portion of the annual terminal throughput (approximately 800,000 tonnes) would be transferred to railcars, bulk trucks or containers for distribution to the local market via rail and truck. This local distribution element of the operation would utilize an integrated truck and railcar loading facility and container loading facility.

The integrated facility allows for a single feed system from the main storage silos to the loading facility. One bay would handle the railcars and bulk trucks, utilizing a semi-automated telescoping dust suppression hopper and the new rail spur track. The adjacent bay would handle container stuffing, utilizing a purpose-built tilting platform and a low velocity loading spout with local aspiration ducting. The container storage yard would have the capacity to store 400 TEU full and 800 TEU empty containers.

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 land use comments.

Planning supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.1.1 Land Use Designation & Policies

The Project site is located in an area designated as "Port Terminal" in the VFPA Land Use Plan. The site is additionally located in Planning Area 5 as identified in the VFPA Land Use Plan. The context statement for this Planning Area acknowledges that:

> *This area will continue to be the main hub of shipping and goods movement in the Fraser River, with anticipated intensification of use and growth in all cargo sectors.*

The proposed use of the site as a grain export facility is considered to be in conformance with the Land Use Plan context statement for Planning Area 5 and the land use designation of Port Terminal. No amendments to the Land Use Plan are required as a result of the Project.

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3.1.2 Building Permit Requirements

Prior to commencement of construction, the proposed grain silos, maintenance, administration and related buildings and some accessory structures require review under the 2015 National Building Code and 2015 National Fire Code of Canada.

The Applicant is required to obtain a VFPA building permit before proceeding with construction of those works and cannot occupy those structures until they have obtained a VFPA occupancy permit. The Applicant has not yet submitted a building permit application.

Specific conditions listed in the Project Permit that relate to Building and Code review are as follows:

- Condition No. 26 - For structures reviewable under the 2015 National Building Code, the Applicant shall obtain a VFPA building permit 40 days prior to commencement of construction;
- Condition No. 34 – The Applicant shall submit to VFPA an updated Fire Risk and Dust Hazard Analysis.

3.2 Engineering

The proposed Project intends to safely locate, clear, and remove and/or cap all existing site utilities in the areas where densification is required to meet seismic requirements, and where new utilities (water supply, sanitary sewer, stormwater, and electrical) need to be installed.

The existing 25Kv substation will be demolished and removed from site and a new substation constructed at the south end of the facility, which will be fed from the existing Robson Road line.

A new ring distribution water main will be installed around the silo area perimeter to provide water for domestic and fire-fighting services.

The Project's sanitary design includes several small pump stations that feed a collection system that discharges to the existing holding tank located in the south-west corner of the property and reduces the required depth of the new piping system.

The Project layout avoids interference with the existing Metro Vancouver Annacis Main No. 3 that crosses the site. Crossing slabs over the water main will be provided for vehicle and rail traffic.

Three new fixed shiploaders are proposed as part of the Project, all of which are required by VFPA to comply with American Society of Civil Engineers (ASCE) standards for seismic resistance, *ASCE 61-14*. In order to meet seismic performance requirements, the Applicant is proposing to utilize piled foundations fortified by a berm of densified soil to the east of the shiploader towers to mitigate for potential liquefaction.

The existing concrete slab under the former Bekaert building will be removed, including removal or capping of any underground utilities, pits, and tanks, to facilitate ground densification via Rammed Aggregate Piers (RAP) for the silo and shiploader foundations. In addition, seismic works will involve locally removing sections of the existing berth deck for pile installation, with no contact between the new piles and the existing deck or structural dock supports.

The terminal redevelopment was analyzed from the perspective of flood protection and sea level rise. The submitted assessment from Northwest Hydraulics concluded that the only elements which

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may be affected by the design flood are static structural elements of the shiploader which would be unaffected by short duration flooding. No other areas of the Project are at risk of flooding damage or contamination in a 1:200 year Annual Exceedance Probability (AEP) event.

Engineering supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.3 Transportation and Land Operations

The proposed Project includes delivery of all grain to the site by rail. To attain the stated throughput of 3.5 MT/a, the new operation is expected to receive and dispatch one 112 car unit train Monday through Saturday, and on four Sundays per year. Upon arrival at the PARY, the train will be broken into eight (8) strings of 14 cars, and a site locomotive will be used to shunt the cars to/from the facility, using the proposed new Robson Road rail crossing, to unload the grain. The total handling period for each unit train is anticipated to be 9.5 hours, which includes 7 hours of unloading grain as well as dwell time in the PARY.

This unloading process will result in a number of additional rail crossings of Robson Road per day. To attain the stated throughput of 3.5 MT/a, 309 trains need to be delivered over the course of a calendar year. With the facility assumed to be operating 7 days a week, it can be assumed that the terminal will be unloading a single train per day on a majority of days.

The unloading process will result in a number of additional rail crossings of Robson Road per day – one near Elevator Road and another near Plywood Road. For the purposes of a worst case assessment, the Applicant assumed a scenario of 2 unit trains per day arriving at the facility and analysed the traffic impact of the resultant rail crossings of Robson Road. The results use a level of service (LOS) report-card scale, which indicates the quality of traffic flow on roadway segments and at intersections, with ranges from A (free flow, little congestion) to F (forced flow, extreme congestion). The assessment found that each rail crossing event would result in a 3-minute blockage of the road, resulting in a total daily blockage time of approximately 25 minutes at each of the two crossing locations. The assessment also identified the AM peak hour as the most impacted due to higher vehicular traffic at this time, with the LOS deteriorating to LOS F along Robson Road in the AM peak hour. However, the associated AM peak hour maximum traffic queue length is approximately 120 metres, which is deemed acceptable. In addition, during the peak hour, vehicular traffic is anticipated to be exposed to a maximum of 2 rail crossings of Robson Road. The Transportation Impact Assessment concludes that the relative short duration of each rail blockage and its spread over the course of the day should have no significant impacts on the traffic network.

As a result of the design-build approach for this Project, the detailed design of the rail crossing has not yet been finalised and so the Applicant will be required to submit updated drawings prior to commencing construction. However, the Applicant has confirmed that the operation of the new Robson Road rail crossing will adhere to the rail operating procedures currently used by the terminal operator, Fraser Surrey Docks LLP. These procedures in turn comply with Transport Canada's *Grade Crossings Standards*, *July 2014*. As a result, the existing manual protection procedures would be adhered to, negating the need to construct physical crossing protection measures. Should these operating practices at FSD change or should the relevant standards be updated, a requirement for physical crossing protection may be triggered.

In addition to product being delivered by rail to the site, the operation will also generate a small amount of rail traffic for product being transferred from the facility to various feed mills in the region. Approximately 200,000 t/a of product will be transferred from the facility, which equates to 10 rail cars per day on a five day per week operation.

The rail infrastructure being proposed as part of the Project is intended to be delivered in two phases. Phase 1 includes the construction of a new semi-loop rail track to serve the proposed rail unloading building and a new spur line serving the proposed rail/truck loading structure. Phase 2 works would comprise extensions to rail tracks within the PARY and would only be constructed should operating conditions at the FSD terminal change – for example with the construction of the permitted direct transfer coal facility. To date, all rail track extension proposals are conceptual-level only, and the Applicant would be required to submit detailed drawings for approval prior to any construction commencing on the Phase 2 works. In addition, the proposed Phase 2 rail works are located on lands currently outside the Permit Holder's lease area. In accordance with Permit Condition No. 1, prior to any Phase 2 works commencing, tenure must be in place.
Road traffic resulting from the operation of the terminal, includes traffic from site employees as well as truck traffic for local grain distribution. Employee trip generation amounts to 53 vehicles per hour during the weekday AM peak and 55 vehicles per hour during the weekday PM peak hour. The new facility is expected to receive and dispatch 98 trucks daily. However, 16 of these trucks will move internally from FSD to FGT and back; and therefore, will not impact the network traffic. Therefore, the expected peak hour truck traffic is estimated to be 13 trucks inbound and 13 trucks outbound to/from the new FGT facility. The Transportation Impact Assessment concluded that when there is a rail crossing of Robson Road due to FGT, the FGT Access intersection is expected to operate at LOS C/A in the AM and PM peak hours respectively, which is within acceptable range for this operation.

The main vehicular access into the grain export facility was approved as part of a separate project permit for a Direct Transfer Coal Facility at the FSD site (PER No. 12-072-1). VFPA has received assurances from FSD (the holders of the 12-072-1 permit) and FGT that this access will be constructed in time for the FGT Project. To date, all internal site and road concepts are conceptual-level only, and must be reviewed at the time of submission of detailed site layout drawings.

Transportation has reviewed the application and requires the Applicant to ensure the following:

- Prior to commencing works related to the proposed rail crossings of Robson Road, the Permit Holder must submit to detailed design drawings of the new rail crossings.
- Prior to commencing works related to the pavement marking and signage, the Permit Holder must submit detailed design drawings of the internal road layout, parking plan, and pavement marking and signage plan.
- Prior to the commencement the Phase 2 rail works, the Permit Holder must submit a detailed design, including drawings, for the proposed works to VFPA for approval.
- The Permit Holder must submit an updated Rail Operations Plan which reflects the opening day operating conditions.
- Prior to operations, the Permit Holder will be required to demonstrate opening day compliance with Transport Canada's Grade Crossings Standards (July 2014) and Regulations (November, 2014).

These are reflected in Conditions No. 29, 30, 33, 56 and 57 in the Permit.

Transportation supports the recommendation to approve the Project subject to adherence to the listed project and environmental conditions in the Permit.

3.4 Marine Operations

The proposed Project will result in additional marine vessel traffic on the Fraser River, as the majority of the product delivered to the facility will be exported via marine vessel. Vessels calling at the terminal will utilize the existing FSD Terminal Berths 3 and 4 and will range in size from Handy to Panamax, complying with Fraser River vessel size and draft restrictions outlined in the Port Information Guide.

The operations, which include handling the existing JV facility capacity of 500,000 tonnes per annum of agricultural product and the new throughput of 3.5 MT/a of grain will result in approximately 80 vessels per annum calling at the facility. Three new fixed shiploaders will be used to load the vessels and are designed to be capable of covering all the hatches of a vessel 225 m in length.

Marine Operations has reviewed the permit application and determined that there are no substantial changes to how vessel traffic currently operates at or near the terminal facility.

As a result of the design build approach, the construction methodology for the marine works has yet to be finalised. It is anticipated that the majority of works will take place from the land but there may also be marine-based rigs utilized to undertake the works. As a result, a condition has been included in the permit requiring the submission of a marine construction staging plan.

3.5 Environmental Programs

The review of the proposed project by Environmental Programs is reflected below in Section 7, Environmental Review.

4 STAKEHOLDER CONSULTATION

The proposed Project was assessed to have potential impacts to stakeholders and the local community and consultation activities were determined to be 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.

4.1 Municipal Consultation

The proposed Project was assessed by VFPA to have potential impacts to municipal interests. A referral letter was sent to the below municipalities on November 02, 2017 notifying them of the proposed Project.

- City of Surrey
- City of Delta
- City of New Westminster

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In addition, a follow up letter detailing a number of project design changes was issued on July 19, 2018.

Municipalities responded with comments on the proposed Project. Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Impact to emergency access as a result of increased rail crossings	None required.	This issue is outside the scope of this Project. However, the Applicant is liaising with the port authority, City of Delta, Fraser Surrey Docks LLP, and the Ministry of Transportation & Infrastructure to collaborate on a joint Fraser Surrey Port Lands Emergency Response Study.
Concern with public comment period being held during summer months.	None required.	The second round of public engagement referenced by this comment was considered appropriate, as it was a second round of public consultation that the Applicant was required to undertake as a result of design changes. The Applicant had carried out an earlier round of public consultation, including a 20-business day public comment period with two open house events in November and December of 2017.
Request to conduct a cumulative effects assessment of the community and environmental impacts of the proposed facilities.	None required.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review projects. The scope of the review conducted was consistent with other similar new grain terminal projects.
Implement mitigation measures to ensure that the concerns expressed by the community regarding the increased noise associated with the shunting of train cars, the blowing of train whistles are suitably addressed.	None required.	The sounding of train whistles at road crossings is a federally regulated safety requirement, outside of the control of both the facility operators and the port authority. In addition, the crossing in question is located outside of the Project site and outside of VFPA jurisdiction.

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		The Applicant anticipates that rail cars would typically move between the terminal and the rail yard during the daytime, to reduce shunting noise at night.
Construct a new grade separated road connection across the railway tracks and Highway 17 near Grace Road with direct access to Highway 17.	None required.	The South Fraser Perimeter Road (Highway 17) is a provincial highway that is located outside of the Project site boundary and is also located outside VFPA's jurisdiction. Decisions as to whether or not direct access could be provided to Highway 17 is not within the port authority's control. However, to specifically address emergency access concerns, the Applicant is liaising with the port authority, City of Delta, Fraser Surrey Docks LLP, and the Ministry of Transportation & Infrastructure to collaborate on a joint Fraser Surrey Port Lands Emergency Response Study.
Provide the low noise initiatives outlined in the previous BKL Consultants	Condition 61	Condition No. 61 requires the Applicant to undertake noise monitoring and submit data to VFPA to confirm the predictions of the Environmental Noise Assessment.
Develop a plan to provide flood protection for FSD lands and adjacent Surrey Lands.	None required.	With the exception of utilizing the FSD Terminal berths, the Project site is not located within FSD lands. The Flood Inundation Assessment submitted with the permit application concluded that the only elements which may be affected by the design flood are static structural elements of the shiploader, which would be unaffected by short duration flooding. No other areas of the Project are at risk of flooding damage or contamination in a 1:200 year Annual Exceedance Probability (AEP) event

4.2 Regional Agency Consultation

The proposed Project was assessed by VFPA to be of potential interest to regional agencies. A referral letter was sent to Metro Vancouver on July 19, 2018 notifying them of the proposed Project.

Metro Vancouver responded with comments on the proposed Project. Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Environmental Air Assessment - the assessment should consider the new NO_2 CAAQS for the 1-hour and annual averaging period.	None required.	The ambient air quality objectives considered for NO_2 in the assessment were agreed to with VFPA and coincide with Metro Vancouver's currently published NO_2 objectives.
Environmental Air Assessment - Request for details of location of sensitive receptors and exceedances.	None required.	There were no exceedances at any of the sensitive receptors.
Environmental Air Assessment – Querying inclusion of PARY in fence line.	None required.	The Project proposes works within the PARY so the Project boundary was extended to include this area.
Impact on existing Metro Vancouver Services.	Condition 31.	The Applicant has committed to ongoing engagement with Metro Vancouver and Condition No. 31, requiring submission of updated geotechnical reports and design drawings to Metro Vancouver in advance of relevant works, has been included in the project permit.
Invasive Species - Recommendation for the Applicant to use the Best Management Practices (BMPs), developed by Metro Vancouver in partnership with the Invasive Species Council of Metro Vancouver, to develop species-specific invasive species management protocols for the site.	None required.	The Applicant has committed to partner with the Invasive Species Council of BC (ISCBC) to deliver site-specific treatment for invasive species identified onsite in accordance with ISCBC BMPs.

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4.3 Federal and Provincial Agency Consultation

The proposed Project was assessed by VFPA to be of potential interest to Transport Canada's Navigation Protection Program. A referral letter was sent to Transport Canada on November 02, 2017 notifying them of the proposed Project, and a follow up letter detailing a number of project design changes was issued on July, 19, 2018.

Transport Canada's Navigation Protection Program (NPP) responded on November, 03, 2017, noting that they considered the proposed works to fall outside the mandate of the NPP.

4.4 Adjacent Tenant Consultation

The proposed Project was assessed by VFPA to have potential impacts to 24 adjacent VFPA tenant operations. A referral letter was sent to the following VFPA tenants on November 02, 2017 notifying them of the proposed Project and a follow up notification letter was sent on July 19, 2018 to advise of a number of design changes put forward by the Applicant:

- 425480 B.C. Ltd.
- Canadian Pacific Railway Company
- Catalyst Paper
- Fraser Surrey Docks Limited Partnership
- Freeport Properties Ltd.
- Interfor Corporation
- Mainland Sand and Gravel Ltd.
- Seaspan Ferries Corporation
- Republic Services of British Columbia, Inc.
- Wesik Enterprises Ltd.
- Western Cleanwood Preservers Limited Partnership
- Westran Intermodal Ltd.
- Data Audit Industries Inc.
- 661010 B.C. LTD
- Alpaca Marine LTD.
- Gary Anderson
- Glen Alstad
- Nordel Custom Marine LTD.
- North Delta Seafoods LTD.
- James Vestad
- Rick Kawano
- Jim Jones
- Snowfall Fishing CO. LTD.
- Variety Marine Services LTD.

Western Cleanwood Preservers responded with comments on the proposed Project, specifically querying the Project site boundary and potential impact to their tenanted area. VFPA responded to the tenant, clarifying that the Project does not include any works on lands currently under Western Cleanwood Preservers lease. No further action or mitigation is required.

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4.5 Marine Users Consultation

The proposed Project was assessed by VFPA to have potential impacts to marine users. A referral letter was sent to the following Marine Users Group on November 02, 2017 notifying them of the proposed Project, and a follow up letter detailing a number of project design changes was issued on July, 19, 2018:

- Pacific Pilotage Authority
- Fraser River Pilots

The Chairman of the Fraser River Pilots responded via email on November 3, 2017, to advise of the pilots' support for the proposed Project.

4.6 Industry Association Consultation

The proposed Project was assessed by VFPA to be of potential interest to Industry Associations. A referral letter was sent to the following industrial associations on November 02, 2017 notifying them of the proposed Project:

- Council of Marine Carriers
- Shipping Federation of Canada
- Chamber of Shipping BC

VFPA did not receive any comments from the industry associations.

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.

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5 PUBLIC CONSULTATION

The proposed Project was assessed by VFPA to be a Category D Project with potential impacts to community interests in the surrounding area during operations and construction activities. These include potential impacts such as increases in traffic, and potential environmental and health effects.

As a Category D Project, public consultation was required to be conducted by the Applicant during both the Preliminary Review and Application Review phases.

The Applicant was required to conduct a 20-business day preliminary comment period prior to submitting a complete project permit application to VFPA. The Applicant carried out the preliminary comment period, referred to within this Report as Round One, in November and December 2016. As part of the Application Review of the proposed Project, the Applicant was also required to conduct public consultation activities with a 20-business day public comment period and to host public information sessions. The Applicant carried out these public consultation activities on the proposed Project in November and December 2017. These activities are referred to as Round Two.

After conducting the Round Two public consultation, the Applicant notified VFPA of their intention to make design changes to the proposed Project. This resulted in an additional round of public consultation being required in July and August of 2018. These activities are referred to within this Report as Round Three.

5.1 Summary of Public Consultation – Preliminary Review | Round One

The Applicant carried out the Round One public consultation in November and December 2017 to gather feedback from public and stakeholders regarding the proposed Project, and the scope of technical and environmental studies to be undertaken.

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 second round of consultation.

Public consultation and engagement activities

The following were conducted by the Applicant from November 3 to December 1, 2016:

- Project website developed and launched;
- On-line feedback form developed;
- Information brochure developed for download or hardcopy, which provided background information on the proposed Project, potential technical studies and details on how to participate in the comment period;
- Two public information sessions hosted; one in Delta (November 16, 2016) and one in New Westminster (November 26, 2016).

The following notifications for the Round One comment period were undertaken:

- Mailing 6,800 letters to residents in Surrey, Delta and New Westminster (see maps below);
- Hand-delivering 200 letters to residents in Surrey and Delta in the areas adjacent to River Road;
- Placing advertisements in the New Westminster Record (November 3, 2016), the Surrey Leader (November 4, 2016) and the Delta Optimist (November 4, 2016) regarding the preliminary comment period and the public information sessions.

The maps below detail the notification areas for the residential notification.

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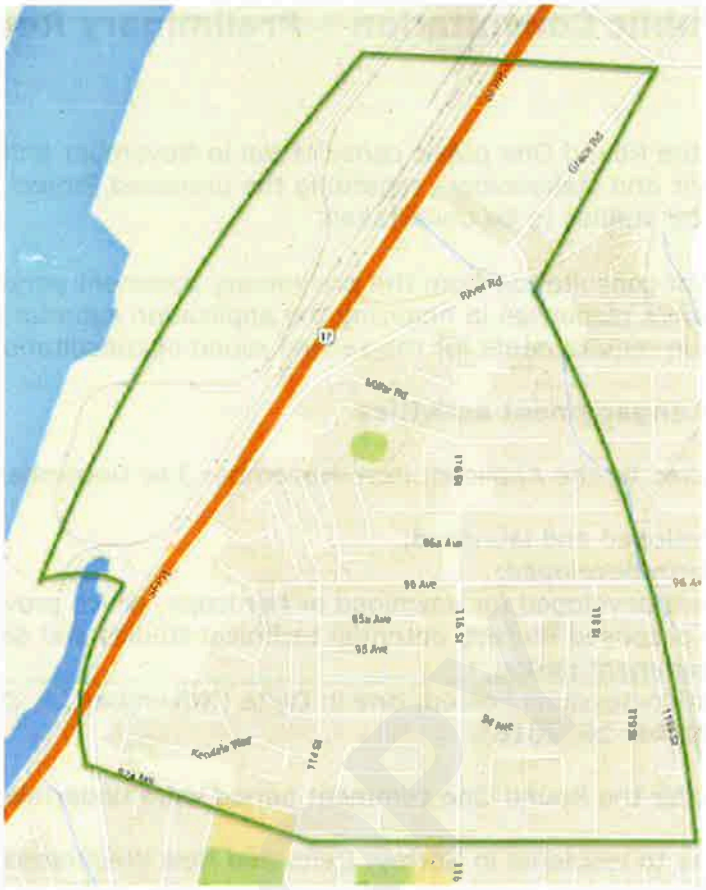

Figure A – Residential notification area – Surrey/Delta

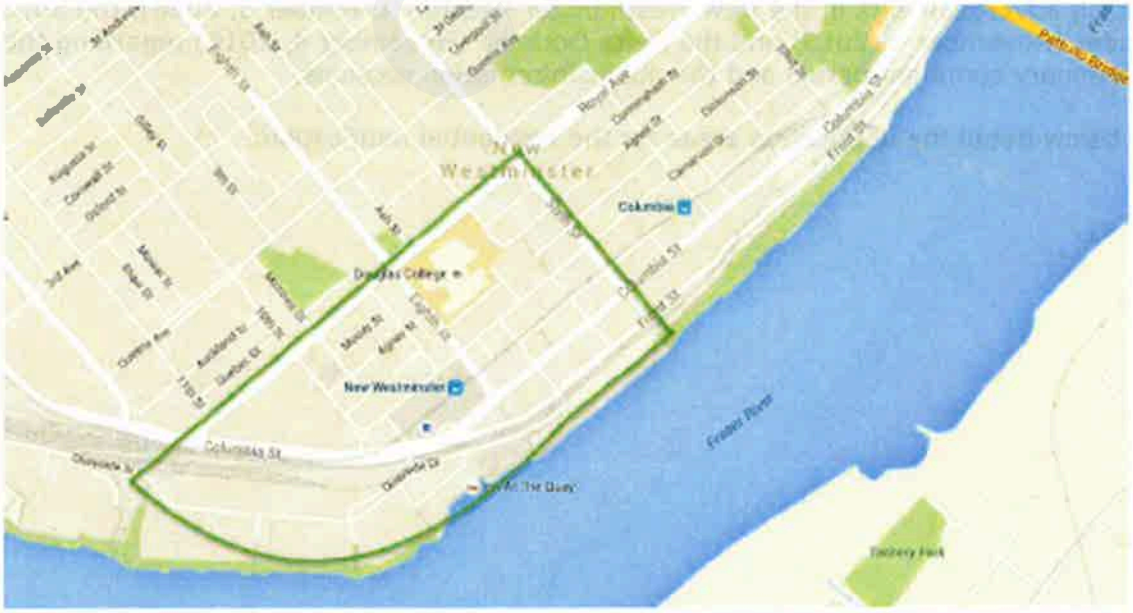

Figure B – Residential notification area – New Westminster

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Figure C – Residential notification area – New Westminster (Queensborough)

Information sessions

Two information sessions were held for Round 1 public consultation. These sessions were drop-in events with printed materials available for review and take-away. Staff and technical experts from the Applicant's Project team were available to provide additional information and to answer questions. Representatives from VFPA were in attendance to answer questions regarding the PER process.

The first session was held on Wednesday, November 16, 2016 at Trinity Lutheran Church in Delta from 4:00 p.m. to 6:00 p.m. and 41 people were in attendance. The second event was held on Saturday, November 26, 2016 at the Old Crow Coffee Co. in New Westminster from 2:00 p.m. to 4:00 p.m. and 21 people attended.

During the consultation period, public participation was as follows:

- 62 individuals attended the two information sessions;
- 29 individuals completed the online feedback form;
- 13 people requested a follow up by the Project team;
- Four written submissions were received by email; and
- 90 people requested to be added to the newly created Project database to receive updates about the proposed Project.

Comments from the public were mainly related to the impacts of the increase in traffic and associated noise from vehicles and trains, potential environmental and health effects (especially dust), light pollution, spill prevention and response procedures, and view impacts.

A summary description of the Project was posted on VFPA's website in January 2017.

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. The reports were posted on VFPA's and the Applicant's websites in January and March 2017 respectively.

5.2 Summary of Public Consultation – Application Review | Round Two and Round Three

The objective of public consultation during the Application Review phase is to solicit feedback from the public on the proposed Project, the completed technical studies, and proposed mitigations during construction and operation.

Two rounds of public consultation were held in the Application Review phase due to the Applicant making substantial changes to the design of the Project in early 2018.

VFPA considered the records of public consultation, including all comments received and the Applicant's responses to comments, when determining mitigation requirements and in making a decision on the proposed Project.

5.2.1 Public Consultation Round Two

Round Two of public consultation was held from November 15 to December 12, 2017 and included the following:

- Updating the Project website;
- Hosting two open houses; one in New Westminster (Thursday, November 30, 2017) and one in Surrey (Saturday, December 2, 2017);
- Developing a discussion guide and boards with key information about the Project;
- Hand-delivering and mailing postcards/letters to local residents and businesses;
- Sending email notifications to stakeholders on the Project database;
- Emailing notifications to industry organizations, municipal and provincial contacts;
- Placing advertisements in the Delta Optimist (November 15, 2017), Surrey Now-Leader (November 15, 2017), North Delta Reporter (November 16, 2017), and the New Westminster Record (November 16, 2017) regarding the public consultation period and the open houses;
- 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 and hand-delivered notifications to the same populous as per the Round One public consultation detailed above. The notification letter, detailing the consultation period and the upcoming open houses, was sent November 15, 2017. On the same day, an e-mail was also sent out to those who had signed-up to receive Project updates via the Project database.

Open houses
The first open house was held on Thursday, November 30, 2017 between 5:30 p.m. and 8:30 p.m. at the Inn at the Quay in New Westminster and was attended by 13 people. The second was held

on Saturday, December 2, 2017 between 11:00 a.m. and 2:00 p.m. at Royal Heights Elementary School in Surrey and was attended by 10 people.

The open houses 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:

- 23 people attended two open houses;
- 13 people completed the feedback form;
- 3 submissions were received via email;
- 36 people requested to be added to the Project database; and
- VFPA received comments via email from one member of the public, who sits on the VFPA's Delta Port Community Liaison Committee.

Comments from the public were mainly related to the potential impacts from increased traffic (rail and truck), environmental and health effects (including air quality, dust suppression and lighting), and noise concerns during both construction and operations.

The Applicant provided a detailed summary of the public consultation process and all comments received in an *Application Review Phase Consultation Summary Report*. The Applicant also provided an *Application Review Phase 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's and the Applicant's websites in January and March 2018 respectively.

5.2.2 Public Consultation Round Three

An additional 15-business day round of online public consultation, referred to as Design Amendments Consultation in the submitted consultation summary and consideration reports, was held from July 23 to August 13, 2018.

This round of consultation was held online only, and was requested due to the significant design changes put forward by the Applicant after completion of the Round Two consultation in late 2017. This final round of consultation included the following:

- Updating the Applicant's Project website;
- Developing an online presentation with key information about the design amendments to the Project;
- Hand-delivering and mailing postcards/letters to residents and businesses;
- Sending email notifications to stakeholders on their Project database;
- Placing advertisements in the North Delta Reporter and the New Westminster Record (July 19, 2018), and the Delta Optimist and Surrey Now-Leader (July 20, 2018), to notify the public of the online consultation period;
- Creating an online 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 and hand-delivered notifications to the same populous as per the Round One and Round Two public consultation detailed above. The notification letter, detailing the online

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consultation period was sent on July 23, 2018. An email was also sent out to 181 people on July 24, 2018 to those who had signed up to receive Project updates via the Project database.

During the online consultation period, public participation was as follows:

- 13 people completed the feedback form;
- Three submissions were received via emails; and

Comments from the public were mainly related to the potential impacts from increased traffic (rail and truck), environmental and health effects (including air quality, dust suppression, noise, and lighting), and noise concerns during both construction and operations.

The Applicant provided a detailed summary of the public consultation process and all comments received in an Application Review Phase – Design Amendments Consultation Summary Report dated September, 2018. The Applicant also provided an Application Review Phase – Design Amendments Consideration Report dated September 2018, 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's and the Applicant's websites in October, 2018.

Below is a table summarizing issues raised by the public in the three rounds of consultation conducted during the PER process, and how they were considered by VFPA as part of the review.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Air Quality		
Air emissions & assessment: Concerns raised in Rounds One and Two regarding air quality issues in relation to the increase in truck, vessel and rail traffic, with a focus on whether the scope of the Environmental Air Assessment included supply chain and PARY works.	In Round One the Applicant confirmed that the Environmental Air Assessment would include marine, rail, on-road, non-road, stationary and fugitive emissions as well as supply chain activities within the port authority jurisdiction. Further confirming that a Level 2 Assessment would be conducted. In Round Two the Applicant again confirmed that all truck, rail and marine traffic sources, and all rail traffic in the PARY were included in the Environmental Air Assessment.	None required.
Dust: Concerns were noted regarding the unloading, conveying and loading of grain throughout the terminal.	The applicant undertook a number of studies and refined their designs to include the following: • A fully enclosed conveying system with a built-in-dust suppression system; • Shiploaders equipped with enclosed loading spouts to minimize dust emissions; • Replacing the current shiploader at berths 3 and 4 with a new ship loader that will also load grain from the Joint Venture facility; • Constructing the storage silos to ensure that the air velocity is below the minimum velocity which keeps dust airborne.	Condition No. 54 requires the Applicant to decommission the existing shiploader operated at berths #3 and #4. This ship loader currently loads grain from the Joint Venture facility. Condition No. 24 ensures that the final design and construction of the three shiploaders meet the fugitive dust management performance levels set out in the Environmental Air Assessment. . Condition No. 59 requires the Applicant to develop and implement an Air Emissions Management Plan and to ensure that the terminal is operated in accordance with the plan. Condition No. 60 requires the Applicant to conduct

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
		dust filtration performance testing for representative filters of each class/type, during facility commissioning, to verify the assumptions made in the Environmental Air Assessment. Additional mitigation measures may be required based on results.
Inclusion of Shore Power	At present only a very limited number of bulk grain marine vessels are equipped with Shore Power capability, therefore it was deemed not effective from a cost or environmental benefit perspective to install this technology or include it in any assessments. Modern ships and improved emissions standards will however help reduced emissions in the coming years.	None required.
Joint venture Emissions: Inclusion in the Air Assessment scope	The Applicant confirmed that emissions from the Joint Venture site were included in all data provided for the baseline Environmental Air Assessment.	None required.
Climate Change: Request for the Environmental Management Plan to include operational mitigation measures and measures to adapt to climate change impacts.	The Applicant undertook a Flood Inundation Assessment as part of their application submission to the port authority, which reviewed a 1:200 year Annual Exceedance Probability event. The report concluded that the only elements which may be affected by such a flood would be the static structural elements of the ship loaders, which would be unaffected by short duration flooding. The elevation of the site itself and design features, such as elevated silos, ensure the terminal will withstand flood events and climate change effects of a 0.5m sea level rise.	None required.
Coal at FSD: Queries during Rounds One and Two about the	The Applicant stated that they could only comment on matters relating to the Fraser Grain Terminal permit and that the two projects were separate and unrelated.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
compatibility of the proposed Project with the approved coal Project and the potential for cross-contamination between coal and grain.	With regards to potential cross-contamination issues, the Applicant noted that a number of grain terminals currently operate in Vancouver in close proximity to other non-grain terminals. The following mitigation measures have been built into the design to ensure grain is not compromised: • Totally enclosed conveyors; • Totally enclosed grain elevators; • Enclosed silos; • Covered receiving pits.	
Public Consultation: During Round Three of public consultation, the credibility of the consultation process in New Westminster was questioned.	The respondent had believed that consultation for the Project had taken place only once in New Westminster. The Applicant detailed all the previous rounds of public consultation including the dates and locations of meetings held in New Westminster.	None required.
Contaminated Soil: Suggestion during Round One to remove all of the contaminated soil from the Project site to allow for more flexibility in design and allow for a greater number of smaller silos so as to reduce the view/shade effects of the Project on the	The Applicant considered the cost and potential risks and impacts associated with the removal of soil and groundwater contamination when designing the Project. The final orientation and number of silos minimized ground densification over contaminated soils, which will result in less ground disturbance. The Construction Environmental Management plan (CEMP) and Soil and Groundwater Management Plan will be implemented to reduce potential adverse environmental effects during construction.	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
surrounding community.		
Cumulative Effects: In Rounds One and Two, the issue of cumulative effects from the Project were raised both in relation to other existing or proposed Projects and the impacts of increased rail traffic and emissions.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review Projects. 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.	None required.
Dredging: In Round One the need for dredging was raised in relation to the Project.	The Applicant confirmed that no dredging would be required for the Project.	None required.
Fish, Wildlife, Vegetation and species-at-risk		
Review by Environment and Climate Change Canada (ECCC): During Round Two, ECCC participation in the review of the Project was requested.	The Applicant confirmed that ECCC had been contacted with regard to potential effects to Streambank Lupine critical habitat. A *Species at Risk Act* (SARA) permit would need to be obtained from ECCC before works in the critical habitat zone can proceed.	Condition No. 48 requires that the Applicant shall conduct all activities within Streambank Lupine critical habitat in compliance with a SARA permit to be issued by ECCC. No activities can take place without receiving the SARA permit. A copy of the SARA permit must be sent to VFPA 10 days prior to commencing activities within Streambank Lupine critical habitat.
Invasive species: During Round Two, the issue	The Applicant submitted a CEMP, which includes a provision for an invasive species management plan for vegetation and	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
of the removal of invasive species was raised.	wildlife including mitigation measures for invasive plant management.	new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.
Human Health Assessment: In Round One, it was suggested that a Human Health Assessment should be added into the scope of technical studies.	VFPA does not require that a Human Health Risk Assessment be undertaken as part of the PER process. However, air quality and noise considerations were included in the review process.	None required.
Lighting: During all rounds of public consultation, the issue of lighting for the proposed facility was highlighted as a potential issue and concern to the community.	A Lighting Plan and Lighting Impact Statement were submitted as part of the permit application, which described the Project design considerations and proposed lighting mitigations. Light spill/sky-glow effects to nearby residential areas have been assessed as being minimal, due in part to the distance to local residences and effective light designs incorporating industry best practices. Lights in the container and shipping areas, as well as those on the walkway to the ship loading area, have the most potential for light trespass. These lights will be aimed downwards and away from residences. At night, exterior lighting will be operated at exterior-emergency levels and full lighting will only be turned on when required for nighttime operations. Light shields may be adjusted during installation should adverse effects to nearby residences be detected.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Noise		
Environmental Noise Assessment: During Round Two, questions were asked regarding how noise sensitive receptors were chosen and if rail traffic (including shunting and whistles) were assessed as part of the Environmental Noise Assessment report.	Noise sensitive receptors were selected as per VFPA PER requirements and included the first two rows of dwellings on both sides of the Fraser River. Rail traffic noise was assessed as part of the Environmental Noise Assessment with additional penalties applied for shunting and whistles to account for the increased annoyance from these particular sources.	None required.
Construction noise: During Rounds Two and Three, questions were raised regarding what mitigation measures would be in place to combat noise during construction, especially pile driving.	The Applicant submitted a CEMP, which outlines a number of mitigation methods to help minimize disruptions from noise during construction as follows: • Undertake construction activities within VFPA's standard hours of construction: Monday to Saturday, 7:00 a.m. to 8:00 p.m.; • Provide residents and businesses with 10 business days' notice prior to noisy work beginning; • Turn off equipment when not in use; and • Enforce speed limits on site.	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction. Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP. Condition No. 22 requires the Applicant to distribute a construction notice to residents and businesses 10 businesses days prior to work commencing. Condition No. 36 restricts construction hours (Monday – Saturday: 7:00 a.m. to 8:00 p.m.). Condition No. 52 requires the Applicant to monitor terrestrial noise levels

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
		during pile driving construction activities onshore and in-water. The Applicant is to submit a summary report detailing the noise levels recorded for each separate pile type driven in order to confirm that generated noise levels are with the accepted industry standards.
Current noise levels: In Rounds One and Two, concerns were raised regarding current noise levels in the area and how these could be impacted by the construction and operation of the proposed facility. Community members were also concerned regarding increases in vessel and train traffic, especially whistles.	The Applicant undertook an Environmental Noise Assessment Report, which benchmarked current noise levels in the community. The report predicted the increase of noise as a result of the Project would be less than 1 dBA with a maximum increase of approximately 2 dBA when the facility is operating at full capacity. The Environmental Noise Assessment Report also concluded that the dominant source of noise in the area is Highway 17, and that an increase of less than 3 dBA over time is likely to go unnoticed.	Condition No. 61 requires the Applicant to conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment report and validate the effects on the surrounding community. Additional mitigation measures may be required based on the results of the post construction monitoring.
Operational noise: In Rounds One and Two, operational noise questions were raised relating to what kind of noise could be expected, what	A number of low noise initiatives have been built in to the design of the Project by the Applicant such as: • Installing fan silencers; • Using fully enclosed conveyor systems with low noise rollers; and • Limiting container yard activities to daytime/weekdays.	Condition No. 61 requires the Applicant to conduct noise monitoring to confirm the predictions of the Environmental Noise Assessment report and validate the effects on the surrounding community. Additional mitigation measures may be required

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
mitigation methods would be in place and what the hours of operation would be.	The Applicant noted that although activities in the container yard would be restricted to daytime/weekday only, shipping and unloading of rail cars could occur at any time – i.e. 24 hours per day / 7 days a week.	based on the results of the post construction monitoring. Condition No. 62 requires the Applicant to provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.
Train noise (whistles & horns): Throughout the public consultation period, the issue of train noise (whistles, horns and shunting) especially at night was raised as a major concern.	The Applicant noted that the sounding of train whistles at road crossings is a federally regulated safety requirement, mandated to provide heightened safety at rail crossings for road users. In addition, the crossing in question is outside of both the Project site and VFPA's jurisdiction. Rail cars will typically move between the terminal and the rail yard during the daytime. Loading of vessels and the receiving and unloading of rail cars could occur at any time – i.e. 24 hours per day / 7 days a week.	None required.
Odour: In Round One, the issue of odour was raised.	The Applicant stated that there would be no odour associated with grain storage or transportation. This would be achieved by ensuring the grain did not spoil by: keeping it dry, minimizing storage time (an average of 8 days) and minimizing time for product deterioration.	None required.
Port Development / Land Use:	The Applicant responded that in the current VFPA Land Use Plan, the land is designated	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
During Rounds One and Three, a number of land use and development questions were raised including the need for a land use re-designation, site choice clarification given proximity to residential uses and inclusion of green space in the design.	as industrial land and the facility will replace an existing derelict facility. The site is the preferred location due to ease of access to existing marine, road and rail modes. Incorporating a green space is outside the scope of the Project and would be counter to the current Land Use Designation for the area.	
Rodent Control: In Round One, the control of rodents at the facility was queried.	The Applicant has integrated the following design measures to mitigate rodents: • Fully enclosed conveying equipment; • Elevated steel silos; • House cleaning procedures to quickly eliminate any spilled product; • Frequent sweeping; and • Utilizing rodent capture devices.	None required.
Short-sea shipping: In Round One, it was queried whether the facility would be used for trucking or as a point of short-sea shipping.	The Applicant responded that the majority of the grain would be received via rail and transferred to the storage silos. A small amount of grain would be loaded directly onto vessels. From the silos, 7/8 (the majority) of the grain will be loaded on to vessels with the remaining product transferred into containers, rail cars or trucks. There may be opportunities to explore short-sea shipping in the future, however this is unlikely as this is not the most efficient supply chain arrangement for this commodity.	None required.
Spill Prevention & Emergency Response		

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Dust combustion: In Round One, information and mitigation measures were requested in relation to dust combustion.	The Applicant noted that the following design features have been included to combat dust: • A baffled and aspirated unloading pit; • Slow speed, totally enclosed conveyors; • Slow speed, totally enclosed elevators; • 'Bean ladders' with slatted baffles to reduce speed and distribute the product in the storage spouts; • Sealed and cascading ship loading spouts; • Sealed spouts for railcar, truck and container loading; and • Air cleaning systems at all transfer points to capture dust. With regards to combustion, the following design features have been built into the Project: • Individual dust filters to minimize intra-plant dust transport; • Heat and spark detectors will be used at critical points to avoid potentially hazardous situations; and • Countermeasures will be in place in case of explosions or fires in equipment which include explosion relief panels, sprinklers and deluge valves. The Applicant also undertook a Spill Prevention, Emergency Response and Hazardous Materials Handling Plan, and a Fire & Explosion Plan as part of the PER application. These reports detail emergency procedures should a dust combustion event occur.	Condition No. 34 requires the submission of an updated Dust Hazard Analysis.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Emergency response: During Rounds One and Two of public consultation, the emergency response capability of the facility was raised as a concern.	During Round One, access for first responders and how increases in traffic would impact response times was questioned. The Applicant undertook a Spill Prevention, Emergency Response and a Hazardous Materials Handling Plan, and a Fire & Explosion Plan. Both documents outlined that the facility is integrated within FSD's terminal dock infrastructure, and operated by FSD personnel. The facility will be under FSD jurisdiction, and all emergency procedures for the wharf area will follow FSD plans. In Round Two, it was suggested that Metro Vancouver's Proximal Work Requirements should be considered when developing an Emergency Response Plan. The Applicant stated that the construction contractor will be required to identify their procedures for avoiding damage to utilities and compliance with the utilities conditions for working around infrastructure including Metro Vancouver's Proximal Work Requirements.	Condition No. 62 requires the Applicant to provide an inventory of all alarms utilized at the facility in order to demonstrate that best industry practices have been considered. The inventory should include, but not be limited to, all alarms associated with processes, stationary equipment, mobile sources, and loading operations. The inventory shall detail location, type of alarm, sound level, and sound characteristics.
ECCC participation: During Round Two, it was requested that ECCC enforce and address any product spill issues.	The Applicant responded that best practices described in the Spill Prevention, Emergency Response and Hazardous Materials Handling Plan are consistent with federal guidance. No issues requiring ECCC are anticipated.	None required.
Spills – general: During Rounds Two and Three, the issue of how spills would be managed and	The Applicant submitted a Spill Prevention, Emergency Response and Hazardous Materials Handling Plan as part of the permit application. The plan was developed in accordance with industry and regulatory best practices, as well as port authority guidelines. The plan includes procedures for emergency response, spill prevention,	Condition No. 16 requires that an updated CEMP document be sent to VFPA should it be modified or new procedures added to address site conditions during construction.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
mitigated were raised.	containment and clean up during facility operations. FSD also have a Spill Prevention Plan for the area as a whole. The CEMP also includes a section on spill prevention and emergency response during construction of the facility.	Condition No. 44 requires the Applicant to carry out the Project in accordance with the CEMP.
Spills – marine accident: During Round Three, concern was raised relating to how the size/numbers of vessels navigating the Fraser River could elevate the chance of a marine accident.	VFPA operations require all vessels to have navigational aids and the Fraser River is a mandatory pilotage area. Facility operators will therefore work closely with the port authority to ensure vessel safety.	None required.
Stormwater Pollution Prevention		
Groundwater treatment: During Round Two, a question was raised regarding the treatment of groundwater at the facility and whether the treatment centre discharged into the local sanitary or storm sewer.	VFPA understands that most stormwater runoff would be treated at the site's main oil and grit separator prior to discharge. The separator would remove sediment, total suspended solids, hydrocarbons and free oil from stormwater runoff. The Applicant indicated that the oil and grit separator will be inspected regularly and cleaned. Material removed by the separator will be disposed of at a facility permitted to take such waste. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River.	Condition No. 55 requires the Applicant to submit an updated Stormwater Pollution Prevention Plan (SPPP) prior to commencing operations.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
Potential spill: During Round Two, a concern regarding how potential spills could affect stormwater runoff was raised.	The Applicant developed a Stormwater Pollution Prevention Plan (SPPP) as part of their PER application. The Plan, developed in accordance with industry best practices and VFPA guidance, details how spills will be managed and mitigated. This is aligned with the Applicant's Spill Prevention, Emergency Response and a Hazardous Materials Handling Plan.	Condition No. 55 requires the Applicant to submit an updated SPPP prior to commencing operations.
Traffic		
Cumulative effects: In Round Two of public consultation, the issue of cumulative effects from traffic (marine, rail and vehicle) in relation to other permitted or proposed developments at FSD were raised.	A cumulative effects assessment is not required under CEAA 2012 - the legislative framework under which Canadian port authorities review Projects. 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.	None required.
Rail blockages at level crossings: During Round Two, the issue of overnight blockages at rail crossings and how this will result in noise from whistles and shunting was raised.	The Applicant noted that although the rail operators may deliver rail cars to the rail yard at any time, rail cars will typically move between the terminal and the rail yard during the daytime. There will be noise associated with this (shunting etc.) but it will likely be during the daytime as opposed to overnight. The Applicant noted that the sounding of train whistles at road crossings is a federally regulated safety requirement, mandated to provide heightened safety at rail crossings for road users.	None required.
Rail track extension:	The Applicant confirmed that the existing PARY configuration crosses multiple underground services. Each crossing is	Condition No. 63 requires the Applicant to provide

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
During Round One, a concern was raised over existing and future extensions of the rail tracks as they extend over Metro Vancouver water utilities.	designed according to required codes for the protection of these services. Any extension of the rail tracks would be designed and built according to these codes to ensure the buried services are not damaged.	record drawings of the Project including a Project site plan that clearly identifies the location of works. Condition No. 31 requires the Applicant to liaise with Metro Vancouver and supply detailed design information on any Project elements that may impact Metro Vancouver utilities.
Rail traffic increases: During all three rounds of public consultation questions were raised with regards to increases of rail traffic focusing on: number of rail cars per train, impact on level crossing congestion and compatibility with a separate proposed potash project in the vicinity.	The Applicant noted that all traffic interactions between road and rail were assessed as part of the PER process. It was also noted that longer blockages at rail crossings may occur during train arrival/departure times, but these are expected to occur overnight and therefore will have little impact to the road network. Each train will have up to 112 cars. With regards to the compatibility with other proposed developments in the area, the Applicant noted that other applicants, FSD and VFPA were in regular communication to ensure that the proposed designs were compatible with each other.	None required.
Shipping traffic increases: During Round One, questions were raised regarding: increases in ship traffic; the frequency and size of ships servicing the terminal; and the use of pilots and	The Applicant responded that the facility would receive between 80 and 100 bulk vessels per year (approximately 1 – 3 vessels per week), including Panamax, Supramax and Handy-size vessels. VFPA is responsible for the safe, efficient and reliable movement of marine traffic within their jurisdiction. VFPA operations require all vessels to have navigational aids and the Fraser River is a mandatory pilotage area. Facility operators will work closely with VFPA to ensure vessel safety.	None required.

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Issue	VFPA Considerations & Mitigations	Additional Mitigations and Permit Conditions
navigational aids.		
Vehicle traffic increases: During Rounds One and Two, concerns regarding a potential increase in vehicle traffic, especially trucks, were raised.	A Transportation Impact Assessment and a supplementary Study Memo were produced by the Applicant. Both documents concluded that impacts from the Project to the road network would be minimal.	None required.
View and Shade: During Rounds One and Two, potential impacts from the facility on the view from residential areas was raised.	The Applicant produced 'before and after' photos as part of their Viewscape and Shade Study, which also detailed other potential view and shade impacts of the facility. The Viewscape and Shade Study concluded that the Project will have minimal impact on views from the surrounding communities. Likewise, the shade impact on the site and surrounding areas would also be minimal, given the current industrial land-use zone surrounding the site, as well as the large distances from the site to any public place, roadway, pathway, gathering space or residence. The Applicant referenced the Viewscape and Shade Study which indicated that existing tall, dense vegetation in the Project area and surrounding community shields most of the new infrastructure from view. Any visual changes that do occur would however be consistent with existing industrial and transportation land uses in the area.	None required.

VFPA has reviewed the record of public consultation, and provided that the mitigation measures and conditions outlined in the table above are included in the Permit, is of the view that the Project has adequately addressed the concerns raised during public consultation.

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6 ABORIGINAL CONSULTATION

VFPA reviewed the proposed works and determined that the project may have the potential to adversely impact Aboriginal or Treaty rights.

Overview
The following Aboriginal groups have been consulted:

- Cowichan Tribes
- Halalt First Nation
- Hwlitsum First Nation
- Katzie First Nation
- Kwantlen First Nation, via Seyem Qwantlen Business Group
- Lake Cowichan First Nation
- Lyackson First Nation
- Musqueam Indian Band
- Penelakut Tribe
- Sto:lo Nation and Tribal Council, via People of the River Referrals Office
- Qayqayt First Nation
- Semiahmoo First Nation
- Stz'uminus First Nation
- Tsawwassen First Nation
- Tsleil-Waututh Nation.

The following consultation activities were conducted:

Pre-Application Phase:
Prior to submission of a permit application, the Applicant conducted preliminary engagement with the above-listed Aboriginal groups, as directed by VFPA. From February 2016 to February 2017, the Applicant sent introductory emails and project updates to all Aboriginal groups. The Applicant also met and corresponded with Aboriginal groups who expressed an interest in the proposed Project.

Application Phase:
Phase I: October 30, 2017-March 20, 2018
On October 30, 2017, VFPA sent a referral package to the Aboriginal groups listed above. The package include a consultation letter from VFPA as well as permit application documents. Initial comments were requested by December 11, 2017.

A number of First Nations provided comments to VFPA, however the Project was subsequently put On Hold as a result of design changes prior to finalizing responses to groups. On February 8, 2018, Aboriginal groups were notified that the Applicant had proposed design changes to their project, and that once VFPA had reviewed the proposed changes to determine their scope, VFPA would update Aboriginal groups.

On March 20, 2018 Aboriginal groups were advised that the project and environmental review of the proposed project was On Hold pending receipt of an updated application from the Applicant. VFPA informed Aboriginal groups that an updated permit application was anticipated to be submitted in mid-April, 2018. VFPA offered to proactively schedule project overview meetings with Aboriginal groups, to facilitate their review of the updated permit application once it was made available. Most Aboriginal groups declined the offer to schedule a meeting, however VFPA did

discuss the proposed Project at a separate meeting with one Aboriginal group while the project and environmental review process was on hold.

Phase II: July 27, 2018 - present
On July 27, 2018, VFPA sent updated referral packages to the Aboriginal groups listed above. Packages included a consultation letter from VFPA, updated permit application documents, and, for those Aboriginal groups who had provided comments during the first phase of consultation, responses to their questions and concerns. Initial comments on the revised permit application were requested by August 24, 2018. VFPA received written comments from several Aboriginal groups.

Below is a table summarizing the main issues raised by Aboriginal groups during the entire consultation process to date, and how they are being considered as part of the Project and Environmental Review.

Issue	Rationale	Mitigations and Permit Conditions
Impacts of development on archaeological resources, and involvement of Aboriginal groups in archaeological resource management.	The Applicant will be required to follow the recommendations made in the Archaeological Overview Assessment, submitted with the Permit Application. The Applicant will also be required to update their draft Chance Find Procedure to address concerns raised by Aboriginal groups.	The following Permit Conditions address this concern: Conditions #25, #39, and #40
Impacts to fish and fish habitat, particularly green and white sturgeon, eulachon, and salmon.	Impacts to fish and fish habitat are not expected, provided the Applicant adhere to commitments made in the Construction and Environmental Management Plan, its Appendices, and VFPA permit conditions.	See Section 7.2 Environmental Effects Summary for more detail.
Impacts to marine mammals from vessel traffic noise.	VFPA does not require the Applicant to assess noise impacts associated with marine shipping, as the Applicant is not responsible for the vessels that call the proposed terminal.	The concern is out of the scope of the project and environmental review of the proposed Project. To address noise impacts on marine mammals in the Salish Sea, VFPA is leading the Enhancing Cetacean Habitat and Observation Program (ECHO), an initiative aimed at better understanding and managing the impact of

		shipping activities on whales along the southern coast of B.C.
Impacts to fishing and navigation from increased vessel traffic.	VFPA has assessed the potential for project-related vessel traffic to impact Aboriginal fishing and navigation as low. The Applicant has agreed to develop a marine traffic protocol with the concerned Aboriginal group to mitigate the potential to impact their Aboriginal fishing practices.	The following permit condition addresses this concern: Condition #53
Impacts to Aboriginal fishing and navigation from cumulative vessel traffic.	A cumulative effects assessment is outside the scope of the project and environmental review of the proposed project. VFPA has considered potential impacts to Aboriginal fishing and navigation from project-related vessel traffic.	None.
Impacts to environment and Aboriginal rights from increased use of Gulf Island anchorages.	The Gulf Island Anchorages are outside VFPA jurisdiction, and outside the project and environmental review of the proposed project. The Oceans Protection Plan, National Anchorage Framework will be undertaking the studies and consultation necessary to develop principles that determine the location and management practices for anchorages outside of ports in the future. VFPA is aware that the federal government has, and will continue to, engage with the affected Indigenous groups on this basis.	VFPA raised the concern to Transport Canada, and provided the interested Indigenous group with a direct contact at Transport Canada to discuss further.
Cumulative effects on the environment from increased vessel traffic.	Although VFPA has not required that a cumulative effects assessment be conducted by the applicant, consideration of cumulative effects is inherently integrated into VFPA's environmental reviews and decisions; cumulative effects of the	See Section 7.2 Environmental Effects Summary for more detail.

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	project on health are considered through air and noise emissions studies; potential project effects on vegetation, wildlife, and fish and fish habitat are considered in the context of the existing environment taking into account past effects and current pressures on species.	
Concern regarding the "permanent loss of critical habitat" from the rail loop construction.	Options for environmental enhancement related to streambank lupine critical habitat are included in the Permit Application to Environment and Climate Change Canada.	None.

Conclusion:
VFPA has made a meaningful effort to consult with all potentially affected Aboriginal groups. Based on the record of consultation, VFPA is of the view that the duty to consult has been met, and adverse impacts to Aboriginal or Treaty rights are not expected.

7 ENVIRONMENTAL REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and CEAA 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. Additional Project information pertinent to the environmental review includes the following:

- An Environmental Air Assessment evaluated the change in emissions and potential impact on air quality as a result of the Project and the modified activities at the existing JV facility. The assessment determined that with the implementation of best available technology not entailing excessive cost (BATNEC), particularly replacing the existing shiploader with three new shiploaders, particulate matter emissions would decrease significantly. The estimated decrease is largely attributed to the cascading or choke fed type telescoping loading spouts that will be part of the new shiploaders. The elimination of marine warping activities and

associated combustion emissions were estimated to result in a decrease in combustion-related emissions.

- The Environmental Noise Assessment predicted an increase of 1 dBA or less with the Project operating at full capacity. The dominant noise source in both the baseline and future scenarios was predicted to be traffic on the South Fraser Perimeter Road. The change in the percentage of people highly annoyed by the overall noise environment was predicted to range from 0% to 2% depending on the neighbourhood, which is less than the Health Canada criterion of 6.5%.
- The Habitat Assessment report and CEMP identified specific mitigation measures to be implemented during construction, including timing activities to occur within least-risk work windows for aquatic and terrestrial species, monitoring by a qualified environmental professional, implementing a soil and groundwater management plan to manage suspect/contaminated material, and developing site-specific environmental protection plans describing the erosion and sediment controls that will be implemented.
- The Soil and Groundwater Management Plan noted areas where work (notably the rammed aggregate piles) will occur in areas of known groundwater contamination. The primary concerns noted were the potential movement of the groundwater plume and adverse effects to groundwater quality due to the new materials being installed into the groundwater environment. To minimize the potential impacts to groundwater, the plan includes several controls and a monitoring program during and after construction.
- The Habitat Assessment determined that the Project will result in the permanent loss of 0.95 ha of vegetated area. The majority of the cleared vegetation consists of invasive and non-native shrub and herbaceous species. Up to six cottonwood trees in the southern portion of the Project site will be removed. These represent habitat for nesting songbirds. With appropriate mitigation in place and good work practices, most construction effects on vegetation and terrestrial habitat were considered likely to be localized and of short duration. A section of the proposed semi-loop railway track overlaps critical habitat for streambank lupine, designated as endangered under Schedule 1 of SARA. An application for a SARA permit for Project-related railway construction, in addition to the construction of railway tracks associated with two other projects within critical habitat, has been submitted to ECCC. Between the three projects, an estimated 7,731 m^2 of streambank lupine critical habitat will be altered by railway track construction. Activities within critical habitat will be conducted in compliance with the SARA permit.
- The Habitat Assessment identified the permanent loss of approximately 70 m^2 of a ditch classified as non fish-bearing and with insignificant food and nutrient input. Along the Fraser River shoreline, approximately 310 m^2 of shoreline protection material will be temporarily disturbed to facilitate the installation of 19 in-water steel piles of 914 mm (36-inch) diameter. Under the Fraser River Estuary Management Program (FREMP) classification system, the shoreline in this area is considered to be low productivity. With the application of appropriate mitigation measures, significant adverse effects to aquatic organisms and habitat are not anticipated.

The temporal scope of the review includes Project site preparation and staging, construction and operation of the new facility which has been designed to handle a maximum throughput capacity of 3.5 MT/a.

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 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 review.

Though VFPA does not have a legislative requirement to conduct a cumulative effects assessment in our PER process, the past and current effects of development on the environment provides the context for our review of project effects, and so consideration of cumulative effects is inherently integrated into our environmental reviews and decisions. For example, both air and noise studies include model predictions of project effects. These effects are not considered in isolation, rather they are considered in addition to the current condition. Similarly, potential project effects on vegetation, wildlife, and fish are considered in the context of the existing environment taking into account past effects and current pressures on species.

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7.2 Environmental Effects Summary

The following table summarizes the potential environmental effects the Project could have on the identified environmental components.

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Air quality Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	The equipment, trucks, trains and vessels active during operations and used during construction of the Project will release air emissions. Key mitigation measures to minimize particulate emissions during operation are integrated into the project design. For example, grain will be transported by a network of enclosed conveyors with aspiration systems to collect dust and reduce dust release from transfer points. The shiploaders will be equipped with cascading or choke fed type telescoping loading spouts. As a result of the design build approach, the Applicant is yet to finalize the design (including spout choice) of the shiploader. As a result, Condition No. 24 requires the submission of updated drawings and written confirmation that fugitive dust performance levels outlined in Environmental Air Assessment are met, As a result of the Project, particulate matter and combustion emissions are predicted to decrease due to the replacement of the existing shiploader, currently the main source of particulate emissions, and elimination of marine warping activities. Condition No. 54 requires the Applicant to confirm that the existing shiploader has been fully decommissioned prior to operations commencing. The Applicant will develop and implement an air emissions management plan that includes verifying that the project mitigation measures perform as designed, operating procedures remain effective, and that the facility can demonstrate continuous improvement. Air emissions from construction are predicted to occur occasionally on a daily basis and for a duration of approximately 2 years. Dust mitigation measures will be implemented as described in the CEMP. With mitigation measures described in the CEMP and implementation of an air emissions management plan, residual adverse effects on air quality are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Lighting Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Exterior construction and terminal lights have the potential to affect residents and marine users. Mitigation measures will be implemented to minimize potential impacts from lighting. Construction activities will primarily occur from Monday to Saturday between 7:00 a.m. and 8:00 p.m. If temporary lighting is needed during construction, lights will be directed downward, toward the facility, with task lights placed as close to the operation as possible. Permanent facility lights will be directed downward and away from residences, LED lights – which have good optics and glare control – will be used, and shields and visors will be added where floodlights are proposed. The South Fraser Perimeter Road, which is illuminated according to standards for a four-lane expressway, is located between the Project and residences. Residual adverse effects from Project-related 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. With mitigation in place, residual adverse effects from lighting are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Noise Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	The Project has the potential to affect noise levels. Noise will be generated during construction, including from concrete crushing, pile driving and building the facility. Project-related noise sources during operations will be from rail unloading, ship loading and container loading activities. The dominant noise source in the area is predicted to be the South Fraser Perimeter Road, which is located between the Project site and the nearest residential receptors. Construction activities will primarily occur from Monday to Saturday between 7:00 a.m. and 8:00 p.m. FGT will be required to notify residents in advance of any construction activities that would occur outside these hours. Key mitigation measures to reduce noise during operations are integrated into the project design. These include fitting filter unit fans with silencers, fully enclosing conveyors within a solid enclosure, greasing tracks to reduce rail squeal, and limiting loading operations in the container yard to daytime/weekday only. Post-construction follow-up noise monitoring will be conducted to confirm that the Project noise emissions are within predicted levels and to inform VFPA whether additional operational noise mitigation measures are warranted. Overall residual effects on the acoustic environment will be low in magnitude – an increase of 1 dBA or less at full operating capacity – and will have a small adverse effect on the adjacent community. The extent of residual effects will be local because the Project will not be the dominant noise source in the area. The terminal will produce noise daily and effects will occur throughout operations. The effects would be reversible if the Project is decommissioned. With mitigation in place, residual adverse effects on the acoustic environment are anticipated to be not significant.	□	■

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Soils Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Soil quality may be affected by spills, on-site storage of excavated contaminated soils, re-use of recycled concrete aggregate, and other ground alterations, such as regrading and surfacing. Mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse environmental effects. This includes storing temporary stockpiles on an impervious surface within a bermed area, collecting water in open excavations in a storage tank for testing and treatment, as applicable, prior to discharge, and having a spill response plan in place. Post-construction follow-up groundwater monitoring will be conducted to confirm that the re-use of recycled concrete aggregate has not adversely affected soils (Condition No. 50). With mitigation in place, residual adverse effects on soils are anticipated to be not significant.	□	■
Sediments Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Stormwater runoff has the potential to convey accumulated debris, sediment and contamination to adjacent water bodies and affect sediment quality. Spills or on-site storage of excavated contaminated soils may potentially affect sediment quality. Management practices outlined in the SPPP will be implemented to reduce potential adverse environmental effects during operation. The plan includes the installation of stormwater treatment devices to reduce suspended solids and capture hydrocarbons prior to discharge from the facility. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River. Mitigation measures outlined in the CEMP will be implemented to reduce potential adverse, environmental effects during construction. With mitigation measures in place, residual adverse effects on sediments are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Groundwater Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	As part of the Project, rammed aggregate piles (RAPs) will be installed through portions of a known dissolved metal groundwater plume. Groundwater may also be affected by spills, on-site storage of excavated contaminated soils, and re-use of recycled concrete aggregate as road base. The depth of groundwater at the site is approximately 3 m below ground surface and estimated to fluctuate by approximately 0.5 to 1 m depending on tidal and seasonal influences. Where groundwater is encountered in open excavations, mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse effects. In addition, Condition No. 49 requires that water quality results and a discharge plan will be provided to VFPA for review and acceptance prior to any discharge to stormwater systems or the aquatic environment. Post-construction follow-up groundwater monitoring will be conducted to confirm that the installation of the RAPs has not adversely affected groundwater quality or the movement of the plume (Condition No. 51). Condition No. 47 requires that the existing network of monitoring wells be maintained or replaced after construction. Post-construction follow-up groundwater monitoring will also be used to confirm that the re-use of recycled concrete aggregate has not adversely affected groundwater (Condition No. 51). The residual effects on groundwater are anticipated to be low in magnitude, site-specific in extent, and could occur sporadically during construction or gradually throughout the life of the Project. Should groundwater quality or the movement of the plume be affected, the changes are expected to be detected through monitoring and the effects would be reversible with remediation. With mitigation measures and follow-up monitoring in place, the residual adverse effects on groundwater are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Surface water and water bodies Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Stormwater runoff has the potential to accumulate debris, sediment and contamination prior to entering adjacent water bodies. Spills or on-site storage of excavated contaminated soils may potentially affect surface water quality. In-water works have the potential to re-suspend sediments in the water column and introduce contaminants. Management practices outlined in the SPPP will be implemented to reduce potential adverse environmental effects during operation. The Plan, which is due to be further updated prior to operations (Condition No. 55), includes the installation of stormwater treatment devices to reduce suspended solids and capture hydrocarbons prior to discharge from the facility. Trapping hoods and sumps will be installed in catch basins to remove agri-products from stormwater. A portion of the wharf deck will direct untreated stormwater directly from catch basins to the Fraser River. Mitigation measures outlined in the CEMP and soil and groundwater management plan will be implemented to reduce potential adverse environmental effects during construction. This includes installing sediment and erosion control measures, conducting shoreline work in the dry where reasonable, and having a spill response plan in place. With mitigation measures in place, the likelihood of the Project resulting in residual adverse effects on surface water quality is low. If adverse effects do occur, they are most likely to occur during construction. The effects are anticipated to be low in magnitude, short-term in duration, occur infrequently, and be reversible after Project decommissioning. If residual adverse effects on surface water and water bodies occur, they are anticipated to be not significant.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Species/ habitat with special status Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	A section of the proposed semi-loop railway track overlaps critical habitat for streambank lupine, designated as endangered under Schedule 1 of SARA. An application for a SARA permit for Project-related activities within critical habitat has been submitted to ECCC. Activities within critical habitat will be conducted in compliance with the SARA permit (Condition No. 48). With mitigation measures in place and adherence to the requirements in the SARA permit, the residual adverse effects of the Project on streambank lupine are predicted to be not significant.	□	■
Terrestrial resources (e.g., vegetation, wildlife, etc.) Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	The Project will result in the permanent loss of 0.95 ha of vegetated area, consisting predominantly of invasive and non-native species. Shrubs and small trees are present and may provide nesting habitat for migratory birds. In general, the habitat value of the existing vegetation is low. Mitigation measures outlined in the CEMP will be implemented to reduce potential adverse effects. This includes implementing an invasive species management plan and conducting pre-clearing surveys prior to any vegetation removal occurring outside the least-risk window for breeding birds. In addition, activities within streambank lupine critical habitat will be conducted in compliance with the SARA permit. With appropriate mitigation measures in place and adherence to the requirements in the SARA permit, overall residual effects on terrestrial resources are anticipated to be low in magnitude. The extent of effects will be site-specific and low in frequency (vegetation removal will occur only once), however, the loss of terrestrial resources will be long-term in duration and would be reversible after Project decommissioning. With mitigation in place, residual adverse effects on terrestrial resources are anticipated to be not significant.	□	■
Wetlands	□	■	The Project is not anticipated to affect wetlands. It is planned to be constructed on a previously developed site with no existing wetlands.	□	■

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.) Assessed as required under subsection 5(1) of CEAA 2012 Assessed under section 79 of SARA, as applicable	■	□	Project-related activities have the potential to disturb aquatic species and fish habitat (e.g., through induced turbidity and other changes to water quality, disruption to migrating fish populations, sensory disturbance of marine mammals, and accidental spills). Potential adverse effects will be reduced through the implementation of mitigation measures outlined in the CEMP and environmental protection plan, as well as through avoiding the period of peak juvenile salmonid migration in the area (March to mid-June). The Project will result in the permanent loss of approximately 70 m^2 of a ditch classified as non-fish bearing and with insignificant food and nutrient input. In addition, approximately 310 m^2 of shoreline protection material will be temporarily disturbed to facilitate the installation of 19 in-water steel piles of 914 mm (36-inch) diameter. Pile installation will result in the permanent loss of 12.5 m^2 of shoreline habitat. Under the Fraser River Estuary Management Program (FREMP) classification system, the shoreline in this area is considered to be low productivity. With the application of appropriate mitigation measures, adverse effects to aquatic organisms and habitat are anticipated to be not significant.	□	■
Health and socio-economic conditions Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	□	■	Based on the low magnitude of residual effects on air quality, lighting, noise, groundwater, surface water, and terrestrial resources, the Project is not anticipated to cause adverse effects on the health of people, including Aboriginal people.	□	■

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Archaeological, physical, and cultural heritage resources Assessed as required under subsection 5(1) and 5(2) of CEAA 2012	■	□	Ground disturbance and excavation activities have the potential to affect archaeological, physical, and cultural heritage resources. Project-related ground-altering activities (excavations) are located within areas of moderate/low archaeological probability. Archaeological monitoring will be conducted during the excavation of three Project components: the receiving conveyor tunnel, boot pit of receiving and reclaim legs, and reclaim conveyor tunnel concrete slab. In addition, an archaeological chance find procedure will be implemented. With mitigation measures in place, the Project is not anticipated to result in significant residual adverse effects on archaeological, physical, and cultural heritage resources.	□	■
Current use of lands and resources for traditional purposes by Aboriginal peoples Assessed as required under subsection 5(1) of CEAA 2012	■	□	Section 6 provides an overview of the concerns raised by Aboriginal Groups during VFPA consultation about the Project. With mitigation measures in place (as described in Section 6) no significant residual adverse effects on Aboriginal Group interests are anticipated. However, consultation is still ongoing and these conclusions are preliminary until consultation is completed.	□	■
Accidents and malfunctions Assessed as required by the *Canada Marine Act*	■	□	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, including an appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products and other deleterious substances, and minimizing the likelihood of collisions. With mitigation 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.	□	■

Residual adverse effects (i.e., effects that remain with mitigation in place) were identified for the following environmental components:

- Air quality;
- Lighting;
- Noise;
- Soils;
- Sediments;
- Groundwater;
- Surface water and water bodies;
- Species at risk (streambank lupine); and
- Terrestrial resources.

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

- Moderate in magnitude due to the alteration of streambank lupine critical habitat;
- Local in geographic extent because the effects will be limited to the Project footprint and immediate vicinity;
- Long-term in duration because the effects on air quality, lighting, noise and streambank lupine will occur throughout the life of the facility;
- Isolated in frequency because the effects will largely be confined to the construction period; and
- Residual adverse effects of the Project would be reversible once the Project is decommissioned.

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

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7.3 Environmental Review Decision

In completing the environmental review, VFPA has reviewed and taken into account relevant information available on the proposed project, proposed mitigations provided by the Applicant, and additional technically and economically feasible mitigation measures. In accordance with section 67 of CEAA 2012, VFPA concludes that with the implementation of proposed mitigation measures and Permit conditions, the Project is not likely to cause significant adverse environmental effects.

C Brown — November 9, 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.

The review team recommends that this application be approved subject to conformance with the project and environmental conditions listed in project permit **PER No. 15-041**.

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APPENDIX A
Location Plan

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PER#: 15-041

FGT Site Location Plan

VFPA Boundary

Project Boundary

0 50 100 200 Meters

PORT of vancouver

VFPA Spatial Data Group
October 1, 2018
PLAN # G2018-104
Prepared by: NB

Any areas marked "proposed" represent approximate locations.

APPENDIX B
List of Information Sources

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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 behalf of the tenant on June, 27 2017, and updates related to design changes on June, 1, 2018.
- All Project correspondence from April, 10, 2017 to October, 04 2018
- All plans and drawings labelled PER No.15-041-A to V
- Additional and updated plans and documents submitted in support of the application, on July 3, 2018 August 23, 2018 and September 6, 2018; specifically:
  - Environmental Air Assessment (Rev 8), dated June 2018
  - Environmental Noise Assessment, dated June 2018
- Mott MacDonald Technical Note, *Fraser Grain Terminal Proposed Track – Coal Terminal Rail Track Integration,* dated August 1, 2018
- Stantec Consulting Inc. Memo, *Fraser Grain Terminal VFPA Review – Traffic Analysis for Updated Rail Crossings,* dated August 17, 2018
- Key correspondence:
  - Email dated 2018-03-18 from FWS on behalf of FGT Ltd. to VFPA, *15-041 FGT - VFPA Review of Technical Review Responses* with the following attachment:
    - *FGT-New Grain Export Facility TIA Comment Response* dated March 16, 2018, Stantec Consulting Inc.
  - Email dated 2018-09-12, from FWS on behalf of FGT Ltd. to VFPA, *15-041 FGT: TRNS 5 & 7 Comments for PER* with the following attachments:
    - *Response to Comments from Port of Vancouver – FGT Site* dated September 12, 2018, Peter A. Truch.
    - *Canadian Railway Operations Rules* excerpt, *Rule 103* (pages 35 – 36)
  - Email dated 2018-09-24, from FWS on behalf of FGT Ltd. to VFPA, *FGT Rail switching operation procedures* with the following attachments:
    - *BCMEA Waterfront General Railway Operating Rules*, May 2014,

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