

VANCOUVER FRASER PORT AUTHORITY

Request For Proposal: #P100707-08

Fraser River Annual Maintenance Dredging

Addendum #7

September 22, 2010

- 1) Please advise if it would be possible for us to see copies of the bathymetric surveys of the Fraser River taken post Freshet.

Fraser River hydrographic surveys can be viewed on Canadian Coast Guard's - Avadepth website - <http://www2.pac.dfo-mpo.gc.ca/>

The website is a free service providing sounding data and water level information, however you will need to take a few minutes and setup a new account. To set up a new account look for details near the bottom left of the home page.

Avadepth - is distributed weekly to river pilots, Port Metro Vancouver, and shipping companies to assist them in determining the maximum draft and the best sailing times.

The computerized reporting system predicts draft availability and the corresponding "transit window" for deep sea ships to navigate the South Arm Main Channel of the Fraser River between Sand Heads (kilometre 0) and Fraser Surrey Docks (kilometre 34).

Canada

Once you have created your account and logged in, select "Current Channel Conditions" and then select the same items as below: If you do not currently use an AutoCAD viewer, click on the "Autodesk Express Viewer" icon and download the

latest version of Autodesk's Design Review. Once you have the viewer you will be able to see the surveys posted on this website as well as the attached analysis drawings showing each reach before Freshet, after Freshet and after dredging.

Avadepth Internet - Windows Internet Explorer
http://www2.pac.dfo-mpo.gc.ca/mainform.aspx

Convert Select

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Favorites ACTIVE NOTSHIPS Home - Real-time Hydro... Suggested Sites Get More Add-ons Customize Links Free Hotmail

Avadepth Internet

AVADEPTH Soundings

Fisheries and Oceans Canada Coast Guard Pêches et Océans Canada Garde côtière (WD)

Fraser - South Arm

Waterway:
Fraser - South Arm

Options:
 Channel Condition Report
 Current Overview
 Current Overview w/Snd'g
 Survey Drawings

Drawing Search Options:
Channel:
 Main
 Secondary
 Other

Location:
Sand Heads Entrance

Type (optional):

Display

Instructions:
Click on a tile to zoom in or search for survey drawings.

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Canadian Coast Guard - Pacific Region


Canada


Once you have selected the items as above, click "Display" and you should get a menu of survey drawings to choose from. You select the drawing by clicking the underlined text under the Drawing column.

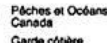
Avadept Internet - Windows Internet Explorer
 http://www2.pac.dfo-mpo.gc.ca/mainform.aspx

Convert Select
 Windows Live Live Search What's New Profile Mail Photos Calendar MSN Share
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Avadept Internet

 AVADEPT Soundings
 Main Menu Help Logout

 Fisheries and Oceans Canada
 Coast Guard

 Pêches et Océans Canada
 Garde côtière

(WD)

Surveys Search Results Fraser - South Arm

Waterway:
 Fraser - South Arm


Options:
 Channel Condition Report
 Current Overview
 Current Overview w/Snd'g
 Survey Drawings

Drawing Search Options:
 Channel:
 Main
 Secondary
 Other

Location:
 Sand Heads Entrance

Type (optional):

Display



Date	Drawing (click on a drawing to view)	Location (km)	Type	Km Start	Km End
23/03/2010	09040SA_ARS	Sand Heads Entrance	Annual	-1.0	1.0
22/02/2010	09047SA_R25A	Sand Heads Entrance	Recon 25	-1.0	1.0
09/02/2010	09040SA_ARS	Sand Heads Entrance	Annual	-1.0	1.0
27/01/2010	09046SA_R24A	Sand Heads Entrance	Recon 24	-1.0	1.0
17/12/2009	09044SA_R23B	Sand Heads Entrance	Recon 23	-1.0	0.0
25/11/2009	09041SA_R21C	Sand Heads Entrance	Recon 21	-1.0	1.0
06/10/2009	09036SA_R20A	Sand Heads Entrance	Recon 20	-1.0	1.0
10/09/2009	09029SA_R17A	Sand Heads Entrance	Recon 17	-1.0	1.0
25/08/2009	09027SA_R15B	Sand Heads Entrance	Recon 15	-1.0	1.0
11/08/2009	09024SA_R13A	Sand Heads Entrance	Recon 13	-1.0	1.0
04/08/2009	09023SA_R12A	Sand Heads Entrance	Recon 12	-1.0	1.0
28/07/2009	09022SA_R11A	Sand Heads Entrance	Recon 11	-1.0	1.0
16/07/2009	09020SA_R9A	Sand Heads Entrance	Recon 9	-1.0	1.0
08/07/2009	09019SA_R8A	Sand Heads Entrance	Recon 8	-1.0	1.0
23/06/2009	09017SA_R6A	Sand Heads Entrance	Recon 6	-1.0	1.0
17/06/2009	09016SA_R5A	Sand Heads Entrance	Recon 5	-1.0	1.0
09/06/2009	09014SA_R4A	Sand Heads Entrance	Recon 4	-1.0	1.0
03/06/2009	09013SA_R3A	Sand Heads Entrance	Recon 3	-1.0	1.0
25/05/2009	09010SA_R2A	Sand Heads Entrance	Recon 2	-1.0	1.0
15/05/2009	09008SA_R1B	Sand Heads Entrance	Recon 1	-1.0	1.0
12/03/2009	08041SA_ARS	Sand Heads Entrance	Annual	-1.0	1.0
17/02/2009	08047SA_R24A	Sand Heads Entrance	Recon 24	-1.0	0.3
28/01/2009	08043SA_R23A	Sand Heads Entrance	Recon 23	-1.0	1.0
24/11/2008	08038SA_R22A	Sand Heads Entrance	Recon 22	-1.0	1.0
03/11/2008	08036SA_R21A	Sand Heads Entrance	Recon 21	-1.0	1.0
21/10/2008	08033SA_R20A	Sand Heads Entrance	Recon 20	-1.0	1.0
08/10/2008	08030SA_R19A	Sand Heads Entrance	Recon 19	-1.0	1.0
30/09/2008	08029SA_R18A	Sand Heads Entrance	Recon 18	-1.0	1.0
16/09/2008	08026SA_R17A	Sand Heads Entrance	Recon 17	-1.0	1.0
04/09/2008	08025SA_R16A	Sand Heads Entrance	Recon 16	-1.0	1.0
25/08/2008	08024SA_R15A	Sand Heads Entrance	Recon 15	-1.0	1.0
20/08/2008	08023SA_R14A	Sand Heads Entrance	Recon 14	-1.0	0.0
11/08/2008	08022SA_R13A	Sand Heads Entrance	Recon 13	-1.0	0.0
06/08/2008	08021SA_R12A	Sand Heads Entrance	Recon 12	-1.0	1.0
30/07/2008	08020SA_R11A	Sand Heads Entrance	Recon 11	-1.0	1.0
23/07/2008	08019SA_R10A	Sand Heads Entrance	Recon 10	-1.0	1.0
15/07/2008	08017SA_R9A	Sand Heads Entrance	Recon 9	-1.0	1.0
08/07/2008	08016SA_R8A	Sand Heads Entrance	Recon 8	-1.0	1.0
04/07/2008	08014SA_R7B	Sand Heads Entrance	Recon 7	-1.0	0.0
24/06/2008	08013SA_R6A	Sand Heads Entrance	Recon 6	-1.0	0.0
18/06/2008	08011SA_R5A	Sand Heads Entrance	Recon 5	-1.0	1.0
09/06/2008	08010SA_R4A	Sand Heads Entrance	Recon 4	-1.0	1.0
02/06/2008	08008SA_R3A	Sand Heads Entrance	Recon 3	-1.0	0.0

We suggest the use of the 2009 survey data as the Freshet that year brought a significant amount of sediment and the drawings between May and August will demonstrate how each of the locations (under the Location drop down menu) change. The 2010 Freshet was one of the lowest in 100 years and probably not the best to look at change.

VFPA Bathymetric Analysis showing the same reach during 3 different time periods throughout the year are also attached for your information in Appendix A.

2) In order to make comparison and quantity calculations, would it be possible to get more details, e.g. "x, y, z" data or AutoCAD .dwg files?

Those Survey Data belong to the Canadian Coast Guard (CCG), not the Vancouver Fraser Port Authority and is available through Public Works and General Services Canada (PWGSC). We were told that they could be available for purchasing and that proponents should expect the cost to be a minimum of \$1,500 CAN. Below is the contact information for PWGSC:

Name: Mick Mills

Title: Manager Geomatics Service Pacific Region

Phone: 604-666-7727

Email: mick.mills@pwgsc.gc.ca

Appendix A:

VFPA Bathymetric Analysis

NOTES

Plotted for
 Dredge
 Management

Vertical Datum:
 Depths are reduced to Chart Datum
 (C.D.) and is below Geodetic Survey of
 Canada Datum (G.D.). Chart Datum is
 based on the Low Water Datum
 established by the Canadian
 Hydrographic Service in Nov. 1998.

Projection: U.T.M. (Zone 10)

Horizontal Datum: NAD83

Shore & upland features provided by
 PWGSC and are from aerial
 photography flown in 2002.

Hydrographic Sounding Data provided
 by PWGSC and funded by CCG.

COLOUR LEGEND

DEPTH RANGE (m)

- >2.0m Above Grade
- >1.0m Above Grade
- Above Grade

Below Grade

- Sub-Grade
- Maximum Sub-Grade
- > Maximum Sub-Grade

CHANNEL BOUNDARY

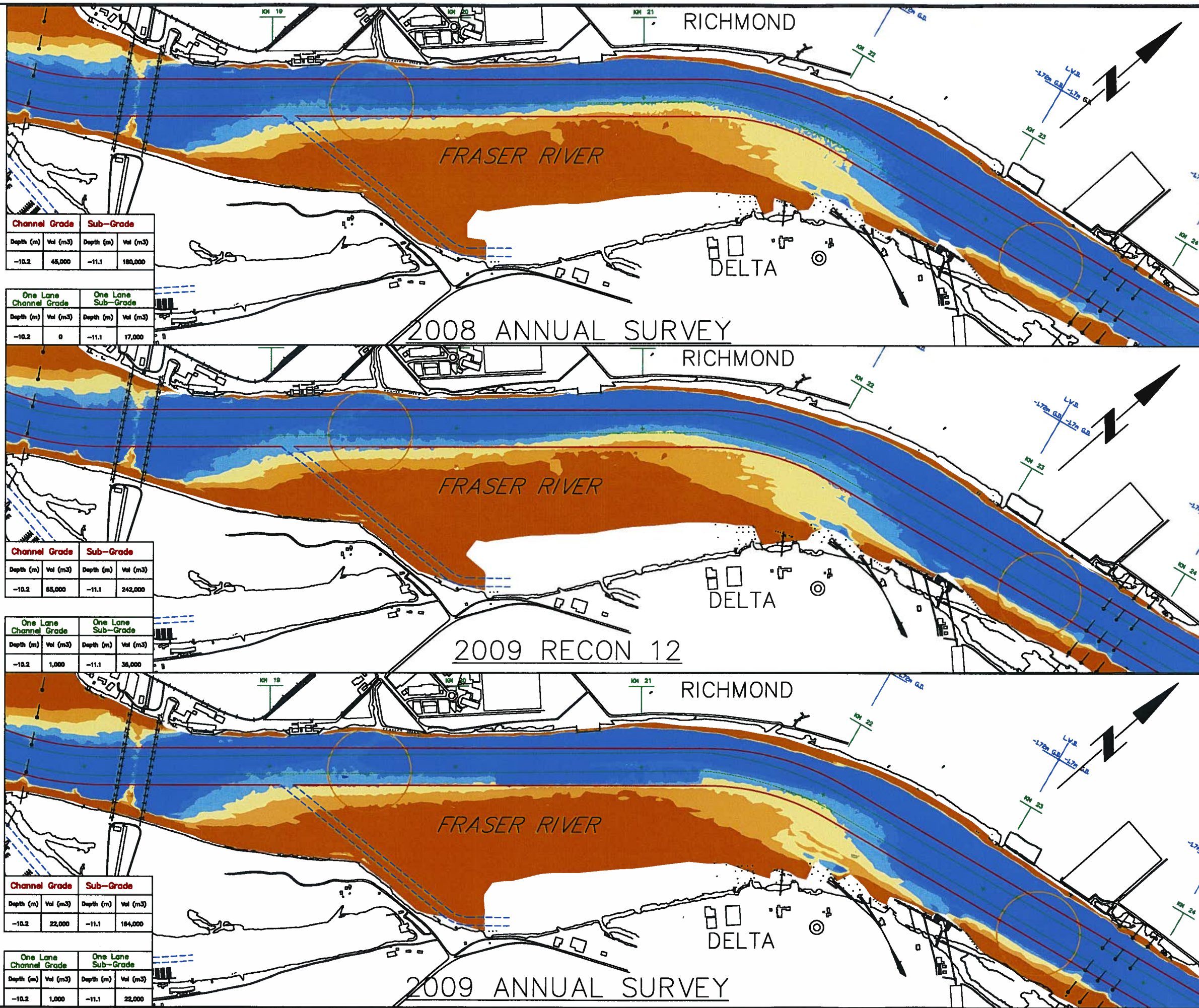
SINGLE LANE CHANNEL BOUNDARY



DRAWN:	DKL	DATE:	April 7, 2010
CHECKED:		DATE:	
APPROVED:		DATE:	
ORIGINAL DRAWN:		DATE:	

2009-2010
 RIVER SURVEY
 ANALYSIS

GRAVESEND REACH
 KM 18 to KM 24



Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	45,000	-11.1	180,000

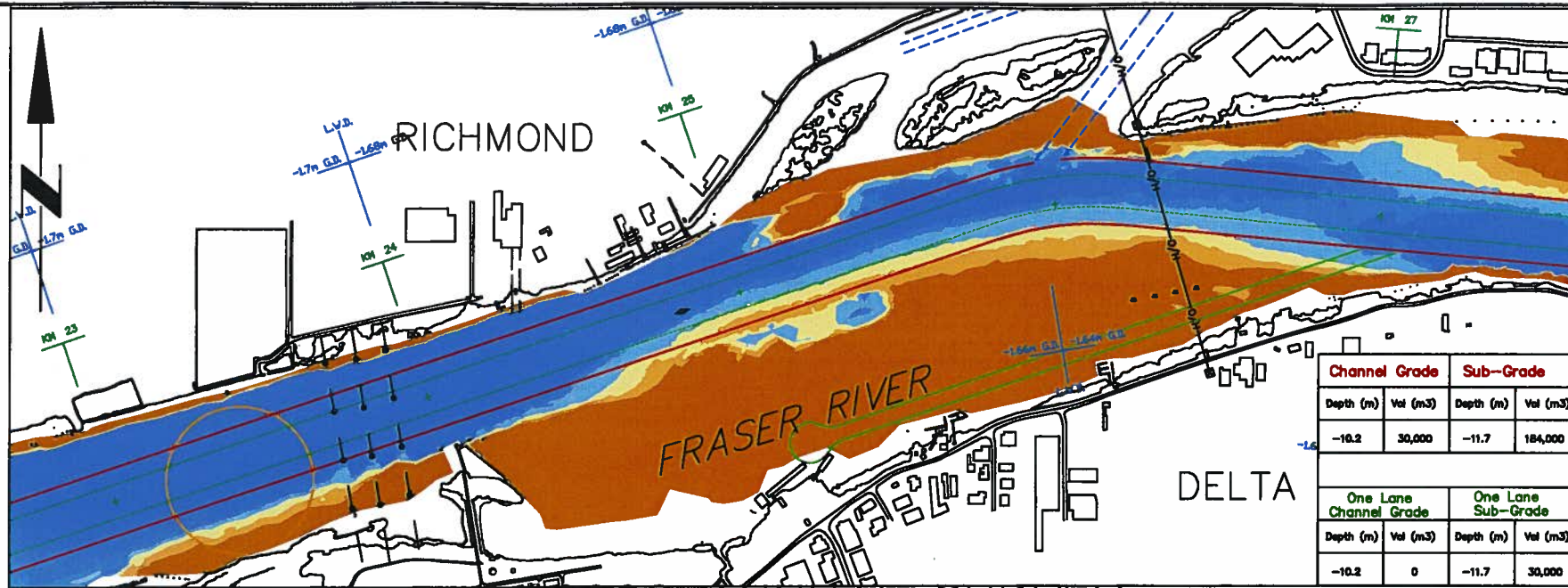
One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	0	-11.1	17,000

Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	85,000	-11.1	242,000

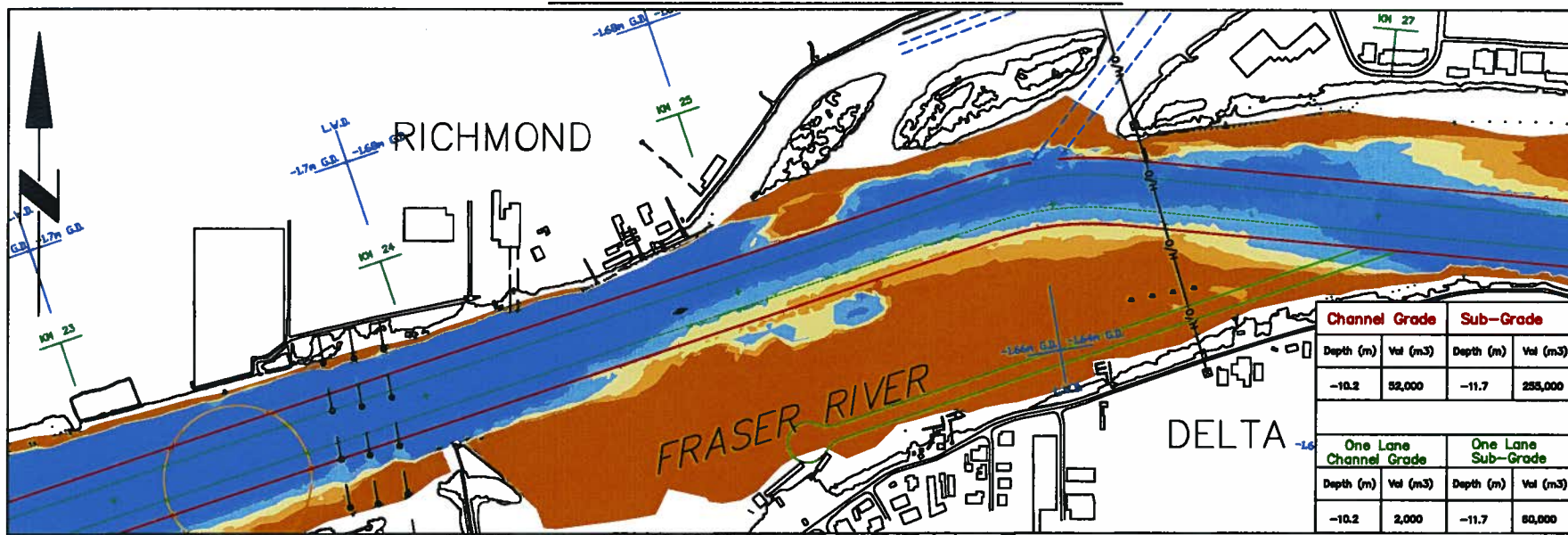
One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	1,000	-11.1	38,000

Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	22,000	-11.1	184,000

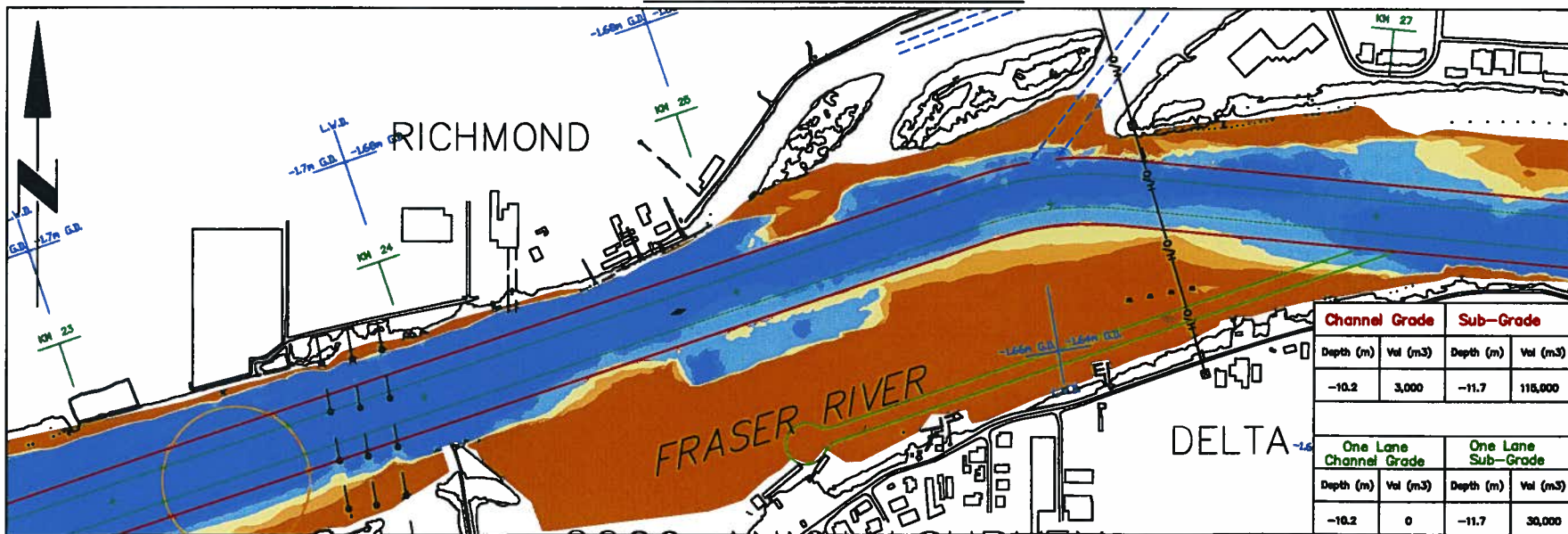
One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.2	1,000	-11.1	22,000



2008 ANNUAL SURVEY



2009 RECON 6



2009 ANNUAL SURVEY



FRASER RIVER PORT AUTHORITY
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 Vancouver BC V6C 3T4 Canada
 Tel: (604) 683-9000 Fax: (604) 284-4271
 portmetro@vancouver.com

NOTES

Plotted for Dredge Management

Vertical Datum:
 Depths are reduced to Chart Datum (C.D.) and is below Geodetic Survey of Canada Datum (G.D.). Chart Datum is based on the Low Water Datum established by the Canadian Hydrographic Service in Nov. 1996.

Projection: U.T.M. (Zone 10)

Horizontal Datum: NAD83

Shore & upland features provided by PWGSC and are from aerial photography flown in 2002.

Hydrographic Sounding Data provided by PWGSC and funded by CCG.

COLOUR LEGEND

DEPTH RANGE (m)	
Orange	>2.0m Above Grade
Yellow	>1.0m Above Grade
Light Yellow	Above Grade
Blue	Sub-Grade
Dark Blue	Maximum Sub-Grade
Light Blue	> Maximum Sub-Grade

CHANNEL BOUNDARY

SINGLE LANE CHANNEL BOUNDARY



DRAWN: DKL	DATE: APRIL 7, 2010
CHECKED:	DATE:
APPROVED:	DATE:
ORIGINAL DRAWN:	DATE:

PROJECT:
 2009-2010 RIVER SURVEY ANALYSIS

TITLE:
 PURFLEET POINT FROM km 24.0 TO km 27.0

NOTES

Plotted for
 Dredge
 Management

Vertical Datum:
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 (C.D.) and is below Geodetic Survey of
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 based on the Low Water Datum
 established by the Canadian
 Hydrographic Service in Nov. 1988.

Projection: U.T.M. (Zone 10)

Horizontal Datum: NAD83

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 photography flown in 2002.

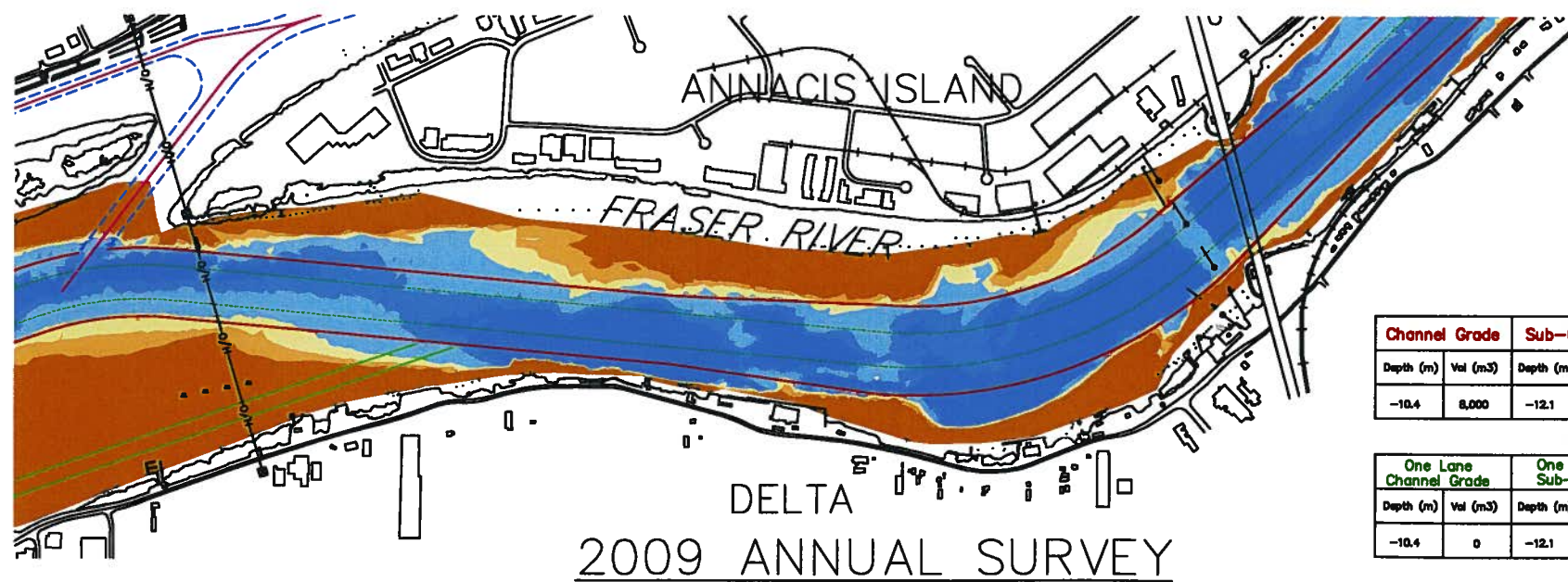
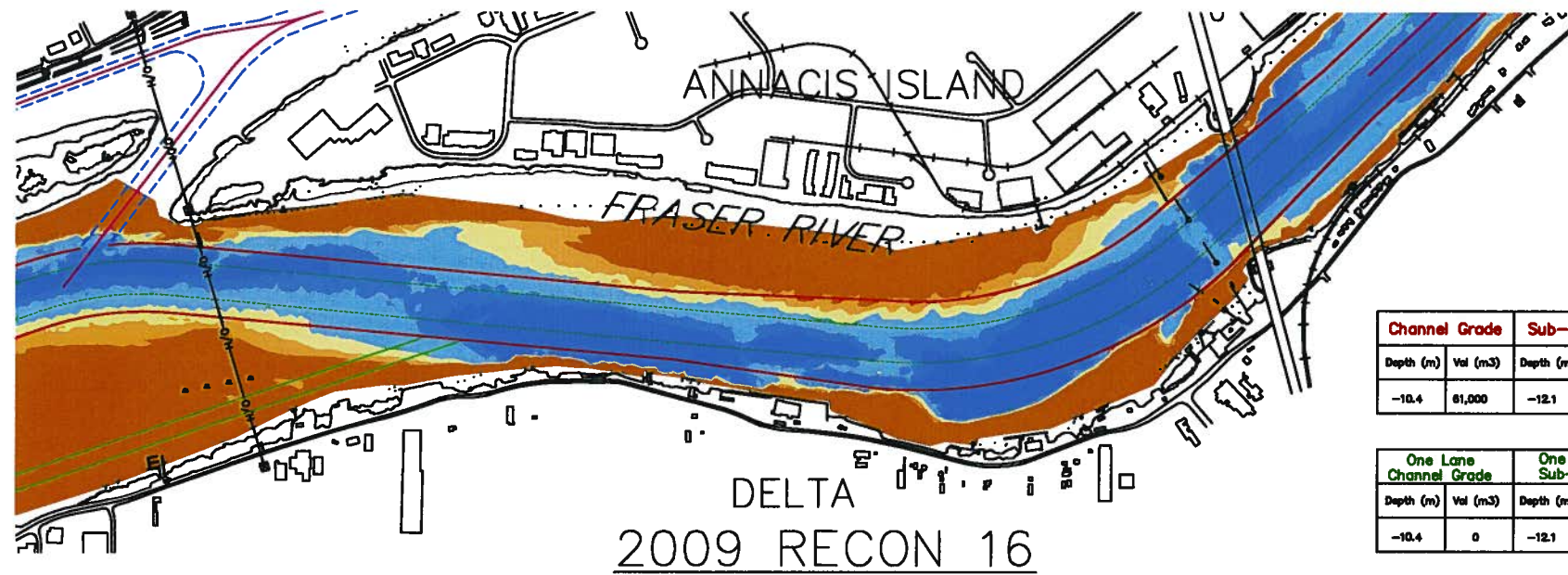
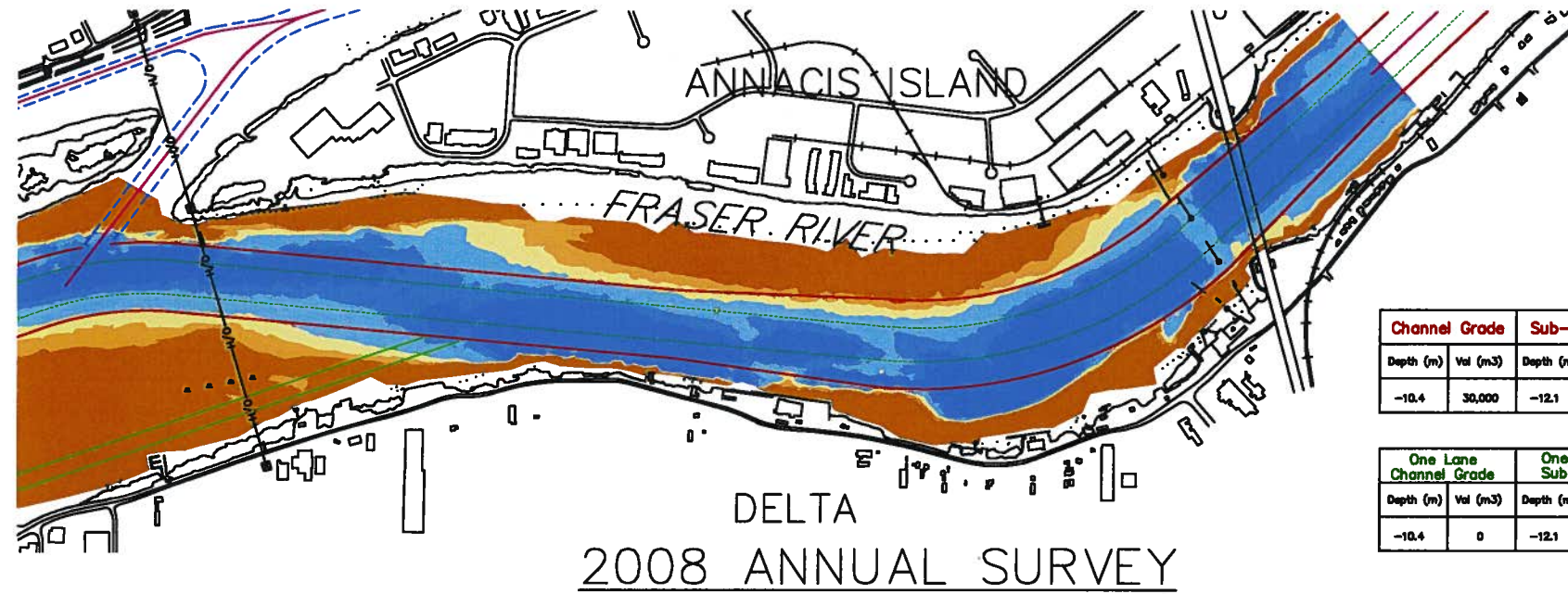
Hydrographic Sounding Data provided
 by PWGSC and funded by CCG.

COLOUR LEGEND

DEPTH RANGE (m)	
Orange	>2.0m Above Grade
Yellow	>1.0m Above Grade
Light Yellow	Above Grade
Blue	Sub-Grade
Dark Blue	Maximum Sub-Grade
Light Blue	> Maximum Sub-Grade

CHANNEL BOUNDARY

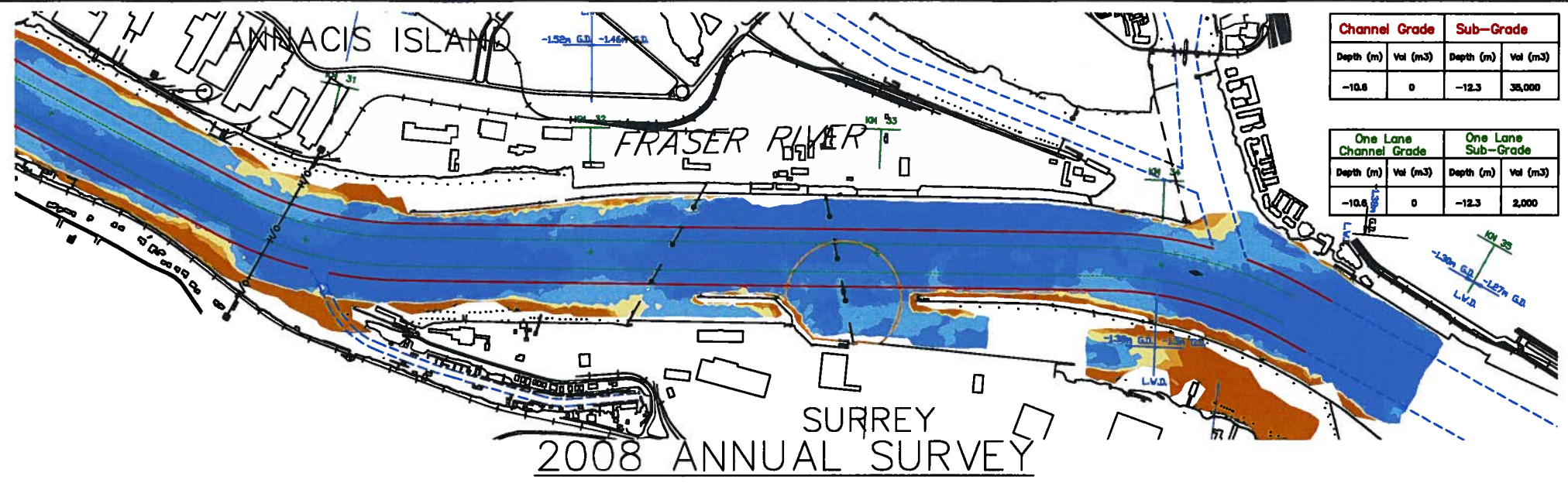
SINGLE LANE CHANNEL BOUNDARY



DRAWN:	DKL	DATE:	April 7, 2010
CHECKED:		DATE:	
APPROVED:		DATE:	
ORIGINAL DRAWN:		DATE:	

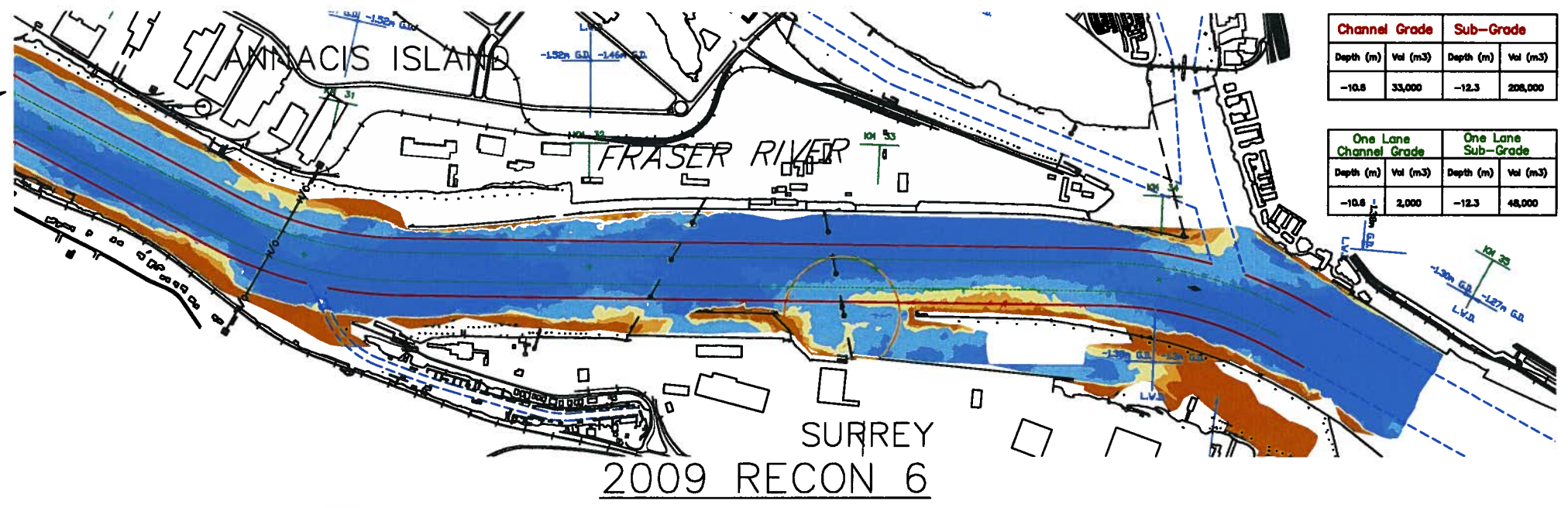
PROJECT:
 2009-2010
 RIVER SURVEY
 ANALYSIS

TITLE:
 ST. MUNGOS
 FROM km 27.0 TO
 km 30.0



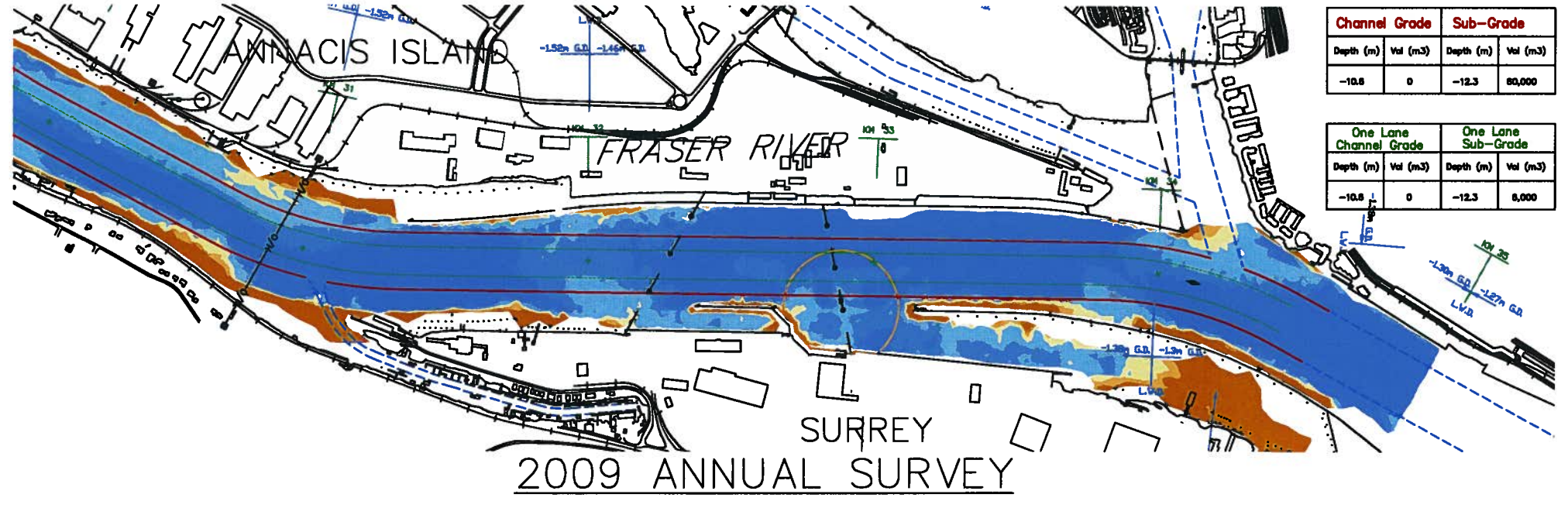
Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	0	-12.3	35,000

One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	0	-12.3	2,000



Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	33,000	-12.3	208,000

One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	2,000	-12.3	48,000



Channel Grade		Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	0	-12.3	80,000

One Lane Channel Grade		One Lane Sub-Grade	
Depth (m)	Vol (m3)	Depth (m)	Vol (m3)
-10.6	0	-12.3	8,000



VANCOUVER FRASER PORT AUTHORITY
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Vancouver BC V6C 3T4 Canada
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portmetrovancoeur.com

NOTES

Plotted for Dredge Management

Vertical Datum:
Depths are reduced to Chart Datum (C.D.) and is below Geodetic Survey of Canada Datum (G.D.). Chart Datum is based on the Low Water Datum established by the Canadian Hydrographic Service in Nov. 1996.

Projection: U.T.M. (Zone 10)

Horizontal Datum: NAD83

Shore & upland features provided by PWGSC and are from aerial photography flown in 2002.

Hydrographic Sounding Data provided by PWGSC and funded by CCG.

COLOUR LEGEND

DEPTH RANGE (m)

- >2.0m Above Grade
- >1.0m Above Grade
- Above Grade
- Below Grade
- Sub-Grade
- Maximum Sub-Grade

CHANNEL BOUNDARY

SINGLE LANE CHANNEL BOUNDARY



DRAWN:	DKL	DATE:	APRIL 7, 2010
CHECKED:		DATE:	
APPROVED:		DATE:	
ORIGINAL DRAWING:		DATE:	

PROJECT:
2009-2010 RIVER SURVEY ANALYSIS

TITLE:
ANNIEVILLE CHANNEL FROM km 30.0 TO km 35.0

End of Addendum No. 7

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