City of Richmond

Report to Committee

To:	General Purposes Committee	**Date:**	September 3, 2014
From:	Amarjeet S. Rattan Director, Intergovernmental Relations & Protocol Unit	**File:**	01-0140-20-PMVA1/2014-Vol 01
Re:	**Update on PMV's Approval of Fraser Surrey Docks Direct Transfer Coal Facility**		

Staff Recommendation

That:

1. The staff report titled "Update on PMV's Approval of Fraser Surrey Docks Direct Transfer Coal Facility" from the Director, Intergovernmental Relations and Protocol Unit, dated September 3, 2014 be received for information; and

2. That letters be sent to Fraser Surrey Docks, Port Metro Vancouver, Metro Vancouver, and local MPs and MLAs reiterating Richmond City Council's outstanding concerns on the Fraser Surrey Docks Direct Transfer Coal Facility.

Amarjeet S. Rattan
Director, Intergovernmental Relations & Protocol Unit
(604-247-4686)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Engineering & Public Works Emergency Programs	☑ ☑	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

On August 21, 2014, Port Metro Vancouver (PMV) announced the approval of a direct coal transfer facility to be built at Fraser Surrey Docks, concluding a two-year project review process.

The purpose of this report is to update Council on the City's areas of concern related to the associated environmental and health impacts of the PMV approved direct transfer coal facility.

Staff previously provided information on this project in the following memoranda:

- *New and Expanded Coal Shipment Activity in Metro Vancouver* (dated July 15, 2013)
- *Fraser Surrey Docks – Environmental Impact Assessment* (dated December 11, 2013)
- *Review for Direct Coal Transfer Facility*
- *Decision on Fraser Surry Docks Direct Transfer Coal Facility Project* (dated August 22, 2014)

On December 17, 2013, at the Special Council meeting, City Council adopted the following resolutions related to this project:

(1) That the staff memorandum from the Senior Manager, Sustainability and District Energy, dated December 11, 2013 be received for information;

(2) That the City of Richmond is opposed to coal shipments from the Fraser River Estuary other than the existing Roberts Bank coal port;

(3) That Port Metro Vancouver be requested to conduct a Health Impact Assessment and Metro Vancouver hold a public hearing in relation to an application for an Air Quality Permit; and

(4) That letters be sent to local MPs, MLAs, Metro Vancouver, Fraser Surrey Docks, and Port Metro Vancouver reiterating Richmond City Council's position.

This report supports Council's Term Goal #6 Intergovernmental Relations:

6.5. Develop an enhanced and more effective working relationship with Port Metro Vancouver.

Analysis

Background

Fraser Surrey Docks (FSD) is a multipurpose marine terminal located on the Fraser River in north Surrey. FSD has recently received approval by Port Metro Vancouver (PMV) to proceed with the development of a direct transfer coal facility at its riverfront terminal. The coal transfer facility will allow FSD to handle up to four-million metric tonnes annually of sub-bituminous

thermal coal from the Powder River Basin mining area in Montana and Wyoming. Once the facility is operational, a coal train comprised of 124-135 cars will arrive almost daily through Peace Arch through the Burlington Northern Santa Fe (BNSF) rail line. The coal will be directly transferred onto barges, which will be towed daily to a deep-sea transfer point at Texada Island for eventual export to Asian markets.

PMV's Project Review Process

The project was initiated by FSD in 2012 and did not trigger the requirement for a formal review under either the *Canadian Environmental Assessment Act* or the *BC Environmental Assessment Act*. As the bulk of the activities are occurring on lands for which PMV has jurisdiction under the *Canada Marine Act*, a project review process administered by PMV was initiated in June 2012 and then expanded in May 2013 and September 2013.

This review included an Environmental Impact Assessment (EIA) which was conducted by FSD and released in November 2013. Upon reviewing the EIA, the City identified five overarching areas of concern and in December 2013 forwarded detailed comments to PMV, FSD, Metro Vancouver, and local MLAs and MPs. These areas of concern are:

1. Implications for City residential areas
2. Maritime operational concerns
3. Implications for agriculture
4. Air quality related to rail operations
5. Cumulative impacts

To address shortcomings in the EIA identified by regional health authorities and municipal stakeholders, PMV added a Human Health Risk Assessment (HHRA) to the project review process, the HHRA was conducted by SNC-Lavalin and released in July 2014. Consultation on the HHRA was not undertaken as it was considered to be supplemental information to satisfy PMV's technical requirements. PMV engaged Golder Associates Limited to conduct a third party review of this assessment, which was released in August 2014. Fraser and Vancouver Coastal Health officials are in the process of reviewing the HHRA and will be providing comments following their detailed review.

Technical Review of PMV Decision Documents

PMV announced its decision to approve the project on August 21, 2014. Documents related to the decision can be found on PMV's website:

> http://www.portmetrovancouver.com/en/projects/OngoingProjects/Tenant-Led-Projects/FraserSurreyDocks.aspx

Staff have reviewed PMV's Project Review Report and the accompanying Project Permit, which outlines a list of 81 conditions FSD is required to meet to mitigate environmental and health impacts (Attachment 1). The City previously identified 5 areas of concern related to the project and forwarded these concerns to PMV and to regional Members of Parliament and Members of the Legislative Assembly in December 2013. The following is a summary of how those 5 conditions have or have not been addressed.

1. Implications for Richmond residential areas. Air quality monitoring and noise impact measures are limited to Surrey area. No reference is made to Richmond residential areas, as they are inferred to be outside of the impacted area.

2. Maritime operations concerns. Various measures are introduced to reduce fugitive dust from barges (i.e. no operations when winds exceed 40km/h), although no performance-based standards or monitoring requirements are included. No clear definition of spill response strategy in the event of a marine spill.

3. Implications for agriculture. Neither the Environmental Impact Assessment (EIA) nor the Mitigation Summary Table (Attachment 2) contain references to impacts on agricultural areas in Richmond.

4. Air quality related to rail operations. Various mitigation measures are included related to the use of caking agents and loading/unloading techniques to reduce fugitive dust, however no performance-based measures are included, nor is there a well-defined monitoring plan.

5. Cumulative impacts. The review of cumulative impacts of increased industrialization of the South Arm of the Fraser River and related marine traffic increases remains incomplete. The EIA only addresses existing projects, and the Mitigation Summary Table is silent on this concern.

Additionally, with respect to emergency response, the conditions of the project permit require FSD to develop a marine emergency response protocol and a Spill Prevention Containment and Clean-up Plan. The City is unable to assess the ability or capacity of the barge operator or FSD to effectively respond to or recover from emergencies. Furthermore, there are no notification requirements for FSD in the event of a spill or a marine emergency. In terms of consequence management, emergencies from the FSD terminal would likely have an impact upon the City's air quality and the Fraser River itself.

Recommended Action

It is recommended that letters outlining the City's outstanding concerns be submitted to PMV, Fraser Surrey Docks, Metro Vancouver, and local MPs and MLAs. Staff will continue to reiterate Council's resolution of December 17, 2013 stating "that the City of Richmond is opposed to coal shipments from the Fraser River Estuary other than the existing Roberts Bank coal port."

Financial Impact

There is no financial impact resulting from this report.

Conclusion

Port Metro Vancouver's recent approval of the Fraser Surrey Docks Direct Transfer Coal Facility has potential impacts to the City as it introduces coal barge traffic to the South Arm of the Fraser River (approximately 2 barges per day, 8,000 DWT each). The City has raised

concerns regarding the cumulative impact of low levels of coal dust on the surrounding estuarine environments and potential impacts to Richmond residents, as well as the risks associated with a large coal spill on the river. Staff will continue to express Council's position against increased coal traffic in the Fraser River Estuary and will continue to monitor the project as it moves forward.

Lesley Douglas
Acting Senior Manager, Sustainability
(604-247-4672)

Paul Brar
Program Manager, CPMG
(604-204-8503)

AR:pb

Att. 1: PMV Project Permit
Att. 2: PMV Mitigation Summary Table

PORT METRO vancouver

PROJECT PERMIT NUMBER 2012-072

DATE OF APPROVAL	**August 21, 2014**
PROPONENT	**Fraser Surrey Docks LP**
ADDRESS OF PROPONENT	**11060 Elevator Road, Surrey, BC V3V 2R7**
PROJECT LOCATION	**11060 Elevator Road, Surrey, BC V3V 2R7**
PROJECT TITLE	**Direct Transfer Coal Facility**

PROJECT DESCRIPTION

For the purposes of this Permit, the Project is understood to include the construction works and operations as described by the Proponent in the Project Permit Application to the Vancouver Fraser Port Authority (VFPA), doing business as Port Metro Vancouver (PMV), and supporting documentation, as further described in the Environmental Review Decision Statement.

Pursuant to the Port Authorities Operations Regulations under the *Canada Marine Act*, the Project is authorized to proceed provided all of the conditions listed below are adhered to.

CONDITIONS OF APPROVAL:

GENERAL CONDITIONS

1. This Permit is conditional on a valid tenure agreement with respect to the subject premises being in place. NO CONSTRUCTION MAY COMMENCE IN THE ABSENCE OF A VALID TENURE AGREEMENT.

2. In consideration of the granting of this Permit by VFPA, the Proponent agrees to indemnify and save harmless VFPA against any and all actions, claims, loss, damages or other expenses in any way arising or following from or caused by the granting of this Permit or any works contemplated by this Permit.

3. The Proponent shall at all times comply with and abide by all applicable laws, authorizations, and regulations from time to time in force and effect, including, without limiting the generality of the foregoing, all directions established by VFPA from time to time (collectively, "Applicable Law") that apply to the approved works. Any reference below to a specific law, statute, by-law, regulation, order or policy is for clarity only and in no way limits the generality of the foregoing.

4. The Proponent acknowledges that all plans and specifications have been prepared and reviewed by qualified professionals working on its behalf, and that VFPA in no way endorses the design, safety, engineering, or construction of authorized works.

5. Details of any significant proposed changes to the Project or relating to the application must be submitted to VFPA for consideration of an amendment to this Permit. Note that changes to the Project that affect the assumptions underpinning the VFPA Review may

result in a requirement to revisit that Review and the validity of the Permit, and that revisions to environmental mitigation measures described in the application may be deemed significant changes as referred to in other Conditions of this Permit.

6. Development shall be generally in accordance with the application submitted by Jurgen Franke, Director, Engineering and Maintenance, on behalf of the Proponent on June 15 2012, including the attached 10 project drawings numbered 2012-072 (a) to (j), and including the full list of submitted drawings and communications referenced in the Environmental Review Decision Statement. This approval does not apply to works other than those described.

7. VFPA reserves the right to rescind or revise the Conditions listed in this Permit at any time that new information warranting this action becomes known to VFPA. The Proponent shall cooperate fully with VFPA in respect of any review by VFPA of the Proponent's compliance with these Conditions including, without limitation, providing any information or documentation required by VFPA.

ENVIRONMENTAL CONDITIONS

8. In addition to the Conditions listed in this approval, work shall be carried out in a manner consistent with the supporting documents provided by the Proponent, and in compliance with appropriate industry environmental codes of practice. Where those documents and codes of practice are in conflict with the Conditions listed in this approval, the Conditions in this approval shall have priority. VFPA should be consulted for clarification when and if required.

9. Prior to commencement of operations, the Proponent shall prepare and submit, to the satisfaction of VFPA, an Operations Management Plan that addresses coal loading operations, general housekeeping procedures, and terminal incident response, and water use protocols, including but not limited to the following:

    - Stabilization of loaded rail cars and barge loads to limit fugitive dust from wind erosion;
    - Rail car dumper building operation;
    - Removal of remnant coal from empty rail cars, and rail car wash down procedures;
    - Binding agent use and application practices;
    - Barge and conveyor water spray practices and water management;
    - Barge loading and profiling, specifically controlling free drop height into receiving barge cargo holds by use of an adjustable chute (snorkel) apparatus and loading operations designed to mitigate fugitive dust during transit; and
    - Procedures relating to shut down of loading and towing of barges during periods of high winds.

10. The construction shall be monitored by an appropriately qualified environmental monitor, who shall be empowered in writing to direct construction to ensure compliance with this Permit. Monitoring shall occur when the environmental monitor deems it appropriate but in no case less than weekly, and shall be full time when construction is under way that has potential to have adverse effects on fish or fish habitat.

11. The environmental monitor shall provide Environmental Monitoring Reports to VFPA on a weekly basis or more frequently if circumstances warrant. In addition, a Summary Report for the entire environmental monitoring period shall be forwarded to VFPA within six weeks of the conclusion of construction. VFPA reserves the right to rule on the adequacy of the monitoring and the content of the reports and to require revisions to address any inadequacies. The Proponent shall provide copies of the Environmental Monitoring Reports to other parties when and as directed by VFPA.

12. The riparian areas of the watercourses within the Project area that drain directly and indirectly into the Fraser River are fish habitat and thus are protected under the *Fisheries Act*. Physical works that may affect these areas shall be conducted in a manner that takes this into consideration, and shall be monitored by the environmental monitor.

13. The Proponent shall make this approval available to all employees, agents, contractors, licensees and invitees prior to commencing any physical activities. The Proponent shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with these Conditions.

14. The Proponent shall make a copy of this approval available to agents of any regulatory authority (such as Fishery Officers) upon request.

VEGETATION AND WILDLIFE

15. Except as described or referenced in the Environmental Review Decision Statement, there shall be no disturbance to upland vegetation within 15 metres of any water body. All physical work carried out in the vicinity of the watercourses described in the application documents shall be monitored by and in accordance with any advice provided by the environmental monitor.

16. Existing native riparian vegetation and native soil shall be retained where possible, and disturbance or clearing of vegetation shall be staged and strictly limited to that required for Project implementation.

17. Where Project specifics permit, disturbed areas shall be replanted with appropriate native species as soon as practical after the disturbance occurs, in a manner that maximizes the likely success of the plantings.

18. The *Migratory Birds Convention Act* and the British Columbia *Wildlife Act* prohibit the disruption of birds and their nests. Nest search surveys shall be completed by qualified professionals before the start of any clearing activity to ensure no active nests or nests of raptors or herons will be affected by the proposed works. Vegetation clearing works should be avoided during the general bird breeding season (March 15 to August 15) where practical.

FISH AND WILDLIFE HABITAT

19. The Proponent shall not, directly or indirectly: (i) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36(3) of the *Fisheries Act*; or (ii) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the *Fisheries Act*.

20. Water spray intended to wet down coal loaded on barges for dust control shall be tested to confirm that overspray entering the aquatic environment does not contain detectable residual chlorine, using best available routine field monitoring equipment (any overspray

shall be tested, not the receiving Fraser River). These spray systems shall be tested for this condition prior to commencement of operations, and the test results shall be included in the Environmental Monitoring Reports specified elsewhere in this approval.

21. Piles shall be driven with a vibratory or drop hammer where possible. Where a diesel, hydraulic or other accelerated impact hammer is required to install pipe piles greater than 300 mm in diameter, that installation shall be monitored with hydrophones to ensure that peak overpressures in the water do not exceed 30 kiloPascals at distances greater than one metre (1 m) from the pile. Bubble curtains or other proven mitigation equipment/technologies shall be available for deployment as required. The Proponent shall consult with VFPA for additional advice and conditions in the event it wishes to use other technologies (e.g., drilling) to install the piles.

22. The work shall be halted immediately if distressed, injured or dead fish are observed following the initiation of pile driving, and appropriate experts and VFPA shall be consulted before the works are restarted.

23. Exposed hollow pipe piles that are left unattended (temporarily or otherwise) shall be covered or capped to prevent wildlife entrapment. The environmental monitor shall provide written confirmation in monitoring reports that this condition has been adhered to.

24. Sediments contained within the piles after installation shall be left in place. If those sediments must be removed, such as to facilitate filling with concrete, appropriate experts and VFPA shall be consulted for appropriate advice regarding the mitigation of potential adverse effects before the works are initiated.

25. Barges or other vessels used during construction shall not be permitted to ground on the foreshore or river bed or otherwise disturb the foreshore or river bed (e.g., disturbance as a result of vessel propeller wash). Appropriate use of spuds to secure barges is acceptable.

26. All applicable legislation, guidelines, and best management practices shall be followed with respect to the application of wood preservatives and any other paints or coatings. Where practicable timber preservatives are to be applied upland in the dry prior to installation to allow the preservative to completely absorb and prevent leaching into the aquatic environment. A minimum of 45 days or compliance with wood treatment industry Best Management Practices (BMPs) is generally required to satisfy this criterion. This Condition applies to initial construction and to subsequent maintenance. The Proponent may wish to refer to the Fisheries and Oceans Canada Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in Aquatic Environments in the Pacific Region (Hutton, K.E. and S.C. Samis. 2000. Can. Tech. Rep. Fish. Aquat. Sci. 2314: vi + 34 p) for information concerning the BMPs.

27. The Proponent shall contain any debris and waste materials resulting from the Project in the immediate working area and recover such debris and waste material as soon as possible. The Proponent shall remove any submerged debris and waste material by means of a diver or other non-intrusive method. The Proponent shall not use a grappling hook or clamshell bucket to recover submerged debris or waste material unless such use is reviewed and approved by VFPA.

28. The Fisheries and Oceans Canada, Conservation and Protection Field Supervisor for Fraser Valley West in Langley, British Columbia is to be advised at least two (2) days in advance of the start of the in-water physical works (telephone: 604 607 4150; fax: 604 607 4199). VFPA Environmental Programs and Harbour Master shall be copied on this

notification (EnvironmentalPrograms@portmetrovancouver.com and Harbour_Master@portmetrovancouver.com). The physical works may not be initiated before the expiry of the notice period.

CONCRETE AND CEMENTITIOUS MATERIALS

29. Project works involving the use of concrete, cement, mortars and other Portland cement or lime containing construction materials shall be conducted so as to ensure that sediments, debris, concrete (cured or uncured), and concrete fines are not deposited into the aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime containing construction materials, such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing, etc. shall not be permitted to enter the aquatic environment. VFPA shall be consulted in advance for further review and authorization where there is no alternative to permitting the release of such water. Containment facilities shall be provided at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment as required.

SPILL PREVENTION AND CONTINGENCY

30. Prior to commencing any physical activities, the Proponent shall establish a Spill Prevention, Containment and Clean-up Plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances that may be used or present during the construction phase of the Project that uses standards, practices, methods and procedures to a good commercial standard, conforms to Applicable Law and uses that degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Proponent shall ensure that appropriate spill containment and clean-up supplies are available on site at all times and that all personnel working on the Project are familiar with the spill prevention, containment and clean-up plan. Incident response shall be prompt and appropriate in accordance with the response plans and the circumstances. (Note that other conditions refer to incident response during the operations phase.)

31. Working equipment shall be inspected regularly to ensure that it is in good mechanical condition and free from visible evidence of fuel, oil, coolant, solvent and hydraulic leaks. Equipment that is found to be other than in good condition shall be removed from the job site immediately.

32. Construction equipment shall be equipped with easily accessible spill kits, and operators shall know how and when to use them.

33. Fuelling or maintenance shall not be carried out within 30 metres of the banks of water courses or surface water bodies, or in areas where there is potential for run-off and spilled substances to reach water courses or surface water bodies. Fuel and other hydrocarbons shall not be stored in such areas, temporarily or otherwise.

34. Small portable equipment such as generators or air compressors shall be used in accordance with best environmental practice, including the use of drip trays when appropriate.

SEDIMENT AND EROSION CONTROL

35. Any soils excavated from the site during the proposed works must be handled in a manner that prevents their release into an aquatic environment, either directly or

indirectly as silt in storm runoff.

36. Steps shall be taken to ensure that sediment, sediment-laden waters and other potentially deleterious substances do not enter watercourses during implementation of the Project.

37. Notwithstanding the foregoing condition concerning the release of sediments, steps shall be taken to ensure that suspended sediments in foreshore and near-shore areas and induced turbidity of local waters attributable to the proposed works do not exceed the following water quality criteria:

- When reference background is less than or equal to 50 nephelometric turbidity units (NTU) or 100 milligrams per litre (mg/L) non-filterable residue (NFR), induced turbidity must not exceed 5 NTU or 10 mg/L NFR above the background values;
- When reference background is greater than 50 NTU or 100 mg/L NFR, induced turbidity must not exceed the background values by more than 10% of the background value; and
- Reference background is the level at a representative nearby reference site that is not or will not be affected by the proposed works in any way.

38. Excavation dewatering methods and mitigations shall be as described in the Excavation and Dewatering Management Plan submitted by the Proponent on June 1, 2014. The Environmental Monitoring Reports shall confirm that the Excavation and Dewatering Management Plan methods are providing effective mitigation of potential adverse environmental effects associated with excavation dewatering.

OPERATIONAL WATER QUALITY

39. There shall be no discharge of effluents of any type from this site to land or water within VFPA jurisdiction, either directly or indirectly as by storm sewer or other drainage system, unless explicitly authorized by VFPA. A permitted discharge to sanitary sewer would meet this condition. Any other proposed water disposal method must be reviewed and authorized by VFPA prior to construction of the water treatment system.

40. Water use on the terminal shall be generally as described in the Water Management Plan dated August 2014, and as further detailed in the Operations Management Plan.

SOIL AND GROUNDWATER QUALITY

41. Any soils excavated from the site that are not suitable for backfill must be disposed of at appropriate off-site facilities in accordance with Applicable Law. Suspect materials should be treated as contaminated or they should be stockpiled until their environmental quality has been determined. Duration of stockpiling on site shall not exceed 60 days unless authorized by VFPA. Stockpiles shall be covered to prevent dispersal by rain, surface flowing storm water or wind.

42. Materials brought onto the property for use as backfill or for site preparation must be from sources demonstrated to be clean and free of environmental contamination.

AIR QUALITY

43. Dust and air emissions associated with the Project shall be managed to avoid adverse

health and safety effects and prevent impacts to regional and local air quality. In this regard, the Proponent shall prepare and submit, to the satisfaction of PMV, an Air Quality Management Plan (AQMP). The Proponent shall fully implement the AQMP prior to the commencement of operations. The plan shall include, but not be limited to the following components:

- Management Plan Scope - outlining the general approach, objectives, intent, and responsibilities;
- Emission Site Inventory - characterization of site and activities;
- Impact Assessment -identifying issues of concern, sources, and receptors;
- Mitigation Measures - identification of operational plans, complaint management, standard operating procedures and policies;
- Monitoring Methodology – detailing the types of monitoring, equipment, locations, and methods;
- Reporting – detailing data management, report types, content and frequency.

44. All air quality data gathered through the AQMP shall be compared to the expected values described in the Levelton Air Quality Assessment (AQA) report underpinning the SNC Lavalin Human Health Risk Assessment (HHRA), and the results of the comparison reported to PMV. PMV will be consulted and advised of the human health risk implications in the event that the monitoring data suggest that air quality effects are worse than expected in the AQA. PMV will review the data and, if appropriate, will require that the HHRA be updated to incorporate the results. Note that if such an update suggests that significant human health risk exists, PMV would require that the Project be revised appropriately to mitigate that risk.

45. Prior to commencement of operations, FSD is required to obtain the appropriate approvals for and complete the upgrades to the agricultural products air handling equipment identified in the AQA.

46. During the construction phase of the Project, the Proponent shall make reasonable efforts to ensure that heavy duty diesel powered road licensed vehicles are model year 2007 or newer.

47. During the construction phase of the Project, the Proponent shall make reasonable efforts to ensure that diesel powered non-road or off-road equipment is Tier 3 or better.

48. During the construction phase of the Project, dust control measures shall be implemented as required and in accordance with the Environmental Management Plan, including but not limited to the following:

- Soil stockpiles shall be covered or shielded from wind as necessary or stabilized with water or other dust control measures;
- There shall be no visible dust or vehicle track-out beyond the lease boundary;
- Wheel washing facilities shall be established where appropriate;
- Vehicles used to transport bulk fine materials should be covered;

- Paved sections subject to dust accumulations should be cleaned/wetted on a regular basis; and
- Unpaved sections should be wetted on a regular basis.

49. Vehicle and equipment idling shall be limited to the greatest practical and safe extent.

50. Where the option is available, the newest tugs shall be utilized during barge positioning and movement to limit exposure to Nitrogen Oxides (NOx) and Diesel Particulate Matter from engine exhaust.

51. VFPA reserves the right to impose additional conditions in the future in the event that it becomes apparent to VFPA that this is necessary with regard to managing emissions to air associated with the terminal facility.

LIGHTING

52. The Proponent shall take all appropriate steps to prevent adverse off-site lighting impacts on wildlife, aquatic life, and the surrounding community. Such steps shall include the use of best available technology to mitigate light spillage and documentation of the implementation and effectiveness of these practices to the satisfaction of VFPA. The Proponent shall be responsive to light concerns raised by VFPA during construction and operations.

NOISE

53. Appropriate steps shall be taken to prevent adverse noise impacts on wildlife and the surrounding community. In the event that it becomes apparent to VFPA that additional measures are necessary with regard to managing noise, VFPA may require that the Proponent prepare and submit a Noise Management Plan, to the satisfaction of VFPA. The Proponent shall be responsive to noise-related issues identified by regulators and VFPA during construction and operations.

DEBRIS AND WASTE MATERIALS

54. Construction wastes shall be reused or recycled where practical and as appropriate.

55. The Proponent shall ensure that debris and waste material resulting from the Project are contained, collected, and disposed of at appropriate upland locations in a manner that uses standards, practices, methods and procedures to a good commercial standard, conforms to Applicable Law and uses that degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances.

ENGINEERING

56. The Proponent is responsible for locating all existing site services and utilities including any located underground and the Proponent shall ensure that these services and utilities are protected during construction and operation of the Project. The Proponent is responsible to employ best practices and meet applicable code requirements with respect to protection of existing site services and clearance between existing and proposed site services, and shall relocate any affected utilities. The Proponent 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.

57. Prior to commencement of construction, the Proponent 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 for the proposed on and off-site works, to the satisfaction of VFPA.

58. The Proponent shall observe the Coal Transfer Facility Fire Safety Plan dated September 2012 and update as necessary prior to construction and from time to time as necessary during operations, to the satisfaction of VFPA.

59. The Proponent shall provide a separate set of as-built drawings and plans in AutoCAD and Adobe (PDF) format detailing the improvements made to off-site areas, within 60 days of completion of off-site works.

60. Prior to commencement of construction, the Proponent shall submit confirmation from its structural engineer that the loading and surface wear resulting from the barge loader will not cause overstress, damage, or deterioration of the dock structure (i.e. excessive deflections, cracking, water ingress, etc.).

61. The Proponent shall not use ground anchors that are abandoned in place without separate written authorization from VFPA.

62. Prior to commencement of construction, the Proponent shall submit written confirmation that the proposed connection of the barge winch fairleads to the existing dock shall not negatively impact the existing tensioned dock along the barge berths.

63. The Proponent shall conduct and submit a photographic inventory of the asphalt area to the south of the proposed dumper building, and an instrumented survey of the building foundations of the Bekaert Canada building located adjacent to the dumper building, prior to commencement of construction and within 90 days of the completion of construction, to the satisfaction of VFPA.

TRANSPORTATION

64. Prior to commencement of construction, the Proponent shall submit a detailed design, including electrical connections, for the two proposed rail crossings of Robson Road, demonstrating compliance with current Transport Canada standards, to the satisfaction of VFPA.

65. Prior to commencement of operations, the Proponent shall construct an alternate permanent access route for the Bekaert Canada site, to the satisfaction of VFPA.

66. The Proponent shall completely remove the Data Audit Industries truck scale by the conclusion of road construction, including foundations and associated utilities, shall make good the work area, and shall match existing grades, to the satisfaction of VFPA.

MARINE OPERATIONS

67. Prior to commencement of operations, the Proponent shall provide a written submission confirming that the risk reduction measures outlined in the Risk Assessment Study for Coal Barge Operation dated September 26, 2012 will be implemented during operations over the life of the Project.

68. The Proponent shall maintain a current Spill Response Plan on behalf of the barge

operator responsible for barge movements within VFPA jurisdiction.

69. The Proponent shall develop and submit a Sediment Monitoring Plan specific to the coal types (and their associated organic, metallic, and metalloid components) handled at the terminal for the river bottom near the berth face, to the satisfaction of VFPA.

70. In the event of a product spill into the Fraser River, the Proponent will be required to submit a Clean-up Plan to the satisfaction of the VFPA Harbour Master. Should VFPA determine that the submitted plan does not sufficiently address the carrier's responsibilities, VFPA reserves the right to hire a contractor to remove the spilled material at the expense of the Proponent.

71. VFPA reserves the right to implement operational criteria on the Fraser River that may prioritize traffic on an as-needed basis at a future date.

CONSTRUCTION - GENERAL

72. Prior to commencement of construction, a tenure arrangement to permit off-site works must be in place.

73. Prior to application for a Building Permit, the Proponent shall submit an updated Fire Code Report from a Fire Protection Engineer demonstrating that the proposed facility will be adequately protected from the risks of fire, and shall work with the City of Surrey Fire Department to this same end, to the satisfaction of VFPA.

74. Prior to commencement of construction, the Proponent shall submit signed and sealed drawings and professional letters of assurance approved for construction by a professional engineer licensed to practice in the Province of British Columbia, and shall obtain a VFPA Building Permit.

75. Prior to commencement of construction the Proponent shall prepare and implement an archaeological Chance Find Procedure as guidance during excavation activities. In the event that suspected archaeological materials are encountered during Project construction, the Proponent shall immediately cease construction activities that may disturb the potential materials and notify VFPA.

76. The Proponent shall adhere to the Construction Communications Plan dated August 2014, to the satisfaction of VFPA.

77. The Proponent shall provide VFPA with an updated construction schedule prior to commencement of any works, and shall provide VFPA with regular updates of the schedule throughout the duration of construction.

78. All noise levels resulting from construction activities shall be in keeping with standards of the City of Surrey Noise Control By-Law No. 7044, and Corporation of Delta Noise Control By-Law No. 1906, and the City of New Westminster Noise Bylaw No. 6520, whichever is most restrictive, unless prior written consent from VFPA has been obtained.

79. The Proponent may place temporary construction trailers on site while this permit remains in effect, provided that the Proponent shall not connect such trailers to any underground utilities without the prior written consent of VFPA which may include, without limitation and at VFPA's discretion, a VFPA Building Permit.

80. The Proponent shall provide as-built drawings and plans, in both AutoCAD and Adobe (PDF) format, within 60 days of completion of all works.

81.	The approved works must commence by August 31, 2015 (the "Commencement Date") and be complete no later than August 31, 2016 (the "Completion Date"). For an extension to the Commencement Date, the Proponent must apply to VFPA in writing no later than 30 days following that date. For an extension to the Completion Date, the Proponent 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 or modifications to this approval.

Robin Silvester
President and Chief Executive Officer

#	Category	Mitigation Strategy Description	Where applicable
	Construction on the Facility		
	(a) Dust	Prior to the start of construction, a "baseline level" particulate matter, dust fall and nitrogen dioxide monitoring program will be implemented to quantify the pre-project levels. This will provide a comparative reference for future monitoring. Two monitoring stations with Met One E- Samplers and dust fall canisters would be installed at least six months prior to construction and take continual samples over that period. A meteorological monitoring station would measure wind speed, wind direction, rainfall, temperature and relative humidity. Nitrogen dioxide would be tested using a hand held monitor on a monthly basis. Current particulate matter concentrations can be analyzed by wind speed and direction to infer potential existing sources.	All construction activities and post facility activity
	(b) Noise	Construction activity will take place between 7:00 AM and 10:00 PM in accordance with City of Surrey noise bylaws and in order to minimize noise during the night. There will be no work Sundays.	All construction activities
	(c) Noise	Pile driving, which is expected to be the largest source of noise, is expected to last no longer than two weeks. This activity will adhere to the City of Surrey Bylaws with respect to timing. These bylaws require that work is conducted between 7:00 AM and 10:00 PM, Monday to Saturday. Most work is expected to occur between 9:00 AM and 6:00 PM, Monday to Friday.	A total of 12 piles are to be installed.
	(d) Noise	A vibratory pile driving process will be used, rather than a hammer process, to reduce noise.	A total of 12 piles are to be installed.
	(e) Dust	Air quality will be monitored throughout the construction period and during operations via two Met One E-Sampler air quality monitoring stations sampling particulate matter. If particulate matter monitoring data exceeds air quality objectives or baseline levels, then the origin or source of the emissions will be investigated and documented. The cause and potential reasons will be determined and corrective action will be taken to ensure ambient air quality is below air quality objectives or baseline levels.	Air quality will be monitored where dust emissions from construction activities will be most prevalent.

#	Category	Mitigation Strategy Description	Where applicable
	(f) Dust	Contractors will be required to employ the following mitigation practices during construction: - Grading of the construction site in phases, to coincide with actual construction in each specific area - Commencing linear construction at the location that is upwind from the prevailing wind direction - Using wind fencing in construction areas that are frequently subjected to high winds (will be evaluated once construction commences) - As necessary during the construction process, use water spray to control dust on access roads, lay-down areas, work areas and disposal areas - Minimizing drop heights when transferring material (such as when loading soil onto haul trucks) - Large portions of the construction site where possible will be fenced in to eliminate non-essential traffic and dust propagation.	During entire construction phase
	(g) Surface run off	No significant impacts are expected. Catch basin protection will be installed prior to construction in the Shed 1 working areas. Excavation discharge will be directed to in-ground pits specifically created to manage turbid excavation waters.	In ground construction work near shed 1; installation of the receiving pit and tunnel, water settlement pond and support columns for the conveyors
	(h) Lighting	Existing overhead Terminal lighting for the facility is expected to be adequate for the construction of the proposed facility. However, if any additional lighting is required for any excessively dark days or confined work, lighting will be directed away from residential areas.	All construction activities
	(i) Traffic	All construction traffic will access/egress the terminal at pre-arranged times to avoid concerns with regular traffic patterns to and from the terminal. Construction impacting regular and public traffic routes will be performed during off peak times with full flagging. Notifications will be posted one week in advance and sent to all surrounding properties detailing times and impacts of proposed construction work on regular and public traffic routes.	All construction activities within the terminal. Rail construction activities, particularly the rail crossing on Robson Road and Elevator Road. Bekaert access reconstruction.

#	Category	Mitigation Strategy Description	Where applicable
	(j) Riparian Planting	Plantings will be undertaken in the Shadow Brook area to mitigate the loss of riparian vegetation The current design does not impact the Shadow Brock area. The current design of the rail loop/Bekaert's relocated access and proposed rail works within the rail holding yard potentially impacts green and possibly yellow coded ditches. Due to these impacts, it was proposed to mitigate by way of enhancing 1,206 m^2 in the Shadow Brook and area with approximately 1,206 native plant species. The species planted will be appropriate native species. Riparian planting will be undertaken in the fall to maximize survival.	Shadow Brook Channel, green coded ditch east of Elevator Road and Rail Yard work.
	(k) Communications	Questions, concerns or enquiries during construction can be directed to Public Affairs: 604-581-2233 (24x7) 604-582-2244 (M-F) Community@fsd.bc.ca	All construction activities
1.	*Operations - Rail Transit*		
	(a) Dust	To be compliant with the BNSF loading requirements, all customers will be required to contractually commit to: : - Applying a veneer suppressant at mines pre departure (binds the surface particles together to provide a membrane that is resistant to dust lift off) - Profiling coal loads in accordance with the BNSF loading template - Removing excess coal on wagon sills by using a car sill brush	- Coal trains in transit between the origin mines and FSD - Coal trains in the PARY, pre unloading - Coal trains on the FSD terminal, pre unloading

#	Category	Mitigation Strategy Description	Where applicable
	(b) Dust	The sides and bottom of the empty cars will be automatically sprayed to remove any remaining coal after leaving dumper pit shed enclosure at a defined wash car station. The spray device is configured in an arch shape up either side and across the bottom with nozzles at specific intervals to ensure full coverage. The spray device is automatically triggered from a sensor in the track that recognizes movement of the railcar. All water collected from car washing will be automatically pumped to the water treatment/settling pond for proper handling, recycling and/or disposal.	For all empty rail cars upon departure from the unloading shed.
	(c) Noise	Cars will be shunted through the bottom dump receiving pit via an electric positioner (an indexer), which is quieter than a locomotive. A positioner is quieter as it eliminates the frequent stopping and starting that occurs with a locomotive. Use of the positioner eliminates the recurring compaction and retraction of rail car couplings and associated noise.	All rail cars to be unloaded
	(d) Noise	The on dock rail has been designed to have turning angles no greater than 12.5 degrees in order to reduce noise. If unexpected squealing noise does occur at certain points, FSD will install track lubricators in order to help mitigate.	All curves on the proposed rail unloading loop.
	(e) Spills	All spills will be cleaned immediately in accordance with FSD's Spill Response Plan The method of addressing spills will be dependent on the size and location of the spill. The different scenarios and respective actions and authorities are outlined in FSD Spill Response Plans. All Operational and Maintenance Supervisors will be trained to safely and effectively deal with a spill. All spills will be handled in the priority of human safety, environment, and equipment and infrastructure.	Coal spills
	(f) Archeological Considerations	FSD commissioned a 3rd party expert to conduct an AOA of the anticipated areas of excavation. The results of the final report indicated there were no areas of concern and recommend only that key construction personnel be made aware "Chance Finds" and maintain a "Chance Finds" procedure on site at all times during the course of construction. Please refer to the AOA report 10590_AOA_DTB Coal Facility_FSD.	All areas of excavations disturbing native soils.
	(g) Operation Time	FSD is a 24x7 operation. Although railcars are expected to be received between 4am and 8am and picked up between 5pm and 9pm it could take place at any time of the day. FSD will post alternate receiving or delivery periods on their website 48 hours in advance prior to operations.	

#	Category	Mitigation Strategy Description	Where applicable
			Rail receiving and delivery
2.	*Operations - Coal receiving pit and conveyors*		
	(a) Dust	The receiving pit will be within a covered structure, except for the opening at either end for the train to enter/exit.	Bottom dump receiving pit
	(b) Dust	Atomized water mist/fog system will be projected directly at both sides of the bottom dump rail car while unloading into the pit. There are two spray bars, one on each side, equipped with several nozzles at appropriate distances to ensure complete coverage. The system is automatically triggered by the railcar movement and will apply a steady mist to all areas receiving coal during the entire unloading process.	Receiving pit
	(c) Dust	All external conveyors will be covered on the top and sides with steel sheeting to prevent coal or dust from exiting. All external transfer points from one conveyor to the other will be fully enclosed on all four sides, top and bottom. In addition, all external transfer points will be equipped with water/misting spray with a chemical suppressant that is automatically applied on a continual basis while system is in operation. A spray bar is located above the conveyor at the transfer point and has several nozzles at appropriate distances to ensure complete coverage. Transfer points are also equipped with wash down equipment used for cleaning out the system.	Three conveyor segments: - Hooper feeder conveyor - Outfeed conveyor from the Feeder conveyor - Marine Vessel Loader Two transfer points: - Feeder conveyor to Outfeed conveyor - Outfeed conveyor to Marine Vessel loader
	(d) Dust	Coal on conveyors will be mechanically profiled to not exceed belt edge height to limit exposure to air flow. Profiling is accomplished through the flow (design) of the transfer point at the designated height to shape the coal as it passes by.	All conveyors (see list in 3(c))
	(e) Dust	Water spray with a chemical suppressant will automatically be applied at transfer points between conveyors on a continual basis while system is in operation. The spray bar is located above the conveyor and has several nozzles at appropriate distances to ensure complete coverage.	Two transfer points between conveyors (see list in 3(c))
	(f) Dust	Dust suppression technology will be incorporated into the design of the transfer points. Use of dust limiting shapes such as curved chutes, baffles, belt skirting and shrouds to reduce the amount of turbulence and wind which increases exposure to air and can create dust.	All conveyors (see list in 3(c))
	(g) Grey Water Management	The receiving hopper will be mounted in a sealed concrete pit. All collected water will be pumped to the water treatment/settling pond for proper handling, recycling and/or disposal.	Receiving hopper and pit

#	Category	Mitigation Strategy Description	Where applicable
	(h) Leachate	All collected water, exposed water and wash down water will be pumped to the water treatment/settling pond for proper handling, recycling and/or disposal.	Full facility area and applicable watershed
	(i) Lighting	Existing overhead Terminal lighting for the facility is expected to be adequate for the proposed facility. If lighting is required on the facility it will be directed away from residential areas.	The receiving shed housing the hopper and pit, conveyor tunnel, along the length of conveyors and catwalks, around the transfer points, around the single control room (marine), and along the Marine Vessel loader
3.	*Loading coal on barges*		
	(a) Dust	Coal drop heights will be limited through the use of a variable height (lifting) vessel loader to reduce the ability for the product to catch wind and create dust. Max height in this condition can be more controlled would have an average drop height of 1m. The vessel loader will be covered to contain the product and reduce emissions.	Marine Vessel loading conveyor
	(b) Dust	A snorkel off the end of vessel loader will be used to reduce turbulence of the product and drop height which eliminates the ability for the product to separate or catch wind and create dust. The snorkel will be enclosed to contain the product and reduce emissions. At the end of the snorkel there will be a halo (round) water spray to mitigate against fugitive dust while loading the barge.	Marine Vessel loading conveyor
	(c) Dust	The adjustable vessel loader will be used to shape the coal pile on the barge such that it is slightly rounded and not peaked to reduce the ability of the coal to catch wind and create dust. The vessel loader will be manually controlled and the operator will move the unit side to side, forward and back to flatten out the coal.	Barges during loading operation
	(d) Dust	In response to dust generation, and when weather conditions are expected to lead to dust generation (days with no precipitation, sunny conditions, winds greater than 19 km/hr), water will be applied to wet the coal as it is loaded onto the barge and when the barge is sitting at the berth awaiting departure. Application will be via a manually operated spray halo installed on the tip of the vessel loader snorkel and a series of manually operated rain birds along the berth face.	Barges during loading operation, as weather conditions dictate

#	Category	Mitigation Strategy Description	Where applicable
	(e)	Dust suppressants in the form of binding agents will be added to the coal prior to loading onto the barge. The agents will significantly reduce fugitive dust and the potential for spontaneous combustion. The same or similar agents are currently being used by the producers and prior to loading the rail car. Please reference Section 2.4.6.2 of the Environmental Impact Assessment.	
	(f) Dust	An anemometer and particulate matter air quality monitor will be located nearby the vessel loader. Meteorological data will be monitored continuously and will be available in real time to the terminal operator and on the terminal's website to the general public. The monitoring will include wind speed and direction, particulate matter, temperature, relative humidity and precipitation. Operations will shut down in periods of winds in excess of 40 km/h on a sustained basis of more than 5 minutes.	Marine Vessel loading conveyor
	(g) Leachate	While the barges are at FSD, the coal surface on loaded barges will be wetted as required (i.e. rain birds operated from the berth for five minutes every 30 minutes). The coal on the barges is expected to absorb all of the water that will be sprayed on it during normal operations.	Barges during loading operation, as weather conditions dictate.
	(h) Lighting	Existing overhead Terminal lighting for the facility is expected to be adequate for the proposed facility and we do not expect to require any new lighting. If lighting is required on the vessel loader it will be directed away from residential areas.	The Marine Vessel loading conveyor and the control room
4.	***Coal barge transit down Fraser River to Texada Island***		
	(a) Dust	Barge sidewalls will be used to partially protect coal from airflow	All coal barges used between FSD and Texada Island
	(b) Dust	The adjustable vessel loader will be used to shape the coal pile on the barge such that it is slightly rounded and not peaked to reduce the ability of the coal to catch wind and create dust. The vessel loader will be manually controlled and the operator will move the unit side to side, forward and back to flatten out the coal.	All coal barges used between FSD and Texada Island
	(c) Dust	Coal barge will be sprayed with water prior to departure from FSD if the surface of the coal is not sufficiently wet to help control dusting during transit.	All coal barges used between FSD and Texada Island
	(d) Dust	Coal barges will not operate in periods of high wind in excess of 40km (22 knots per hour) on a sustained basis of more than 5 minutes.	All coal barges used between FSD and Texada Island

#	Category	Mitigation Strategy Description	Where applicable
	(e) Marine safety	Barge movements will only be conducted when wind conditions are appropriate	All coal barges used between FSD and Texada Island
	(f) Marine safety	Compartmentalized barges will be used, such that a leak in one compartment will not compromise the entire barge	All coal barges used between FSD and Texada Island
	(g) Marine safety	No coal storage in hull of barges, such that a puncture of the hull would not lead directly to a coal spill	All coal barges used between FSD and Texada Island
	(h) Fishing Communications	The project barge/vessel schedule will be available to the public online	All coal barges used between FSD and Texada Island
	(i) Fishing	Where practical, barge/vessel movements will be scheduled around fishing windows	To be applied where practical and where the barge operators feel there is a potential conflict with fishing groups
	(j) Fishing	Pre-emptively notify fishing groups if a conflict is expected	To be applied where practical and where the barge operators feel there is a potential conflict with fishing groups
5.	***Emergency Response***		
	(a) Fire Prevention	Conveyor belts will be equipped with fire taps with valves at regular intervals	All conveyor segments
	(b) Fire Prevention	A hose tap will be located at the belt drive area directly upwind of the belt drive	Conveyor system
	(c) Fire Prevention	The conveyor system will use fire retardant hydraulic fluids and fire resistant belting	Conveyor system
	(d) Fire Prevention	An automated dry active fire suppression system will be installed in the receiving building, concrete pit and conveyor tunnel.	Receiving building, pit and conveyor tunnel

#	Category	Mitigation Strategy Description	Where applicable
	(e) Marine Emergency Response	FSD has worked with its barging operator to develop a marine emergency response protocol. The protocol prioritizes response in the following manner: 1. Human safety: ensure the wellbeing of the surrounding public, emergency responders and staff. 2. Containment: ensure vessel is secure to mitigate further damage or spillage and if relevant, employ containment tactics to surround and recover lost cargo. 3. Assessment: review shoreline impacts using adapted Shoreline Clean-Up Assessment Tactics, in close consultation with Environment Canada, and review marine impacts in consultation with the Department of Fisheries and Oceans (DFO); 4. Cleanup: following consultation with regulators and other stakeholders, undertake dredge or other clean up operations. This activity would likely be done in collaboration with specialized clean up agencies. 5. Resumption of business for users of the Fraser River: once it is deemed safe to do so, open route in Fraser River so users can resume business in a timely manner.	All Project barging operations
6.	*General*		
	(a) Communications	Questions, concerns or enquiries during operations can be directed to Public Affairs: 604-581-2233 (24x7) 604-582-2244 (M-F) Community @fsd.bc.ca	During operations rail, facility or barging

#	Category	Mitigation Strategy Description	Where applicable
	(b) Marine Habitat and Waterways	The Facility and the Project barges will be operated by very experienced Operators. The marine carrier and Terminal operator have been operating on the Fraser River for over 40 and 50 years respectively. FSD and the barge operator have worked together to develop a set or risk mitigation processes in order to minimize the potential for a barge accident and resulting coal spill. However, trace elements and PAH in unburned coals proposed for handling at FSD would not be considered harmful to aquatic life because these constituents are generally not bioavailable under typical environmental conditions. Given that standard operating procedures focus very highly on incident prevention and a spill into the aquatic environment is considered unlikely, residual effects on fish or fish habitat are not expected from the operation of the proposed Project. Please refer to section 5.5 of the EIA (Fish and Fish Habitat) which looks at potential effects and proposed mitigation measures. Wastewater from coal handling will be recycled through the water management system during operation. In addition, storm water quality for the Project will be monitored prior to discharge. With the implementation of management plans for water treatment, water quality monitoring, Run-off and emergency spill prevention as well as the mitigation measures identified above, no significant residual effects on water quality, including the Fraser River are expected. For a summary of the Water Management mitigation strategies, please refer to page 189-190 of the EIA. The EIA can be found at http://www.fsd.bc.ca/index.php/company/community-outreach/	DTB Facility overall Operations

#	Category	Mitigation Strategy Description	Where applicable
	(c) Wildlife and Vegetation	Mitigation measures to protect wildlife and vegetation, particularly near Shadow Brook and other watercourses include: • Schedule vegetation clearing activities, if required, outside of the breeding bird season (March 1 to August 1) to avoid contravention of the BC Wildlife Act and Migratory Birds Convention Act; • Nest surveys if the breeding bird season cannot be avoided; • Pre-clearing and construction listed plant surveys, with an emphasis on stream bank lupine which may be present in the existing track alignment; • Installing temporary fencing (e.g. snow fence) around the riparian zone of Shadow Brook to prevent personnel and machine access into the area; and • Noxious weed control. With the assistance of an experienced Environmental consultant, FSD has established a comprehensive Environmental Management Plan. The plan ensures the full protection of wildlife, vegetation, water way and marine habitat protection during the construction and operational phase. Please refer to the EMP for further detail. Please refer to section 5.6 of the EIA where mitigation measures to protect wildlife and vegetation are outlined. Additionally, summarized mitigation measures for Vegetation and Wildlife can be found on page 187 of the EIA. The EIA and EMP can be found at http://www.fsd.bc.ca/index.php/company/community-outreach/	DTB Facility overall Operations (and Construction)
	(d) Operation Time	FSD is a 24x7 operation. Although coal receiving is anticipated to be during dayshift hours (8am to 4:30pm) it could take place on the afternoon (4:30pm to 1:00am) and graveyard (1:00am to 8:00am) shifts. FSD will post afternoon and graveyard working periods on their website 48 hours in advance prior to operations.	During operations of coal receiving or vessel loading