



City of Richmond
Urban Development Division

Report to Development Permit Panel

To: Development Permit Panel
From: Holger Burke
Acting Director of Development
Date: November 7, 2005
File: DP 05-307022
Re: **Application by FRPD Holdings Ltd. for a Development Permit at
12360 No. 5 Road**

Staff Recommendation

That a Development Permit be issued which would permit the construction of a new floating dock structure at 12360 No. 5 Road within an area designated as an Environmentally Sensitive Area (ESA) and zoned Light Industrial District (I2).

Holger Burke
Acting Director of Development

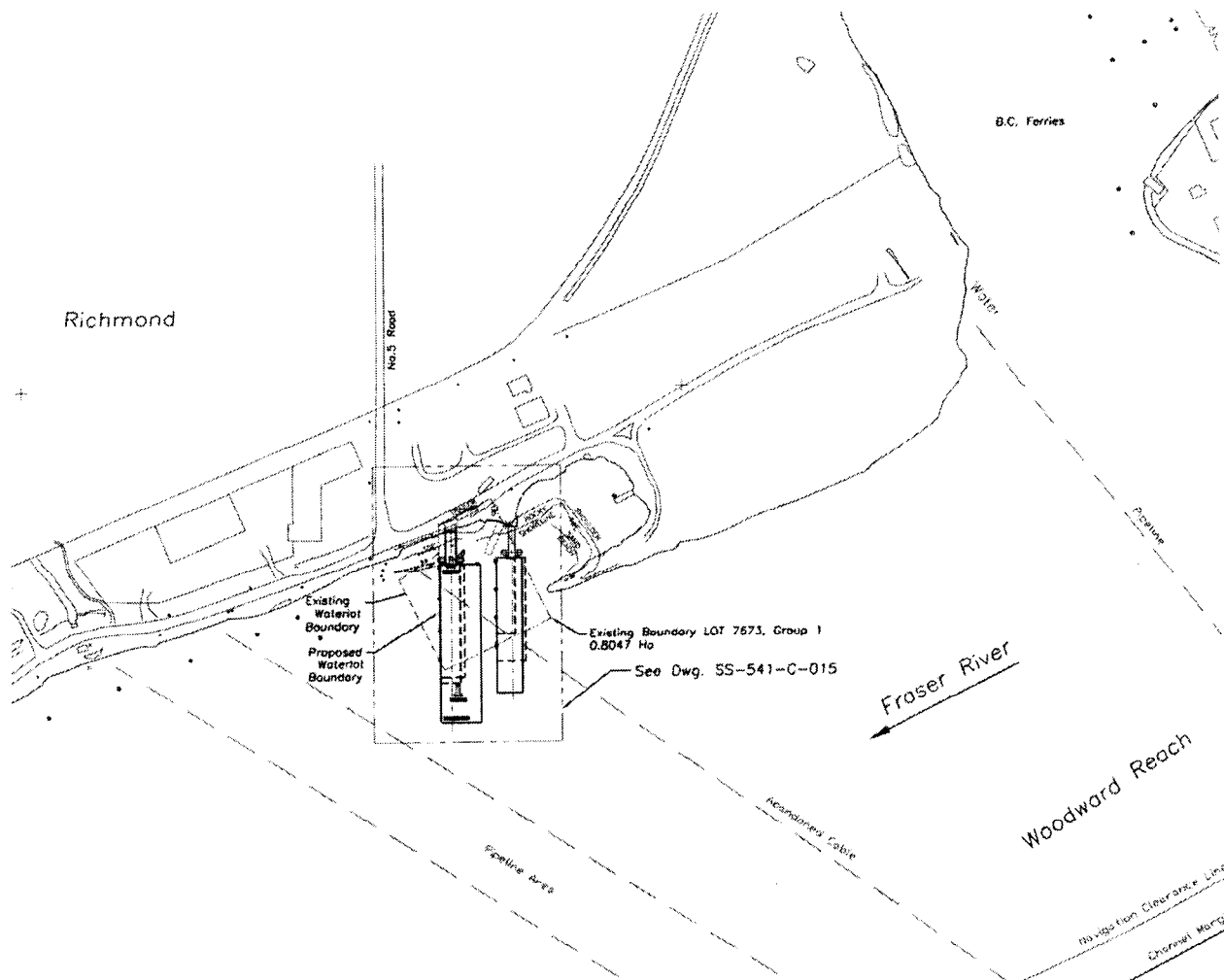
HB:dcb
Att. 3

Staff Report

Origin

FRPD Holdings Ltd. has applied to the City of Richmond for permission to develop a new floating dock structure at 12360 No. 5 Road and the adjacent waterlot (Waterlot R-700-004-002). The site is currently used for storage.

The application to the City covers those portions of the works involving lands. The overall project will involve the modification of an existing barge ramp, construction of a new barge ramp and expansion of the existing moorage basin associated with Fraser River Pile and Dredge Ltd's, No. 5 Road Facility (for a more detailed listing see **Attachment 1**). The purpose of the proposed works is to expand the capacity of the Facility for material handling. The location and proposed ramp works are shown below.



Development Information

Please refer to attached Development Application Data Sheet (**Attachment 1**) for a comparison of the proposed development data with the relevant Bylaw requirements.

The site itself will serve two different users, More Marine (cargo materials) and Mainland Sand and Gravel (bulk aggregate and sand materials). Each operation will be served by a different barge ramp facility and will operate on different parts of the site and have separate entrances.

Background

The site is currently zoned Light Industrial District (I2) and outside storage is permitted on this site through legal non-conformity. There is no rezoning application being sought for the proposed use and therefore no Public Hearing review. No Zoning Bylaw variances are being sought.

Surrounding Development

Development surrounding the subject site is as follows:

To the north, rail corridor and BC Ferry Services Maintenance Yards (zoned I2 and AG1);

To the east, a barge ramp facility, open dredge sand storage (I2 zoning for upland, no zoning on the waterlot);

To the south, the main arm of the Fraser River with a foreshore waterlot (no zoning) and

To the west, a light industrial building on the west side of No. 5 Road (zoned I2).

City Requirements for Use of the Waterlot

The City owns a lot at 12540 No. 5 Road (zoned Light Industrial District I2) which divides the subject property into two pieces. The City's lot contains the dyke. The proposed project involves the use of the water frontage to the site which is permitted through a waterlot lease. Approval from the City is required for the waterlot lease for which the City has an agreement with Fraser River Pile and Dredge (FRPD) that they maintain the dyke "road" and carry out annual measurements and testing of the height of the dyke. An updated revised agreement is being prepared concurrent to this Development Permit application. Sign off on the agreement is required prior to the Development Permit issuance.

Water Taxi Concept

Staff posed the notion of whether a pedestrian ferry (water taxi) between Delta and this location could be accommodated along this waterfront. While the applicant's representatives did not entirely rule this notion out, they noted that this site would be more exposed to wave and wind than the Delta side and also indicated that with most foreshore facilities there is an increasing concern over the need to secure sites from vandalism and other potential threats. As it was not envisioned that the City would have any specific involvement in operating such a water taxi, the matter was not pursued further.

Staff Comments

Parks and Recreation

The City has established a pedestrian trail within the right-of-way along the east side of No. 5 Road in front of this site. Parks staff will be consulted on any proposed construction activity or other installations which could affect the trail or pedestrian movements along the trail.

Transportation

Mainland Sand and Gravel have received a number of complaints about aggregate being tracked onto No. 5 Road as a result of their existing operations. Transportation staff have requested that

the firm install a truck wash facility to eliminate the problem. In addition, Transportation have been encouraging these operations to tarp their truck loads.

Interim arrangements have been made to clean No. 5 Road on a periodic basis. The applicant's representatives have provided an email indicating that Mainland Sand and Gravel intends to install a truck wash facility after the truck scale is relocated as part of the subject development. This has been accepted by Transportation staff.

Analysis

This Development Permit application is for works proposed to occur within an area designated in Richmond's Official Community Plan (OCP) as an Environmentally Sensitive Area (ESA). Guidelines for ESAs appear under section 9.6 of the OCP. Environmental studies, including an environmental inventory, site profile and a compensation planting plan (the planting plan is provided in **Attachment 2**), have been submitted by the applicant for review by FREMP, Fisheries and Oceans, and the City and have now been approved by FREMP / DFO (Authorization No. 05-HPAC-PA2-000-000260 as shown in **Attachment 3**).

It is noted that the compensation planting site is proposed for a South Arm island some distance away from the development site. While this is not a preferred scenario, the development site itself is too small to accommodate the amount of planting proposed as well as providing for a viable industrial development. Additionally, the conditions at the development site are less favourable than the proposed site on the island. The survivability of the compensation site will be monitored by DFO from a compliance perspective for a period of 5 years.

Compensation Site



The environmental review conducted by ECL Envirowest Consultants Limited notes that compensation will consist of “intertidal channel, intertidal sandflat, intertidal marsh and riparian woodland created as part of an overall habitat creation program for an unnamed island in Ladner Reach”. An application for the lease of the compensation lands has been made with the Fraser River Port Authority provides the following summary of the compensation habitat loss and gains:

No. 5 Road Facility Material Handling Upgrades

Habitat Type	Loss (m ²)	Gain (m ²)
Intertidal rock/broken concrete	520	1500
Intertidal channel	0	375
Intertidal sandflat	3180	2355
Intertidal marsh	100	500
Riparian woodland	120	350

DFO has also authorized alteration of no more than 5,850 square metres of subtidal riverbed at the site.

This compensation is being combined with unfinished compensation works from a previous FREMP application from 2003 related to Basin Filling near the No. 5 Road Facility. The loss/gain table for these 2003 related works is as follows:

No. 5 Road Facility Basin Fill

Habitat Type	Loss (m ²)	Gain (m ²)
Intertidal rock/broken concrete	0	320
Intertidal channel	0	500
Intertidal sandflat	3250	1250
Intertidal marsh	110	2000
Riparian woodland	320	420

Overall the proposed compensation will result in a substantial net gain of habitat. Vegetation selections are consistent with the City’s preferred species listing and will include approximately 104 cottonwood trees, 702 red-osier dogwood shrubs, and 40,000 Lyngby’s sedge plants.

The application and supporting submissions generally complies with the intent of the applicable sections of the Official Community Plan. The aggregate storage uses on the site are permitted as on-going legally non-conforming activities and are expected to continue for the foreseeable future.

Conclusions

Staff have reviewed the environmental review and proposed compensation for the impacts to fish and wildlife habitats associated with the proposed project. While noting that the compensation site on an island in the South Arm Islands area is a considerable distance away from the subject site, staff believe that the resulting habitat will be more beneficial for wildlife than attempting to compensate in a smaller more confined and disturbed location near the development site. **Staff are recommending support for the proposed Development Permit without further compensation requirements beyond those provided in the submitted compensation package.**



David Brownlee
Planner 2

DCB:dcb

The following conditions are required to be met prior to forwarding this application to Council for approval:

- Submission of a signed agreement regarding the Fraser River Pile and Dredge (FRPD) commitment to maintain the dyke "road" and carry out annual measurements and testing of the height of the dyke.


City of Richmond

 6911 No. 3 Road
 Richmond, BC V6Y 2C1
 (604) 276-4000

**Development Application
 Data Sheet**
 Development Applications Department

DP 05-307022
Attachment 1

 Address: 12360 No. 5 Road

 Applicant: FRPD Holdings Ltd.

 Owner: No. 5 Road Holdings Ltd.

 Planning Area(s): Shellmont

	Existing	Proposed
Site Area:	5,110 m ²	5,110 m ²
Land Uses:	Industrial – materials handling	same
OCP Designation:	Business and Industry	same
Zoning:	Light Industrial District (I2)	Light Industrial District (I2): Legally Non-Conforming Industrial is expected to continue for the foreseeable future.

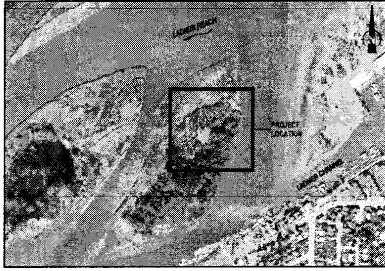
	Bylaw Requirement	Proposed	Variance
Setback – Road:	Min. 6.0 m	N/A	None
Lot Size:	60%	N/A	none

Proposed Scope of Work (as outlined in DFO's letter of Authorization):

The proposed scope of work includes:

- The removal and disposal of existing piles / dolphins in the Fraser River at the site;
- The construction of two barge ramp abutments, including the installation of a steel sheet pile wall and riprap, on the riverbank of the Fraser River;
- The realignment and upgrade of an existing barge ramp on the riverbank of the Fraser River;
- The construction of a new barge ramp on the riverbank;
- The installation of a new moorage piles/dolphins in the Fraser River, and;
- The dredging of a new moorage basin to a depth of –6.0 metres local chart datum.

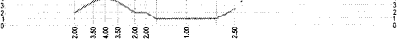
LOCATION
SCALE 1:5000



SECTION A

HORIZ. SCALE 1:500

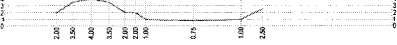
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SECTION B

HORIZ. SCALE 1:500

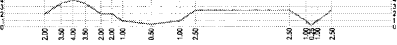
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SECTION C

HORIZ. SCALE 1:500

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SECTION D

HORIZ. SCALE 1:500

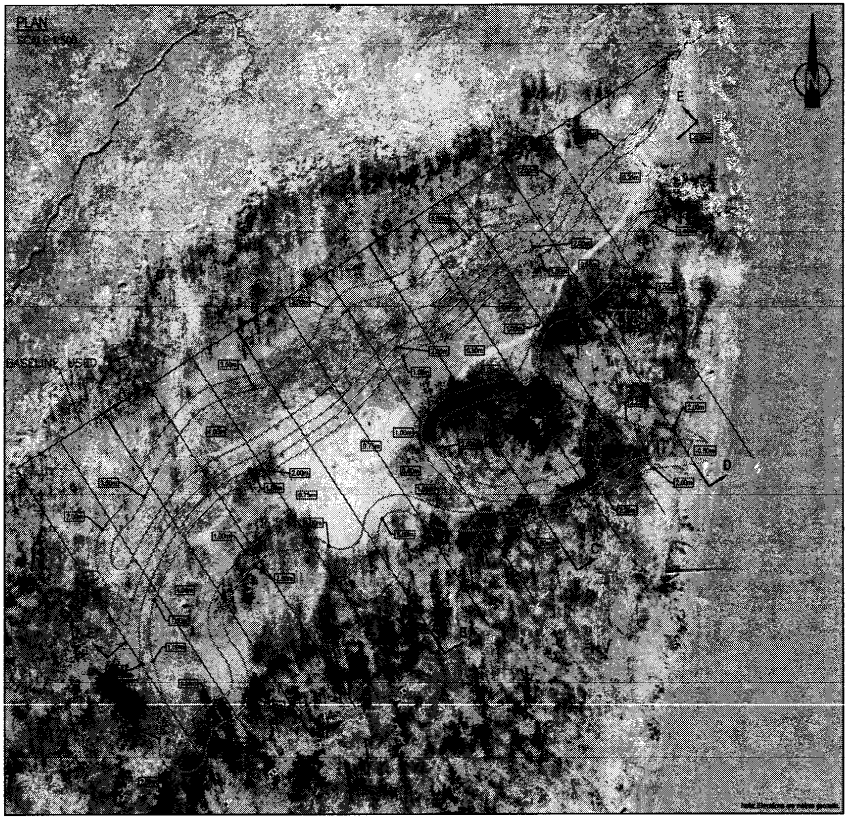
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SECTION E

HORIZ. SCALE 1:1000

VERT. SCALE 1:250



REFERENCE DRAWINGS
1. "May 03 Topo", May 04, 2004, Fraser River Pile & Dredge Ltd.
2. Aerial photographs provided by McEhannay Consulting Services Ltd. 2001 - Four Cities Aerial Photography, April 11, 2001.

FRASER RIVER PILE AND DREDGE LTD.
New Westminster, BC

No. 5 ROAD FACILITY
Richmond, BC

envirowest

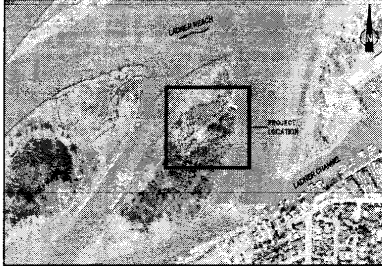
ENVIRONMENTAL CONSULTANTS

E.C. ENVIROWEST CONSULTANTS LIMITED
Suite 130 - 3700 North Fraser Way
Burnaby, B.C. V5J 5J4
www.eci-envirowest.bc.ca
voice: 604-451-0505
facsimile: 604-451-0567

COMPENSATION HABITATS
GENERAL GRADE PLAN

DESIGNER MAA	DRAWN VT/SDJ	CHECKED MAA	REVISION 00	TECHNOLOGIST
SCALE As Shown	DATE August 08, 2005		DRAWING NUMBER 841-03-02	SHEET 1 OF 2

LOCATION
SCALE 1:5000



PLANT SPECIES LIST AND SPECIFICATIONS

SYMBOL	COMMON NAME	LATIN NAME	NUMBER	COMMENTS
	Black cottonwood	Populus nigra	704	1.0m - 1.5m container grown (with no. 7 PVC mulch) - well established
	Red cedar (regrowth)	Chamaecyparis	702	no. 2 cut - (stems) - established well on site
	Lycopodium sedge	Carex lyngbyi	4000	8" bars @ 0.25m c.c.

GENERAL LANDSCAPE SPECIFICATIONS

- All works are to be completed in accordance with the technical conditions of the "Land Development Guidelines for the Protection of Aquatic Habitat" jointly published by the provincial Ministry of Water, Land and Air Protection and the federal Department of Fisheries and Oceans.
- All plant material to be inspected and approved by Envirowest prior to installation.
- All blackberry, Rubus discolor and R. parviflorus and Scotch broom (Cytisus scoparius) to be cleared and grubbed from project site.
- All silt and/or excess material from landscape operations are to be collected and disposed of in accordance with all regulatory requirements.
- Disturbed areas to be seeded with red fescue (Festuca rubra) augmented with timothy (Phleum pratense) and galfurnal (Dactylis glomerata) seed; percentage composition and application rate of final seed mix to be determined by Envirowest.
- The contractor is to provide three (3) years of plant maintenance. Plant maintenance is to include watering, selective pruning and clearing of herbaceous species throughout the project period. The contractor is to ensure one hundred (100) percent cover (31 years from planting). Replacement of dead stock may be required to meet this specification.

REFERENCE DRAWINGS

- "May 03 Topo", May 04, 2004, Fraser River Pile & Dredge Ltd.
- Aerial photographs provided by McElhenny Consulting Services Ltd 2001 - Four Cities Aerial Photography, April 11, 2001.

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facsimile: 604-451-0557

**COMPENSATION HABITATS
LANDSCAPE PLAN**

DESIGNER: MAA	DRAWN: SDJ	CHECKED:	REVISION NO.:	REVISION DATE:
SCALE: As Shown	DATE: August 08, 2005	PROJECT NO.:	841-03-03	SHEET 2 OF 2

05-HPAC-PA2-000-000260**Authorization No.**

AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

Authorization issued to:

Name: Fraser River Pile & Dredge Ltd.
Address: 1830 River Drive
New Westminster, BC
V3M 2A8
Telephone: (604) 528-9300
Facsimile: (604) 522-3249

Location of Project:

The upland, intertidal foreshore, and sub-tidal riverbed of the Fraser River at and adjacent to the south foot of No. 5 Road, Richmond, BC) (the "site") and the upland and intertidal foreshore of the Fraser River on an un-named island northwest of Ladner Harbour (the "compensation site").

Description of Works or Undertakings:

Fraser River Pile & Dredge Ltd. is proposing to undertake works and activities to construct an aggregate barge facility at and adjacent to the south foot of No. 5 Road, Richmond, BC and in the Fraser River. The works and activities and related works and activities will include alteration of the upland adjacent to and of the intertidal foreshore and sub-tidal riverbed in the Fraser River at the site (the "project") including, but not limited to, the following:

- i. The removal and disposal of existing piles / dolphins in the Fraser River at the site.
- ii. The construction of two barge ramp abutments, including the installation of a steel sheet pile wall and riprap, on the riverbank of the Fraser River at the site.
- iii. The realignment and upgrade of an existing barge ramp on the riverbank of the Fraser River at the site.
- iv. The construction of a new barge ramp on the riverbank of the Fraser River at the site.
- v. The installation of new moorage piles / dolphins in the Fraser River at the site.
- vi. The dredging of new moorage basin to a depth of -6.0 metres local chart datum.

The harmful alteration hereby authorized is the harmful alteration of fish habitat in the form of not more than 120 square metres of riparian vegetation, not more than 100 square metres of intertidal marsh, not more than 3,180 square metres of unvegetated intertidal sandflat, and not more than 5,850 square metres of sub-tidal riverbed at the site.

These works are more specifically described in the following documents which are attached together as Schedule "A" of this Authorization:

- a) The letter to P. Brownie of the Fraser River Port Authority from M. Adams of ECL Envirowest Consultants Ltd. dated August 08, 2005 regarding "Fraser River Pile & Dredge Ltd. No. 5 Road Facility – Proposed Material Handling Upgrades" and attachments.
- b) The Seabulk Systems Inc. Project "No.5 Road Barge Ramps Richmond, B.C." Drawings:
 - Drawing No. SS – 541-C-005 "Location Plan" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-015 "General Arrangement Plan" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-025 "General Arrangement Sections" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-026 "Dredging Section" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-035 "Dredging Plan" Rev. B dated 2005-05-16.
- c) The Envirowest Consultants Ltd. Project "No. 5 Road Facility Expansion Richmond, BC" Drawings:
 - Drawing Number 841-03-01 entitled "Existing Site Conditions" Rev. 00 dated August 08, 2005.
 - Drawing Number 841-03-02 Sheet 1 of 2 entitled "Compensation Habitats General Grade Plan" Rev. 00 dated August 08, 2005.
 - Drawing Number 841-03-03 Sheet 2 of 2 entitled "Compensation Habitats Landscape Plan" Rev. 00 dated August 08, 2005.

Valid Authorization Period:

The valid authorization period for the completion of harmful alteration of fish habitat associated with the project is from September 01, 2005 to September 01, 2006; the valid authorization periods for the other conditions of this Authorization are as set out below.

Conditions of Authorization:

1. The conditions of this Authorization notwithstanding, the Department of Fisheries and Oceans may, at any time and at their sole discretion, direct Fraser River Pile & Dredge Ltd., and/or its agents and contractors, to suspend or alter works and activities associated with the project, to avoid or mitigate adverse impacts to fisheries resources. Further, the Department of Fisheries and Oceans may at any time

and at their sole discretion, direct Fraser River Pile & Dredge Ltd., and/or its agents and contractors, to carry out at their own expense any works or activities required that are deemed necessary by the Department of Fisheries and Oceans to avoid or mitigate adverse impacts to fisheries resources resulting from works or activities associated with the project.

2. Fraser River Pile & Dredge Ltd. is responsible to ensure that the project conforms with the documents attached as schedules to this Authorization, and that the conditions of authorization of this Authorization are complied with.
3. Fraser River Pile & Dredge Ltd. confirms that all plans and specifications relating to the project, and this Authorization, have been duly prepared and reviewed by appropriate professionals working on behalf of Fraser River Pile & Dredge Ltd. Fraser River Pile & Dredge Ltd. acknowledges that it is solely responsible for all design, safety and workmanship aspects of all of the works and activities associated with the project, and this Authorization.
4. Fraser River Pile & Dredge Ltd. shall ensure that all works associated with the project and the site, including works or activities on the upland adjacent to and on the intertidal foreshore and sub-tidal riverbed of the Fraser River, are carried out in full compliance with the *Fisheries Act* and all other all applicable legislation, guidelines, and best management practices. Fraser River Pile & Dredge Ltd. shall ensure that all work is carried out in such a manner as to prevent any adverse impacts on fish or fish habitat beyond those authorized herein.
5. Fraser River Pile & Dredge Ltd. acknowledges that this Authorization is specific to the project and the works and activities described in the documents attached as schedules to this Authorization. Should Fraser River Pile & Dredge Ltd. wish to alter any aspect of the project that might adversely impact fish or fish habitat in any material way, Fraser River Pile & Dredge Ltd. shall submit a written proposal to the Department of Fisheries and Oceans Habitat and Enhancement, Lower Fraser ("DFO OHEB") describing the proposed changes in detail. Fraser River Pile & Dredge Ltd. shall ensure that such proposals provide sufficient documentation to allow DFO OHEB to carry out a proper review. In addition, to allow DFO OHEB sufficient time to carry out a proper review, proposals for changes to the project shall be provided to DFO OHEB at least 15 days in advance of the date proposed for the implementation of the changes. Proposals should be provided to DFO OHEB to the attention of the B. Naito, Habitat Biologist, Water Use Section (tel.: 604-666-8190; facs.: 604-666-6627). Fraser River Pile & Dredge Ltd. acknowledges that the Department of Fisheries and Oceans will consider the provisions of the *Fisheries Act*, the Department of Fisheries and Oceans national policy on the management of fish habitat, and other information in making its decision to accept, or to not accept proposed changes to the project.
6. Fraser River Pile & Dredge Ltd. acknowledges that the valid authorization period for the completion of the harmful alteration of fish habitat associated with the project is restricted to the period set out herein. Fraser River Pile & Dredge Ltd. acknowledges that should Fraser River Pile & Dredge Ltd. not proceed with any portion of the project within the valid period of this Authorization then the Department of Fisheries and Oceans will not be obliged to either extend the valid period of this Authorization, nor issue a new authorization for those works that were not completed.

Fraser River Pile & Dredge Ltd. acknowledges that, in considering any future requests by Fraser River Pile & Dredge Ltd. for authorization to harmfully alter fish habitat, the Department of Fisheries and Oceans will consider the provisions of the *Fisheries Act*, the Department of Fisheries and Oceans national policy on the management of fish habitat, and other information in making its decision to issue any future authorizations.

7. Works associated with the project to be undertaken on property not owned by Fraser River Pile & Dredge Ltd. are only to be undertaken with the approval or permission of the applicable property owner.

Timing restrictions

8. There shall be no in-water works (i.e. works below the water surface of the Fraser River) including, but not limited to, in-water excavation or dredging, conducted during the period from March 1 to July 15 of any given year.

Operation of equipment or machinery

9. Any land-based equipment or machinery used during the project must operate from the upland and shall not operate from within the intertidal foreshore or from within the waters of the Fraser River.
10. Any water-based equipment or machinery (for example, a clamshell dredge or barge) moored or used during the construction or operation of the project must not ground on the intertidal foreshore or sub-tidal riverbed of the Fraser River. The only exception to this condition is that use may be made of vertical spuds or other anchors to hold the water-based machinery or equipment in place.

Management of demolition materials

11. All demolition of existing structures shall be conducted so as to prevent the deposit or release of debris or deleterious substances (i.e., substances harmful to fish) onto the intertidal foreshore or into the waters of the Fraser River and all debris and deleterious substances generated by the works shall be appropriately contained in the immediate work area, collected, and appropriately disposed of in accordance with all applicable legislation, guidelines, and best management practices.

Extraction of piles

12. For any extraction of existing piles that have been treated with creosote or other preservatives or coatings, best efforts are to be applied to remove the entire length of the pile from the intertidal foreshore or sub-tidal riverbed of the Fraser River.

Capping of piles

13. Any steel pipe piles or other open-ended piles must be capped to prevent entry of wildlife. Experience has shown very high bird mortality associated with entrapment within open-ended piles.

Clean materials

14. All fill materials or materials that will contact the waters of the Fraser River, including shoreline armouring or surfacing, shall be clean material, free of organic material and deleterious substances (i.e. substances harmful to fish).

Preservatives and other coatings

15. All applicable legislation, guidelines, and best management practices shall be employed with respect to the application of wood preservatives and other coatings. Wood preservatives are to be applied at an established upland wood preservation facility and are to be applied in the dry, sufficiently in advance of the installation of the treated timber to allow the preservative to completely absorb and prevent leaching into the aquatic environment. A minimum of 45 days curing time is generally required to satisfy these criteria. This condition applies to initial construction and to subsequent maintenance. Reference should be made to 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).

Concrete

16. All works and activities associated with the project involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials shall be conducted to ensure that sediments, debris, concrete, and concrete fines are not deposited, either directly or indirectly into the aquatic environment. 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.

Pumps for suction dredging

17. Pumps for suction dredging shall only operate when the suction-head is within one and one half metres (1.5 m) of the riverbed.

Suction dredging dredge and return water pipes

18. If the suction dredging dredge and/or return water pipes will cross the foreshore of the Fraser River, please note the following requirements:

Upland Areas: The suction dredging dredge and/or return water pipes are to be placed/removed in a manner that avoids the disturbance to upland trees and minimizes the disturbance to shrub and grass vegetation at the top of and on the river bank down to the high water mark (inclusive).

Intertidal Areas: The suction dredging dredge and/or return water pipes are to be placed/removed in a manner that does not disturb intertidal vegetation and minimizes the disturbance to unvegetated intertidal foreshore.

Discharge of suction dredging return water

19. If the suction dredging return water will be discharged directly into the Fraser River, the return water must be discharged via pipe that extends far enough offshore so that the return water discharge avoids the disturbance to the intertidal foreshore of the Fraser River.

Upland disposal of dredged material

20. Upland disposal of the dredge material must be contained and in no way, directly or indirectly, impact on the foreshore or waters of the Fraser River.
21. Any dredged material upland disposed must comply with the *BC Waste Management Act* and its regulations, such as the Contaminated Sites and Special Waste regulations. Should contamination of sediments be a possibility due to present or historical activities at, or adjacent to, the proposed dredging area, Ministry of Water, Land and Air Protection (MWLAP), Contaminated Sites, recommends assessment of sediment quality prior to dredging to ensure proper off-site management of dredged sediments. Section 28.1 of the *Waste Management Act* and Part 8 of the Contaminated Sites Regulation should be referred to in conjunction with the results of any pre-dredge sediment quality assessment to determine whether a Contaminated Soil Relocation Agreement is required prior to commencing dredging. If site sediments are under provincial jurisdiction, MWLAP, Contaminated Sites, recommends that results of in-situ sediment quality assessments be initially compared to the sediment quality criteria for sensitive contaminated sites in marine and estuary water as specified in the British Columbia Ministry of Water, Land and Air Protection "Director's Criteria For Contaminated Sites. Criteria for Managing Contaminated Sediment in British Columbia" (P3 Draft).

Ocean disposal of dredged material

22. Any dredged material to be ocean disposed must comply with the *Canadian Environmental Protection Act's* Ocean Disposal Regulations and Interim Contaminant Testing Guidelines and be dredged/loaded under a valid Ocean Disposal Permit pursuant to the provisions of Part 7, Division 3 of the *Canadian Environmental Protection Act*, 1999.

Deleterious substances

23. Fraser River Pile & Dredge Ltd. should be reminded of its obligation to comply at all times with Section 36 of the *Fisheries Act*, which specifically prohibits the deposit of a deleterious substance into fish-bearing waters. Due diligence is required at all times to prevent such a deposit, and adherence to the conditions of this Authorization does not in itself relieve the applicant of this ongoing obligation.

Fuel

24. There shall be no fuelling of equipment, or storage of hydrocarbon products (e.g., fuel, oil, hydraulic fluid, lubricants) on or adjacent to the foreshore in association with the project. All such materials kept at the site shall be appropriately contained and handled in compliance with all applicable guidelines, legislation, and best management practices.

Spill contingency and clean up

25. Fraser River Pile & Dredge Ltd. shall ensure that preservatives, paints, hydrocarbon products (e.g., fuel, oil, hydraulic fluid, lubricants), and any other deleterious substances (i.e., substances harmful to fish) originating from equipment or materials brought to the site are prevented from entering into the aquatic environment at the site at any time during the project.
26. An appropriate, spill prevention, containment, and cleanup contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, lubricants), and all other deleterious substances (i.e., substances harmful to fish) that may be used in association with the project, shall be put in place prior to works and activities commencing at the site, and appropriate containment and clean up materials shall be kept available onsite throughout the course of works and activities on the project.

Stormwater and surface run off management

27. All stormwater and surface run off associated with the project, shall be collected and treated using best available practices and as necessary to prevent the release, either directly or indirectly, of sediment, sediment laden water, turbid water, and deleterious substances (i.e., substances harmful to fish) to the aquatic environment. This includes during both the period of construction, as well as following completion of the project. This management of stormwater and surface run off shall be implemented and carried out using best available practices to the satisfaction of DFO OHEB, and in compliance with all applicable legislation, guidelines, and best management practices.

Environmental monitoring during construction

28. All works and activities at the site associated with the project that have, in the opinion of DFO OHEB, the potential for adverse impacts to fisheries resources shall be monitored by an appropriately qualified individual(s), deemed to be satisfactory by DFO OHEB for the project (the "environmental monitor"). The environmental monitor shall, in consultation with and at the discretion of DFO OHEB, monitor and direct all works and activities on the project and at the site to ensure compliance with the *Fisheries Act*, and all other applicable legislation, guidelines, and best management practices; and compliance with the terms and conditions of this Authorization. The foregoing notwithstanding, the authority of the environmental monitor is subject always to the discretion of DFO OHEB. The Department of Fisheries and Oceans does not delegate any authority under the *Fisheries Act* to the environmental monitor. The environmental monitor does not have the authority to change, modify, or revise, either the project or the terms and conditions of this Authorization.
29. The environmental monitor must have written authority to modify or halt any construction activity as required to minimize impacts to fish or fish habitat and to ensure compliance with this Authorization. Fraser River Pile & Dredge Ltd. shall provide the environmental monitor and any contractors working at the site with a copy of this Authorization and a copy of this Authorization shall be retained onsite at all times.

Monitor's reporting

30. Whenever the environmental monitor is at the site, i.e., whenever there is the potential for adverse impacts to fisheries resources resulting from works or activities on the project, and particularly during works or activities on the foreshore, or adjacent upland areas, DFO OHEB shall be provided with written daily reports from the environmental monitor. These reports shall include, but shall not be limited to, the following:
- i. A summary of the works and activities carried out or undertaken that day.
 - ii. Commentary on the works and activities conducted at the site from an environmental perspective (e.g., whether or not fish are present along the shore at the site, results from water quality monitoring measured at the site).
 - iii. Identification of any environmental issues or impacts that arose or occurred, and details of specific mitigatory measures put in place to address environmental issues and impacts.

These daily reports shall be provided to DFO OHEB prior to 1600 hrs Pacific Standard Time of the following day. Facsimile transmissions may be sent to DFO OHEB at 604-666-6627, to the attention of B. Naito, Habitat Biologist, Water Use Section.

Creation of compensatory fish habitat

31. Fraser River Pile & Dredge Ltd. shall create compensatory fish habitat on the upland and intertidal foreshore of the Fraser River at the compensation site. This creation of compensatory fish habitat is intended to compensate for the harmful alteration of fish habitat resulting from the works to construct an aggregate barge facility at and adjacent to the south foot of No. 5 Road, Richmond, BC and in the Fraser River (the "compensatory fish habitat"). The compensatory fish habitat shall comprise of the creation of:
- not less than 350 square metres of riparian vegetation fish habitat (the "riparian vegetation compensatory fish habitat") at the compensation site;
 - not less than 500 square metres of intertidal marsh (the "intertidal marsh compensatory fish habitat" at the compensation site;
 - not less than 375 square metres of intertidal channel (the "intertidal channel compensatory fish habitat") at the compensation site and;
 - not less than 420 square metres of intertidal sandflat at the site and not less than 1,935 square metres of intertidal sandflat at compensation site.

The creation of compensatory fish habitat shall be completed as part of the works more specifically described in detail in the documents attached as Schedule "A".

32. Fraser River Pile & Dredge Ltd. shall ensure the riparian vegetation compensatory fish habitat is designed, constructed, prepared and planted with riparian vegetation in a manner that is the optimum for riparian vegetation growth and development. Fraser River Pile & Dredge Ltd. shall ensure the intertidal marsh compensatory fish habitat is designed, constructed, prepared and planted with intertidal marsh vegetation in a manner that is the optimum for intertidal marsh vegetation growth and development. In

this regard, as a minimum, Fraser River Pile & Dredge Ltd. shall ensure that the following standards and specifications are applied:

- The riparian vegetation compensatory fish habitat must be at an elevation which is suitable for riparian vegetation survival, growth, and development;
- Sediment/soil must be existing or placed in the riparian vegetation compensatory fish habitat in an amount and depth and in a manner which is suitable for riparian vegetation survival, growth, and development;
- The sediment/soil existing or placed in the riparian vegetation compensatory fish habitat shall be of a quality which is suitable for riparian vegetation survival, growth, and development;
- The riparian vegetation planted in the riparian vegetation compensatory fish habitat shall be of a quality which is suitable for riparian vegetation survival, growth, and development;
- The planting of riparian vegetation in the riparian vegetation compensatory fish habitat shall be conducted during the period of the year which is optimal for riparian vegetation survival, growth, and development.
- The intertidal marsh compensatory fish habitat must be at an elevation which is suitable for intertidal marsh vegetation survival, growth, and development;
- Sediment/soil must be existing or placed in the intertidal marsh compensatory fish habitat in an amount and depth and in a manner which is suitable for intertidal marsh vegetation survival, growth, and development;
- The sediment/soil existing or placed in the intertidal marsh compensatory fish habitat shall be of a quality which is suitable for intertidal marsh vegetation survival, growth, and development;
- The intertidal marsh vegetation planted in the intertidal marsh compensatory fish habitat shall be of a quality which is suitable for intertidal marsh vegetation survival, growth, and development, and;
- The planting of intertidal marsh vegetation in the intertidal marsh compensatory fish habitat shall be conducted during the period of the year which is optimal for intertidal marsh vegetation survival, growth, and development.

33. The creation of compensatory fish habitat described above shall be commenced prior to or within eight (8) months of the date of the commencement of the works associated with the project that are deemed to be harmful to fish habitat and shall be completed within eighteen (18) months of the date of the commencement of such works associated with the project.

Monitoring of the compensatory fish habitat

34. Fraser River Pile & Dredge Ltd. shall carry out, to the satisfaction of DFO OHEB, a monitoring program to assess the form and function of the compensatory fish habitat and its success as fish habitat (the "habitat monitoring program").

The "initial habitat monitoring period" of the habitat monitoring program shall be five (5) annual growing seasons (i.e., five years), following the creation of the compensatory fish habitat. The habitat

monitoring program shall be conducted by an appropriately qualified expert or experts, who is acceptable to DFO OHEB, and shall include the following:

- i. An annual assessment of the physical stability of the compensatory fish habitat using suitable methods such as site inspection, photography and ground elevation survey.
- ii. An annual inventory and assessment of the survival and growth of planted riparian vegetation within the riparian vegetation compensatory fish habitat using suitable methods such as ground cover measurement, plant density, growth parameters such as shoot density.
- iii. An annual inventory and assessment of the survival and growth of the planted intertidal marsh vegetation within the intertidal marsh compensatory fish habitat and of intertidal marsh vegetation in an existing natural intertidal marsh acceptable to DFO OHEB proximal and similar to the intertidal marsh compensatory fish habitat, using suitable methods such as ground cover measurement, plant density, growth parameters such as shoot density.
- iv. Identification of remedial works required to be implemented to enable the compensatory fish habitat to function as intended.

A written annual report describing the findings of the habitat monitoring program, including an as-built plan, and any other relevant documents and photographs. Fraser River Pile & Dredge Ltd. shall provide DFO OHEB with the written annual report by the first of November of each year of the habitat monitoring program.

Determining the success of the compensatory fish habitat

35. The compensatory fish habitat will be deemed to be functioning as intended if the monitoring referenced in paragraph 34 above demonstrates that the fish habitat created as compensatory fish habitat is physically stable, the riparian vegetation planted to create riparian vegetation compensatory fish habitat is at least 90% successful and the intertidal marsh vegetation planted to create the intertidal marsh compensatory fish habitat is similar in nature to and exhibits the same or better growth characteristics and the same or greater percentage of ground cover as the intertidal marsh vegetation in the existing natural intertidal marsh referenced in paragraph 34 above which is proximal and similar to the intertidal marsh fish habitat created as intertidal marsh compensatory fish habitat. Specifically:

- If the annual monitoring indicates that:
 - the riparian vegetation compensatory fish habitat at the compensation site is less than 350 square metres;
 - the intertidal marsh compensatory fish habitat at the compensation site is less than 500 square metres;
 - the intertidal channel compensatory fish habitat at the compensation site is less than 375 square metres;
 - the intertidal sandflat at the site is not less than 420 square metres or;
 - the intertidal sandflat at the compensation site is less than 1,935 square metres,

Fraser River Pile & Dredge Ltd. will undertake the further works required such that:

- the riparian vegetation compensatory fish habitat at the compensation site is equal to or greater than 350 square metres;
 - the intertidal marsh compensatory fish habitat at the compensation site is equal to or greater than 500 square metres;
 - the intertidal channel compensatory fish habitat at the compensation site is equal to or greater than 375 square metres;
 - the intertidal sandflat at the site is equal to or greater than 420 square metres and;
 - the intertidal sandflat at the compensation site is equal to or greater than 1,935 square metres,
- If the annual monitoring indicates that less than 90% of each species of riparian vegetation planted have failed to survive in the riparian vegetation compensatory fish habitat, Fraser River Pile & Dredge Ltd. must conduct remedial works, including but not limited to further planting, to undertake such works to provide a minimum survival rate of 90% of each species of riparian vegetation planted in the riparian vegetation compensatory fish habitat.
 - If the annual monitoring indicates that the intertidal marsh vegetation planted to create the intertidal marsh compensatory fish habitat is not similar in nature to and exhibits worse growth characteristics or is less percentage of ground cover as the intertidal marsh vegetation in the existing natural intertidal marsh referenced in paragraph 34 above which is proximal and similar to the intertidal marsh fish habitat created as intertidal marsh compensatory fish habitat, further works, including but not limited to further planting, must be undertaken by Fraser River Pile & Dredge Ltd. These further works are to ensure that intertidal marsh vegetation planted to create intertidal marsh fish habitat and created as intertidal marsh compensatory fish habitat is similar in nature to and exhibits the same or better growth characteristics or the same or greater percentage of ground cover as the intertidal marsh in the existing natural intertidal marsh referenced in paragraph 34 above which is proximal and similar to the created intertidal marsh fish habitat and created as intertidal marsh compensatory fish habitat.
36. Following the five (5) year initial habitat monitoring period, and any extensions thereof, DFO OHEB will assess the success of the compensatory fish habitat and determine whether or not it is functioning as intended. DFO OHEB will base their assessment on the results of the habitat monitoring program, and other information. Based upon the DFO OHEB assessment, the following actions will be implemented as appropriate:
- i. The compensatory fish habitat are functioning as intended and will be self-sustaining without further major remedial work: The habitat monitoring program will be terminated.
 - ii. The compensatory fish habitat are not functioning as intended: Fraser River Pile & Dredge Ltd. shall carry out any and all additional work necessary to enable the compensatory fish habitat to function as intended in accordance with the evaluation criteria in paragraph 35 and Fraser River Pile & Dredge Ltd. shall extend the initial habitat monitoring period for an additional two years after any additional work necessary to enable the compensatory fish habitat to function as intended is carried out by Fraser River Pile & Dredge Ltd.
 - iii. The compensatory fish habitat are not functioning as intended and further remedial work is unlikely to rectify this situation: Fraser River Pile & Dredge Ltd. shall carry out works to create alternative

compensatory fish habitat to the satisfaction of DFO OHEB as to the deficient areas. Fraser River Pile & Dredge Ltd. shall extend the habitat monitoring program, including additional works, to ensure that the alternative compensatory fish habitat as to the deficient areas is functioning as intended, to the satisfaction of DFO OHEB.

Protection of compensatory fish habitat

37. The compensatory fish habitat shall be considered to be fish habitat pursuant to sections 34 and 35 of the *Fisheries Act*.
38. After the compensatory fish habitat is functioning as intended, Fraser River Pile & Dredge Ltd. shall not carry on any work or undertaking that will adversely disturb or impact the compensatory fish habitat, and will take all reasonable steps to ensure that the compensatory fish habitat is not disturbed by others.

Remedial works

39. Fraser River Pile & Dredge Ltd. shall ensure that the compensatory fish habitat is functioning as intended for as long as the harmful alteration authorized by this Authorization continues (the "lifetime of the project"). Should Fraser River Pile & Dredge Ltd., at any time during the lifetime of the project, become aware that the compensatory fish habitat is not functioning as intended, Fraser River Pile & Dredge Ltd. shall carry out any works necessary to enable the compensatory fish habitat to function as intended, and to the satisfaction of DFO OHEB.

Tenure over project

40. Fraser River Pile & Dredge Ltd. shall establish and maintain tenure over the compensatory fish habitat to ensure that they will have complete and unimpeded access to the site and the authority to carry out any works required by this Authorization, or by DFO OHEB with respect to the compensatory fish habitat. This includes, but is not limited to, works and activities necessary to enable the compensatory fish habitat to function as intended and works and activities associated with any monitoring programs required by this Authorization or by DFO OHEB. After DFO OHEB has determined that the compensatory fish habitat is functioning as intended, Fraser River Pile & Dredge Ltd. may transfer tenure over the compensatory fish habitat and the transferee shall maintain tenure over the compensatory fish habitat to secure the compensatory fish habitat for as long as the harmful alteration authorized by this Authorization continues (the "lifetime of the project") to the satisfaction of DFO OHEB.

Letters of Credit

41. Prior to the commencement of works that will result in the harmful alteration authorized by this Authorization, Fraser River Pile & Dredge Ltd. shall provide DFO OHEB with letters of credit to act as a performance bond for the obligations of Fraser River Pile & Dredge Ltd. with respect to the compensatory habitat and monitoring requirements described in this Authorization. DFO may draw on the letters of credit and apply the proceeds toward the requirements described in this Authorization as deemed appropriate by DFO OHEB in its sole discretion. Letters of credit provided to DFO OHEB by Fraser River Pile & Dredge Ltd. with respect to the project shall be from a Canadian bank in a form approved by DFO OHEB. In this regard, letters of credit shall be unconditional and irrevocable; and

automatically extended without amendment from year to year. The bank shall give DFO OHEB ninety (90) days written notice should the bank elect not to extend a letter of credit for any additional period (the "Expiry Date"). Upon demand, the bank shall pay DFO the amount demanded without inquiring whether DFO has the right to such amount, and shall pay the amount demanded whether or not Fraser River Pile & Dredge Ltd. agrees that DFO has the right to such amount. Draws on letters of credit by DFO shall be permitted at any time on or before the Expiry Date. Partial draws shall be permitted.

Letter of credit - construction of compensatory habitat

42. Prior to the commencement of works that will result in the harmful alteration authorized by this Authorization, Fraser River Pile & Dredge Ltd. shall provide DFO OHEB with an irrevocable standby letter of credit, in favour of DFO, in an amount specified to reflect the full cost of constructing all the compensatory fish habitat plus an appropriate amount for remedial works, including repairs and the remedy of defects, damage, or deficiencies (cumulatively: the "habitat construction works").

Letter of credit – environmental monitoring during construction

43. Prior to the commencement of works that will result in the harmful alteration authorized by this Authorization, Fraser River Pile & Dredge Ltd. shall provide DFO OHEB with an irrevocable standby letter of credit in favour of DFO, in an amount specified to reflect the full cost of environmental monitoring during construction as described in this Authorization.

Letter of credit – monitoring the success of the compensatory habitat

44. Prior to the commencement of works that will result in the harmful alteration authorized by this Authorization, Fraser River Pile & Dredge Ltd. shall provide DFO OHEB with an irrevocable standby letter of credit in favour of DFO, in an amount specified to reflect the full cost of monitoring the success of the compensatory habitat as described in this Authorization (i.e., the habitat monitoring program).

Return of letters of credit

45. After each component of the project has been completed, and Fraser River Pile & Dredge Ltd. has fulfilled the requirements and obligations of this Authorization to the satisfaction of DFO OHEB, DFO shall return to Fraser River Pile & Dredge Ltd., within 60 days, any letter of credit then held by DFO in regard to that component of the project that has been completed. The determination of whether works have been successfully concluded, whether a component of the project has been completed, and whether Fraser River Pile & Dredge Ltd. has fulfilled the requirements and obligations of this Authorization shall be at the sole discretion of DFO OHEB. In making their determination, DFO OHEB will consider the terms of this Authorization, and other information, including the results of any monitoring program(s).

Default

46. If Fraser River Pile & Dredge Ltd. defaults or breaches any terms of this Authorization and does not remedy the matter within thirty (30) days after DFO OHEB gives written notice of the particulars of the default or breach, DFO OHEB may request the financial security posted as required in paragraph 41 for

any works it deems appropriate to attempt to complete the obligations of Fraser River Pile & Dredge Ltd. with respect to this Authorization.

Notification

47. The Department of Fisheries and Oceans, Conservation and Protection, Field Supervisor for Richmond/Delta in Steveston, B.C. shall be advised at least five (5) days in advance of the start of work on the project involving works or activities riverward of higher high water of the Fraser River or in any watercourses. The Field Supervisor may be contacted by telephone at 604-664-9250, or by facsimile transmission at 604-664-9255. A copy of this Authorization shall be retained on site at all times when the works and activities associated with the project are underway, and shall be available for inspection by any Fishery Officer, Guardian, or Inspector upon request.
48. Prior to the start of works and activities associated with the project, contractors working and active on the site shall be provided with a copy of this Authorization, and with a copy of the Monitor's authorization describing the authority of the environmental monitor to direct work and activities as outlined herein. In addition, these documents shall be explained to each contractor, with specific emphasis on the relevance of these documents and their content to the works and activities of the contractor. This applies to all contractors whose work and activity on the project has the potential to adversely impact fisheries resources. In addition, a copy of this Authorization shall be made available to contractors for their reference throughout the duration of the project.
49. The headings in this Authorization are for the purpose of clarification only and do not form part of this Authorization.

The holder of this Authorization is hereby authorized under the authority of section 35(2) of the *Fisheries Act*, R.S.C., 1985, c. F. 14, to carry out the work or undertaking described herein.

This Authorization is valid only with respect to the works or undertakings effecting and for no other purposes. It does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

The conditions of this Authorization take precedence over the documents attached to this Authorization as schedules.

Failure to comply with any condition of this Authorization may result in charges under the *Fisheries Act*.

This authorization form should be held on site and work crews should be made familiar with the conditions of this Authorization.

Date of issuance: _____, 2005.


Approved by: _____
C. Dale Paterson

Title: Area Chief, Lower Fraser
Oceans, Habitat and Enhancement
Department of Fisheries and Oceans

Fraser River Pile & Dredge Ltd. acknowledges that the Department of Fisheries and Oceans has consulted with it regarding the terms of this Authorization, and confirms that it has reviewed and understands the terms of this Authorization, and it will comply with them.

Executed by an authorised signatory of:)
)
Fraser River Pile & Dredge Ltd. on the)
17th day of October)
2005 in the presence of:)

Fraser River Pile & Dredge Ltd.



(Signature of Witness)

Per: 

Angie Krishan)

Name (print name of witness))
)
Executive Assistant)

Title (print title of witness))

Leslie W. Jourdain

Name (print name)

President & Chief Executive Officer

Title (print title)

Schedule "A"

Schedule A comprises the following documents:

- a) The letter to P. Brownie of the Fraser River Port Authority from M. Adams of ECL Envirowest Consultants Ltd. dated August 08, 2005 regarding "Fraser River Pile & Dredge Ltd. No. 5 Road Facility – Proposed Material Handling Upgrades" and attachments.
 - b) The Seabulk Systems Inc. Project "No.5 Road Barge Ramps Richmond, B.C." Drawings:
 - Drawing No. SS – 541-C-005 "Location Plan" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-015 "General Arrangement Plan" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-025 "General Arrangement Sections" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-026 "Dredging Section" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-035 "Dredging Plan" Rev. B dated 2005-05-16.
 - c) The Envirowest Consultants Ltd. Project "No. 5 Road Facility Expansion Richmond, BC" Drawings:
 - Drawing Number 841-03-01 entitled "Existing Site Conditions" Rev. 00 dated August 08, 2005.
 - Drawing Number 841-03-02 Sheet 1 of 2 entitled "Compensation Habitats General Grade Plan" Rev. 00 dated August 08, 2005.
 - d) Drawing Number 841-03-03 Sheet 2 of 2 entitled "Compensation Habitats Landscape Plan" Rev. 00 dated August 08, 2005.
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October 18, 2005

Fraser River Port Authority
500 – 713 Columbia Street
New Westminster, BC V3M 1B2

Facs: 604.524.1127

Attn: Peg Brownie

Re: FREMP CPR# 0508F051; Fraser River Pile & Dredge Ltd.; Application to construct new barge facility in the Fraser River at or near the south foot of No. 5 Road, Richmond, BC

PROEJCT REVIEW

Dear Peg:

Reference is made to the subject application and attachments sent to the Fraser River Estuary Management Program (FREMP) Environmental Review Committee (ERC) for a coordinated environmental review.

Reference is also made to the following documents:

- a) The letter to P. Brownie of the Fraser River Port Authority from M. Adams of ECL Envirowest Consultants Ltd. dated August 08, 2005 regarding "Fraser River Pile & Dredge Ltd. No. 5 Road Facility – Proposed Material Handling Upgrades" and attachments.
- b) The Seabulk Systems Inc. Project "No.5 Road Barge Ramps Richmond, B.C." Drawings:
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 - Drawing No. SS – 541-C-026 "Dredging Section" Rev. B dated 2005-05-16.
 - Drawing No. SS – 541-C-035 "Dredging Plan" Rev. B dated 2005-05-16.
- c) The Envirowest Consultants Ltd. Project "No. 5 Road Facility Expansion Richmond, BC" Drawings:
 - Drawing Number 841-03-01 entitled "Existing Site Conditions" Rev. 00 dated August 08, 2005.
 - Drawing Number 841-03-02 Sheet 1 of 2 entitled "Compensation Habitats General Grade Plan" Rev. 00 dated August 08, 2005.
 - Drawing Number 841-03-03 Sheet 2 of 2 entitled "Compensation Habitats Landscape Plan" Rev. 00 dated August 08, 2005.

From the information provided, it is the FREMPC's understanding that Fraser River Pile & Dredge Ltd. is proposing to undertake works and activities to construct a new barge facility in the Fraser River at or near the south foot of No. 5 Road, Richmond, BC. The works and activities and related works and activities will include alteration of the upland adjacent to and of the intertidal foreshore and sub-tidal riverbed in the Fraser River (the "Project") including, but not limited to, the following:

- i. The removal and disposal of existing piles / dolphins in the Fraser River.
- ii. The construction of two barge ramp abutments, including the installation of a steel sheet pile wall and riprap, on the riverbank of the Fraser River.
- iii. The realignment and upgrade of an existing barge ramp on the riverbank of the Fraser River.
- iv. The construction of a new barge ramp on the riverbank of the Fraser River.
- v. The installation of new moorage piles / dolphins in the Fraser River.
- vi. The dredging of new moorage basin to a depth of -6.0 metres local chart datum.

Measures will be employed and implemented to mitigate environmental impacts both during and after construction of the Project. This will include, but not be limited to, the construction of compensatory habitat on the upland of and the intertidal foreshore of the Fraser River at the Project site and on an unnamed island northwest of Ladner Harbour. This aspect will include, but not be limited to, the creation of not less than **350** square metres of riparian vegetation habitat, not less than **500** square metres of intertidal marsh habitat, not less than **375** square metres of intertidal channel habitat, not less than **2,355** square metres of intertidal sandflat habitat.

This creation of fish and wildlife habitat is intended to compensate for the harmful alteration of not more than **120** square metres of riparian vegetation, not more than **100** square metres of intertidal marsh, not more than **3,180** square metres of unvegetated intertidal sandflat, and not more than **5,850** square metres of sub-tidal riverbed at the Project site as a result of the Project.

Mitigatory measures and habitat compensation are more specifically described in Authorization No. 05-HPAC-PA2-000-000260 which is to be issued to Fraser River Pile & Dredge Ltd. with respect to the Project by the Department of Fisheries & Oceans pursuant to Section 35(2) of the Fisheries Act. In summary, this Authorization will address the following:

- i) Construction works and activities, measures required to mitigate the adverse impacts of the proposed works, and environmental monitoring during construction.
- ii) The harmful alteration of fish habitat associated with the Project, the creation of compensatory habitat, and monitoring the success of the created compensatory habitat.
- iii) Remedial works that may be necessary to ensure that the created compensatory habitat functions as intended.

If any of the foregoing points are inaccurate, misleading or otherwise require further discussion, the FREMPC must be advised at your earliest convenience as the FREMPC may wish to modify their comments accordingly. On the understanding that the preceding points accurately reflect the subject proposal, it is the opinion of the FREMPC that the potential adverse environmental impacts associated with the Project can be mitigated through the application of appropriate criteria. Accordingly, the FREMPC recommends that any approvals that may be issued with respect to the Project be subject to the following conditions, and that these conditions be adhered to with respect to the subject works:

1. Fraser River Pile & Dredge Ltd. agrees and confirms that all plans and specifications relating to the Project have been duly prepared and reviewed by appropriate professionals working on its behalf.

Fraser River Pile & Dredge Ltd. also acknowledges that it is solely responsible for all design, safety and workmanship aspects of all works associated with the Project.

2. Fraser River Pile & Dredge Ltd. shall ensure that all work associated with the subject project complies with the requirements of the *Fisheries Act*, and all other applicable legislation, guidelines, and best management practices.
3. Fraser River Pile & Dredge Ltd. ensure that the works are consistent with the conditions and the intent of Authorization no. 05-HPAC-PA2-000-0000260, issued to Fraser River Pile & Dredge Ltd. by the Department of Fisheries and Oceans pursuant to Section 35(2) of the *Fisheries Act*.
4. Any steel pipe piles or other open-ended piles must be capped to prevent entry of wildlife. Experience has shown very high bird mortality associated with entrapment within open-ended piles.
5. All demolition of existing structures shall be conducted so as to prevent the deposit or release of debris or deleterious substances (i.e., substances harmful to fish) onto the intertidal foreshore or into the waters of the Fraser River and all debris and deleterious substances generated by the works shall be appropriately contained in the immediate work area, collected, and appropriately disposed of in accordance with all applicable legislation, guidelines, and best management practices.
6. Disposal of dredged material upland must be in compliance with the *BC Environmental Management Act* and its regulations, such as the Contaminated Sites and Special Waste regulations. If contamination of sediments is possible due to present or historical activities at or adjacent to the proposed dredging area, BC Ministry of Environment (MoE), Contaminated Sites, recommends assessment of sediment quality prior to dredging to ensure proper off-site management. Section 55.1 of the *Environmental Management Act* and Part 8 of the Contaminated Sites Regulation should be referred to in conjunction with the results of any pre-dredge sediment quality assessment to determine whether a Contaminated Soil Relocation Agreement is required prior to commencing dredging. If site sediments are under provincial jurisdiction, MoE, Contaminated Sites, recommends that results of in-situ sediment quality assessments be initially compared to the sediment quality criteria for sensitive contaminated sites in marine and estuary water as specified in Schedule 9 of the Contaminated Sites Regulation.
7. Any dredged material to be ocean disposed must comply with the *Canadian Environmental Protection Act's* Ocean Disposal Regulations and Interim Contaminant Testing Guidelines and be dredged/loaded under a valid Ocean Disposal Permit pursuant to the provisions of Part 7, Division 3 of the *Canadian Environmental Protection Act*, 1999.
8. Fraser River Pile & Dredge Ltd. should be reminded of its obligation to comply at all times with Section 36 of the *Fisheries Act*, which specifically prohibits the discharge of substances deleterious to fish or other aquatic life onto the intertidal foreshore of or into fish-bearing waters such as the Fraser River. Due diligence is required at all times to prevent such discharges, and adherence to the terms and conditions of this letter does not of itself relieve Fraser River Pile & Dredge Ltd. of this ongoing obligation.
9. The Department of Fisheries and Oceans Conservation and Protection Field Supervisor for Richmond/Delta in Steveston, BC shall be advised at least five (5) days in advance of the start of works (tel. 604-664-9250 or fax 604-664-9255). A copy of this ERC letter shall be retained on site at all times when the subject works are underway, and shall be available for inspection by any Fishery Officer, Guardian, or Inspector upon request.

If any of the understandings set out in this letter are incorrect, the FREMP ERC must be notified prior to the start of work, as alternate or further restrictions may apply. It is understood that by proceeding with the subject works, Fraser River Pile & Dredge Ltd., and its agents(s) and/or contractor(s), shall have indicated that they understand, accept and have agreed to the foregoing conditions.

The above recommendations are valid until **September 01, 2006**. After that date the above recommendations will be void, no longer valid. If the subject works have not been substantially completed by that time, a new application for review will be required. This will ensure that the proposed works will conform to current environmental management policy, guidelines and legislation

If any of the above points are inaccurate or misleading or if any difficulty is anticipated in implementing any of the above measures, please advise at your earliest convenience **prior** to the commencement of work, as the ERC may then wish to modify the comments herein.

The above comments and recommendations are based solely upon consideration by the FREMP ERC member environmental agencies of the potential environmental issues associated with this project. It is possible that the FREMP ERC may subsequently be made aware of legitimate environmental or other concerns held by others. Any such additional comments that may be received will be forwarded to you for your appropriate consideration. All non-environmental issues must be addressed directly with the responsible authorities. In particular, proponents are advised to make relevant municipalities aware of their projects prior to commencing works as these municipalities may have concerns and/or requirements on such matters as planning, zoning, roadway and services access, and parks and recreation.

Thank you for seeking the FREMP ERC's comments in this matter.

Yours sincerely,

Environmental Review Committee

Per: Daria Hasselmann
Project Review Coordinator

Cc: B. Naito, Fisheries and Oceans Canada (by email)
M. Willcox, BC MOE (by email)
J. Smith, Environment Canada (by email)
J. Mackie, Transport Canada NRPD (by email)

Field Supervisor, DFO Richmond/Delta in Steveston (facs: 604.664.9255)



No. DP 05-307022

To the Holder: FRPD HOLDINGS LTD.
Property Address: 12360 NO. 5 ROAD
Address: 1830 RIVER DRIVE
 NEW WESTMINSTER, BC V3M 2A8

1. This Development Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. Subject to Section 692 of the Local Government Act, R.S.B.C.: buildings and structures; off-street parking and loading facilities; roads and parking areas; and landscaping and screening shall be constructed generally in accordance with Plans #1 to #3 attached hereto.
4. Sanitary sewers, water, drainage, highways, street lighting, underground wiring, and sidewalks, shall be provided as required.
5. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse and the security shall be returned in full.
6. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO.
DAY OF

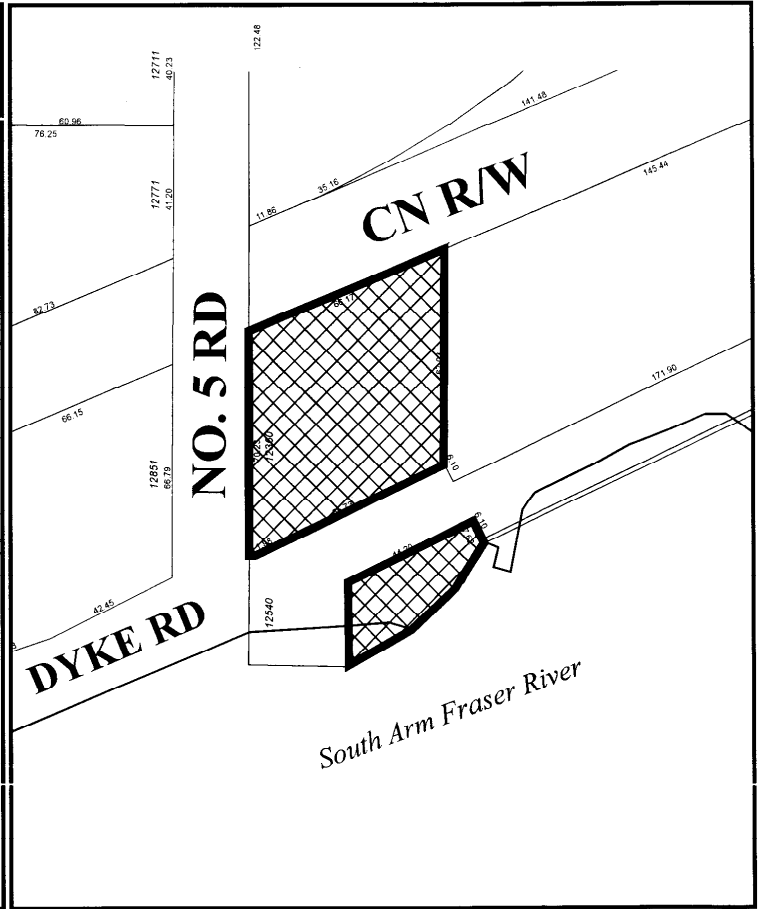
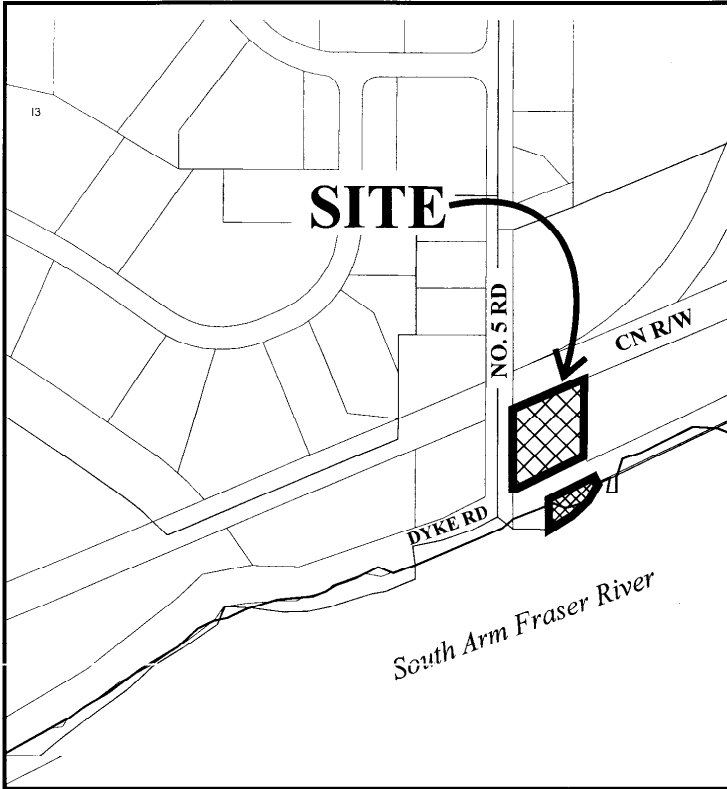
ISSUED BY THE COUNCIL THE

DELIVERED THIS DAY OF

MAYOR



City of Richmond

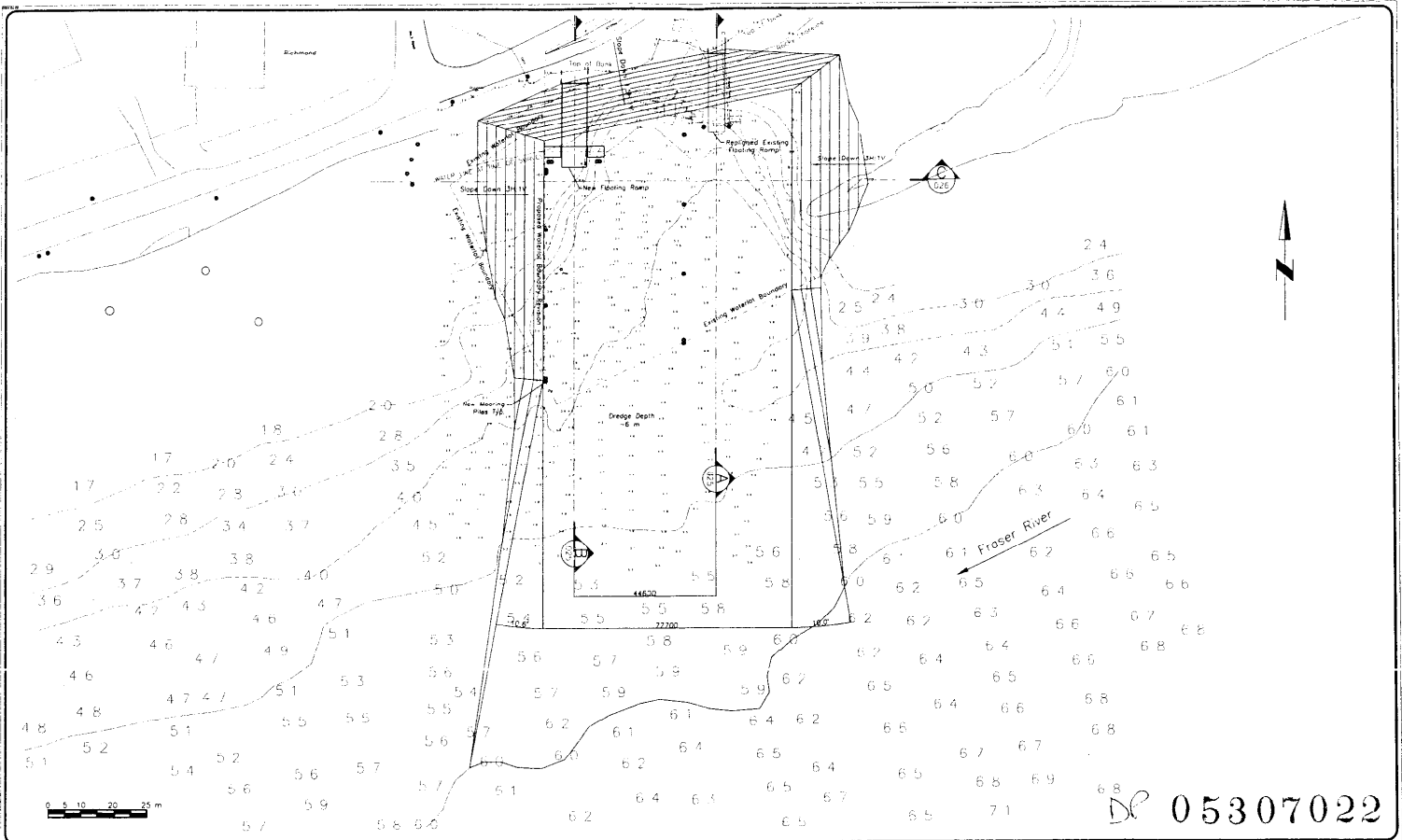


DP 05-307022 SCHEDULE "A"

Original Date: 08/04/05

Revision Date:

Note: Dimensions are in METRES



revision	description	date	by	checked	number	drawing number	reference drawings

ALL DRAWINGS TO BE CHECKED BY THE CLIENT OR THE CONTRACTOR'S REPRESENTATIVE FOR ACCURACY AND TO BE SIGNED OFF BY THE CLIENT.
 Approved: _____
 Checked: _____
 Drawn: BUC 2005-05-07
 engineering review: _____

REFERENCE PLAN

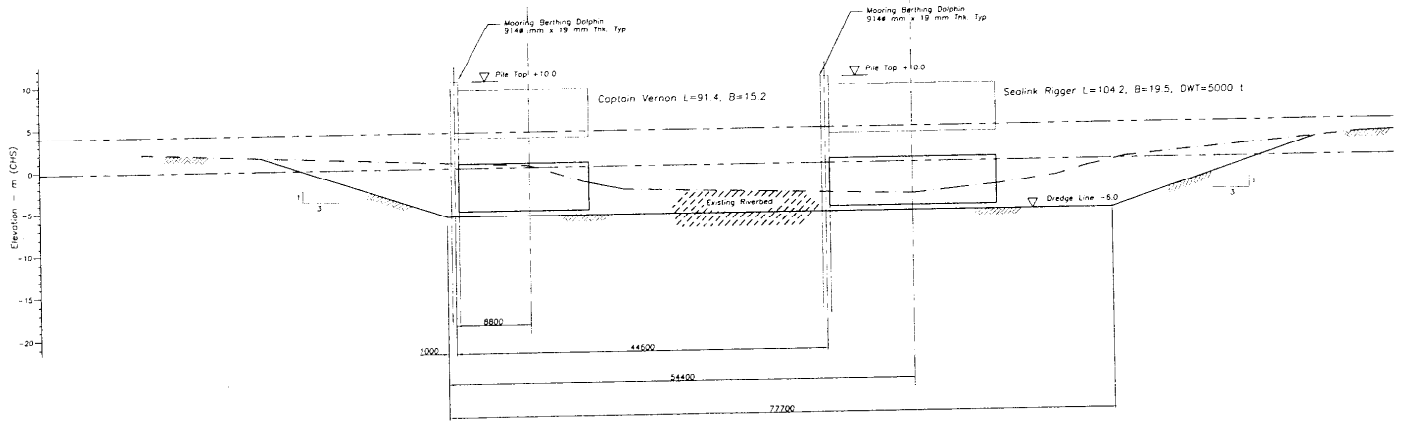
customer:
**Fraser River
 Pile and Dredge**

project:
**No. 5 Road Barge Ramps
 Richmond, B.C.**

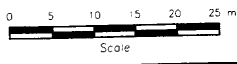
SEABULK SYSTEMS INC.
 Integrated Shipping Solutions
 Dredging Plan

customer number	date	job number	scale	sheet	total sheets	drawing number	revision

drawing number: **SS-541-C-035**
 revision: **B**

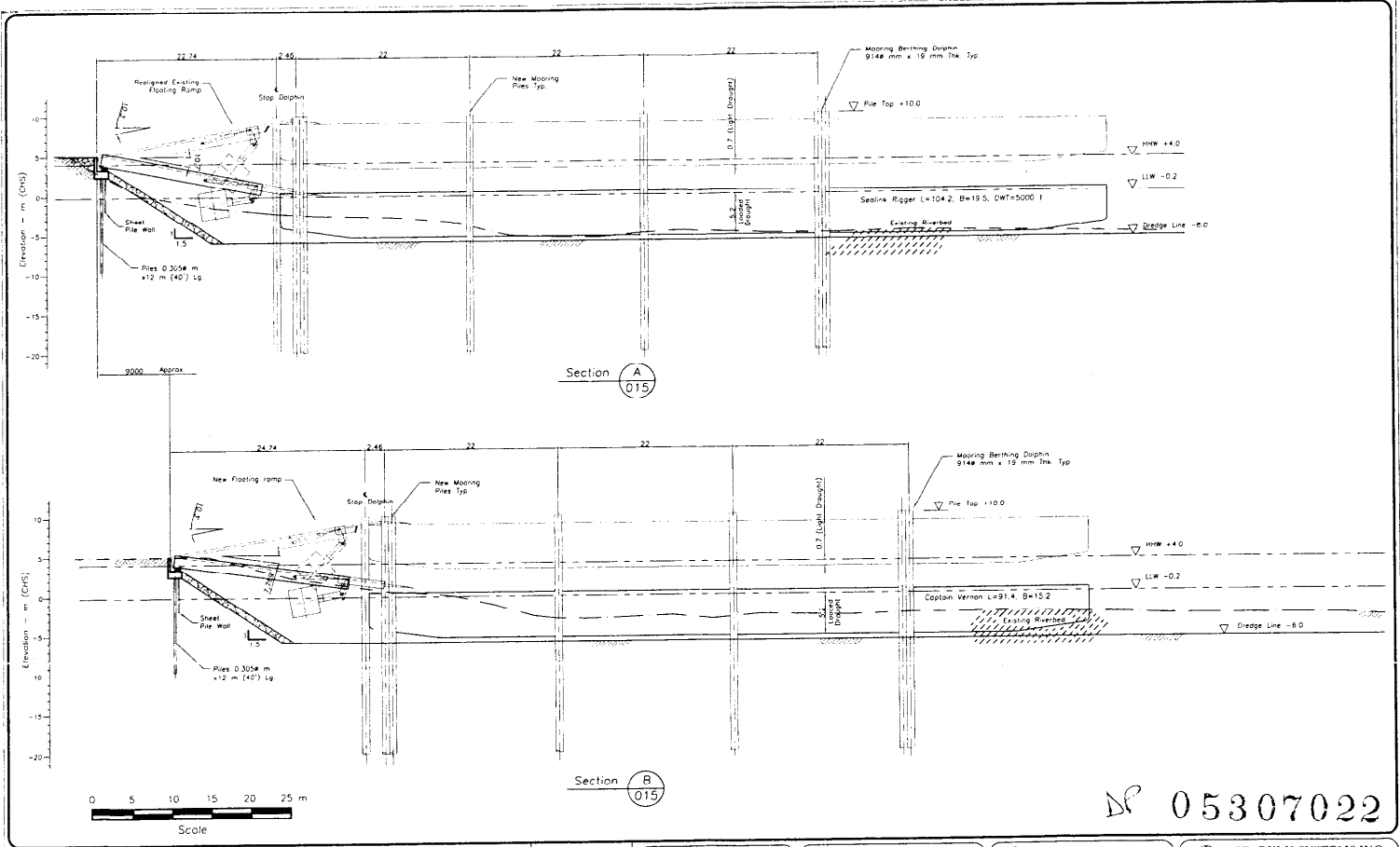


Section C
035



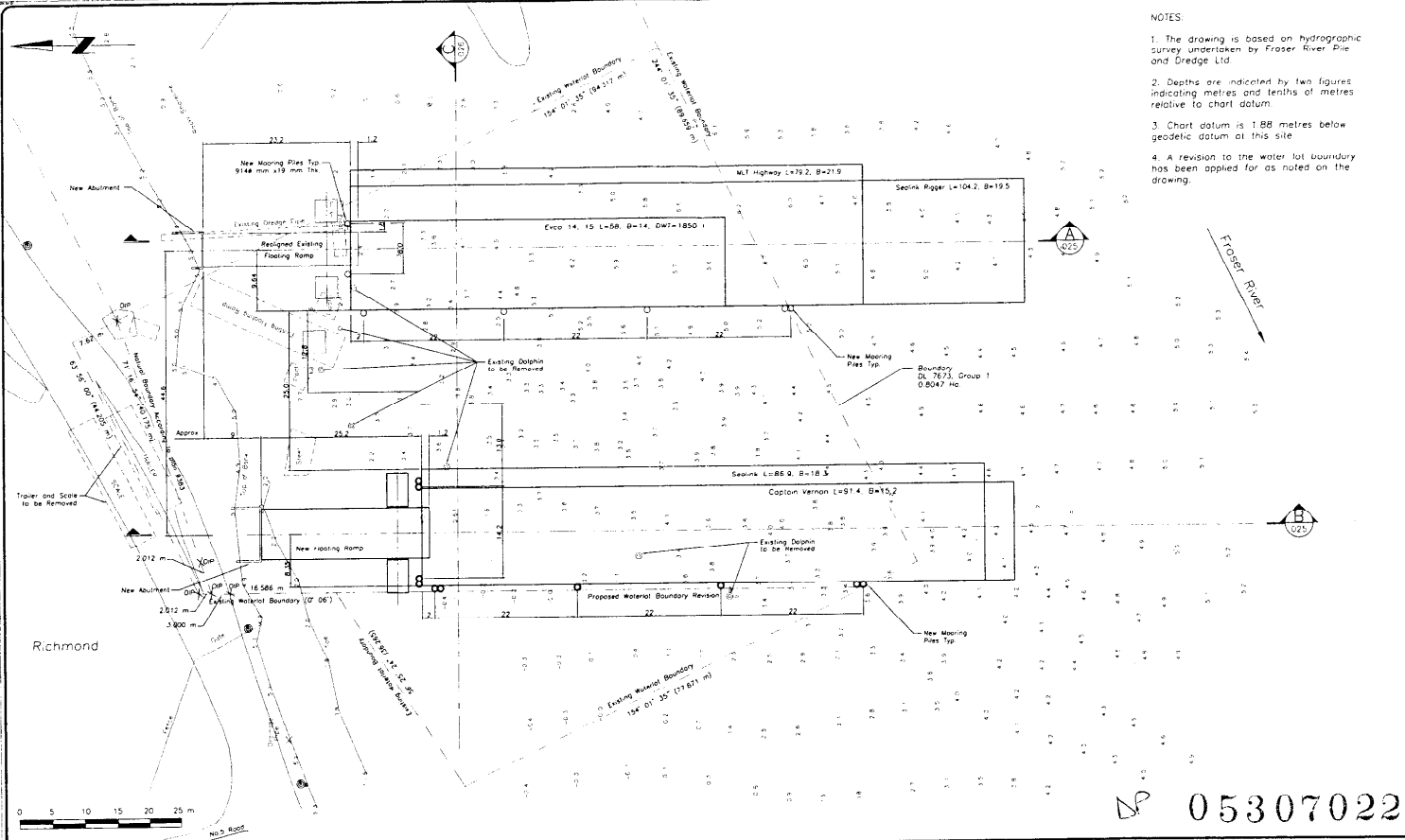
05307022

REVISION NO. 1 DATE: 2005-04-06 BY: [Signature] CHECKED: [Signature] DESIGNED: [Signature]				PROJECT Fraser River Pile and Dredge		PROJECT No. 5 Road Barge Ramps Richmond, B.C.		SEABULK SYSTEMS INC. Integrated Shipping Solutions Dredging Section	
DRAWING NUMBER: 541-C-026				DATE: 2005-04-06		JOB NUMBER: 53-141-05		SHEET: 1-200	
DRAWING TITLE: REFERENCE PLAN				PROJECT NUMBER: 541-C-026		SHEET NUMBER: 1-200		DRAWING NUMBER: SS-541-C-026	



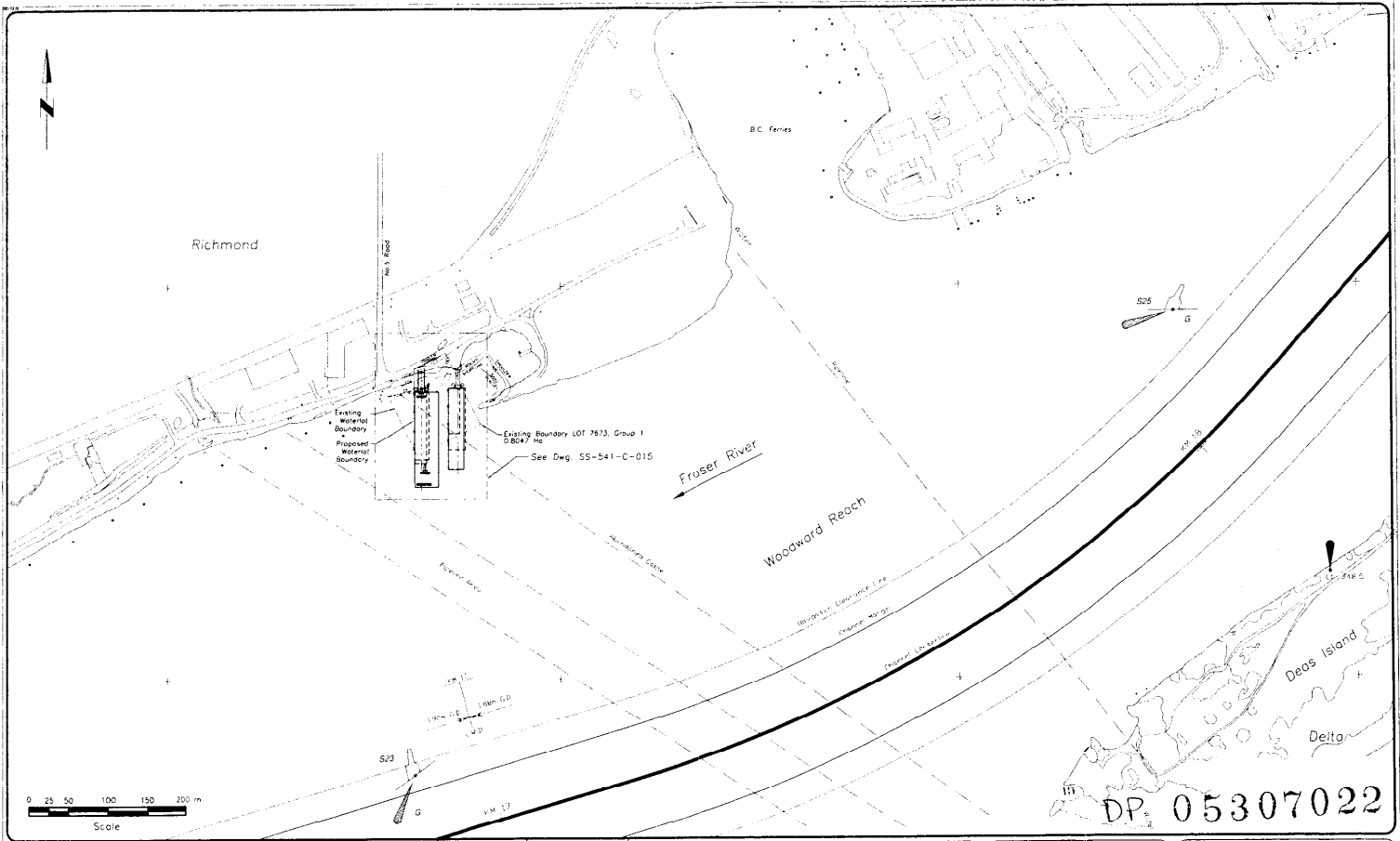
DP 05307022

REVISIONS NO. DESCRIPTION DATE BY CHECKED BY 1. 1. 2005-04-06 [blank] [blank]				PLAN #3		customer Fraser River Pile and Dredge		project No. 5 Road Barge Ramps Richmond, B.C.		SEABULK SYSTEMS INC. Integrated Shipping Solutions General Arrangement Sections							
PROJECT TO IAT/IMP APPROVAL REQUEST TO CLM REVIEW				approved checked drawn designed 2005-04-06		client approval date: 2005-04-06 email: [blank]@[blank].com website: [blank]		customer number 2005-04-06		job number SS-541-05		scale 1:200		sheet number SS-541-C-025		sheet B	



- NOTES
1. The drawing is based on hydrographic survey undertaken by Fraser River Pile and Dredge Ltd.
 2. Depths are indicated by two figures indicating metres and tenths of metres relative to chart datum.
 3. Chart datum is 1.88 metres below geodetic datum at this site.
 4. A revision to the water lot boundary has been applied for as noted on the drawing.

<p>THE DRAWING IS THE PROPERTY OF SEABULK SYSTEMS INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF SEABULK SYSTEMS INC.</p>			<p>PLAN # 2</p>	<p>CUSTOMER Fraser River Pile and Dredge</p>	<p>PROJECT No. 5 Road Barge Ramps Richmond, B. C.</p>	<p>SEABULK SYSTEMS INC. Integrated Shipping Solutions General Arrangement Plan</p>																
<p>DATE: 2005-04-07 DRAWN BY: BUC CHECKED BY: JDOON, DADOT</p>	<p>DATE: 2005-04-10 SCALE: 1:250</p>	<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>	<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>	<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>	<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>	<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>																
<table border="1"> <thead> <tr> <th>REVISION</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> <th>CHECKED</th> <th>NUMBER</th> <th>DRAWING NUMBER</th> <th>REFERENCE DRAWING</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION	DESCRIPTION	DATE	BY	CHECKED	NUMBER	DRAWING NUMBER	REFERENCE DRAWING									<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00 SCALE: 1:250</p>					<p>DATE: 2005-04-07 JOB NUMBER: SS-541-00</p>
REVISION	DESCRIPTION	DATE	BY	CHECKED	NUMBER	DRAWING NUMBER	REFERENCE DRAWING															



revision	description	date	by	checked	number	Drawing Number	Reference Drawings

NO GUARANTEE IS MADE FOR THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.

PLAN # 1

customer
**Fraser River
Pile and Dredge**

project
**No.5 Road Barge Ramps
Richmond, B.C.**

SEABULK SYSTEMS INC.
Integrated Shipping Solutions
Location Plan

engineering review	checked information	drawn	customer number	date	plot number	scale	sheet	drawing number	sheet
				2005-04-26	SS-541-C-5	1:2000	0	SS-541-C-005	B