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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AMS</td>
<td>Adaptive Management Strategy</td>
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<tr>
<td>BCRC</td>
<td>BC Rail Company</td>
</tr>
<tr>
<td>COD</td>
<td>Corporation of Delta</td>
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<tr>
<td>CEAA</td>
<td>Canadian Environment Assessment Act</td>
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<tr>
<td>CWS</td>
<td>Canadian Wildlife Services</td>
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<tr>
<td>DCL</td>
<td>Deltaport Constructor's Limited</td>
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<td>DCLC</td>
<td>Deltaport Community Liaison Committee</td>
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<tr>
<td>DFO</td>
<td>Department of Fisheries and Oceans</td>
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<td>DP3</td>
<td>Deltaport Third Berth Project</td>
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<td>EAC</td>
<td>Environmental Assessment Certificate</td>
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<td>EC</td>
<td>Environment Canada</td>
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<td>EMP</td>
<td>Environmental Management Plan</td>
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<tr>
<td>EWP</td>
<td>Environmental Work Plan</td>
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<tr>
<td>FTI</td>
<td>Foreshore Technologies Inc.</td>
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<tr>
<td>MMMP</td>
<td>Marine Mammal Monitoring program</td>
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<tr>
<td>MOE</td>
<td>Ministry of Environment</td>
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<tr>
<td>MOT</td>
<td>Ministry of Transportation</td>
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<tr>
<td>RBRC</td>
<td>Roberts Bank rail corridor</td>
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<tr>
<td>RTGs</td>
<td>rubber tire gantries</td>
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<tr>
<td>SAC</td>
<td>Scientific Advisory Committee</td>
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<tr>
<td>TFN</td>
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<td>TOCA</td>
<td>Table of Owner’s Commitments and Assurances</td>
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<td>TSI</td>
<td>Terminal Systems Inc.</td>
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<td>VFPA</td>
<td>Vancouver Fraser Port Authority</td>
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1.0 INTRODUCTION

This document has been prepared to provide the British Columbia Environmental Assessment Office (EAO) with the status of the compliance with the Conditions of the Environmental Assessment Certificate (EAC #T06-01) issued to Vancouver Fraser Port Authority (VFPA) September 28, 2006 for the Deltaport Third Berth Project (DP3). As per condition 5 of the EAC, VFPA is required to submit a report documenting the status of compliance with the EAC four weeks prior to the start of operations. In February 2008, VFPA provided the EAO with a report on the status of key DP3 components which covered the start of construction up until December 31, 2007 (“VFPA Deltaport Third Berth 2007 Status Report”, Feb 2008) and is available on the EAO website. This pre-operations report covers the period from January 2008 to November 2009. All status updates are provided in the updated Table of Owner’s Commitments and Assurances (TOCA) (see Appendix A) however, key components of the TOCA are highlighted in this report and include the following:

- Construction Environmental Management Plans and Monitoring;
- Operation Environmental Management Plan;
- Environmental Monitoring;
- Adaptive Management Strategy;
- Consultation;
- Traffic, Air Quality, Lighting and Noise;
- Ocean Disposal Permit; and
- Fisheries Act Authorization.

1.1 PROJECT DESCRIPTION SUMMARY

DP3 is a VFPA and Terminal Systems Inc. (TSI) initiative to expand existing container operations at the Deltaport container terminal at Roberts Bank, in Delta, BC.

The main on-site project components include:
- a wharf to accommodate the third berth;
- creation of land for a container storage yard;
- tug moorage and safety boat launch;
- ship access channel; and
- terminal services and infrastructure.

The main off-site project components include:

- additional rail track; and
- road improvements.
DP3 will increase capacity at Deltaport by at least 600,000 TEUs (twenty-foot equivalent units) by adding a third berth and 20 hectares of container storage facilities to the existing two-berth container terminal. The third berth at Deltaport will be operated by TSI, a private company that operates the existing Deltaport container terminal. DP3 is part of VFPA’s overall strategy to expand container capacity to accommodate consumer and business-driven demand for increased Canadian trade through the west coast of Canada (VFPA website, 2009).

The DP3 project was the subject of environmental assessments under the B.C. Environmental Assessment Act (BCEAA) and Canadian Environmental Assessment Act (CEAA). Both assessment processes were harmonised under the federal / provincial agreement, and the federal review was a Comprehensive Study. The project was approved under both these legislation in 2006.

1.2 CONSTRUCTION ACTIVITIES STATUS UPDATE


The Uplands portion of the Third Berth construction, including terminal utility installation and pavement surfacing, was overseen by TSI, Deltaport Terminal Operator. Installation of terminal utilities commenced September 2008 and was completed in August 2009. Asphalt surfacing of the terminal area began in May 2009 and is scheduled to be complete in November 2009.

**Construction – Marine Works**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
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<tbody>
<tr>
<td>Mobilization</td>
<td>January 2007</td>
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<tr>
<td>Perimeter Dike Construction</td>
<td></td>
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<tr>
<td>Phase 1</td>
<td>January 2007 – May 2007</td>
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<tr>
<td>Phase 2</td>
<td>March 2008 – April 2008</td>
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<tr>
<td>Dredging (disposal) – Tug Basin</td>
<td>April 2007</td>
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<tr>
<td>Dredging (disposal) – Approach Channel</td>
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<tr>
<td>Phase 1</td>
<td>March 2007 – April 2007</td>
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<tr>
<td>Phase 2</td>
<td>August 2008</td>
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<tr>
<td>Dredging (disposal and fill) – Caisson Trench</td>
<td>April 2007 – February 2008</td>
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<tr>
<td>Terminal In-fill</td>
<td>September 2007 – August 2008</td>
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<tr>
<td>Site Pre-loading</td>
<td>October 2007 – December 2008</td>
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<tr>
<td>Tug Basin Construction</td>
<td>March 2007 – August 2008</td>
</tr>
<tr>
<td>Caisson Fabrication</td>
<td>June 2007 – November 2007</td>
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</tbody>
</table>
1.3 OPERATIONS

Opening of DP3 is anticipated to occur January 1, 2010. Operational activities at the terminal include loading and unloading of container ships, container storage and container transfers to and from rail and road transport. While these activities are the same as those currently underway at Deltaport, the addition of the third berth will increase the capacity and increase the container storage facilities.
2.0 PROGRESS IN MEETING CONDITIONS OF EAC #T06-01

As part of its environmental assessment report on the Deltaport Third Berth Project, the EAO issued the TOCA (Appendix E of the report), a series of commitments to responsible environmental management and other measures. Since 2007, the VFPA has voluntarily provided quarterly updates on the status of the TOCA to the EAO, Deltaport Community Liaison Committee (DCLC) and the public via VFPA’s website, as they became available. This quarterly report distribution has been an effective communication tool to provide interested parties with Project information and aid in transparency of the Project. The current status update of the TOCA (October 31, 2009) is included in this report as Appendix A and key areas of the TOCA are highlighted in the following sections.

2.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

As presented in the February 2007 “Deltaport Third Berth Pre-Construction Report”, prepared by VFPA, the construction Environmental Management Plan (EMP) developed for the marine works portion of the Project contained five comprehensive plans, some of which contained more than one of the 11 sub-plans described in section 2 of the TOCA. The construction EMP was attached as Schedule B to the “Fisheries Act S.35(2) Authorization, Authorization for Works or Undertakings Affecting Fish Habitat, Deltaport Third Berth Project” (December 2007), which was provided to the EAO within Appendix III of the VFPA report titled “Vancouver Port Authority, Deltaport Third Berth, Pre-Construction Report”, dated February 2007.

Comprehensive plans within the marine phase construction EMP included:

- Surface Water Quality Management and Sediment Control Plan;
- Hazardous Waste Management and Spill Control Plan;
- Marine Environmental Management Plan;
- Marine Water Quality Management Plan; and
- Marine Mammal Monitoring Program.

In addition to the above, contractors working on both the marine and upland components of the Project developed and implemented their own EMPs for construction using information contained in the Construction EMP referenced above. These include:

- The upland civil works, first phase EMP: “Project Environmental Management Plan, Deltaport Berth 3 Finishing Works for Terminal Systems Inc.”, dated October 20, 2008 (MATCON EMP);
- The upland civil works, second phase EMP: “Environmental Management Plan for Terminal Finishing Works, Deltaport Container Terminal, Berth 3 Expansion, Delta, British Columbia”, dated May 2009 and prepared for BA Blacktop by Trow Associates Inc. (BA Blacktop EMP); and
The above EMPs were developed prior to the commencement of activities with the potential for adverse impacts. The DCL EMP has been reviewed by VFPA and the EAO working group, and was accepted as complete. The remaining EMPs have been reviewed by VFPA and are submitted to the EAO along with this report. Implementation of the plans was initiated with the start of marine works, and is on-going through the upland civil works and BC Rail Company (BCRC) railway construction (“trackwork”). See Section 2 of the TOCA (Appendix A) for comments and status updates on the individual EMPs.

The BCRC trackwork to date has been limited to site grading and the placement of sub-ballast, and the Mainland EWP referenced above was produced for that work. Additional work is not scheduled to begin until December 2009, and prior to that time, an updated EWP will be developed and submitted to VFPA for review. The BCRC updated schedule of work has been included in this report in Appendix B.

EMP contained within schedule B of 2006 Fisheries Act Authorization and the DCL EMP (2007) were included in the 2007 pre-construction report to the EAO. EMPs developed in 2008 and 2009 are appended to this report (see Appendix C).

2.2 OPERATION ENVIRONMENTAL MANAGEMENT PLAN

TSI, the Terminal Operator has updated their Operation EMP, including the Emergency Response Plan, to include the new berth at Deltaport. A copy of the draft EMP was provided to VFPA for review in mid-November 2009 and is attached to this report as Appendix D. A finalized version of the EMP is anticipated to be completed by the end of November 2009.

The draft EMP is designed to capture, organize and manage activities at the terminal so that a consistent approach for controlling environmental risks can be implemented. Environmental management will be integrated into routine planning processes and daily terminal operations. TSI will review and update the EMP on an annual basis.

The draft Operation EMP is divided into several sections, and contains the following components:

- TSI’s Environmental Policy;
- A list and hazard ranking of terminal and office (administrative) activities that have actual or potential environmental impacts;
- Environmental Management Plan Procedures (EMPPs) to address overall policies for environmental management, including monitoring legal and Regulatory requirements, verify compliance and measure performance relative to TSI objectives and targets;
- Specific Environmental Operating Procedures (EOPs) to ensure that activities are carried out in a systematic manner to avoid adverse impacts on the environment.
- A List of Forms that Support the EMPPs and EOPs
2.3 ENVIRONMENTAL MONITORING DURING CONSTRUCTION

As per commitment 4.3 of the TOCA and the requirements of the 2006 Fisheries Act Section 35(2) Authorization – Authorization No.: 02-HPAC-PA-000-000144, environmental monitoring was conducted by appropriately qualified Independent Monitors throughout Project construction.

Hemmera conducted environmental monitoring during both marine and upland works and reported on Project activities via weekly monitoring reports from January 2007 to November 2009. The weekly monitoring reports have been compiled and provided along with this report (see Appendix E). The monitoring reports identified environmental issues or impacts that occurred during construction works, provided recommendations for appropriate mitigation measures, and reported on implementation and effectiveness of those measures. Supplemental information included in the weekly monitoring reports included marine mammal observations, waterfowl and coastal seabird observations, and periodic construction noise monitoring.

While a variety of works were being monitored during Project construction, one weekly report was prepared that covered all DP3 environmental monitoring activities. Weekly reports were distributed to:

- Department of Fisheries and Oceans (DFO);
- Environment Canada (EC);
- Canadian Wildlife Services (CWS);
- BC Ministry of Environment (MOE); and
- Vancouver Fraser Port Authority (VFPA).

Depending on the works being monitored, Vancouver Pile Driving, Deltaport Contractors Ltd., project engineers, and / or TSI also received copies of the weekly report as appropriate.

Hemmera was retained by TSI to provide construction environmental monitoring of the tug basin temporary barge ramp works (under Authorization HPAC-PA-000-000144 -2, December 2008) from February 2009 to May 2009. Project activities and incidental observations, such as those made during crest protection works, were reported in the weekly monitoring reports.

Hemmera was also retained by TSI to provide construction environmental monitoring services for uplands terminal construction portion of the DP3 Project:

- Finishing Works for the upland terminal construction portion of the DP3 project (October 2008 – August 2009) under DFO Authorization 02-HPAC-PA1-000-000144; and
- Second Phase of Terminal Finishing Works (June 2009 – October 2009) under DFO Authorization 02-HPAC-PA1-000-000144 and 02-HPAC-PA1-000-000144-2.
Weekly monitoring reports for the above upland works have been distributed to DFO, EC, CWS, MOE, VFPA, and TSI, and will continue to be distributed until all Project works with the potential for adverse impacts are complete. The DFO have advised that weekly reporting on uplands terminal construction is to be limited to impacts and mitigation of fish and fish habitat as it relates to terminal construction activities.

Weekly monitoring continues to be reported and will be compiled in one stand-alone report to the DFO for the entire DP3 project after project completion (fall 2009).

2.4 MARINE MAMMAL MONITORING

The objective of the Marine Mammal Monitoring program (MMMP) was to monitor marine mammal presence within the Project area during construction and avoid, reduce or mitigate potential environmental effects, particularly as they apply to Killer Whales (orca). The MMMP can be found within Schedule C of "Fisheries Act S.35(2) Authorization, Authorization for Works or Undertakings Affecting Fish Habitat, Deltaport Third Berth Project" (Dec 2007), which was provided to the EAO within Appendix III of the VFPA report titled "Vancouver Port Authority, Deltaport Third Berth, Pre-Construction Report", dated February 2007.

The MMMP is an 11 phase program, including, but not limited to, baseline surveys, acoustic modeling, collection of real-time acoustic spectrographs of dredging and vibrodensification equipment, marine mammal surveys, daily marine mammal activity observations, and reporting. Stantec (formerly Jacques Whitford-AXYS), in association with JASCO Research Ltd., was retained by VFPA to conduct the above surveys. Originally, eight Marine Mammal Surveys were planned, however, one additional survey was conducted in May 2009, for a total of nine surveys. The reports are dated as follows:

- June and September 2007;
- January, May, June, August and September 2008; and
- January and May 2009.

Based on the results of the baseline survey work, the acoustic zone of influence for each piece of marine equipment activity (e.g. vibrodensification, suction cutter dredging) ranged from 130 m to 930 metres. For the purposes of monitoring, a one km zone of acoustic influence was chosen to represent all marine construction activities. The marine mammal monitoring program included a requirement to reduce construction activities if killer whales were observed within the zone of influence. Daily observations of marine mammal activities were conducted by Hemmera, the Environmental Monitor for the marine construction works, and by the VFPA environmental monitor. These observations were included with the environmental monitoring reports produced during construction works (see Section 2.3). No killer whales were observed within the zone of influence during the course of Project construction, and the closest killer whale sighting was approximately 2.5 to 3 kilometres from the marine construction activities.
DFO received copies of the above survey reports, and two baseline surveys ("Source Level Study of the Dredge Columbia and Killer Whale Acoustic Impact", dated 14 May, 2007 & “Vibro Densification Source Level Study and Killer Whale Acoustic Impact”, dated September 17, 2007). A final marine mammal monitoring report for the Project is currently being drafted, and will be submitted to DFO when complete (expected in Fall 2009). Copies of the baseline surveys and marine mammal survey reports have been included with this report (Appendix F).

In addition to the marine mammal monitoring work conducted during the construction of the Deltaport Third Berth, VFPA has also committed to ongoing measures to reduce potential environmental effects to Killer Whales at Roberts Bank during operation of the facility (i.e., pilot awareness and vessel speeds).

2.5 **ADAPTIVE MANAGEMENT STRATEGY**

Section 5 of the TOCA (Appendix A) outlines the requirement for an Adaptive Management Strategy (AMS) to be developed and implemented for the intercauseway marine and wildlife habitats at the site. The AMS is a science-based approach to monitoring and managing the Roberts Bank ecosystem. The approach will allow for the early detection of changes in the inter-causeway ecosystem so that potential significant negative ecosystem trends that are attributable to the DP3 Project can be prevented or mitigated. The AMS was developed in conjunction with and approved by Environment Canada.

The key areas of study for the AMS are:

1. Geomorphology/Oceanography
2. Surface Water Quality
3. Sediment Quality
4. Eelgrass
5. Other biota (benthic communities, fish, birds)

A Scientific Advisory Committee (SAC) was established in 2007 as a component of the AMS to provide scientific and technical advice and recommendations regarding the implementation of the AMS. Three scientists have been appointed to the SAC – one appointed by VFPA, one appointed by EC and a third that was jointly appointed by VFPA and EC. Information regarding each of the scientists is available on the Port website.

To date, the detailed AMS workplan, quarterly monitoring reports for 2007 and 2008, the first two quarterly monitoring reports for 2009, and the 2007 and 2008 Annual Reports have been submitted to the SAC for review. The 2007 Annual Report was completed in July 2008 and the 2008 Annual Report was completed in September 2009. The Annual Reports provide interpretation and discussion of the data that

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were collected in 2007 and 2008 as part of the AMS monitoring program. The reports also evaluate potential trends occurring in the inter-causeway area and include recommendations for modification of the AMS work program to better investigate identified trends or to reduce the scope of work when no impacts are evident. The 2007 and 2008 Annual Reports are available on the Port website2.

The SAC met most recently on November 4, 2009 to discuss the draft first and second quarterly reports of 2009. The next meeting of the SAC is scheduled for late Fall 2009 to review the third quarterly report of 2009.

The SAC has continued to provide comments on the quarterly and annual reports, and have made some recommendations for changes or additions to the AMS program. The SAC comments have been taken into consideration and are reflected in the final documents reports, and in the field program. Examples of SAC recommendations that have been incorporated into the AMS work program since the 2007 status report (Feb 2008) was issued to the EAO include:

- The addition of a sampling station in the inter-causeway area in the area of new drainage channel development adjacent to the project footprint. The station will be sampled for benthic community, water quality and sediment quality in March 2010;
- The addition of several depth of disturbance rods in the inter-causeway area to provide increased resolution about sedimentation and erosion trends in the area of the new drainage channels; and
- Changes to the bird monitoring program in response to the data indicating that impacts to coastal seabirds and waterfowl appeared limited to direct habitat loss associated with the DP3 footprint, as predicted by the environmental assessment.

Based on the results of the first two years of monitoring for the DP3 AMS program, to date, it does not appear that the DP3 construction activities have contributed to significant negative ecosystem trends in the inter-causeway area. Additional information can be found in the annual reports or in the 2008 AMS Annual Report summary document, both available on the Port website3.

2.6 Consultation

VFPA is committed to working with the community of Delta to identify issues and minimize impacts related to DP3. A Project information and feedback line is available to the public and is advertised on the Project web site. All comments are documented and directed to the appropriate team member. Any issues and responses are tracked in the DP3 Public Issues Tracking document, which is available to the public on the Project website4 or in library resource files. The tracking document has been updated prior to DCLC meetings, most recently on September 11, 2009.

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Community Liaison

As per section 26.1 of the TOCA (Appendix A), a community liaison plan was developed in 2006. The Plan provides an overview of communication and consultation activities that we are undertaking as part of the regulatory commitments for the Project. The Plan was included in the February 2007 “Deltaport Third Berth Pre-Construction Report” which was provided to the EAO and is not attached to this report. The Plan is available from the EAO website\(^5\) and the Port website\(^6\).

Since the February 2008 “Deltaport Third Berth 2007 Status Report” was provided to the EAO, community liaison activities have included:

**2008**

- Seven (7) meetings of the DCLC;
- Two (2) open houses to provide Project updates and collect feedback;
- Two (2) newsletters (May and November 2008) delivered to all residential and business addresses in Delta, e-mailed to the Project database and posted on DP3 webpages;
- Eleven Project advisories/updates via email circulation to 597 individuals on the project database and postings on the DP3 webpages;
- Regularly updated community library files;
- Development and maintenance of a regularly updated public comment and issues tracking table; and
- Maintaining contact and feedback mechanisms (Project information line, e-mail address, facsimile line and mailing address).

**2009**

- Five (5) meetings of the DCLC;
- Four (4) open houses to provide Project updates and collect feedback (two more scheduled for November);
- One (1) open house and information session for Tsawwassen First Nation community;
- One (1) newsletter (May/June 2009) and one scheduled for November delivered to all residential and business addresses in Delta, e-mailed to Project database and posted on DP3 webpages;
- Fourteen (14) project advisories/updates delivered via email circulation to 583 individuals on the project database and postings on DP3 webpages;
- Regularly updated community library files;
- Development and maintenance of a regularly updated public comment and issues tracking table;

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\(^5\) [http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_212.html](http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_212.html)

• Maintaining contact and feedback mechanisms (Project information line, e-mail address, facsimile line and mailing address).

Deltaport Third Berth Project Community Liaison Committee

The Deltaport Third Berth Project Community Liaison Committee (DCLC) was formed in early 2007 as part of the community liaison plan. The DCLC is made up of eighteen members, including a representative from VFPA, TSI, Corporation of Delta (COD), and Tsawwassen First Nation (TFN). Twenty meetings of the DCLC have been held since its formation (for exact dates and meeting notes please see the DCLC website):

• Nine meetings in 2007;
• Seven meetings in 2008; and
• Five meetings to date in 2009. The next meeting of the DCLC is scheduled for November 19th, 2009.

In 2007, at the request of the DCLC, VFPA prepared three fact sheets in response to frequently asked questions. The fact sheets incorporate agency reviews of DCLC questions and VFPA responses as they became available. In September 2008 a lighting fact sheet and traffic summary report were also made available and posted to the DCLC website.

As per the DCLC’s Term of Reference (updated version April 2008), the committee will continue to work with VFPA during the first year of DP3 operations to identify community concerns, develop potential solutions to address those concerns and assist in communicating information among the community, VFPA and other port stakeholders.

Sub-committees

DCLC established a traffic sub-committee in June 2009 with the mandate to “develop a better understanding about the various issues concerning Deltaport truck traffic and their underlying causes, and to make recommendations to DCLC that will address the community concerns whilst meeting the need for efficient port operations.”

Recent meetings held to address truck traffic issues include:

• Meeting with COD, Delta Police, RCMP, MOT, and TSI on June 5, 2009;
• Meeting with the DCLC traffic sub-committee to develop recommendations to DCLC on August 26, 2009; and

7 http://www.delta3berthinfo.org/meeting-minutes
8 http://www.delta3berthinfo.org/fact-sheets
9 http://www.delta3berthinfo.org/
• Meeting with DCLC (TSI also attended) on September 17, 2009. Meeting notes and powerpoint presentation for this meeting are available on the DCLC website. 

A noise sub-committee was also formed in June 2009 to address noise concerns. This subcommittee operates under the general DCLC Terms of Reference.

Additional information regarding the DCLC, including Terms of Reference are available on the committee’s website: http://www.delta3berthinfo.org/

Open Houses

In order to provide the community with updates on the Project, including construction activities and habitat projects, VFPA hosted six public open houses from 2008 – 2009 as follows:

• May 29, 2008, Tsawwassen (Coast Tsawwassen Inn, 43 attendees)
• December 2, 2008 Tsawwassen (Tsawwassen Golf and Country Club, 49 attendees)
• March 14, 2009 Delta (Tsawwassen Centre Mall, 54 attendees)
• May 30, 2009 Delta (Tsawwassen Centre Mall, 50 attendees)
• June 27, 2009 Delta (Tsawwassen Centre Mall, 38 attendees)
• July 12, 2009 Delta (Ladner Village Market, 236 attendees)

An information session was held for the TFN on July 22, 2009 at the TFN recreation hall.

At all events VFPA staff and TSI were available to answer questions. Members of the DCLC also attended the open houses. The next set of open house events are scheduled for November and December 2009.

Advertisements in local newspapers provided notification of the open houses and notifications are also sent to the DP3 Project Advisory list (currently 583 subscribers).

Newsletters and Project/Construction Updates and Advisories

The Deltaport Project Update newsletter is distributed biannually to provide updates to the public regarding DP3 activities. The newsletters are delivered to all residential and business addresses via Canada Post mail-drop, and circulated to the Project database via e-mail and posted on the Project website.

From January 2007 to August 2009 thirty six (36) Project/construction updates and advisories were issued by VFPA providing timely Project information such as upcoming Project activities and schedules,

10 http://www.delta3berthinfo.org/blog/[user]/meeting-notes-from-september-meeting
public information events, report availability, and notification of incidents. Project updates were distributed via email to 597 individuals in 2008, and 583 individuals in 2009. Project updates are also posted on the Project website.

Library Resource Files

Since 2007, key Project information, including many of the files discussed in this report, is made available in hard copy in resource files at six local community libraries in Delta, Surrey and Langley.

First Nations Liaison

VFPA and its contractor continue to provide significant employment and contracting opportunities for the Tsawwassen First Nation (TFN). To date, the TFN has benefited from over 15 person years of employment and over $1.5 million in direct construction contracts, for example the TFN were the primary contractor for the log removal and channel extension portion of the salt marsh restoration work (see section 3.1.2).

2.7 TRAFFIC

VFPA is committed to continuing to work with relevant authorities and parties, including TSI, the COD, Ministry of Transportation (MOT), DCLC and the truck traffic sub-committee (see Section 2.6) to manage truck traffic issues. Key components of the TOCA related to traffic are summarized below. Updates on all traffic related commitments on included in the TOCA (Appendix A).

Improvements to Highway 17, as described in section 7.1 of the TOCA have been completed and all road improvements have been available for use since fall 2008. The improvements are reported on in the document titled “Highway 17 Corridor Improvements, Construction Contract Completion Report”, undated and is available from MOT upon request. Pre- and post-construction noise monitoring for the Highway 17 Corridor Improvement Project indicated that the project had not resulted in a measurable change in community noise levels near the intersection of Ladner Trunk Rd and Highway 17. No further noise mitigation is required. The monitoring results are presented in “Highway 17 Corridor Improvement Project – Results of Pre- and Post-Project Noise Monitoring”, dated January 17, 2009, prepared by Wakefield Acoustics Ltd. A copy of the report is included with this report (Appendix G).

In 2007, a study of the Roberts Bank rail corridor (RBRC), which included a review of rail-road interfaces in Delta and several other municipalities, was coordinated by Transport Canada with other participants including MOT, TransLink, Greater Vancouver Gateway Council and VFPA. The review identified potential candidate locations for road-rail grade separation projects, which would result in improved movement of both rail-based and road-based traffic. The study results were presented in “Roberts Bank Rail Corridor: Road/Rail Interface”, dated February 2007, which was distributed to study participants and
other stakeholders including CN, Canadian Pacific Railway, BCRC, Southern Railway of BC, and the COD.

Several projects identified in the study are proceeding (e.g. A new overpass at 41B Street, and road/rail grade separations 57B Street and 80th Street in Delta), with preliminary design for each of the identified projects expected to be complete by the end of 2009. Some of the projects, including 41B Street, have already entered the detailed design phase. VFPA continues to actively participate in ongoing discussions with Transport Canada to advance the projects identified in the Rail Road Interface Study in the affected communities. Each project has a Project Steering Committee, on which the Port sits, and technical committees that meet monthly, at a minimum, and the overall Program partnership meets once a quarter, at a minimum. VFPA is also a funding participant.

TSI is also developing a Traffic Management Plan for the operation of the Deltaport facility, a draft of which will be shared with DCLC, Delta Police and the Corporation of Delta. This plan should be released for comment by the end of November. VFPA has created an internal Delta Trucking Strategy Group to review key trucking issues in Delta and to work with stakeholders to resolve issues related to current and future operations.

Note, further initiatives to manage traffic volumes as a result of the project are described below in the Air Quality section.

2.8 AIR QUALITY

VFPA has undertaken a number of initiatives to address Port related air emissions and is leading the way for other ports to address air quality and climate change, by focusing on the use of technologies and the promotion of operational efficiencies to reduce air emissions. VFPA is committed to conducting operations in a responsible and sustainable manner that safeguards and promotes continual protection of the environment.

The VFPA’s Air Action Program (available on the Port’s website\(^\text{12}\)), outlines initiatives to reduce emissions related not only to the DP3 Project but on a port-wide basis. Key program initiatives applicable to DP3 include:

- Completion of a feasibility study for the use of shore power for DP3. The study report titled “Deltaport Third Berth Container Terminal, Cold Ironing Feasibility Study, May 2007”, was provided to the EAO and the DCLC in 2007 and is available on the DCLC website\(^\text{13}\).
- Implementation of a Differentiated Harbour Dues Program in April 2007, providing incentives through reduced harbour due rates to marine vessels that implement eligible emission reduction

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\(^{12}\) [http://www.portmetrovancouver.com/environment/initiatives/air.aspx](http://www.portmetrovancouver.com/environment/initiatives/air.aspx)

\(^{13}\) [http://www.delta3berthinfo.org/reports-and-presentations](http://www.delta3berthinfo.org/reports-and-presentations)
measures, including the use of low sulphur fuels. Program details are available on the VFPA website\(^\text{14}\).

- Starting in 2008, increasingly stringent environmental requirements are being incorporated into the Container Truck Licensing Program, including the phasing out of older trucks, mandatory opacity and idling limits and an awareness program. Consistent with the Northwest Ports Clean Air Strategy, the requirements will bring the fleet up to the equivalent of a 2007 truck for particulate matter emissions by 2017. Program details are available on the VFPA website\(^\text{15}\).

- Implementation of an anti-idling education program for all container trucks in 2006, and an extension of this to Port operations in 2007.

- Completion of pilot tests for the use of hybrid diesel-electric power units in rubber tire gantries (RTGs). To date, three hybrid RTGs have been brought into use at Deltaport, which have been shown to have an approximately 70% reduction in fuel consumption over conventional units.

- In collaboration with Metro Vancouver, Environment Canada, Corporation of Delta and Tsawwassen First Nations, siting and installation of an ambient air quality monitoring station in the local community. Request for Quotations for the monitoring station were received in August 2009, and instrument tenders are expected to go out in Fall 2009.

- Implementation of a truck reservation system in 2002 (VFPA and TSI initiative); all trucks now require a reservation to call at Deltaport.

- Extension of terminal gate operating hours (night-gate openings) in response to increases truck traffic volume. See section 20.5 of the TOCA for details.

Additional project specific mitigation measures implemented during construction include:

- VFPA specified, in the marine works construction contract, that all general fill, preload, granular sub-base and aggregate base course materials be imported by waterborne transport. This is estimated to have reduced truck traffic (and associated emissions) by approximately 300,000 single dump truck loads (return trips).

- VFPA and TSI constructed a temporary barge berth for importing materials and exporting waste associated with the East Causeway habitat compensation works and for TSI's pavement foundations. This is expected to eliminate approximately 24,500 return truck trips through Delta.

Operational traffic management improvements, Highway 17 improvements, road-rail interface improvements (see section 2.7), and TSI’s Traffic Management Plan (currently in the development stage) will contribute to reducing emissions during DP3 operations, as well as traffic congestion issues (see traffic section above).

### 2.9 LIGHTING AND NOISE

Throughout marine and uplands construction VFPA advised the public of Project activities anticipated to increase light and/or the noise environment through Project updates via email and posted to the Project website\(^\text{16}\). As discussed in section 2.6, a Project information and feedback line is available to the public,

\(^{14}\) [http://www.portmetrovancouver.com/environment/initiatives/air.aspx](http://www.portmetrovancouver.com/environment/initiatives/air.aspx)  
\(^{15}\) [http://www.portmetrovancouver.com/environment/initiatives/air.aspx](http://www.portmetrovancouver.com/environment/initiatives/air.aspx)  
and issues and responses are tracked in the DP3 Public Issues Tracking document, which is also publicly available.

**Lighting**

Construction lighting was addressed within the construction EMP and the Construction/Dredging Timing Plan. Dredge lights were shielded during operations (see 25.2 of the TOCA). Concerns raised regarding terminal operations lighting are addressed in the DP3 Public Issues Tracking document, available on the Project website.

A lighting study was conducted and assessed a number of lighting options for terminal operations while considering EA commitments, worker safety, energy efficiency and light throw. In November 2008, the findings of the lighting design report were presented to the DCLC by TSI. The report was also reviewed by a consultant for the COD and that review was discussed at the January 2009 meeting of the DCLC. The final lighting report titled “Deltaport Berth 3 Terminal Finishing Works Lighting Study Report – Final”, dated June 2009, prepared by OMNI Engineering Inc., recommended a preferred lighting configuration and has been reviewed by the VFPA, DCLC and COD. The final report is available on the Project website and on the DCLC website.

**Noise**

To evaluate for impacts of construction-related noise, and to compare with those predicted in the EA, a noise monitoring study (“Deltaport 3rd Berth Construction Noise Monitoring”, dated November 15, 2007) was conducted in 2007. Result of the study did not show a significant change in the noise environment since pre-construction monitoring. The draft report was shared with the DCLC noise sub-committee (formed in June 2009, see section 2.6) and the DCLC as a whole. The report is available on Project website. VFPA is reviewing available best management practices for noise from Port operations, and will assess their applicability for the DP3 Project in consultation with the noise sub-committee.

As part of construction environmental monitoring, VFPA conducted periodic noise monitoring and presented the results in the weekly environmental monitoring reports discussed above. Noise monitoring demonstrated that the dredge equipment was causing an increase in noise levels to the environment. VFPA also received complaints via the Project information line regarding noise coming from the dredging equipment. To mitigate for the excess noise being generated, VFPA required the contractor to outfit the dredge equipment with additional silencers. The mitigation measures resulted in a decrease in noise levels from the dredge equipment and were deemed effective based on a reduction in noise complaints. Periodic noise monitoring of other construction activities indicated that the noise levels met the

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Project_consultation.aspx
18 http://www.delta3berthinfo.org/reports-and-presentation
19 http://portmetrovancouver.com/libraries/projects_deltaport_third_berth_project/ 2007-11-
15_dp3_noise_monitoring_report_1924-07b_final_report.sflb.ashx
recommended sound level limit of 55 dBA at suburban receptors, as recommended in the Canada Mortgage and Housing Corporation (CMHC) document (“Road and Rail Noise: Effects on Housing” dated 1981, report NNHA 5156 08/96. Ottawa, ON).

Pre- and post-construction noise monitoring for the Highway 17 Corridor Improvement Project indicated that the improvement project had not resulted in a measurable change in community noise levels at the vicinity of the intersection of Ladner Trunk Rd and Highway 17 (“Highway 17 Corridor Improvement Project – Results of Pre- and Post-Project Noise Monitoring”, dated January 17, 2009, prepared by Wakefield Acoustics Ltd.). No further noise mitigation is required. A copy of the report is included with this report in Appendix G.

2.10 OCEAN DISPOSAL PERMIT

An Ocean Disposal Permit (#4543-2-03414) dated January 2, 2007, was received from EC after it was gazetted for public comment. An amendment to the Permit was received from EC on July 09, 2007 for a volume change not to exceed 690,000 cubic meters. A second amendment to the Permit was received from EC on December 03, 2007 for a change to the expiration of the Permit, from April 17, 2007 to April 16, 2008. A second Ocean Disposal Permit (#4543-2-03449), dated March 17, 2008, was received from EC for a volume of 20,000 cubic meters.

The dredging and ocean disposal for the Project has been conducted in compliance with all required permits and regulations, with the exception of the incidents detailed below for which mitigations have been enacted to avoid future occurrences.

Update on 2007 Disposal at Sea Incident

On August 2, 2007 the then Vancouver Port Authority (VPA) learned that the Contractor, Deltaport Constructors Ltd. (a joint venture between Vancouver Pile Driving Ltd. and Graham Construction Ltd.) disposed of clean dredge material from bottom dumping scows outside of the permitted disposal location. The unauthorized disposal event took place approximately one kilometre south from the designated disposal at sea location in United States waters. The disposal also resulted in the damage of one of British Columbia Transmission Corporation’s (BCTC) high voltage direct current (HVDC) underwater electrical power cable, which services Vancouver Island. Power service to Vancouver Island was not affected.

VFPA immediately advised Environment Canada and the Department of Fisheries and Oceans of the error and worked closely with BCTC, Environment Canada and U.S. officials to investigate and confirm details pertaining to the incident. In addition VFPA placed additional monitoring requirements on the Contractor including the use of an independent marine surveyor to confirm scow location prior to disposal.
In July 2009, Environment Canada’s Enforcement Branch issued a “written warning” letter to the VFPA, as the Permit Holder and Deltaport Constructors as the Contractor responsible for the disposal, that sections of the *Canadian Environmental Protection Act 1999* were violated when dredge material was disposed of outside of the permitted disposal at sea location. The warning was issued to bring the matter to the attention of the named parties. Efforts to prevent further occurrences were implemented by VFPA in August 2007 and included the use of an independent marine surveyor and daily reporting and plotting for each disposal event.

Investigation of the 2007 at sea disposal violation is now complete, and the results have been communicated to the DCLC and the Corporation of Delta.

**2008 Disposal at Sea Incident**

In October 2008 VFPA voluntarily suspended ocean disposal operations at Roberts Bank upon learning that the Contractor, Deltaport Constructors Ltd. had exceeded ocean disposal amounts applied for under the 2008 ocean disposal permit. The primary method of dredging in 2008 was with suction cutter dredging and delivery of the dredged material to the disposal site via submerged pipeline. This unauthorized activity differed from the 2007 incident which involved clam shell loading of bottom dump scows that were towed to the disposal location for dumping. VFPA immediately advised EC of the excess disposal volume and provided Environment Canada’s Enforcement Branch with all records of dredging from 2007 and 2008. The VFPA paid the disposal fee for the excess volume and is cooperating with Environment Canada’s on-going investigation.

As a result of the above incident, daily reporting of all dredging activities including independent reporting of dredge volumes, dredged material quality and disposal location is now required of contractors by VFPA for all projects. For future construction, VFPA is also investigating the use of transponders on all dredges and scows to provide additional surveillance of construction activities.
3.0 FISHERIES ACT AUTHORIZATION

The DFO issued the *Fisheries Act* Section 35(2) Authorization – Authorization No.: 02-HPAC-PA-000-000144 (the Authorization) on December 19, 2006. As per the Authorization the VFPA has provided notification of the commencement of works to DFO. The VFPA report to the EAO titled “*Vancouver Fraser Port Authority, Deltaport Third Berth, 2007 Status Report*”, dated February 2008, identified the Project notifications for 2007. The 2008 and 2009 notifications were as follows:

- Replacement Fill, dated January 21, 2008;
- Construction of containment dike #2 in water less than -5m CD, dated January 22, 2008;
- Update Marine Works and Crab Window, dated January 22, 2008;
- Caisson Placement, dated April 28, 2008;
- Containment Dike #2 & Terminal Fill, dated May 9, 2008;
- Caisson 21 & 23 Marine Tremie Pour, dated June 8, 2008;
- Caisson Repairs 21 & 23 Tremie pour, dated June 9, 2008;
- Containment Dike #3, dated July 15, 2008;
- General Fill Type 1 – Placement Procedure, dated August 7, 2008;
- Landside Densification, dated September 18, 2008;
- Landside Concrete, dated November 24, 2008;
- Caisson 26 Closure & fish Salvage, dated December 8, 2008;
- Toe Protection Works, dated December 8, 2008; and
- Barge Berth Facility, dated February 17, 2009.

In December 2008 VFPA received a DFO Authorization (#HPAC-PA1-000-000144-2) for construction of a temporary barge berth facility located within the new Deltaport tug basin. Modification of the crest protection was authorized for the temporary barge berth facility. This Authorization is attached as Appendix H.

3.1 HABITAT COMPENSATION

3.1.1 East Causeway Habitat Compensation Project

The East Causeway Habitat Compensation Project will transform the eastern part of the Deltaport causeway and part of the adjacent foreshore into diverse fish and wildlife habitat. Baseline work was conducted in 2007, 2008 and 2009 and construction commenced in October 2009, and will continue through 2010. Night work is required until April 2010 to undertake works during low tide in order to minimize the environmental impact of construction in the foreshore area. In order to protect sensitive wildlife habitat there will no longer be any public access to the east causeway. VFPA will work with the local community to identify opportunities to learn about and possibly visit the area.
VFPA has advised the public regarding the permanent closure of the east causeway and the need to conduct night work via Project updates and a project specific notification posted to the Port website\textsuperscript{20,21}.

### 3.1.2 Log Removal and Salt Marsh Restoration

The Log Removal and Salt Marsh Restoration project was completed in 2008. Hemmera provided environmental monitoring during the log removal and reported on site activities and recommended measures to mitigate for potential impacts to the environment in the weekly environmental monitoring reports discussed in section 2.3 of this report.

Post construction monitoring has been implemented according the requirements of the Authorization. This monitoring is being conducted by G.L Williams & Associates Ltd. and Archipelago Marine Research Ltd. Annual reports are being forwarded to DFO as they become available.

### 3.1.3 Subtidal Reef

Work on the subtidal reef component of the compensation works was completed in early summer 2009. Post construction monitoring is being conducted by Foreshore Technologies Inc. (FTI) and has commenced. Annual reports will be forwarded to DFO as they become available.

### 3.1.4 Caisson Refugia Habitat

Caisson refugia are an integral part of the caissons and effectively became “complete” with the final installation of the caissons in the berth structure, in 2008. Post construction monitoring is being conducted by FTI in conjunction with the subtidal reef monitoring.

### 3.1.5 Sand Bar Stabilization – Dendritic Channel Modification

Baseline data was collected in March – July 2008 in the area of proposed sandbar stabilization/dendritic channel modification works by G.L Williams & Associates Ltd., Precision Identification Biological Consultants and Archipelago Marine Research Ltd. The January 2009 summary report was provided to DFO in spring, 2009. DFO advised the VFPA on October 20, 2009 that it was not approving this component of the compensation plan and requested that the VFPA develop an alternative compensation plan acceptable to DFO, to create a minimum of 5 hectares of on-site habitat. In the event that the VFPA is unable to develop an acceptable plan, DFO will exercise its option of requiring the VFPA to provide $500,000 in funding to a third party chosen by DFO, to develop habitat in the Fraser River Estuary. The VFPA intends to advise DFO that it has not been successful in developing an alternate habitat plan and will be providing the funding.

\textsuperscript{20} http://www.portmetrovancouver.com/projects/ongoing_projects/deltaport_third_berth_project/Environment.aspx
\textsuperscript{21} http://www.portmetrovancouver.com/projects/ongoing_projects/deltaport_third_berth_project/Project_updates.aspx
3.1.6 Off-Site Habitat Compensation

The Rose-Kirkland Island habitat compensation works were completed in spring 2009. Biologists from DFO and Ducks Unlimited Canada biologist toured the compensation site in August 2009 and expressed satisfaction with the work. VFPA provided funding, and the works were conducted by other signatories to the agreement ("Fish and Migratory Bird Habitat Agreement", December 5, 2006).
4.0 CLOSING

This document has been prepared to provide the EAO with an update on VFPA’s progress in advancing the TOCA, and in particular to highlight key components of the TOCA and activities that have occurred since the previous status report was prepared. Construction of the Project has been implemented in an environmentally responsible manner, and VFPA is committed to continuing to adhere to the requirements of the TOCA through Project operations. VFPA will continue to report of the advancement of the TOCA through semi-annual updates on the TOCA (the next update is due on February 28, 2010), and the next status report on the DP3 Project will be completed one year after the start of Deltaport Third Berth operations (anticipated reporting date of January 1, 2011).

We trust that this report meets your requirements. Please feel free to contact the undersigned by phone or email regarding any questions or further information that you may require.

Regards,

Vancouver Fraser Port Authority

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