

## PART 1 - GENERAL

- 1.1 DESCRIPTION .1 This section specifies the general requirements and execution for dredging of combined Class 'A' and Class 'B' material to the grades and dimensions indicated on the drawings. It includes the removal and disposal of dredged materials. It also includes the salvage and placement of suitable boulders on the rock groyne at the southeast side of the harbour.
- 1.2 DEFINITIONS .1 Dredging: excavating, transporting and disposing of underwater materials.
- .2 Class 'A' material: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments of individual volumes 1.5 m<sup>3</sup> or more.
- .3 Class 'B' material: loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan and debris of individual volumes less than 1.5 m<sup>3</sup>.
- .4 Obstructions: material other than Class 'A', having individual volumes of 1.5 m<sup>3</sup> or more.
- .5 CMPM: cubic metres place measurement.
- .6 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.
- .7 Grade: plane above which material is to be dredged.
- .8 Estimated quantity:
- .1 Volume of material calculated to be above grade and within specified side slopes unless otherwise specified.
- .2 Areas in square metres of material calculated horizontally to exist above grade and within dredge limits, unless otherwise specified.
- .9 Side slope: inclined surface or plane from subgrade at side limit of dredging area to intersect original ground line outside of side

1.2 DEFINITIONS  
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- .9 Side slope:(Cont'd)  
limit and to be expressed as ratio of  
horizontal to vertical.
  - .10 Chart Datum: permanently established plane  
from which soundings or tide heights are  
referenced, usually Lowest Normal Tide (LNT).
  - .11 Coordinates:
    - .1 U.T.M.: universal transverse mercator  
projection.
    - .2 M.T.M.: modified transverse mercator  
projection.
    - .3 U.T.M. or M.T.M. Coordinates: plane  
rectangular coordinates used in grid system in  
which grid network is applied to U.T.M. or  
M.T.M. projection. Horizontal control  
information as indicated.
  - .12 Minimum Mode: mode of operation of  
hydrographic survey equipment where minimum  
sounding over length of travel between  
position updates will be retained in memory.  
Soundings taken in this mode may be shallower  
than actual bottom elevations due to  
variations in water depths due to wave action.
  - .13 Matrix Block: each dredge area is presented  
as number of 1.2 x 3.0 m long blocks.  
Dependent on position of sounding, block may  
have 1 to 4 soundings contained within it.
  - .14 Least of Minimum Plan: hydrographic survey  
plan in which least sounding in grouping of  
matrix blocks is plotted.
  - .15 Instantaneous Mode: mode of operation of  
hydrographic survey equipment where only  
sounding observed at predetermined distance  
interval is retained in memory.
  - .16 Average of Instantaneous Plan: hydrographic  
survey plan in which average sounding in  
appropriate grouping of matrix blocks is  
plotted.
  - .17 Lowest Normal Tide (LNT): plane so low that  
tide will seldom fall below it.
  - .18 Cleared Area: area of dredging accepted as  
achieving the required grade and verified by a  
PWGSC survey.
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1.3 SUBMITTALS

- .1 Submit to Departmental Representative for approval,if required, details of proposed blasting operations showing types and quantities of explosives, loading charges and patterns, type of blasting caps, blasting techniques, blast protection measures, time of blasting and other pertinent details. Submission to be at least one (1) week before blasting. Submit subsequent changes to Departmental Representative as required before proceeding.
- .2 Submit to Departmental Representative complete photographic and descriptive record of buildings, roads and structures in general area of Project Work, before blasting is started. Describe buildings both inside and out. Record existing cracks in walls or structural components.

1.4 REGULATORY REQUIREMENTS

- .1 There are strict environmental procedures that must be followed during the Work. The Contractor is to adhere to all conditions stipulated in the Canadian Environment Assessment Act, (CEAA), and all guidelines and instruction stated on all permits.
- .2 Comply with municipal, provincial and national codes and regulations relating to project.
- .3 Mark floating equipment with lights in accordance with the provisions of the Canada Shipping Act Collision Regulations and Notices to Mariners.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Contaminated sediments if encountered, must be disposed of in an accepted disposal facility as approved by the Departmental Representative.
  - .2 Metals, wood and recyclable materials if encountered and during the dredging activities must be diverted to appropriate recycling facilities.
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- 1.6 SCHEDULING .1 Submit to Departmental Representative, within seven (7) days after acceptance of bid, schedule of work including time periods during which each operation involved in Work will be undertaken. At time of submission of schedule, meet with Departmental Representative to review schedule.
- .2 Adhere to schedule and take immediate action to correct any slippage by effectively altering existing dredging operations or mobilizing other equipment. Notify Departmental Representative of corrective action to be taken.
- 1.7 LOCATION .1 Work comprises dredging within the entrance channel and the harbour basin in Daniel's Harbour, NL as indicated on the contract drawings.
- 1.8 INTERFERENCE TO NAVIGATION .1 Be familiar with vessel movements and fishery activities in area affected by dredging operations. Plan and execute Work in manner that will not interfere with fishing operations, marine operations and construction activities in the harbour, or access to the harbour by land or water.
- .2 Departmental Representative will not be responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in harbour or due to other Contractor's operations.
- .3 Keep the Marine Communications and Traffic Services' Centre, Fisheries and Oceans Canada, informed of dredging operations in order that necessary Notices to Mariners will be issued.
- 1.9 DATUM, WATER GAUGES AND TARGETS .1 Elevations used in this specification and contract drawings are in metres referred to Canadian Hydrographic Services Survey datum.
- .2 Area to be dredged to be referenced to vertical bench mark for location as indicated.
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- 1.10 FLOATING PLANT .1 Dredges or other floating plants to be employed on this Work, to be of Canadian registry, make or manufacture, or, must receive certificate of qualification from Industry Canada, Aerospace, Defence and Marine Branch and this certificate to accompany bid submission.
- .2 Requests for certification in format of form PWGSC-TPSGC 2843 (06/2007) attached to the Bid and Acceptance Form to be directed to Mr. Emile Rochon, Aerospace, Defence and Marine Branch, Industry Canada, CD Howe Building - Room 733C, 235 Queen Street, Ottawa, Ontario, K1A 0H5, and to be received there not less than 14 days prior to bid closing.
- 1.11 INSPECTION OF SITE .1 Contractor to visit site of Work and become thoroughly familiar with extent and nature of Work and conditions affecting Work before bidding.
- 1.12 SITE INFORMATION .1 Results of prior soundings are available for inspection at: Public Works and Government Services Canada, P.O. Box 4600, 6th floor, The John Cabot Building, 10 Barter Hill, St. John's, NL, A1C 5T2.
- .2 Results of most recent soundings survey of May 4, 2013 are included on the drawings. This data will be used for all calculations for quantity purposes. If the contractor wishes to perform own survey, a written notice must be submitted to the Departmental Representative at least seven (7) days prior to the survey schedule so PWGSC can verify the sounding survey before the commencement of any work.
- .3 The only known geotechnical information is included on the drawings.
- .4 Results of soundings and geotechnical investigations are made available for bidding purposes only. It should be noted that this information may differ from site conditions. Take this into consideration when submitting bid.

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| <u>1.12 SITE<br/>INFORMATION<br/>(Cont'd)</u>  | .5 | Take necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.   |
| <u>1.13 SURVEY<br/>REQUIREMENTS</u>            | .1 | Provide, at own expense, survey equipment and personnel to set up and maintain control for location of dredge limits and to sound areas immediately after dredging to verify that grade depth has been attained. Areas are to be sounded to provide sounding information of at least 2 x 2 m UTM grid to approval of Departmental Representative.   |
| <u>1.14 SURVEYS AND<br/>ACCEPTANCE OF WORK</u> | .1 | As soon as practical after acceptance of bid, Departmental Representative and the Contractor will jointly complete pre-dredge survey of all dredge area locations if required by the Contractor. If any differences are found from the soundings survey on the tender drawings they will be noted and recorded on the as-built drawings.  |
|  | .2 | No area will be dredged prior to Departmental Representative and Contractor's mutual acceptance of pre-dredge survey for that area.   |
|  | .3 | Post-dredge survey will be undertaken by Departmental Representative and the Contractor upon completion of dredging. Survey will confirm if dredging is completed as specified and whether area can be considered cleared area. Final survey will be by electronic sweep equipment. Survey plan at 1:250 plotting least of minimum depths obtained in this survey will identify areas requiring reworking to obtain following elevations using least of minimum mode. |
|  | .4 | Contractor to re-dredge as necessary to remove all material within dredge areas which is found to be above grade using the least of minimum mode elevations as specified herein.  |
|  | .5 | One survey, in addition to the initial final survey, will be undertaken at Departmental Representative's cost, for those areas not meeting acceptance criteria for dredging. All additional surveys required to clear areas will be undertaken by the Departmental Representative at the Contractor's cost.   |
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- 1.14 SURVEYS AND ACCEPTANCE OF WORK  
(Cont'd)
- .6 All elevations obtained in minimum mode within specified areas of dredging must be at or deeper than specific dredge depth before area will be considered completed.
- 1.15 MEASUREMENT FOR PAYMENT
- .1 Only material excavated above the grade plane and within limits and side slopes indicated or specified will be measured for payment.
- .2 Dredging: Measured in cubic metres place measurement (CMPM), for all combined Class 'A' and Class 'B' material, determined from existing seabed elevation established from the current sounding survey down to grade depth elevation. Final quantities will be calculated using a sounding survey performed by the PWGSC Survey Crew after final dredging survey is completed by using electronic sounding and DPGS positioning equipment. The Departmental Representative will verify that the Contractor has performed dredging to the specified grade depth. No payment will be made for over-dredging. PWGSC will conduct an interim and final survey. The Contractor will formally request at least seven (7) days in advance that the final post-dredge survey be performed upon completion of dredging. The survey will be dependent on the weather. If the survey and inspection shows that all material has not been removed, the Contractor is to re-dredge to obtain required grade depth. The Contractor will perform a sounding survey, using a method approved by the Departmental Representative to verify that the specified dredge depth has been obtained. The Departmental Representative will then perform a third survey for final verification of dredge depth. This third sounding survey and any subsequent surveys will be at the cost of the Contractor.
- .3 Obstructions.
- .1 Removal of obstructions, authorized by Departmental Representative will be measured in hours actually used in removal.
- .2 Labour, equipment, plant and material used for removal of obstructions will be paid for at rate negotiated in advance and authorized in writing by Departmental Representative.
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1.15 MEASUREMENT  
FOR PAYMENT  
(Cont'd)

- .4 All operations in connection with field positioning of dredging equipment will not be measured separately for payment.
- .5 No separate payment will be made for Contractor's survey vessel, equipment and crew or diving services.
- .6 Payment will include disposal of all dredge material. There will be no additional payment made for watertight truck boxes as required.
- .7 There will be no additional payment made for dumping fees associated with disposal of the material at an approved site.
- .8 There will be no additional payment made for required clean up and levelling of associated dredge material at the dumpsite.
- .9 There will be no additional payment made for placement of material on the rock groyne to the direction of the Departmental Representative.
- .10 There will be no additional payment made for delays and/or downtime for vessel traffic, fishery operations, marine operations or during periods when no dredging is permitted. Contractor should contact the Harbour Authority to determine schedules of operations.
- .11 Removal of infilling material will not be measured for payment.
- .12 Mobilization and demobilization of dredging equipment will not be measured for payment but will be included in the Lump Sum Amount of the contract.

PART 2 - PRODUCTS

NOT APPLICABLE



PART 3 - EXECUTION

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| <u>3.1 DREDGING<br/>EQUIPMENT</u> | .1 | Contractor to determine required equipment necessary to dredge the material specified and to dispose of dredged material at locations specified and/or indicated on the drawings. |
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| <u>3.2 GENERAL</u> | .1 | No dredging operations are to be carried out from the existing wharf structures in this harbour.   |
|                    | .2 | Mark folating equipment with lights in accordance with the provisions of the Canada Shipping Act Collision Regulations and maintain radio watch on board.  |
|                    | .3 | Place and maintain buoys, markers and lights as required to define worksite.   |
|                    | .4 | Lay out Work from control points and/or baselines established by the Contractor and accompanied by the Departmental Representative, in accordance with the drawings. Be responsible for accuracy of Work relative to established bench marks and/or baselines. Provide and maintain electronic position fixing and distance measuring equipment, laser transits and such other equipment as may normally required for accurate dredging control. |
|                    | .5 | Establish and maintain tide boards in order that proper depth of dredging can be determined. Locate tide boards so as to be clearly visible.   |
|                    | .6 | Establish and maintain on-land targets for location and definition of designated dredge area limits. Targets to be suitable for control of dredging operations and locating soundings. Remove targets on completion of Work.   |
|                    | .7 | Dredge area to grade depths and side slopes as indicated on the drawings.  |
|                    | .8 | Remove materials above specified grade depths, within limits indicated. Material removed from below grade depth or outside specified area is not part of Work.   |
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### 3.2 GENERAL (Cont'd)

- .9 Remove shoaling which occurs as result of Work at no expense to Canada.
- .10 Remove material cast-over on surrounding area and dispose of it as dredged material. Do not cast-over material unless authorized by Departmental Representative.
- .11 Remove infilling in dredge areas which occurs prior to acceptance by Departmental Representative.
- .12 Immediately notify Departmental Representative upon encountering object which might be classified as obstruction. By-pass object after clearly marking its location and continue Work.
- .13 Any temporary roads constructed to access the dredge area must be removed in their entirety upon completion of work.

### 3.3 DREDGING

- .1 Complete removal of combined Class 'B' material and Class 'A' material as required.
- .2 Provide specialist with qualifications acceptable to Departmental Representative and Municipal or Provincial Authorities to program and supervise blasting if required.
- .3 The Contractor will retain specialist company to carry out seismographic survey before rock excavation is started, to determine maximum charges that can be used at different locations in area of rock excavation. Following survey, full report detailing control requirement throughout Project will be provided to Departmental Representative. Report or any part of it will not over-rule requirements of local authority having jurisdiction unless report requirements are more conservative.
- .4 Seismographic blast monitoring will be provided by the Contractor during entire progress of blasting operations.
- .5 Do blasting operations in accordance with local and provincial codes and in accordance with Department of Fisheries and Oceans Factsheet, Blasting - Fish and Fish Habitat Protection in Annex A.

- 3.4 DISPOSAL OF DREDGED MATERIAL .1 Dispose of all dredged material as follows:  
.1 Class 'B' material generally will be transported to and disposed of at a site approved by the Province of Newfoundland and Labrador Regulatory Authority as noted in the CEAA approvals.  
.2 Class 'B' material, identified as boulders, and Class 'A' material will be placed on, or in the general area of, the rock groyne east of the marginal wharf and slipway as noted on the drawings and as directed in the field by the Departmental Representative.
- 3.5 RE-DREDGING .1 Re-dredge unsatisfactory Work and verify depths with additional soundings to approval of Departmental Representative.
- 3.6 CO-OPERATION AND ASSISTANCE TO DEPARTMENTAL REPRESENTATIVE .1 Co-operate with Departmental Representative on inspection of Work and provide assistance requested.  
.2 On request of Departmental Representative, furnish use of such boats, equipment, labour and materials forming ordinary and usual part of dredging plant as may be reasonably necessary to inspect and supervise Work.