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Québec  
G1J 0C7

**SOLICITATION AMENDMENT**  
**MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**  
TPSGC-PWGSC  
601-1550, Avenue d'Estimauville  
Québec  
Québec  
G1J 0C7

<b>Title - Sujet</b> Dragage Montréal - St-Antoine	
<b>Solicitation No. - N° de l'invitation</b> EE517-142147/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> EE517-14-2147	<b>Date</b> 2014-03-14
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$QCM-008-15826	
<b>File No. - N° de dossier</b> QCM-3-36253 (008)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2014-03-21</b>	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Rochette, Jean	<b>Buyer Id - Id de l'acheteur</b> qcm008
<b>Telephone No. - N° de téléphone</b> (418) 649-2834 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Voie navigable du St-Laurent entre Montréal et St-Antoine, QC	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> Raison sociale et adresse du fournisseur/de l'entrepreneur	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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Title : MONTRÉAL - ST-ANTOINE DREDGING

Included in the present amendment :

1. Questions and answers 1 to 5
  2. Amendment no 3
  3. Addenda no 1
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QUESTIONS AND ANSWERS :

**Question 1 :** Does the bid bond is to the combined value of three years?

**Answer 1 :** Yes

**Question 2 :** With respect to performance bonds and labor, will there be a renewal clause or shall they be firm for the three years of the contract?

**Answer 2 :** Bonds shall cover the total amount of 3 years.

**Question 3 :** Compte tenu que les trois zones de travail (Montréal à Batiscan, Batiscan à Deschaillons et Deschaillons à St-Antoine) sont déjà bien défini en terme de durée (130 h, 30 h et 50 h) et que ces zones sont très différentes en terme de coût pour l'exécution, ne serait-il pas préférable pour avoir une ventilation précise des coûts de séparer ces 3 zones dans le formulaire de prix combinés ? De cette façon si les heures devaient être ajustées dans une des trois zones, pour répondre à un changement dans le volume de siltation ou autre, le contracteur serait rémunéré en fonction du coût réel à rendre les services de dragage dans le secteur et le Canada paierait le juste prix. Given that the three work areas (Montreal to Batiscan, Batiscan to Deschaillons and Deschaillons to St-Antoine) are well defined in terms of duration (130 h, 30 h and 50 h) and that these areas are very different in terms of cost for implementation, would it not be better to have a precise breakdown of costs to separate these three areas in the Combined Price Form? This way if the hours should be adjusted in one of three areas to respond to a change in the volume of siltation or otherwise, the contractor would be paid according to the actual cost to make dredging work in the area and Canada would pay a fair price.

**Answer 3 :** See Amendment no 3 herein after.

**Question 4 :** There is a peculiar situation in the Deschaillons and St - Antoine area. The current that is very strong and often the location of shoals makes the ships pilot asking us to free the channel. We have no control over the volume of traffic, no control over the location of shoals and it is therefore impossible for us to accurately predict these delays. It would be more fair that we have a waiting time paid for these reasons in these specific areas. Is this option could be implemented?

**Answer 4 :** See article 1.2.1.5 at 35 20 23 in the Addenda 1 herein after.

**Question 5 :** Article 3.2 Sediment class "A" Section 35 20 23 of the specifications mentioned that on request of the Departmental Representative, the Contractor shall dredge and transport sediment class "A" and that the cost of this work should be determined in advance by the Contractor and the Departmental Representative and will be an amendment to the Contract. In fact we dredge a shoal designated by a client and surprise a very large rock is hoisted from the water. So there is no preliminary discussion and we end up with a fait accompli. Regularly we need to move the dredge outside the channel to dispose of these monsters because they can not pass through the doors of dredge. There are important risk to our equipment to handle these monsters. Would it not be fair to ask in the Combined Price Form a price per m<sup>3</sup> for these rocks exceeding 4 m<sup>3</sup>? That price would be in excess of the hourly rate paid to drag since we do not know where these rocks will be disposed. The cost would cover our risks and equipment breakage in the handling of these rocks (we break bucket teeth regularly in these maneuvers).

**Answer 5 :** See article 3.2.2 at 35 20 23 in the Addenda 1 herein after.

#### AMENDMENT no 2

1. Solicitation closing date is postponed from March 18th 2014 to **March 21th 2014**.
2. The Question and answer no 10 published in the Solicitation amendment 002 on March 6, 2014 does not apply to this tender.
3. The Price Schedule for the Base Work and the Optional Work at Appendix 1 :  
 DELETE the Price Schedule for the Base Work and the Optional Work  
 INSERT the Price Schedule for the Base Work and the Optional Work herein after
4. Article SC04 Fuel Price Adjustment :  
 DELETE Article SCS04  
 INSERT the following Article SC04 :

#### **SC02 FUEL PRICE ADJUSTMENT**

1. The Contract will be amended at the end of each dredging year to reflect an increase or a decrease, compared with the benchmark price, in the cost of the fuel used for the work in the Contract.
2. The fuel price adjustment will be on an hourly basis of dredged time for which payment has been made. PWGSC will apply a factor of 14% to the unit cost per hour for the cost of fuel needed to perform the dredging work.
3. There will be no fuel price adjustment for mobilization or demobilization.
4. Price variation will be determined according to the average price for Quebec City posted in the "Furn No.2" category under the heading "Canadian Unbranded Rack Price" on the

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Bloomberg Oil Buyers Guide Web site. For the purposes of this contract, the benchmark price is the one published on February 28, 2014.

5. Price adjustment formula:

a) Legend:

PA: price adjustment

DF: price on the date work starts at the beginning of a given dredging period in compliance with Article 4 of this clause

BEN: benchmark price in compliance with Article 4 of this clause

UP: unit price per hour according to the item featured in the unit price table

PV: paid volume according to the item featured in the unit price table

b) Calculation of price variation:

$$PA = (DF - BEN) / BEN \times UP \times PV \times 14\%$$

Note 1: The fuel price adjustment formula will be calculated separately for each dredging period and for each item for which a unit cost per hour is featured in the unit price table.

Note 2: PA could be positive or negative. As a result, the annual portion of the contract will be adjusted upwards or downwards as required.

6. Although the price variation is calculated for each dredging period and for items with a unit cost per hour, only one annual adjustment shall be made. It should appear on the final Request for Payment form for the dredging year and will be considered to be an amendment to the contract.

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ADDENDA no 1

1. Section 35 20 23 in the specification :

DELETE section 35 20 23

INSERT section 35 20 23 herein after

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ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

**1. BASE WORK**

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit (PU) Excluding GST and QST	Extended amount (EQ x PU) Excluding GST and QST
<b>1</b>	<b>DREDGING BASE WORK 2014</b>					
1.1	35 20 23	Dredging work main mobilization and demobilization for the work period	lot	1	\$ _____	\$ _____
1.2	35 20 23	Dredging of scattered shoals: Beginning : between June 16 and 18, 2014 Period of work : between June 16 and July 25, 2014				
1.2.1	35 20 23	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	130	\$ _____	\$ _____
1.2.2	35 20 23	Section 4 Batiscan (buoy D56) to Deschailions (buoy D18)	Hour	30	\$ _____	\$ _____
1.2.3	35 20 23	Section 5 Deschailions (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	50	\$ _____	\$ _____
1.3	35 20 23	Cumulative linear distance between dredging site of scattered shoals	kilometer	100	\$ _____	\$ _____

<b>2</b>	<b>DREDGING BASE WORK 2015</b>					
2.1	35 20 23	Dredging work main mobilization and demobilization for the work period	Lot	1	\$ _____	\$ _____
2.2	35 20 23	Dredging of scattered shoals: Beginning : between June 15 and 17, 2015 Period of work : between June 15 and July 24, 2015				
2.2.1	35 20 23	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	130	\$ _____	\$ _____
2.2.2	35 20 23	Section 4 Batiscan (buoy D56) to Deschailions (buoy D18)	Hour	30	\$ _____	\$ _____
2.2.3	35 20 23	Section 5 Deschailions (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	50	\$ _____	\$ _____
2.3	35 20 23	Cumulative linear distance between dredging site of scattered shoals	kilometer	100	\$ _____	\$ _____

<b>3</b>	<b>DREDGING BASE WORK 2016</b>					
3.1	35 20 23	Dredging work main mobilization and demobilization for the work period	lot	1	\$ _____	\$ _____
3.2	35 20 23	Dredging of scattered shoals: Beginning : between June 13 and 15, 2016 Period of work : between June 13 and July 22, 2016				
3.2.1	35 20 23	Sections 1, 2 and 3 Montréal (buoy M195) to Batiscan (buoy D56)	Hour	130	\$ _____	\$ _____
3.2.2	35 20 23	Section 4 Batiscan (buoy D56) to Deschaillons (buoy D18)	Hour	30	\$ _____	\$ _____
3.2.3	35 20 23	Section 5 Deschaillons (buoy D18) to St-Antoine (3 km downstream of buoy Q16)	Hour	50	\$ _____	\$ _____
3.3	35 20 23	Cumulative linear distance between dredging site of scattered shoals	kilometer	100	\$ _____	\$ _____
<b>TOTAL EXTENDED AMOUNT FOR BASE WORK (TEA)</b> Excluding GST / QST						\$ _____

## 2. OPTIONAL WORK

Item	Specification Reference	Class of Labour, Plant or Material	Unit of Measurement	Estimated Quantity (EQ)	Price per Unit (PU) Excluding GST and QST	Extended amount (EQ x PU) Excluding GST and QST
<b>1</b>	<b>OPTIONAL WORK (UNFUNDED OPTION)</b>					
1.4	35 20 23	For 2014, Additional kilometer between dredging site of scattered shoals (in addition to item 1.3)	kilometer	50	\$ _____	\$ _____
2.4	35 20 23	For 2015, Additional kilometer between dredging site of scattered shoals (in addition to item 2.3)	Kilometer	50	\$ _____	\$ _____
3.4	35 20 23	For 2016, Additional kilometer between dredging site of scattered shoals (in addition to item 3.3)	kilometer	50	\$ _____	\$ _____
<b>TOTAL OPTIONAL AMOUNT (TOA)</b> Excluding GST and QST						\$ _____

## TOTAL BID AMOUNT

<b>TOTAL BID AMOUNT (TEA + TOA)</b> Excluding GST and QST	\$ _____
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**Part 1            General**

**1.1                RELATED SECTIONS**

- .1        Section 01 11 11 – Work description summary
- .2        Section 01 35 43 – Environmental procedures

**1.2                MEASUREMENT PROCEDURES**

- .1        Dredging at hourly unit rate (h) :
  - .1        The payable hours will be determined in accordance with a daily log book compiled by the Departmental representative and the Contractor. The Departmental representative will be on board during the dredging operations.
  - .2        Payable dredging hours are the properly so called dredging hours consecrated for the dredging of scattered shoals at each dredging sites, precisely determine during work take place. The reasonable time to set up the dredge on a shoal will be considered as dredging hours.
  - .3        Payable hours of dredging will include up to three (3) work stoppages of under thirty (30) minutes each every 24 hours for unexpected or isolated minor repairs to enable the actual dredging work to continue. However, the Contractor must provide full descriptions and justifications of these work stoppages for the Departmental Representative..
  - .4        Dredge displacement between two shoals located on the same dredging site will be considered as payable hours.
  - .5        Non-payable hours is the time taken by the Contractor for :
    - .1        Preparing the dredge to quit a dredging site during a day of work or at the end of each working day.
    - .2        Moving the dredge between the dredging sites and the location where the dredge will be park over night.
    - .3        Allowing the Departmental representative to do a bathymetric sounding for verifying the dredging, But, period of fifteen (15) minutes or less for this reason will be paid.
    - .4        To permit a secure crossing with a commercial ship. But, period of thirty (30) minutes or less for this reason will be paid.
    - .5        Also all stoppage greater than fifteen (15) minutes caused by any other event (including the slippage of the spuds) will not be payable.
- .2        Movement at a per kilometre (km) unit rate:
  - .1        Certain specific movement of dredging equipment of over 10 kilometres within the five sectors described below shall be considered and paid on a per kilometre basis; approximately 100 kilometres should be payable in this manner. Optionally, an additional distance of between 0 and 50 km may be added to the 100 km depending on the site of the scattered shoals to be dredged in these five sectors.

- .1 Sector 1: Section of the seaway between Montreal (buoy M195) and Sorel (buoy TRACY). Marine charts No. 1310 and 1311.
  - .2 Sector 2: Section of the seaway between Sorel (TRACY buoy) and Trois-Rivieres (buoy C63). Marine chart No. 1312.
  - .3 Sector 3: Section of the seaway between Trois-Rivières (buoy C63) and Batiscan (buoy D56). Marine charts No. 1313 and 1314.
  - .4 Sector 4 : Section of the seaway between Batiscan (buoy D56) and Deschaillons (buoy D18). Marine chart No. 1313 and 1314.
  - .5 Sector 5 : Section of the seaway between Deschaillons (buoy D18) and St-Antoine (3 km downstream of buoy Q16). Marine chart No. 1314 and 1315.
- .3 Depths (soundings) will be adjusted to chart datum using GPS-OTF technology . Contractor will be responsible for obtaining, by his own means and at his own expense, all relevant water level data requested to do the work and also the horizontal and vertical positions of his own dredging equipment (reference : Appendix 6).
- .4 Mobilization and demobilization costs shall be paid on a fixed price basis as follow:  
When the Contractor's plant has been fully mobilized and five days' dredging has been completed at the work site, the Department will remit to the Contractor sixty per cent (60%) of the principal mobilization and demobilization costs submitted at the related items of the unit price table.  
However, this initial payment shall not exceed ten per cent (10%) of the total amount of the contract. The remaining amount of the principal mob/demob costs, shall be included in the final payment of the year.
- .5 Payment for the work will be issued on a monthly basis in accordance with quantities produced during the month and with the assessment of the Department representative.
- .6 Obstructions.
- .1 If the Contractor is required to dredge or recover material constituting a non-natural obstruction like debris, it shall recover and dispose of the said material as directed by the Departmental representative and in accordance with the Navigable Waters Protection Act (NWPA) at an hourly rate agreed to in advance by the Departmental representative and the Contractor as indicated below.
    - .1 The hourly rate submitted at the related item of the price table, will be used to pay for the hours taken to remove and dispose the obstructions). Payment for individual periods of less that one-half hour will not be considered.
    - .2 The Contractor shall notify the Departmental representative or his representative and shall obtain written authorization from the Departmental representative or his representative before removing and disposing any non-natural obstruction.
- .7 Unexpected dredging work :
- .1 In the event that the Contractor identify or would have to perform dredging work not already included in the specifications, it shall obtain the written permission of the Departmental representative before executing the work. The Departmental

representative and the Contractor shall agree on the additional cost before doing any work.

- .8 All operations in connection with the placement of spoil in the dumping areas are included in the hourly rate. No separate payment will be done for the spoil placement.
- .9 All the stoppage and downtime will be under the sole responsibility of the contractor, except those that could be ask by the Departmental representative in some cases.
- .10 The Departmental representative shall not in any way be held liable for any waste of time and expenses incurred by the Contractor and/or its subcontractors relating to (1) towing the equipment or (2) for any losses or damages caused by storms, fire, collision or otherwise, either in transit to or from locations where dredging is to be performed or to or from disposal areas, or during the period the plant is employed under this contract, (3) nor for any delays, damages or accidents which may be due to (a) debris of any kind and other works being carried on concurrently in the same area, either for the Departmental representative or other Departments, Corporations, individuals or shipping.

### 1.3 DEFINITIONS

- .1 Partial dumping area: small area located inside a large dumping area.
- .2 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.
- .3 Dredging: the removal of sediment (or material) from the bottom of a water body, including its transport and disposal at the prescribes locations. In these specifications, one (1) type of dredging is considered: dredging payable per hour (h) rate, which applies to scattered shoals, the volume of which is small.
- .4 Maintenance dredging : Dredging of non-stable material ( or recent sedimentation ).
- .5 Undesirable or problematic shoal: any shoal located that, in the Departmental representative's opinion, obstructs or could possibly obstruct the waterway, or that could impede commercial navigation .
- .6 Mobilization and demobilization of a dredging equipment: All actions and works carried out by the Contractor related mainly to its dredging equipment, that are needed by the Contractor, to bring its equipment to the work site and keep it operational until the dredging work is completed to the satisfaction of the Departmental Representative and ensure its safe return (next destination) upon work completion.
- .7 Grade: plane above which all sediments is to be dredged.
- .8 Dredging ( or working ) period: number of days/weeks includes between two dates foresaw at the schedule to execute the dredging work established by the Departmental representative.
- .9 Estimated volume: dredging hours to be executed (reference: Appendix 1 ).
- .10 Maintained sections: maintained sections of seaway are shown on Nautical chart by differents dashed straight lines (mostly parallel) between whose there is no depth, excepted the maintained depth .
- .11 Class A sediments: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments of individual volumes  $4.0\text{m}^3$  or more.

- .12 Class B sediments: relatively unstable sediments, loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan and debris of individual volumes less than 4.0m<sup>3</sup>.
- .13 A dredging site is a surface grouping shoals, the distance between two consecutive shoals is ten (10) kilometres or less. Isolated shoal with a distance greater than ten (10) kilometres from an other shoal or shoals will be considered as a dredging site.
- .14 GPS-OTF Technology: leading-edge, real-time kinetic positioning techniques that provide centimetric precision for real-time compensation of water level variations.(reference appendix 6).
- .15 Company volume (V\_Cie): volume of spoil dredged as estimated and reported by the Contractor at the time of the dredging work (see article 3.1.21).
- .16 Chart datum (CD): reference level set by the Canadian Hydrographic Service that is sufficiently low that the tide level (or water level in non-tidal areas) rarely falls below it.

#### **1.4 REGULATORY REQUIREMENTS**

- .1 The Contractor shall, and shall ensure that all its employees, both actual and de facto, including its subcontractors, honour all third-party rights and privileges and comply with all federal, provincial and municipal laws, regulations and orders.
- .2 Mark floating equipment with lights in accordance with Regulations for the Prevention of Collisions and Rules of the Road for the Great Lakes.

#### **1.5 SCHEDULING**

- .1 Within five (5) days after the reception of the notification of acceptance of the offer, the Contractor shall submit to the Departmental representative his work schedule for approval.
- .2 The schedule of work shall include the average daily hours they plan to achieve, according to the sectors and quantities indicated in the appendix 1. The said schedule of work must absolutely coincide with the requirements indicated in the Bid and Acceptance form (BA) , and must be realistic.
- .3 In his schedule, the Contractor shall indicate the date of arrival of their plant at the work site and the starting date of the dredging operations.
- .4 To ensure the good execution of the work, any requested change subsequent to the approval of the said schedules of work, must be submitted in writing to the Departmental representative for approval.
- .5 The work shall be executed from the upperstream limit to the downstream limit or as directed by the Departmental representative. Included in the total hours, 30 hours will be required to execute in Deschaillons(sector 4) and 50 hours between Deschaillons and St-Antoine (sector 5).
- .6 Adhere to schedule and take immediate action to correct any slippage by effectively altering existing dredging operations. If during the work the equipment is deemed ineffective or inappropriate, the Departmental representative shall ask the Contractor to replace this equipment by a more appropriate equipment.

- .7 The work will be executed from Monday to Friday inclusively and the working hours will be 10 to 12 hours per day according to the decision of the Departmental representative. This number of hours could be less if the weather or other conditions do not permit it.

## **1.6 LOCATION**

- .1 The scatter shoals to be dredged are located between Montreal (buoy M195) and St-Antoine (3km downstream of the buoy Q16) (marine charts 1310 to 1315 and appendix 2)
- .2 The dumping areas M-02, M-27, S-17, T-02, T-06, T-11, T-16 and X-04 are located and described at appendix 3.

## **1.7 INTERFERENCE TO NAVIGATION**

- .1 Be familiar with vessel movements and seasonal activities in area affected by dredging operations. Plan and execute work in manner that will not interfere with seaway users.
- .2 The Contractor will be solely responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in dredging site or due to other Contractor's operations.
- .3 As soon as possible, the Contractor shall advise the Departmental representative of any special relocation of dredging equipment (for refuelling, repair, etc) that could have an impact on the approved schedule.
- .4 The Contractor shall continuously and accurately report all dredging equipment movements to Marine Communications and Traffic Services at Québec (MCTS).
- .5 Should any equipment belonging to the Contractor cause interference with navigation for any reason. The Contractor shall immediately:
  - .1 advise immediately the Marine Communications and Traffic Services (MCTS) of Canadian Coast Guard (CCG) and Departmental representative;
  - .2 comply with articles 3.1.11 and 3.1.12 of the present section;
  - .3 remove the plant immediately at its own expense.
- .6 Should the Contractor fail to comply with the above requirement, removal will be undertaken by the Departmental representative and all costs related thereto shall be charged to the Contractor.

## **1.8 DEPTHS AND GRADES**

- .1 Depths and grades used in this specification and contract drawings are in metres (International system of units SI) and referred to Chart datum.

## **1.9 FLOATING PLANT**

- .1 The Contractor shall supply and maintain all dredging equipment with sufficient capacity (reference : Article 2.1.1) to excavate, load, transport and dispose of all materials mentioned in the specification.
- .2 All equipment required to perform the dredging contract shall be in good working order at all times and shall be used in accordance with the requirements of the most recent Environmental Impact Assessment (EIA) (Ref.: Appendix 5 ), and to the Departmental representative's satisfaction.

#### **1.10 INSPECTION OF SITE**

- .1 Before submitting its bid, The Contractor shall obtain all necessary information regarding the extent and nature of work and conditions affecting work before tendering, rather than the knowledge of the St. Lawrence Seaway and its particularities.
- .2 By submitting its tender, the Contractor acknowledges that it is aware of the following: the nature and location of the project, general and local conditions, particularly weather or climatic conditions, the degree of agitation of the water surface, the tide levels, and physical conditions associated with the location of the project, the nature of the underwater soil and riverbed, the nature of the materials to be dredged.

#### **1.11 SITE INFORMATION**

- .1 Take necessary steps to become fully familiar with constraints inclement by some weather and sea conditions in this area.
- .2 For your guidance only and based on our previous experiences, the materials to be dredged should consist mainly of coarse sand; small volumes of gravel, hard and soft clay and rocks (Class B materials) could also be found.
- .3 Between Montreal and Lac St-Pierre there is no tide. The water level can slightly vary between -0.5m to +2.5m above chart datum during the working period. Between Trois-Rivières and Cap-Santé the tide range is 5,4 m and the water level can be between -0,6 to 5,4 m(CD). In the Cap-Sante Traverse the tide range is 4.9 m and the water level can be between 0.6 m to 5.4 m. In St-Antoine area, the tide range is 4.6 m and the water level can be between -0.6 m to 5.4 m.
- .4 The current speed could reach 4 knots in the Montreal region, 3 knots at Trois-Rivières, 4 knots in Deschaillons to Portneuf region, 3 knots in the Cap-Sante Traverse and 4 knots in St-Antoine region..

#### **1.12 SURVEYS AND ACCEPTANCE OF WORK**

- .1 In this project, the bathymetric sonar surveys will be done by the Canadian Hydrographic Services on behalf of the Departmental representative.
- .2 These surveys will be carried out based on the availability of Canadian Coast Guard (Department of Fisheries and Oceans Canada [DFO]) survey units and on weather conditions. These survey units are operational during work hours every week from Monday to Friday. In exceptional circumstances, one of the units may be available on Saturdays at the end of the contract.
- .3 Few days before the beginning of dredging, the surfaces to be dredged will be precisely localised by bathymetric sounding to confirm the location of materials to be dredged, as accurately as possible and to determine the quantity. The Departmental representative reserves the right to modify at any time the grade and the dredging limits described in this specification.
- .4 The Departmental representative will provide the Contractor, in ASCII digital format (see Appendix 4), with the basic data required by the work; these digital files will be available to the Contractor at the FTP site of the Department of Fisheries and Oceans Canada. The FTP address (and password) will be provided to the Contractor at the start of the work. The Contractor shall have the means of communication required to connect to this FTP site and to retrieve the necessary files from the site. Such data retrieval shall be made at

the Contractor's expense, by its own means and during the working hours (08:00 AM to 04:00 PM) of the Waterways Management unit.

- .5 The Departmental Representative will accept work on site upon completion of the dredging of one or more scattered shoals.

### **1.13 SYSTEM OF UNITS**

- .1 Relevant data such as bathymetric surveys, water levels, distances, areas and volumes, etc. mentioned in this specification and during the execution of work will be in the International System of Units (SI).

### **1.14 EMPLOYEES**

- .1 See the tender call documents

## **Part 2 Equipments**

### **2.1 DREDGING EQUIPMENT**

- .1 The dredging shall be executed with a clam shell dredge.  
All scattered shoals to be dredged in sectors 4 and 5, must be dredged with a clam shell dredge held in place by spuds and not by cables and anchors.
- .2 All equipments used to dump the dredged material shall be equipped with doors in the hull or could have a split hull to unload the spoils.
- .3 The dredging equipments must be suitable for the work in terms of size, characteristics and draught.
- .4 The Contractor shall give to the Departmental representative the description of the positioning system(s) to be used to position its dredge (see tender call documents).

## **Part 3 Execution**

### **3.1 GENERAL**

- .1 Before commencing work, the Contractor must obtain written approval from the Departmental representative for the work schedule.
- .2 The work shall be executed from the upstream limit to the downstream limit as directed by the Departmental representative.  
The Contractor will have to dredge scatter shoals in the sectors described in this specifications down to a grade depth between 11,00 m and 11,60 m.
- .3 When dredging, the Contractor must use a Geographic Base Information System that provides accurate real-time information about the dredge's position and bathymetric data relevant to the work (location and depth of the shoals to be dredged).
- .4 The Contractor is responsible to provide on his own the horizontal and vertical positioning of his dredge.
- .5 The Departmental representative, at his discretion, can check the accuracy of any positioning systems used by the Contractor.

- .6 The Contractor shall be solely responsible for all primary, intermediate or secondary points (X, Y), (X, Y, Z) and (Lat, Long) used by it, whether determined by it or provided by the Departmental representative or any other party..
- .7 The dredge and the additional equipment shall be kept in good repair and maintained in proper working order while used on the contract.
- .8 Annual demobilization: The Department representative will authorize the Contractor to demobilize its dredging equipment following final acceptance of all of the work
- .9 Buoys necessary for the contract : The Contractor shall supply, place in position moor, and maintain at its own expense, all buoys/markers required to properly execute the work. In the event that any of these buoys/markers by chance or by accident, sink or go adrift. They shall be re-floated and/or recovered by the Contractor at its own expense to the satisfaction of the Departmental representative. The Contractor shall assume responsibility for all accidents of any kind whatsoever due to the buoys/markers being improperly placed or insufficiently visible during the day or improperly lighted during the night or for any other reason.
- .10 Navigation buoys : The Contractor shall not at any time remove or relocate any main navigation buoys. Relocation of the said buoys, where warranted, will be done by the Canadian Coast Guard (CCG); requests for such service must be made to the Departmental representative at least ten (10) business days in advance. The Departmental representative reserves the right to determine whether such requests by the Contractor are warranted.
- .11 Keep all signals and lights required to be installed on all dredging equipment required for the work in accordance with the Collision Regulations and the Navigation Safety Regulations on the Great-Lakes basin. All equipments required for the work shall be properly identified and/or visible at all times.
- .12 Mark floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.
- .13 Casting over shall not be permitted other than within the designated disposal areas.
- .14 The Contractor must perform the hours of dredging, according to the approximate distribution indicated in Appendix 1.
- .15 The Contractor shall report to the Departmental representative in a file provided to the Contractor for that purpose: (1) start and end times of all dredging periods; (2) start and end times of all periods when sediment is transported to dredged material disposal areas; (3) volumes (company volume [V\_Cie]) of transported and deposited sediment; (4) number of hours spent depositing sediment in dredged material disposal areas; (5) number of hours of and reasons for all dredging equipment stoppage periods; and (6) number of hours taken up by any other event, activity, etc. Each day will have to be identified from 0:00 to 24:00
- .16 Work must be performed using only one dredge in operation.
- .17 The shoals will be progressively located by the Departmental representative, according to the Contractor work progression

### 3.2 CLASS 'A' REMOVAL

- .1 No Class A material is expected to be found in the areas to be dredged. Should any be encountered, the Departmental representative may require the overlying material to be removed.
- .2 Class A material
  - .1 With the exception of boulders or rock fragments (>4.0 m<sup>3</sup>)
    - .1 When Class A materials, excluding boulders or rock fragments (>4.0 m<sup>3</sup>), were to be dredged, the Departmental representative will evaluate such additional work; at the Departmental representative's request, the Contractor shall provide the necessary and appropriate equipment for dredging, loading, transporting and disposing of such Class A materials to the Departmental representative's satisfaction. The cost of such additional work (dredging of Class A materials) shall be determined in advance by the Contractor and the Departmental representative. As appropriate, this cost shall be included in an amendment to the contract.
  - .2 Boulders or rock fragments (>4.0 m<sup>3</sup>)
    - .1 If a boulder or rock fragment (>4.0 m<sup>3</sup>) is encountered, the Contractor should make every efforts to manipulate and dispose this material according to the instructions of the Departmental representative's.
    - .2 In addition to the number of hours of dredging payable (in reference of the article 1.2.1 of the present section) to accomplish this work, an allowance, on a flat-rate basis will be given to the Contractor.
    - .3 This allowance is given to the Contractor in order to compensate him for any breakage, wear-off or loss and damage that he could undergo during the manipulation and disposition.
    - .4 This allowance will be established by making the average of all of the hours unit rate submitted to the unit price table, multiplied by 50%. This amount will be pay at the last annual payment.

### 3.3 DISPOSAL OF DREDGED MATERIAL

- .1 All dredged materials (with the exception of some forms of debris) shall be systematically dumped in the dumping sites indicated and described in Appendix 3 and in accordance with the Departmental Representative's instructions.
- .2 Any material dumped outside the limits of the designated disposal areas shall be re-dredged by the Contractor and/or its subcontractors at its expense and dumped in the designated disposal areas; disposal of material in the disposal areas shall be under the control of the Departmental representative at all times.
- .3 The minimum depths of water (Chart Datum) to be maintained over some disposal areas shall be as follows:

	<u>C.D.</u>
Yamachiche Nord (S-17)	2.4m
St-Pierre-les-Becquets (T-11)	3.5m
Donnacona (X-04)	7.5m
- .4 The Departmental representative will indicate to the Contractor the location of partial dumping areas to be used before the beginning of the work.

**3.4 CO-OPERATION AND ASSISTANCE TO DEPARTMENTAL REPRESENTATIVE**

- .1 Cooperate with Departmental representative on inspection of Work and provide assistance requested.
- .2 The Contractor shall supply necessary and satisfactory marine transportation to the Departmental representative from a local wharf to the dredge for site inspections or for such other reasons as the Departmental representative considers appropriate.
- .3 The Contractor shall commit also to supply wharf facilities and to obtain at its expense the required safe places (on land and water, as applicable) for its plant during the period of the work.

**END OF SECTION**