



## RETURN BIDS TO:

## RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid

Receiving - PWGSC

1550, Avenue d'Estimauville

1550, D'Estimauville Avenue

Québec

Québec

G1J 0C7

## INVITATION TO TENDER

## APPEL D'OFFRES

**Tender To: Public Works and Government Services  
Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

### Soumission aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

### 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 - Port Cap-aux-Meules	
<b>Solicitation No. - N° de l'invitation</b> EE517-180143/A	<b>Date</b> 2017-09-01
<b>Client Reference No. - N° de référence du client</b> EE517-180143	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$QCM-008-17195
<b>File No. - N° de dossier</b> QCM-7-40050 (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 2017-09-20</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Heure Avancée de l'Est HAE	
<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> Port de Cap-aux-Meules, Îles de la Madeleine, QC	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b> Voir doc.	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<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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## INVITATION TO TENDER

**Title: PORT OF CAP-AUX-MEULES DREDGING**

### IMPORTANT NOTICE TO BIDDERS

#### PROMPT PAYMENT IN THE CONSTRUCTION INDUSTRY

##### Prompt Payment Principles

Public Services and Procurement Canada advocates that construction-related payments should follow these three principles:

- Promptness: The department will review and process invoices promptly. If disputes arise, Public Services and Procurement Canada will pay for items not in dispute, while working to resolve the disputed amount quickly and fairly.
- Transparency: The department will make construction payment information such as payment dates, company names, contract and project numbers, publicly available; likewise, contractors are expected to share this information with their lower tiers.
- Shared responsibility: Payers and payees are responsible for fulfilling their contract terms including their obligations to make and receive payment, and to adhere to industry best practices.

For more information: <http://www.tpsgc-pwgsc.gc.ca/biens-property/divulgate-disclosure/psdic-ppci-eng.html>

#### SUPPORT THE USE OF APPRENTICES

The Government of Canada proposes to support the employment of apprentices in federal construction and maintenance projects. To support this initiative, a voluntary certification signaling the Bidder's commitment to hire and train apprentices is available on Appendix 4.

#### PWGSC UPDATE ON ASBESTOS USE

Effective April 1, 2016, all Public Works and Government Services Canada (PWGSC) contracts for new construction and major rehabilitation will prohibit the use of asbestos-containing materials. Further information can be found at <http://www.tpsgc-pwgsc.gc.ca/comm/vedette-features/2016-04-19-00-eng.html>

#### ADDITION OF TERMINOLOGY

Take note of the additional paragraph is included in clause R2810D identified in SC04.

#### DREDGES AND OTHER FLOATING EQUIPMENT

The Floating Plant Clause (FPC) and the General Instructions to Bidders GI07 Registry and Pre-qualification of Floating Plant are mandatory conditions with which bids for federal government dredging projects must comply. Canada is bound by these obligations.

#### INSURANCE TERMS

The Insurance Terms have been amended. Refer to the Supplementary Conditions SC01.

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### R2710T GENERAL INSTRUCTIONS - CONSTRUCTION SERVICES - BID SECURITY REQUIREMENTS (GI) (2017-04-27)

The following GI's are included by reference and are available at the following Web Site

<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

GI01	Integrity Provisions - Bid
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## **BID AND ACCEPTANCE FORM (BA)**

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## **APPENDIXES AND ANNEX**

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- Annex D Certificat of Insurance Form
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## **SPECIAL INSTRUCTIONS TO BIDDERS (SI)**

### **SI01 BID DOCUMENTS**

1. The following are the Bid Documents:

- a. Invitation to Tender - Page 1;
- b. Special Instructions to Bidders;
- c. General Instructions - Construction Services - Bid Security Requirements R2710T (2017-04-27)
- d. Clauses & Conditions identified in "Contract Documents";
- e. Drawings and Specifications;
- f. Bid and Acceptance Form and related Appendix(s); and
- g. Any amendment issued prior to solicitation closing.

Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

2. General Instructions - Construction Services - Bid Security Requirements R2710T is incorporated by reference and is set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

### **SI02 ENQUIRIES DURING THE SOLICITATION PERIOD**

1. Enquiries regarding this bid must be submitted in writing to the Contracting Authority named on the Invitation to Tender - Page 1 at e-mail address [jean.rochette@tpsgc-pwgsc.gc.ca](mailto:jean.rochette@tpsgc-pwgsc.gc.ca) as early as possible within the solicitation period. Except for the approval of alternative materials as described in G115 of R2710T, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may result in an answer NOT being provided.
2. To ensure consistency and quality of the information provided to Bidders, the Contracting Authority will examine the content of the enquiry and shall decide whether or not to issue an amendment.
3. All enquiries and other communications related to this bid sent throughout the solicitation period must be directed ONLY to the Contracting Authority named in paragraph 1. above. Failure to comply with this requirement may result in the bid being declared non-compliant.

### **SI03 SITE VISIT**

Not applicable

### **SI04 REVISION OF BID**

A bid may be revised by letter or facsimile in accordance with G110 of R2710T. The facsimile number for receipt of revisions is (418) 648-2209.

### **SI05 BID RESULTS**

1. A public bid opening will be held in the office designated on the Front Page "Invitation to Tender" (top left corner) for the receipt of bids shortly after the time set for solicitation closing.
2. The responsive bid carrying the lowest price will be recommended for contract award.

3. Following solicitation closing, bid results may be obtained by calling (418) 649-2888.

#### **SI06 INSUFFICIENT FUNDING**

In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may

- a. cancel the solicitation; or
- b. obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid.

#### **SI07 BID VALIDITY PERIOD**

1. Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders will have the option to either accept or reject the proposed extension.
2. If the extension referred to in paragraph 1. above is accepted, in writing, by all those who submitted bids, then Canada will continue immediately with the evaluation of the bids and its approvals processes.
3. If the extension referred to in paragraph 1. above is not accepted in writing by all those who submitted bids then Canada will, at its sole discretion, either
  - a. continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
  - b. cancel the invitation to tender.
4. The provisions expressed herein do not in any manner limit Canada's rights in law or under G111 of R2710T.

#### **SI08 CONSTRUCTION DOCUMENTS**

Not applicable

#### **SI09 INDUSTRIAL SECURITY RELATED REQUIREMENTS**

Not applicable

#### **SI10 WEB SITES**

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies  
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appl>

Buy and Sell  
<https://www.achatsetventes-buyandsell.gc.ca>

Canadian economic sanctions  
<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

Contractor Performance Evaluation Report (Form PWGSC-TPSGC 2913)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/2913.pdf>

Bid Bond (form PWGSC-TPSGC 504)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/504.pdf>

Performance Bond (form PWGSC-TPSGC 505)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/505.pdf>

Labour and Material Payment Bond (form PWGSC-TPSGC 506)

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/506.pdf>

Standard Acquisition Clauses and Conditions (SACC) Manual

<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

PWGSC, Industrial Security Services

<http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>

PWGSC, Code of Conduct and Certifications

<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

Construction and Consultant Services Contract Administration Forms Real Property Contracting

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>

Declaration Form

<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>

Trade agreements

<https://buyandsell.gc.ca/policy-and-guidelines/Policy-and-Legal-Framework/Trade-Agreements>

## **SI11 FINANCIAL BID**

The total amount of the bid excludes taxes

## **SI12 BID MANDATORY REQUIREMENTS**

Bids shall comply with all of the mandatory requirements in the invitation to tender documents in order to be declared responsive, including the mandatory requirements set out in other sections of the invitation to tender documents.

If Canada requests that the bidder submit information or documents within a time period specified in this clause or in a written request made to the bidder, failure to provide these documents or this information at Canada's request within the specified time period will result in the bid being deemed non-responsive.

The lowest compliant bid shall be recommended for a contract award.

<b><i>Mandatory requirements at bid closing</i></b>	
<b><i>Mandatory documents to be supplied with the bid</i></b>	
	<b><i>Reference</i></b>
<b><i>If any of the following documents relative to criteria 1.1 to 1.5 is missing at bid closing, the bid will be deemed non-responsive.</i></b>	
<b>1.1</b> Bidders shall complete the <u>Combined Price Table</u> .	Appendix 1 herein

<p><b>1.2 Bid security, in accordance with GI08 BID SECURITY REQUIREMENTS of the General Instructions to Bidders (R2710T).</b></p>	<ul style="list-style-type: none"> <li>• Clause GI09 of General Instructions to Bidders, R2710T</li> <li>• Clauses BA04 and BA07 of the Bid and Acceptance Form</li> <li>• See the bid bond form at the following Internet link: <a href="https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R/R2710T/11">https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R/R2710T/11</a></li> </ul>
<p><b>1.3 In order to comply with clause GI06, Registry and Pre-qualification of Floating Plant, of the General Instructions to bidders no R2710T:</b></p>	
<p><b>1.3.1 Submit a bid on the basis that <u>the dredges or other floating plant to be used for the work are registered in Canada.</u></b></p> <p>Bidders shall identify <b>the dredge(s) and other floating plant, (scows, tug(s) and supply vessel(s) and support equipment)</b>, that will be used by filling out <b>Annex A</b> and shall provide it with the bid.</p> <p>If necessary, bidders shall be able to demonstrate, within 48 hours of receipt of Canada's written request, that the dredges or floating plant are registered in Canada.</p>	<ul style="list-style-type: none"> <li>• Clause GI06 of General Instructions to Bidders, R2710T</li> <li>• Annex A herein</li> </ul>
<p><b>1.3.2 Append to its bid a copy of the <u>certificate of qualification issued by Industry Canada if the dredge(s) or other floating plant to be used for the work IS NOT (ARE NOT) MANUFACTURED IN CANADA.</u></b></p> <p>If at bid closing this certificate is not appended to the bid for any of the dredges or equipment not manufactured in Canada indicated in Annex A, the bid will be deemed <u>non-responsive</u>.</p> <p>See Industry Canada certificate application in Annex 1.</p>	<ul style="list-style-type: none"> <li>• Clause GI06 of General Instructions to Bidders, R2710T</li> <li>• Annex 1 herein</li> </ul>
<p><b>1.4 Mandatory Specifications of the equipment</b> Bidder shall take note that the dredging shall be executed with equipment stated in Article 2.1 from section 35 20 24 of the specifications.</p> <p>Bidder shall provide a description of the dredge(s) and dump scows to be used to do the work, which will allow Canada to verify if the proposed floating plants are compliant with specifications requirements. Include in <b>Annex A</b> the information on the dredge(s) and dump scows used.</p> <p>Failure to identify the dredge(s) and dump scows or to attach Annex A to the bid shall make the bid <u>non-responsive</u>.</p>	<ul style="list-style-type: none"> <li>• Article 2.1 from section 35 20 24 of the specifications</li> <li>• Annex A herein</li> </ul>



<p><b>1.5 <u>Experience of the Superintendent</u></b></p> <p>The proposed Superintendent shall have accumulated a minimum of twelve (12) months of experience in dredging work as Superintendent performed on floating equipment since January 2007 in commercial waterways and/or commercial ports.</p> <p>In order to demonstrate that this requirement is met, the Bidder shall fill out and submit with its bid Annex B. Clients identified as references may be contacted. If the Bidder does not submit the requested information within the prescribed time frame, or does not meet the minimum requirements, the bid will be <u>non-responsive</u>.</p>	<ul style="list-style-type: none"><li>• Annex B to this Invitation to Tender</li></ul>
<p><b>1.6 <u>Positionning system</u></b></p> <p>The bidder shall describe the positionning system that be used to performed the work.</p>	<ul style="list-style-type: none"><li>• Annex C to this Invitation to Tender</li></ul>

## CONTRACT DOCUMENTS (CD)

1. The following are the Contract Documents:

- a. Contract Page when signed by Canada;
- b. Duly completed Bid and Acceptance Form and any Appendices attached thereto;
- c. Drawings and Specifications;
- d. General Conditions and clauses
  - GC1 General Provisions – Construction Services R2810D (2017-08-17);
  - GC2 Administration of the Contract R2820D (2016-01-28);
  - GC3 Execution and Control of the Work R2830D (2015-02-25);
  - GC4 Protective Measures R2840D (2008-05-12);
  - GC5 Terms of Payment R2850D (2016-01-28);
  - GC6 Delays and Changes in the Work R2860D (2016-01-28);
  - GC7 Default, Suspension or Termination of Contract R2870D (2008-05-12);
  - GC8 Dispute Resolution R2880D (2016-01-28);
  - GC9 Contract Security R2890D (2014-06-26);
  - GC10 Insurance R2900D (2008-05-12);
- e. Allowable Costs for Contract Changes Under GC6.4.1 R2950D (2015-02-25);
- f. Supplementary Conditions
- g. Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
- h. Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
- i. Any amendment or variation of the contract documents that is made in accordance with the General Conditions.

2. The documents identified by title, number and date above are incorporated by reference and are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>

3. The language of the contract documents is the language of the Bid and Acceptance Form submitted.

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## **SUPPLEMENTARY CONDITIONS (SC)**

### **SC01 INSURANCE TERMS**

#### **SC01.1 Insurance requirements**

The Contractor must comply with the insurance requirements specified in SC01 - Insurance terms. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

#### **SC01.2 Marine liability insurance**

1. The Contractor must obtain Protection & Indemnity (P&I) insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection & Indemnity Associations or with a fixed market in an amount of \$ 10,000,000.00. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph 2 below.
2. The Contractor must obtain Worker's Compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the Territory or Province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is assessed any additional levy, extra assessment or super-assessment by a Worker's Compensation Board, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The Protection and Indemnity insurance policy must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
  - (b) Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Transport Canada and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
  - (c) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.
  - (d) Cross Liability/Separation of Insured: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

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### **SC01.3 Commercial General Liability Insurance**

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - (c) Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - (d) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - (e) Cross Liability/Separation of Insured: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - (f) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - (g) Employees and, if applicable, Volunteers must be included as Additional Insured.
  - (h) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
  - (i) Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
  - (j) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
  - (k) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

### **SC02 APPLICABILITY OF OPTIONS (UNFUNDED OPTIONS)**

1. The Contractor acknowledges that Canada has an irrevocable option that may be exercised, in whole or in part, to obtain the optional services described in article 1.3.6 and 1.3.7 of Section 35 20 24 and to ask the Contractor to perform the said work in accordance with the conditions contained or mentioned in the said document, at the unit price specified in the unit price table (Combined Price Form);
2. Option is applicable at all times over the term of the contract;
3. NOTICE given to the Contractor for the applicability of option:

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If Canada decides to exercise the option above indicated, the Departmental Representative shall give the Contractor a verbal notice within 15 days of the start of the optional work, which notice will be followed within two (2) weeks by an amendment to the contract. The work shall be continuous without interruption.

### **SC03 PRICE JUSTIFICATION**

In the event that the Bidder's bid is the sole responsive bid received, the Bidder must provide, on Canada's request, one or more of the following price justification:

- a. a current published price list indicating the percentage discount available to Canada; or
- b. a copy of paid invoices for the like quality and quantity of the goods, services or both sold to other customers; or
- c. a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc., and profit; or
- d. price or rate certifications; or
- e. any other supporting documentation as requested by Canada.

### **SC04 INTERPRETATION**

R2810D General Condition GC1.1.2 Terminology is modified to include the following,

“Architectural and Engineering Services”:

Mean's services to provide a range of investigation and recommendation reports, planning, design, preparation, or supervision of the construction, repair, renovation or restoration of a work and includes contract administration services, for real property projects.

“Construction Services”:

Means construction, repair, renovation or restoration of any work except a vessel and includes; the supply and erection of a prefabricated structure; dredging; demolition; environmental services related to a real property; or, the hire of equipment to be used in or incidentally to the execution of any construction services referred to above.

“Facility Maintenance Services”:

Means services related to activities normally associated with the maintenance of a facility and keeping spaces, structures and infrastructure in proper operating condition in a routine, scheduled, or anticipated fashion to prevent failure and/or degradation including inspection, testing, servicing, classification as to serviceability, repairs, rebuilding and reclamation, as well as cleaning, waste removal, snow removal, lawn care, replacement of flooring, lighting or plumbing fixtures, painting and other minor works.

Solicitation No – N° de l'invitation  
EE517-171780/A  
Client Ref No. – N° de réf. du client  
EE517-17-1780

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCM-6-39226

Buyer ID – id de l'acheteur  
qcm008

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## BID AND ACCEPTANCE FORM (BA)

### BA01 IDENTIFICATION

#### Port of Cap-aux-Meules dredging, Magdalen Island, QC

Solicitation no: EE517-180143/A

Project no: R.082054.002

### BA02 BUSINESS NAME AND ADDRESS OF BIDDER

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ PBN: \_\_\_\_\_

E-mail address: \_\_\_\_\_

### BA03 THE OFFER

The Bidder offers to Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the **TOTAL BID AMOUNT INDICATED IN APPENDIX 1**.

### BA04 BID VALIDITY PERIOD

The bid must not be withdrawn for a period of sixty (60) days following the date of solicitation closing.

### BA05 ACCEPTANCE AND CONTRACT

Upon acceptance of the Bidder's offer by Canada, a binding Contract will be formed between Canada and the Bidder. The documents forming the Contract will be the Contract Documents identified in "Contract Documents (CD)" section.

### BA06 CONSTRUCTION TIME

The Contractor must perform and complete the Work within sixty (60) days from the date of notification of acceptance of the offer.

### BA07 BID SECURITY

The Bidder must enclose bid security with its bid in accordance with GI08 - Bid Security Requirements of R2710T - General Instructions - Construction Services - Bid Security Requirements.

### BA08 SIGNATURE

\_\_\_\_\_  
Name and title of person authorized to sign on behalf of Bidder (Type or print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## APPENDIX 1 - COMBINED PRICE FORM

- 1) The prices per unit will govern in establishing the Total Extended Amount. Any arithmetical errors in this Appendix will be corrected by Canada.
- 2) Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

### UNIT PRICE TABLE

The Unit Price Table designates Work to which a Unit Price Arrangement applies.

- (a) Work included in each item is as described in the referenced specification section.
- (b) The Price per Unit shall not include any amounts for Work that is not included in that unit price Item.
- (c) The work included in the lump sums represents all Work that is not included in the Unit Price Table. The work
- (d) All the items in the following table for which the unit of measurement is "lot" and the estimated quantity is "1" are lump-sum items and are subject to the terms and conditions that apply to a lump-sum agreement in the general conditions. These items shall not be considered unit-price items.

### 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
1	35 20 24	Mobilization et demobilization	global	1	_____ \$	_____ \$
2	35 20 24	Dredging	m <sup>3</sup> mp	15 000	_____ \$	_____ \$
3	35 20 24	Disposal at sea	m <sup>3</sup> mp	15 000	_____ \$	_____ \$
<b>TOTAL EXTENDED AMOUNT FOR BASE WORK (TB)</b> Excluding GST and QST						_____ \$

Solicitation No – N° de l’invitation  
EE517-171780/A  
Client Ref No. – N° de réf. du client  
EE517-17-1780

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCM-6-39226

Buyer ID – id de l’acheteur  
qcm008

## 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
4	35 20 24	Mobilization and demobilization of offloading equipment (optional)	global	1	_____ \$	_____ \$
5	35 20 24	Wharf dumping (optional)	m <sup>3</sup>	15 000	_____ \$	_____ \$
<b>TOTAL EXTENDED AMOUNT FOR OPTIONAL WORK (TO)</b> Excluding GST and QST						_____ \$

<b>TOTAL BID AMOUNT (TB + TO)</b> Excluding GST and QST	_____ \$
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Solicitation No – N° de l’invitation  
EE517-171780/A  
Client Ref No. – N° de réf. du client  
EE517-17-1780

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCM-6-39226

Buyer ID – id de l’acheteur  
qcm008

### APPENDIX 3 - LISTING OF SUBCONTRACTORS

- 1) In accordance with GI07 - Listing of Subcontractors and Suppliers of R2710T- General Instructions - Construction Services - Bid Security Requirements, the Bidder should provide a list of Subcontractors with his Bid.
- 2) The Bidder should submit the list of Subcontractors and for any portion of the Work valued at 20% or greater of the submitted Bid Price.

	Subcontractor	Division	Estimated value of work
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

## APPENDIX 4 - VOLUNTARY CERTIFICATION TO SUPPORT THE USE OF APPRENTICES

(page 1 of 2)

### PUBLIC WORKS AND GOVERNMENT SERVICES CANADA APPRENTICE PROCUREMENT INITIATIVE

1. To encourage employers to participate in apprenticeship training, Bidders, bidding on construction and maintenance contracts by Public Works and Government Services Canada (PWGSC) are being asked to sign a voluntary certification, signaling their commitment to hire and train apprentices.
2. Canada is facing skills shortages across various sectors and regions, especially in the skilled trades. Equipping Canadians with skills and training is a shared responsibility. The Government of Canada made a commitment to support the use of apprentices in federal construction and maintenance contracts. Contractors have an important role in supporting apprentices through hiring and training and are encouraged to certify that they are providing opportunities to apprentices as part of doing business with the Government of Canada.
3. The Government of Canada is encouraging apprenticeships and careers in the skilled trades. In addition, the government offers a tax credit to employers to encourage them to hire apprentices. Information on this tax measure administered by the Canada Revenue Agency can be found at: [www.cra-arc.gc.ca](http://www.cra-arc.gc.ca). Employers are also encouraged to find out what additional information and supports are available from their respective provincial or territorial jurisdiction.
4. Signed certifications on page 2 of 2 will be used to better understand contractor use of apprentices on Government of Canada maintenance and construction contracts and may inform future policy and program development.
5. The Contractor hereby certifies the following:

In order to help meet demand for skilled trades people, the Contractor agrees to use, and require its subcontractors to use, reasonable commercial efforts to hire and train registered apprentices, to strive to fully utilize allowable apprenticeship ratios \* and to respect any hiring requirements prescribed by provincial or territorial statutes

The Contractor hereby consents to this information being collected and held by PWGSC, and Employment and Social Development Canada to support work to gather data on the hiring and training of apprentices in federal construction and maintenance contracts.

To support this initiative, a voluntary certification signaling the Contractor’s commitment to hire and train apprentices is available at page 2 of 2.

If you accept fill out and sign page 2 of 2.

*\* The journey person-apprentice ratio is defined as the number of qualified/certified journeypersons that an employer must employ in a designated trade or occupation in order to be eligible to register an apprentice as determined by provincial/territorial (P/T) legislation, regulation, policy directive or by law issued by the responsible authority or agency.*

Solicitation No – N° de l’invitation  
EE517-171780/A  
Client Ref No. – N° de réf. du client  
EE517-17-1780

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCM-6-39226

Buyer ID – id de l’acheteur  
qcm008

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## Voluntary Certification

(To be filled out and returned with bid on a voluntary basis)

(page 2 of 2)

*Note: The contractor will be asked to fill out a report every six months or at project completion as per sample  
“Voluntary Reports for Apprentices Employed during the Contract” provided at Annex C*

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Company Name: \_\_\_\_\_

Company Legal Name: \_\_\_\_\_

Solicitation Number: \_\_\_\_\_

Number of company employees: \_\_\_\_\_

Number of apprentices planned to be working on this contract: \_\_\_\_\_

Trades of those apprentices:

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## ANNEX A - FLOATING PLANT DESCRIPTION

### Dredges and Other Floating Equipment

The Bidder declares, by the fact of filling in the following tables, that the named equipment are entirely at his disposal, and that he is able to meet performances and capacities as stated below considering the materials and conditions related to this project. The Bidder must understand that a contract award from Public Works & Government Services Canada does not imply an acceptance of the claimed performances or capacities but only confirms that the equipment meet the requirements of the floating plant clauses.

#### DREDGE (S)

	<i>Main dredge</i>	<i>Secondary dredge (if required)</i>
<i>Dredge name</i>		
<i>Registration number</i>		
<i>Type of dredge</i>		
<i>If trailing suction hopper dredge: Hopper Capacity (m³)</i>		
<i>Draft (m)</i>		
<i>Dredging depth (m)</i>		
<i>Dredging capacity (m³/h)</i>		
<i>Manufacturing place *</i>		

**Annex A (continued)**

**SCOW (S) / SELF-PROPELLING SCOW (S)**

<i>Name</i>	<i>Registration number</i>	<i>Capacity (m³)</i>	<i>Draft (m)</i>	<i>Manufacturing Place *</i>

**TUG (S)**

<i>Name</i>	<i>Registration number</i>	<i>Engine (HP)</i>	<i>Draft (m)</i>	<i>Manufacturing Place *</i>

**SUPPLY VESSELS AND OTHERS FLOATING EQUIPMENT**

<i>Name</i>	<i>Registration number</i>	<i>Purpose</i>	<i>Draft (m)</i>	<i>Manufacturing Place *</i>

\* If manufacturing place is not Canada, append to your bid the certificate issued by Industry Canada

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**Annex A (continued)**

**CERTIFICATE OF QUALIFICATION**

Each floating equipment to be used in the course of the works **must be of Canadian manufacture and Canadian registry**. The Bidder must obtain a certificate of qualification from Industry Canada for any floating equipment which is not of Canadian manufacture. **A certified copy of the certificate must accompany the bid.** Requests related to the certification must be sent to :

Defence and Marine Director  
Aerospace, Defence and Marine Branch  
INDUSTRY CANADA  
C.D. Howe Building – room 733C  
235 Queen Street  
Ottawa, ON  
K1A 0H5

Attention : Mr. Phil Mickle  
Phone : (613) 617-1860  
E-mail : phil.mickle@canada.ca

The Director must have received any request at least fourteen (14) days before the closing bid date. The Industry Canada evaluated and recognized floating equipment may be accepted to work out a dredging project. Requests for certificates of qualification may be submitted by completing the Annex 1 here after.



## ANNEX B - EXPERIENCE OF THE SUPERINTENDENT

Reference Item 1.5, Requirements concerning experience of Superintendent of SI12, MANDATORY BID REQUIREMENTS, of this document. If there is not enough space, the bidder should use photocopies to include all the information.

Superintendent		
<i>Name of proposed Superintendent:</i>		
	Experience No. 1	Experience No. 2
		Experience No. 3
Dredging contract title and location		
Contract period (month/year to month/year) (See Note 1.)		
Name of client		
Role of Superintendent in the contract		

Note 1: The total length of the period, not counting overlapping of contracts, shall not be less than 12 months

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**ANNEX C - POSITIONNING SYSTEM DESCRIPTION**

Describe the positioning system that will be used to performed the Work. Specify trade-mark, model, precision, etc.

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**ANNEX D - CERTIFICATE OF INSURANCE** (Not required at solicitation closing)

**CERTIFICATE OF INSURANCE**

Page 1 of 2



Travaux publics et  
Services gouvernementaux  
Canada

Public Works and  
Government Services  
Canada

Description and Location of Work	Contract No. EE517-180143/001/QCM
<b>Port of Cap-aux-Meules dredging, Magdalen Island, QC</b>	Project No. R.082054.002

Name of Insurer, Broker or Agent	Address (No., Street)	City	Province	Postal Code
Name of Insured (Contractor)	Address (No., Street)	City	Province	Postal Code
Additional Insured <b>Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services</b>				

Type of Insurance	Insurer Name and Policy Number	Inception Date D / M / Y	Expiry Date D / M / Y	Limits of Liability		
<b>Commercial General Liability</b>				Per Occurrence \$	Annual General Aggregate \$	Completed Operations Aggregate \$
<b>Umbrella/Excess Liability</b>				\$	\$	\$
<b>Marine Liability</b>				\$		

I certify that the above policies were issued by insurers in the course of their Insurance business in Canada, are currently in force and include the applicable insurance coverage's stated on page 2 of this Certificate of Insurance, including advance notice of cancellation / reduction in coverage.

<div></div> Name of person authorized to sign on behalf of Insurer(s) (Officer, Agent, Broker)	<div></div> Telephone number
<div></div> Signature	<div></div> Date D / M / Y

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CERTIFICATE OF INSURANCE Page 2 of 2

**General**

The insurance policies required on page 1 of the Certificate of Insurance must be in force and must include the insurance coverage listed under the corresponding type of insurance on this page.

The policies must insure the Contractor and must include Her Majesty the Queen in Right of Canada as represented by the Minister of Public Works and Government Services as an additional Insured.

The insurance policies must be endorsed to provide Canada with not less than thirty (30) days notice in writing in advance of a cancellation of insurance or any reduction in coverage.

**Without increasing the limit of liability, the policies must protect all insured parties to the full extent of coverage provided. Further, the policies must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.**

**Commercial General Liability**

The insurance coverage provided must not be substantially less than that provided by the latest edition of IBC Form 2100.

The policy must either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:

- (a) Blasting.
- (b) Pile driving and caisson work.
- (c) Underpinning.
- (d) Removal or weakening of support of any structure or land whether such support be natural or otherwise if the work is performed by the insured contractor.

The policy must have the following minimum limits:

- (a) **\$5,000,000** Each Occurrence Limit;
- (b) **\$10,000,000** General Aggregate Limit per policy year if the policy contains a General Aggregate; and
- (c) **\$5,000,000** Products/Completed Operations Aggregate Limit.

Umbrella or excess liability insurance may be used to achieve the required limits.

**Marine Liability**

The insurance coverage must be provided by a Protection & Indemnity (P&I) insurance policy and must include excess collision liability and pollution liability.

The insurance must be placed with a member of the International Group of Protection & Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the *Marine Liability Act*, S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by the statutory requirements of the Territory or Province having jurisdiction over such employees.

The policy must waive all rights of subrogation against Canada as represented by Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.

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## **ANNEX E - VOLUNTARY REPORT FOR APPRENTICES EMPLOYED DURING THE CONTRACT (Sample)**

*(This report is not required at bid deposit)*

The Contractor should compile and maintain records on the number of apprentices and their trade that were hired to work on the contract.

The Contractor should provide this data in accordance with the format below. If no apprentices were hired during the contract period, the Contractor should still provide a "nil" report.

The data should be submitted to the Contracting Authority either six months after contract award or at the end of the contract, whichever comes first.

Number of apprentices hired	Trade

(Add rows as needed)

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## **ANNEX 1 – REQUEST FOR CERTIFICATE OF QUALIFICATION OF FLOATING PLANT**

(The Bidder will use a separate sheet for each unit of floating plant.)

1. Name and address of owner:
2. Name and address of operator:
3. Name of unit:
4. Canadian registry no.:
5. Type of unit (dredge, tug, scow, pontoon, etc.):
6. Date of Canadian registry:
7. Date unit originally built:
8. Shipyard where unit originally built:
9. Record of work done to unit in Canada. For each major job, show:
  - Date:
  - Shipyard:
  - Type of work:
  - Cost:
  - Country of origin of equipment installed:
10. If unit has changed ownership, show name and current address of previous owner(s) for each modification referred to in item 9 on a separate page.

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Signature

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Date

*Corporate Seal*

<b><u>DIVISIONS</u></b>	<b><u>SECTIONS</u></b>	<b><u>NUMBER OF PAGES</u></b>
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**DIVISION 01**

**General Requirements**

01 11 01	Work-Related General Information	2
01 33 00	Submittal Procedures	2
01 35 29.06	Health and Safety Requirements	18
01 35 43	Environmental Procedures	5
01 52 00	Construction Facilities	3
01 74 11	Cleaning	1

**DIVISION 35**

**Waterway and Marine**

35 20 24	Dredging	18
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**APPENDICES**

Appendix A	Immersion Site
Appendix B	Particle-size Distribution of Dredged Material
Appendix C	Example of ASCII Bathymetry File (x,y,z)
Appendix D	Environmental Mitigation Measures
Appendix E	Ocean Dumping Permit
Appendix F	Transshipment Area

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**DRAWINGS**

Drawing N° QU-17001-M

**END OF SECTION**

**Part 1            General**

**1.1            WORK COVERED BY CONTRACT DOCUMENTS**

- .1    The work involves dredging the access channel to the principal harbour in Cap-aux-Meules. Based on soundings performed on May 17<sup>th</sup> 2017 the volume to be dredged is approximately 15,000 CMPM.
- .2    The dredged material shall be dumped at the indicated disposal site. (See Appendix A).
- .3    The Contractor must perform the work within the time frames indicated in the Contract documents.
- .4    An option is provided in the contract to dispose of a certain quantity of dredged material on land. See subparagraph 1.3.7.6 of section 35 20 24.
- .5    Disposal at sea is authorized at site PBCM-1 as of August 11, 2017. It is forbidden to dispose of sediments at sea between July 16 and August 10.
- .6    If the Departmental Representative has requested land disposal of the sediments, dredging and land disposal may only occur after September 1 due to tourist traffic.

**1.2            WORK BY OTHERS**

- .1    Cooperate with other Contractors in carrying out their respective operations and follow instructions from the Departmental Representative.
- .2    Coordinate work with that of other Contractors. If any part of the work under this Contract, or the results thereof, depends upon the work of another Contractor, report promptly to the Departmental Representative, in writing, any issues that may interfere with operations.

**1.3            CONTRACTOR USE OF PREMISES**

- .1    Use of the premises is restricted to the areas necessary for the work to allow:
  - .1    Occupancy by the Departmental Representative;
  - .2    Partial occupancy by the Departmental Representative;
  - .3    Use of premises by navigators.
- .2    Coordinate use of premises with port authorities, following the instructions of the Departmental Representative.
- .3    Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4    Carry out the work in a way that it does not interfere with normal use or activities or compromise the safety of users.
- .5    The Contractor must take all necessary precautions to ensure that all encounters with ships are as safe as possible. The Contractor must communicate properly with Marine Communications and Traffic Services (MCTS) at all times.



- .6 Take all necessary steps to ensure the continuity of existing services and allow authorized persons and vehicles to access the property.
- .7 The use of marine installations should be coordinated with the port authorities.

#### **1.4 OCCUPANCY BY THE DEPARTMENTAL REPRESENTATIVE**

- .1 The Departmental Representative will occupy the premises during the entire period of operations and will continue normal activities during that time.
- .2 Cooperate with the Departmental Representative in scheduling operations to minimize conflict and facilitate the Departmental Representative's usage of the premises.

#### **1.5 REQUIRED DOCUMENTS**

- .1 Keep one copy of each of the following documents on the premises:
  - .1 Contract Drawings
  - .2 Specifications
  - .3 Addenda
  - .4 Reviewed Shop Drawings
  - .5 List of Outstanding Shop Drawings
  - .6 Change Orders
  - .7 Other Modifications to the Contract
  - .8 Field Test Reports
  - .9 Copy of Approved Work Schedule
  - .10 Health and Safety Plan and other safety-related documents
  - .11 Other documents as specified

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not used.

### **Part 3 Execution**

#### **3.1 HARBOUR CHARGES FOR CONTRACTORS**

- .1 For the entire contract period, and exclusively within the framework of this project, the Contractor shall be exempt from fees charged by public ports and Transport Canada public port facilities, i.e. the berthage charges, storage charges (at the location defined by the Departmental Representative), harbour dues and wharfage and transfer charges applicable by the port facility covered by these works  
(<https://www.tc.gc.ca/eng/programs/ports-menu-public-port-fees-756.htm>).

**END OF SECTION**

**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 35 20 24 - Dredging

**1.2            ADMINISTRATIVE**

- .1        Submit the required documents and samples to the Departmental Representative for review. Submit them promptly and in order so as not to cause delays in operations. Failure to submit on time is not considered sufficient reason for an extension of the contract and no requests for extension for this reason will be accepted.
- .2        Do not start operations that require documents or samples until said submittals have been fully reviewed and approved.
- .3        Measurements shown on shop drawings, product data, samples and mock-ups must be indicated in metric units (SI).
- .4        Verify documents before submitting them to the Departmental Representative. This preliminary review indicates that the necessary requirements have been or will be determined and verified, and that each submittal has been checked against the requirements of the work and contract documents. Submittals not stamped, signed, dated and associated with a specific project will be returned without being examined and shall be considered rejected.
- .5        At the time of submission, notify the Departmental Representative, in writing, of any deviations from the Contract Document requirements, stating the reasons for the deviations.
- .6        Verify field measurements against those of adjacent affected operations.
- .7        The fact that the submitted documents and samples are examined by the Departmental Representative do not release the Contractor from his responsibility to deliver complete and accurate submittals.
- .8        The fact that the submitted documents and samples are examined by the Departmental Representative does not release the Contractor from his responsibility to deliver submittals that meet the requirements of the contract documents.
- .9        Keep one reviewed copy of each submittal on site.

**1.3            CERTIFICATES AND MINUTES**

- .1        Submit relevant documents required by the *Commission des normes, de l'équité, de la santé et de la sécurité au travail* (CNESST) immediately after the Contract is awarded.

**Part 2            Products**

**2.1                NOT USED**

.1            Not used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not used.

**END OF SECTION**

**Part 1            General**

**GENERAL NOTE:** in this section the term “site” includes all the facilities located at the site where the work is taking place (construction site, buildings, access, infrastructure, parking, bays, etc.).

**1.1            RELATED REQUIREMENTS**

- .1        Section 35 20 24 - Dredging

**1.2            REFERENCES**

- .1        Province of Québec
  - .1        *Act respecting occupational health and safety* (L.R.Q., c. S-2.1) (*Loi sur la santé et la sécurité au travail*).
  - .2        *Safety Code for the construction industry* (L.R.Q., c. S-2.1, r.4) (*Code de sécurité pour les travaux de construction*).

**1.3            ACTION AND INFORMATION SUBMITTALS**

- .1        Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Submit to the Departmental Representative and the CNESST the site-specific prevention program, as outlined in the “GENERAL REQUIREMENTS” subsection, at least 10 days prior to the start of operations.
- .3        The Departmental Representative will review the Contractor’s site-specific prevention program and provide comments to the Contractor within 10 days of receipt of the document. The Contractor must revise the plan as needed and resubmit to the Departmental Representative within 5 days of receipt of comments. The Departmental Representative reserves the right not to authorize the start of operations on the work site as long as the content of the prevention program is not satisfactory. The Contractor must update his prevention program and resubmit it to the Departmental Representative if the scope of work changes, if the working methods of the Contractor differ from the initial plans, or for any other applicable new condition.
- .4        The Departmental Representative’s review of the Contractor’s site-specific prevention program should not be construed as approval of the program and does not diminish the Contractor’s overall responsibility for health and safety during operations.
- .5        Submit the results of on-site health and safety inspections by the Contractor’s authorized representative to the Departmental Representative.
- .6        Submit to the Departmental Representative within 24 hours a copy of all inspection reports, correction notices or recommendations issued by federal, provincial and territorial Health and Safety Inspectors.
- .7        Submit to the Departmental Representative within 24 hours the investigation reports for any accident involving injury and any incident exposing a potential hazard. The investigation report will contain at least the following:
  - .1        Date, time and place of accident;
  - .2        Name of the sub-contractor involved in the accident;

- .3 Number of persons involved and condition of wounded;
- .4 Identification of witnesses;
- .5 Detailed description of tasks performed at the time of the accident;
- .6 Equipment being used to accomplish the tasks performed at the time of the accident;
- .7 Corrective measures taken immediately after the accident;
- .8 Causes of the accident;
- .9 Preventive measures that have been put in place to prevent a similar accident.
- .8 Submit to the Departmental Representative the WHMIS MSDS – Material Safety Data Sheets in accordance with Section 01 33 00 – Submittals. The Contractor must also keep one copy of these documents on the construction site.
- .9 Medical Supervision: where required by legislation, regulations or prevention programs, submit a certification of medical supervision for construction site personnel to the Departmental Representative before work begins, and submit additional certifications for any new construction site personnel.
- .10 Submit an on-site Emergency Response Plan to the Departmental Representative at the same time as the prevention program. The Emergency Response Plan must contain the elements listed in the “GENERAL REQUIREMENTS” subsection of this document.
- .11 Submit to the Departmental Representative copies of all training certificates required for the application of the prevention program, in particular (if applicable) for the following:
  - .1 Workplace first aid and cardiopulmonary resuscitation;
  - .2 Work likely to release asbestos dust (mandatory for all work where asbestos is present);
  - .3 Work in confined spaces (mandatory for all work in confined spaces);
  - .4 Lockout/tagout procedures (mandatory for all work requiring lockout);
  - .5 Safe operation of forklifts (mandatory for all forklift usage);
  - .6 Safe operation of elevating hydraulic platforms (mandatory for the use of all elevating hydraulic platforms);
  - .7 Any other requirement of Regulations or the safety program.
- .12 In addition, the certifications of the *Cours de santé et sécurité générale pour les chantiers de construction* (General Health and Safety Training for Construction Sites) shall be available on demand on the construction site.
- .13 Engineer’s plans and certificates of compliance: The Contractor must submit to the Departmental Representative and to the *Commission des normes, de l’équité, de la santé et de la sécurité du travail* (CNESST) a copy, signed and sealed by an engineer, of all plans and certificates of compliance required under the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction* or by any other legislation or regulation or by any other clause in the specifications or in the contract documents. The Contractor must also submit a certificate of compliance signed by an engineer once the facility for which these plans were prepared has been completed and before a person uses the facility. A copy of these documents must be available on-site at all times.

#### **1.4 FILING OF NOTICE OF CONSTRUCTION SITE OPENING**

- .1 A notice of construction site opening must be submitted to the CNESST before work begins. A copy of said notice and acknowledgment of receipt from the CNESST shall be submitted to the Departmental Representative.
- .2 Upon completion of the work, a notice of construction site closing must be submitted to the CNESST, and a copy sent to the Departmental Representative.
- .3 The Contractor shall assume the role of Principal Contractor while within the limits of the construction site and anywhere else where he must perform work related to this project. The Contractor shall assume the responsibility of being the Principal Contractor of the project and identify himself as such in the notice of the construction site opening he provides to the CNESST.
- .4 The Contractor shall divide and mark the construction site adequately in order to define time and space at all times throughout the course of the project.

#### **1.5 RISK ASSESSMENT**

- .1 The Contractor must perform a site-specific safety hazard assessment for the project.

#### **1.6 MEETINGS**

- .1 Organize and lead a Health and Safety meeting with the Departmental Representative before work begins.
- .2 A decision-making representative of the Contractor must attend any meetings at which construction site health and safety issues are to be discussed.
- .3 If it is anticipated that there will be 25 workers or more on the construction site at any given time, the Contractor shall set up a work site committee and hold meetings as required by the *Safety Code for the construction industry* (S-2.1, r. 4) (*Code de sécurité pour les travaux de construction*). A copy of the committee meeting minutes must be provided to the Departmental Representative no more than 5 days after the committee meeting.

#### **1.7 REGULATORY REQUIREMENTS**

- .1 Comply with all legislation, regulations and standards applicable to the construction site and its related activities.
- .2 Comply with specified standards and regulations to ensure safe operations on a site containing hazardous or toxic materials.
- .3 Always use the most recent version of the standards specified in the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*), notwithstanding the date indicated in that Code.

#### **1.8 COMPLIANCE REQUIREMENTS**

- .1 Comply with the *Act respecting occupational health and safety* (L.R.Q., c. S-2.1) (*Loi sur la santé et la sécurité du travail*) and the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*) in addition to respecting all the requirements of this specification manual.

## **1.9 RESPONSIBILITIES**

- .1 The Contractor must acknowledge and assume all the tasks and obligations which are normally performed by a Principal Contractor under the *Act respecting occupational health and safety* (L.R.Q., ch. S-2.1) (*Loi sur la santé et la sécurité du travail*) and the *Safety Code for the construction industry* (S- 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .2 The Contractor must be responsible for the health and safety of persons on the construction site, the safety of property on construction site and the protection of the environment and persons adjacent to the construction site to the extent that they may be affected by conduct of the work.
- .3 No matter the size or location of the construction site, the Contractor must clearly define the limits of the construction site by physical means and respect all specific regulations applicable in this regard. The means chosen to define the limits of the construction site must be submitted to the Departmental Representative.
- .4 Comply with the safety requirements of contract documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with the site-specific Prevention Plan. Ensure employees do the same.

## **1.10 WORK PERFORMED BY EXTERNAL CONTRACTORS**

- .1 The Contractor must take the necessary steps to protect the health and safety of external contractors that have no contractual link with the Contractor but have been mandated by the Departmental Representative to perform certain work. In return, these external contractors are required to submit to the authority of the Contractor (Principal Contractor). A subordination agreement must be signed by the Contractor and by each external contractor to this effect and submitted to the Departmental Representative prior to the start of the work of each contractor (see the wording in the HEALTH AND SAFETY SUBORDINATION AGREEMENT section).

## **1.11 GENERAL REQUIREMENTS**

- .1 Before starting operations, prepare a site-specific prevention program based on the hazards identified according to the “HAZARD ASSESSMENT” and “RISKS INHERENT TO THE WORKSITE” sections in this document. Apply this program in its entirety from the start of the project until all personnel have been released from the construction site.
- .2 The prevention program shall take into consideration the specific characteristics of the project and cover all the work to be executed on the construction site.
- .3 The safety program must include at least the following:
  - .1 Company health and safety policy;
  - .2 Description of the stages of the work;
  - .3 Total costs, schedule and projected workforce curves;
  - .4 Flow chart of health and safety responsibilities;
  - .5 Physical and material layout of the construction site;
  - .6 Risk assessment for each stage of the work, including preventive measures and the procedures for applying them;

- .7 Identification of the preventive measures relative to the specific risks inherent to the work site indicated in the "RISKS INHERENT TO THE WORK SITE" section;
- .8 Identification of preventive measures for the health and safety of employees and/or public at the work site as indicated in the "SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND PUBLIC" section;
- .9 Training requirements;
- .10 Procedures in case of accident/injury;
- .11 Written agreement from all parties to comply with the safety program;
- .12 Construction site inspection checklist based on the preventive measures;
- .13 Emergency response plan containing at least the following:
  - .1 Construction site evacuation procedures;
  - .2 Identification of resources (police, firefighters, ambulance services, etc.);
  - .3 Identification of persons in charge of the construction site;
  - .4 Identification of the first-aid attendants;
  - .5 Communication organizational chart (including the Departmental Representative and the person responsible for the site);
  - .6 Training required for those responsible for applying the plan;
  - .7 Any other information needed, given the construction site's characteristics.
- .14 If available, the Departmental Representative will provide the evacuation procedures to the Contractor, who shall then coordinate the construction site procedure with that of the site and submit it to the Departmental Representative.
- .4 The Departmental Representative may indicate, in writing, deficiencies in or concerns about the prevention program and may request resubmission with correction of deficiencies or concerns.
- .5 In addition to the prevention program, during the course of the work the Contractor shall develop and submit to the Departmental Representative specific written procedures for any high-risk operations (for example: demolition procedures, specific installation procedures, lifting plans, procedures for entering a confined space, procedures for shutting off electric power, etc.) or at the request of the Departmental Representative.
- .6 The Contractor shall plan and organize work so as to eliminate danger at the source or ensure collective protection, thereby minimizing the use of personal protective equipment.
- .7 Equipment, tools and protective gear that cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.
- .8 All mechanical equipment (including, but not limited to, hoisting devices for persons or materials, excavators, concrete pumps, and concrete saws) must be inspected before delivery to the construction site. Before using any mechanical equipment, the Contractor must obtain a certificate of compliance signed by a qualified mechanic dated less than a week prior to the arrival of each piece of equipment on the construction site; the certificate must remain on the construction site and be transmitted to the Departmental Representative upon request.



- .9 Ensure all inspections (daily, periodic, annual, etc.) for the hoisting devices for persons or materials required by the current standards are performed and be able to provide a copy of the inspection certificates to the Departmental Representative upon request.
- .10 If the Departmental Representative suspects a malfunction or the risk of an accident, they can at any time order the immediate stop of any piece of equipment and require an inspection by a specialist of their choice.
- .11 The Departmental Representative must be consulted regarding storage locations for gas cylinders and tanks on the construction site.

#### **1.12 RISKS INHERENT TO THE WORK SITE**

- .1 In addition to the risks related to the tasks to be performed, personnel responsible for the execution of the work on the work site will be exposed to the following risks inherent to the area where the work will be executed.
- .2 At the worksite there is, in particular, the presence of the following:
  - .1 Nearby body of water.
- .3 The Contractor shall perform a risk assessment of the site to validate this information and see if other risks are present on the site. The prevention program must include all identified risks.

#### **1.13 SPECIFIC REQUIREMENTS FOR THE HEALTH AND SAFETY OF OCCUPANTS AND THE PUBLIC**

- .1 The work site is occupied by employees and/or the public. Even though these people may not have access to the work site, the Contractor must consider the following specific requirements for the protection of employees and/or the public:
  - .1 Regular crossings of ferries, fishing boats and other types of boats through the work area.
- .2 These requirements, as well as any other measures provided by the Contractor to protect the health and safety of employees and/or the public on the site, must be included in the Contractor's site-specific safety plan.

#### **1.14 UNFORESEEN HAZARDS**

- .1 Whenever a source of danger not defined in the specifications or identified in the preliminary work site inspection arises as a result of or during the course of the work, the Contractor must immediately suspend work, notify the person responsible for health and safety on the work site, take the appropriate temporary measures to protect the workers and the public and notify the Departmental Representative, both verbally and in writing. Then the Contractor must make the necessary modifications to the prevention program or apply the appropriate security measures required to resume work.

#### **1.15 SAFETY OFFICER**

- .1 If the work site meets the requirements of article 2.5.3 of the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*), the Contractor needs to hire a competent person who is certified as a safety officer and appoint this person full time from the beginning of the work. This person's tasks shall

solely be dedicated to the management of health and safety on the construction site. This safety officer must:

- .1 Have held a safety officer certificate issued by the CNESST for at least a year;
  - .2 Have site-related working experience specific to the activities associated with the present project;
  - .3 Have working knowledge of occupational health and safety regulations in the workplace;
  - .4 Be responsible for completing the Contractor's Health and Safety training sessions and ensure that personnel who have not successfully completed required training are not permitted to enter the construction site to perform work;
  - .5 Be responsible for implementing, enforcing and carefully monitoring the Contractor's site-specific health and safety program;
  - .6 Be on the construction site at all times while work is being performed;
  - .7 Inspect the work and ensure compliance with all regulatory requirements and those indicated in the contract documents or the site-specific prevention program.
  - .8 Keep a daily log of actions taken and submit a copy to the Departmental Representative at least once a week.
- .2 The safety officer's certificate must be submitted to the Departmental Representative before work begins.
- .3 If the hiring of a safety officer is not required or if this person is hired by the Departmental Representative, the Contractor must designate a competent person to supervise and take responsibility for health and safety, no matter the size of the construction site or how many workers are present at the workplace. This person must remain on the work site at all times and be able to take all necessary measures to ensure the health and safety of persons and property on or in the immediate vicinity of the work site that may be affected by any of the work. The Contractor must submit the name of this person to the Departmental Representative before the start of work.

#### **1.16 POSTING OF DOCUMENTS**

- .1 Ensure applicable items, articles, notices and orders are posted in a conspicuous location on the construction site in accordance with provincial laws and regulations, and in consultation with the Departmental Representative.
- .2 At a minimum, the following information and documents must be posted in a location readily accessible to all workers:
  - .1 Notice of construction site opening;
  - .2 Identification of the Principal Contractor;
  - .3 Company OHS policy;
  - .4 Site-specific prevention program;
  - .5 Emergency plan;
  - .6 Minutes of work site committee meetings;
  - .7 Names of work site committee representatives;
  - .8 Names of the first-aid attendants;
  - .9 Action reports and correction notices issued by the CNESST.

**1.17 INSPECTION OF THE CONSTRUCTION SITE AND CORRECTION OF NON-COMPLIANCE**

- .1 Inspect the work site and complete the site inspection checklist and submit it to the Departmental Representative in accordance with the “ACTION AND INFORMATIONAL SUBMITTALS” subsection in this section.
- .2 Immediately take all necessary measures to correct any situations deemed non-compliant during the inspections mentioned in the previous paragraph or noticed by the authorities having jurisdiction or the Departmental Representative or their agent.
- .3 Submit to the Departmental Representative written confirmation of all measures taken to correct a situation that is non-compliant in terms of health and safety.
- .4 The Contractor shall give the safety officer or, where there is no safety officer, the person responsible for health and safety, full authority to order cessation and resuming of work as and when deemed necessary or desirable in the interests of health and safety. This person should always act so that the health and safety of the public and construction site workers and environmental protection takes precedence over cost and scheduling considerations.
- .5 The Departmental Representative or his agent may order cessation of work if the Contractor does not make the necessary corrections to conditions deemed non-compliant regarding health and safety conditions. Without limiting the scope of the preceding articles, the Departmental Representative may order cessation of work if, in his view, there is any hazard or threat to the health or safety of construction site personnel, the public or the environment.

**1.18 PREVENTION OF VIOLENCE**

- .1 Health and Safety Management on Construction Sites, from Public Works and Government Services Canada, includes measures designed to protect the psychological health of all persons who access the construction site where the work is taking place. Consequently, in addition to physical violence, verbal abuse, intimidation and harassment are not tolerated on the construction site. Any person who demonstrates such actions or behaviors will receive a warning and/or may be expelled from the construction site by the Departmental Representative.

**1.19 USE OF PUBLIC ROADS**

- .1 Where it is necessary to use a public road for operational reasons or to ensure the security of workers, occupants or the public (for example: the use of scaffolding, cranes, excavation work, etc.), the Contractor shall obtain, at their own expense, any authorizations and permits required by the relevant authority.
- .2 The Contractor shall install, at his own expense, any signage, barricades or other devices needed to ensure the safety and security of the public and the Contractor’s own facilities.

**1.20 LOCKOUT/TAGOUT**

- .1 For all work on equipment powered by electrical or other means, the Contractor shall draw up and implement a general lockout procedure and submit it to the Departmental Representative.

- .2 Supervisors and all workers affected by work requiring lockout/tagout must have received training on lockout procedures by a recognized organization; the Contractor must submit training certificates to the Departmental Representative.
- .3 Before starting the lockout/tagout procedure on a piece of equipment on an occupied site, the Contractor must coordinate his work with the representative of the site if interruption of the power sources can have affect the operations of the site or its occupants.
- .4 The Contractor must designate a qualified person as responsible for the lockout/tagout and must make sure that that person prepares a lockout sheet for each piece of equipment involved. The lockout sheet must be submitted to the Departmental Representative at least 48 hours before the beginning of the work. The Departmental Representative will review the lockout sheet with the site representative if the work takes place in an existing building.
- .5 The lockout sheets must contain at least the following information:
  - .1 Description of work to be performed;
  - .2 Identification, description and location of the circuit and/or equipment to lockout/tagout;
  - .3 Identification of energy sources for the equipment;
  - .4 Identification of each cutoff point;
  - .5 Sequence of lockout/tagout and the release of residual energy as well as the unlocking sequence;
  - .6 List of material needed for the lockout/tagout;
  - .7 Method of verifying zero energy;
  - .8 Name and signature of the person who prepared the lockout sheet.
- .6 When required by the Departmental Representative, the Contractor must record all of this information on the site representative's form.
- .7 At the time of lockout/tagout, the person responsible must date the sheet and ensure that each worker involved in the work on the circuit/equipment to lock out puts their name on the sheet and signs it.

#### **1.21 EXPOSURE TO ANIMAL FECAL MATTER**

- .1 Prior to all work where workers are likely to come in contact with materials contaminated by animal fecal matter, the Contractor must:
  - .1 Provide a written procedure for the work that respects all the requirements of the *Safety Code for the construction industry* (S-2.1, r- 4), (*Code de sécurité pour les travaux de construction*), as well as the requirements indicated in “*Des fientes de pigeons dans votre lieu de travail: méfiez-vous*” (Pigeon Droppings in your Workplace: Beware”) published by the CNESST ([http://www.csst.qc.ca/publications/100/Documents/DC100\\_1331\\_1web2.pdf](http://www.csst.qc.ca/publications/100/Documents/DC100_1331_1web2.pdf)).
  - .2 Demonstrate that they have all the necessary material and equipment on hand to follow the procedure and safely perform the work.

#### **1.22 RESPIRATORY PROTECTION**

- .1 The Contractor must ensure that all workers who must wear a respirator as part of their duties have received training for that purpose as well as fit testing of their respirator, in

accordance with CSA Standard Z94.4 *Selection, use and care of respirators*. The Contractor must submit the certificates of the fit testings to the Departmental Representative on demand.

### 1.23 FALL PROTECTION

- .1 Plan and organize work so as to eliminate the risk of falling at the source or ensure collective protection, thereby minimizing the use of personal protective equipment. When personal fall protection is required, workers must use a safety harness that complies with CSA standard CAN/CSA Z-259.10 M90. A safety belt must not be used as fall protection.
- .2 Every person using an elevating platform (scissors, telescopic mast, articulated mast, rotative mast, etc.) must have training for this equipment.
- .3 The use of a safety harness is mandatory for all elevating platforms with telescopic, articulate or rotating masts.
- .4 Define the limits of the danger zone around each elevating platform.
- .5 All openings in a floor or roof must be surrounded by a guardrail or provided with a cover fixed to the floor that is able to withstand the loads to which it could be exposed, regardless of the size of the opening and the height of the fall it may cause.
- .6 Everyone who works within two metres of a fall hazard of three metres or more must use a safety harness in accordance with the requirements of the standard, unless there is a guardrail or another device offering equivalent safety.
- .7 Despite the requirements of the standard, the Departmental Representative may require the installation of a guardrail or the use of a safety harness for specific situations presenting a risk of fall less than three metres.

### 1.24 CONFINED SPACES

- .1 In addition to the requirements of the provincial regulation applicable to confined spaces, the Contractor must respect the requirements in the following paragraphs.
- .2 The Departmental Representative reserves the right, depending on the nature of the risk of the confined spaces, of the work to be done and/or of the level of competence in confined spaces demonstrated by the Contractor, to require from the latter that they use the services of a firm specialized in health and safety or confined space work to analyze the risks inherent to the confined spaces, complete the entry permit, oversee the work or perform any other task related to the work in confined spaces.
  - .1 Safety officer for work in confined spaces
    - .1 The Contractor shall designate a health and safety officer for work in confined spaces. This person must be qualified, as defined in article 297 of the *Regulation respecting occupational health and safety* (S-2.1, r.13) (*Règlement sur la santé et la sécurité du travail*). This person must be present at all times during work in confined spaces and must make sure that all the requirements of the regulation, as well as the requirements specified in this section are respected. This person must, amongst other things, fill out and issue the entry permit for the confined spaces.

.2 Training

- .1 All persons having access to a confined space, including the person in charge and the supervisor of the confined space must have completed training on entry into confined spaces.
- .2 All persons who need to use supplied-air respirators to access a confined space must have completed training on the use of these apparatus.
- .3 All persons identified as rescuers for confined spaces must have completed training on confined space rescue.
- .4 All training required in the preceding paragraphs must be provided by a firm specialized in health and safety or in confined spaces.
- .5 The training certificates of the persons mentioned above must be submitted to the Departmental Representative before the work in confined spaces begins.

.3 Risk assessment of confined spaces

- .1 For each of the confined spaces listed at the beginning of this article, the Contractor must obtain the necessary information from the site representative and perform a risk assessment for each confined space that describes:
  - .1 The prevailing internal atmosphere, namely the concentration of oxygen, flammable gases and vapours, combustible or explosive dusts as well as the types of contaminants likely to be present in this confined space or the surrounding area;
  - .2 The fact that the natural or mechanical ventilation is insufficient;
  - .3 Materials present that may cause the worker to sink, be buried or drown, such as sand, grain or liquids;
  - .4 The interior configuration;
  - .5 Pipes and conduits that penetrate the confined space;
  - .6 Energy such as electricity, moving mechanical parts, heat or cold, noise and hydraulic energy;
  - .7 Ignition sources such as open flames, lighting, welding and cutting, static electricity or sparks;
  - .8 All other notable circumstances, such as the presence of vermin, rodents or insects.
- .2 These risk assessments must be performed by the health and safety officer for work in confined spaces. They must be submitted to the Departmental Representative for analysis at least 10 days before the proposed date for the work in confined spaces and must also include the following information:
  - .1 Location of the confined space;
  - .2 Description of the confined space;
  - .3 Dimensions of the confined space;
  - .4 Number, location and dimensions of the openings;
  - .5 Content of the confined space (material, substances, etc.)
  - .6 Date of the assessment;

- .7 Name and signature of the person who conducted the assessment and the name of their employer.
- .3 The Contractor must repeat this process for each of the confined spaces that they will build/install during this project.
- .4 Confined space entry permits
  - .1 At least 5 days before work in a confined space is scheduled to begin, the Contractor must submit for analysis to the Departmental Representative a copy of each entry permit specific to the confined spaces that they must access. The entry permits must be completed by the health and safety officer for work in confined spaces, and must contain at least the following information:
    - .1 Description of the work to be performed and the method of work, including the materials and tools needed to do this work;
    - .2 Description of the risks and corresponding preventive measures according to the risk assessment for the confined space and the risks inherent to the work to be carried out;
    - .3 Safety equipment that will be used to control the risks of confined spaces (e.g.: fan, gas detectors, local exhaust ventilation, personal protective equipment, etc.);
    - .4 Rescue procedure covering at least the following:
      - a) means of communication between the supervisor of the confined space and the workers in the confined space;
      - b) lifesaving equipment specific to each confined space;
      - c) confirmation that the municipal emergency response service has been advised of work in confined spaces occurring at this specific construction site and that they may intervene do to a confined space rescue; otherwise, the Contractor must identify the workers on the construction site that will act as rescuers in a confined space in the case where such rescuers must enter the confined space (rescue training is mandatory);
      - d) location of telephone and phone number of the municipal emergency response service (if applicable);
  - .5 Date of entry permit;
  - .6 Name of person who issued the permit and the name of their employer;
  - .7 Name of the confined space safety supervisor and the name of their employer;
  - .8 Names of the workers who must enter the confined space and the names of their employer/s.
- .2 In cases where the site representative requires the use of a confined space entry permit specific to their site, the Contractor must comply with the requirements of that permit.

.5 Medical supervision

- .1 The Contractor must submit to the Departmental Representative a medical certificate, dated within the last two years, for all persons who must use a supplied-air respirator. The certificate must confirm the ability of each person to use this type of apparatus.
- .2 It is recommended that the persons who must work in sewer collection systems or other similar systems be vaccinated against diphtheria, tetanus and hepatitis B.

.6 Requirements while working in confined spaces

- .1 Before entering a confined space, the health and safety officer for work in confined spaces shall take readings of oxygen concentration, flammable gases and all toxic gases likely to be present and record these readings on the entry permit required earlier.
- .2 No worker may access the confined space if the following requirements are not respected:
  - .1 The concentration of oxygen must be greater than or equal to 19.5% and less than or equal to 23%;
  - .2 Concentration of flammable gases or vapours must be less than or equal to 10% of the lower explosion limit;
  - .3 Concentration of other gases must not exceed the standards prescribed in annex I of the *Regulation respecting occupational health and safety* (S-2.1, r.13) (*Règlement sur la santé et la sécurité du travail*).
- .3 If the oxygen and gas concentrations measured respect the regulatory values, the health and safety officer for work in confined spaces must ensure that all preventive measures indicated on the permit are in place and then must complete the entry permit (date, time, signatures, etc.) before issuing the permit and allowing entry into the confined space.
- .4 Permits are only valid for one work shift; the Contractor must submit a new permit for each extra shift.
- .5 During the work inside the confined space, the gas concentration must be measured continuously and a gas detector must be installed in the breathing range of the workers. If the conditions inside the confined space are such that the workers might not hear/see the detector's alarm, the Contractor must find a way for the confined space safety supervisor to watch the concentration measures while continuing to measure them within the breathing range of the workers.
- .6 If workers are scattered far away from each other in a large confined space, the Contractor needs to provide additional gas detectors.
- .7 The Contractor must provide gas detectors and maintain them in good condition. They must be able to show that the gas detectors used have been calibrated and adjusted by the health and safety officer for work in confined spaces or by a qualified person, according to the manufacturer's recommendations. The Departmental Representative may have the accuracy of the measuring devices checked at any time. In the event of



- the failure of a detection device, work must be stopped immediately and all workers must leave the confined space.
- .8 The manufacturer's manual for the gas detectors must be available on the construction site.
  - .9 The Contractor shall provide a ventilation system to keep concentrations of contaminants below the regulatory limits.
  - .10 If the work being performed may generate contaminants (welding, use of products, etc.), the Contractor must, if needed, install an aspiration system for the contaminants so that air quality can be maintained at all times.
  - .11 If a detecting device alarm goes off, all workers must leave the confined space. The measured concentration levels must then be recorded on the entry permit. The Contractor must then find the source of contamination, neutralize it, ventilate the confined space to eliminate contaminant residues and authorize access to the confined space only once concentrations of oxygen and gas have returned to normal.
  - .12 Compressed gas cylinders and welding equipment must not be brought into confined spaces. This equipment must remain outside and must not block entrances or exits. All cylinders must be properly secured.
  - .13 Tools and electrical devices used to work in the confined spaces must be grounded and, when necessary, designed to be explosion-proof. All equipment must be connected to a ground fault interrupter outlet or to a step-down transformer. The Contractor shall, at their own expense, hire a qualified electrician to adjust power supplies and/or circuit breakers that they intend to use which do not meet these criteria.
  - .14 If hot work is to be performed, the Contractor must obtain a hot work permit and respect the conditions of said permit.
  - .15 The Contractor must assign a competent person to be a confined space safety supervisor. The supervisor shall be exclusively dedicated to these duties and must constantly remain outside of the confined space as long as there is a worker in it. They must also:
    - .1 Ensure that the entry permit has been filled out, signed and posted near the confined space;
    - .2 Be familiar with the work procedure specific to the confined space and ensure that it is respected;
    - .3 Ensure continuous communication with all workers in the confined space and ensure that all necessary emergency equipment is present;
    - .4 Have good knowledge of the ventilation systems and ensure their proper functioning for the duration of the work;
    - .5 Prevent access to unauthorized persons;
    - .6 Ensure that the conditions around the confined space zone do not pose a health or safety risk to the workers inside the confined space;
    - .7 Initiate emergency procedures if needed.

- .16 The same person may act as a confined space safety supervisor and as the health and safety officer for work in confined spaces, provided all requirements of both functions are met.

## **1.25 LIFTING LOADS WITH A CRANE OR BOOM TRUCK**

- .1 Unless otherwise specified, the Contractor must prepare a hoisting plan for all lifting operations done with a crane or a boom truck and submit it to the Departmental Representative at least 5 days before these lifting operations begin. The hoisting plan must contain at a minimum the information listed at the end of this section.
- .2 The hoisting plan must be signed and sealed by an engineer for the following lifting operations:
  - .1 Lifting of concrete panels;
  - .2 Lifting mechanical/electrical equipment on a roof or on the floors of a building;
  - .3 Lifting of loads encroaching on the public road;
  - .4 Lifting large dimensions or very heavy loads;
  - .5 Any other lifting operation, in accordance with the requirements of the Departmental Representative.
- .3 In addition to the above requirements, the Contractor must avoid passing loads over occupied zones on the site. When there is no alternative, the lifting plan must absolutely be signed and sealed by an engineer and must guarantee the security of the occupants of that zone; the plan must also be approved by the Departmental Representative. The Departmental Representative may, if he deems it necessary, require the work to be done at night or on weekends.
- .4 Once operations begin on the work site, the Contractor must submit the list of anticipated hoisting plans anticipated for the whole project to the Departmental Representative. That list must be updated as needed if changes occur during the work.
- .5 In addition to the mechanical service inspection certificate, the annual inspection certificate and the crane logbook must be kept aboard all cranes and boom truck cabs.
- .6 The entire lifting area must be marked off to prevent the entry of non-authorized persons.
- .7 The Contractor must carefully inspect all slings and lifting accessories and make sure that those in poor condition are destroyed and scrapped.
- .8 Compressed-gas cylinders must be lifted with a basket specially designed for this purpose.
- .9 Minimum content of lifting plan
  - .1 Sketch indicating at a minimum the location of the crane, surrounding facilities, zone covered by the lifting operations, pedestrian pathways and vehicular routes, security perimeter, etc.;
  - .2 Weight of loads;
  - .3 Dimensions of loads;
  - .4 List of lifting devices and weight of each;
  - .5 Total weight lifted;
  - .6 Maximum height of obstacles to clear;

- .7 Lift height relative to the surface of the roof (for loads to be placed on roofs);
- .8 Use of guide cables;
- .9 Type of crane used;
- .10 Crane capacity;
- .11 Boom length;
- .12 Boom angle;
- .13 Crane's radius of action;
- .14 Deployment of stabilizers;
- .15 Percentage of the crane's capacity used;
- .16 Verification confirmation of hoisting equipment;
- .17 Signed and dated identification of the crane operator and the person responsible for lifting operations.

## **1.26 WORK NEAR BODIES OF WATER**

- .1 For all work performed near a body of water (such as work above water, work on a wharf, work on the edge of a watercourse, etc.), the Contractor must respect the requirements of the following paragraphs in addition to those in article 2.10.13 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .2 The Contractor must include in their work safety measures to prevent any worker from falling in the water. The use of these measures should be favoured over the wearing of a life jacket.
- .3 Submit the following documents to the Departmental Representative before work begins. Each of these documents must contain at a minimum the information required in section 11 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*). If all or part of the work is to be done during the winter, the safety measures included in the required documents above must be adapted accordingly.
  - .1 Description of the body of water;
  - .2 Description of the work done near this body of water;
  - .3 Plan of transportation on water adapted to the work and to the characteristics of the body of water;
  - .4 Rescue plan adapted to the work and to the characteristics of the body of water.
- .4 Submit to the Departmental Representative the certificate of training required in article 11.2 of the *Safety Code for the construction industry* (S-2.1, r.4) (*Code de sécurité pour les travaux de construction*) for the following individuals:
  - .1 The person assigned to prepare the documents required in the preceding paragraph; and
  - .2 All people responsible for transport or rescue operations
- .5 If the rescue plan stipulates the use of a vessel, the Contractor must submit to the Departmental Representative all Transport Canada qualification cards or certificates for the individuals in the rescue team.

- .6 The Contractor must include in his weekly inspection checklist the devices required in articles 11.4 and 11.5 of the *Safety Code for the construction industry* (S 2.1, r.4) (*Code de sécurité pour les travaux de construction*).
- .7 Ensure that a rescue vessel is available, moored and in the water at each place where a worker may fall in the water. However, a vessel may serve more than one area on the same construction site provided the distance between any of these areas and the vessel is less than 30 m.
- .8 Where the work site is a wharf, a pier, a quay or any similar structure, a ladder with at least two (2) rungs below the surface of the water shall be installed on the front of the structure every 60 m.

**1.27 HEALTH AND SAFETY SUBORDINATION AGREEMENT**

- .1 The agreement to be filled out is on the next page; a completed and signed copy is to be submitted to the Departmental Representative.

HEALTH AND SAFETY SUBORDINATION AGREEMENT	
Project: _____ Address: _____	
<b>EXTERNAL CONTRACTOR</b>	
I hereby agree to submit to the authority of (name of the Principal Contractor's business) _____, who is the Principal Contractor for the project indicated above for the entire duration of our work on the construction site. Accordingly, I confirm that I have reviewed the Principal Contractor's prevention program, and I agree to:	
<ul style="list-style-type: none"><li>• Inform my employees of the content of the Principal Contractor's prevention program and ensure that its contents are complied with at all times;</li><li>• Apply the prevention program that is specific to the activities that we perform under this project;</li><li>• Inform the Principal Contractor of my actions or dealings on the construction site and obtain the Principal Contractor's agreement before the start of work; and</li><li>• Follow the health and safety directives provided by the Principal Contractor's representative on the construction site and, depending on requirements, attend training sessions and health and safety meetings organized by the Principal Contractor's representative.</li></ul>	
Name of Representative:	Name of Business:
Description of work to be done on the construction site:	
Approximate dates of work (start-end): Start:	End:
Signature _____ Date _____	
<b>PRINCIPAL CONTRACTOR</b>	
I hereby agree to allow the business (name of external contractor) _____ to perform the work under this project indicated above and, as Principal Contractor, to take the necessary steps to protect the health and safety of workers on the construction site. Should the Contractor repeatedly refuse or fail to comply with my directives, I agree to inform PWGSC's Departmental Representative of this and to provide documentary evidence of my actions or dealings with the Contractor.	
Name of Representative:	Name of Principal Contractor's business:
Signature: _____ Date: _____	
Submit a completed and signed copy to the Departmental Representative.	

**Part 1            General**

**1.1            PRECEDENCE**

- .1    The sections in Division 01 have precedence over the technical sections in the other divisions of this project.

**1.2            LEGAL REQUIREMENTS**

- .1    Before starting any dredging operations on the site, the Contractor must confirm to the Departmental Representative that a Disposal at Sea Permit has been issued for the project. If necessary, the Contractor must also have copies of the dredging permit and Disposal at Sea Permit, issued by Environment Canada, on hand and onboard all floating machinery. They must comply with these permits to the letter.
- .2    The Contractor shall keep on a copy of the specific authorization for the present work under the *Navigation Protection Act* (NPA) on site.

**1.3            DEFINITIONS**

- .1    Environmental pollution and damage: presence of chemical, physical, or biological elements or agents which adversely affect human health and welfare, unfavourably alter ecological balances of importance to human life, affect other species of importance to humans, or degrade the environment aesthetically, culturally and/or historically.
- .2    Environmental protection: prevention/control of pollution and habitat or environment disruption during construction.

**1.4            FIRES**

- .1    Fires and the burning of rubbish on the site/workplace are not permitted.

**1.5            WASTE DISPOSAL**

- .1    Do not dispose of waste materials and/or volatile materials such as mineral spirits and oil or paint thinners in waterways, storm drains or sanitary sewers. These materials must be managed and disposed of in accordance with the requirements of local authorities.

**1.6            INVASIVE SPECIES**

- .1    An exotic invasive species is, by definition, a species alien to the ecosystem where it is found, but able to breed and likely to have harmful effects on the economy, the environment or human health. In addition to plants, some animals, fungi and microorganisms are also considered threats to biodiversity.
- .2    Marine ecosystems are vulnerable to exotic or invasive species during work that requires floating equipment. To prevent the introduction of invasive species into the natural ecosystem, the following measures must be observed when working with floating equipment in a marine environment. The risks of introducing exotic species are

minimized when using clean marine equipment that has been stored on land prior to work inception. Thus:

- .1 For equipment that has been cleaned and stored on land just before work starts, the Contractor must:
  - .1 Submit to the Departmental Representative, in writing, a list of the equipment with location of storage area and expected launch date. The Departmental Representative is entitled to verify if the equipment was actually cleaned and stored on land prior to the beginning of work.
- .2 For equipment that is already in the water, the Contractor must demonstrate, at their own expense, that the floating equipment is free from invasive species just before bringing them to the work site. Thus:
  - .1 The Contractor must submit a written inspection report, immediately before bringing the equipment to the work site, certifying that it is free of invasive species. The inspection report must be prepared by a qualified biologist experienced in the identification of benthic fauna. Sampling must be performed by divers. The report must include, but is not limited to, the following information and data: list of inspected equipment (tugboats, barges, etc.), date and location of inspection, summary of sampling and identification protocols, list of samples, table of results, and a certification of the presence or absence of invasive species. The report must include photographs and bear the signature of the qualified biologist before it can be submitted to the Departmental Representative along with other necessary contract documents. This report must be submitted before the equipment is mobilized.
  - .2 Should the inspection report confirm the presence of invasive species, the Contractor is required to replace the equipment or completely clean the equipment at their own expense. A description of the cleaning work performed must be included in an additional (post-cleaning) inspection report with all the relevant information mentioned above.
  - .3 The Department reserves the right to seek a second expert opinion at any time. Should an invasive species be observed, the Contractor must suspend work, completely clean the affected equipment at their own expense and follow the procedure mentioned above.

## **1.7 POLLUTION CONTROL**

- .1 Control emissions from equipment and machinery in accordance with the requirements of local authorities.
- .2 Prevent fine materials and other foreign matter from contaminating air beyond the work site.
- .3 Have absorbent materials available at all time on the construction site/workplace in order to respond promptly in the case of a hazardous material spill.
- .4 In the case of an accidental marine spill, the Contractor must immediately notify the Regional Alert and Warning Network (Canadian Coast Guard) at 1-800-363-4735 and take all actions required to correct the situation and minimize the environmental impacts.

- .5 In addition the Contractor must have available on the dredge a spill control kit. The Contractor shall make use of the kit in the event of an oil spill and comply with paragraph 1.5.4 of this section. This kit should include at least the following components:
  - .1 One (1) or several salvage drums with minimum storage capacity of 285 litres (75 US gallons)
  - .2 One hundred (100) 340 g (12 oz. CAN) absorbent pads
  - .3 Fifteen (15) flotation collars 0.07 m wide and 1.2 m long
  - .4 Four (4) flotation collars 0.1 m wide and 3 m long
  - .5 Nine (9) kg of granular absorbent
  - .6 One (1) drain cover
  - .7 One (1) shovel
  - .8 Disposal bags
  - .9 Sealing or patching (capping) compound
- .6 Regarding the transportation, handling and storage of dangerous goods on vessels, the Contractor must comply with the *Canada Shipping Act* and all regulations made under the Act.
- .7 Do not dump excavated fill, waste material or debris in waterways.
- .8 Do not store oil products or other hazardous material less than 30 metres from the shore.
- .9 Perform vehicle maintenance and refueling at a minimum distance of 30 metres from the shore.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used

## **Part 3 Execution**

### **3.1 MITIGATION MEASURES**

- .1 Throughout the work, the Contractor shall implement rigorously all the requirements listed in this section as well as those included in Appendix D.

### **3.2 DREDGING, RELEASE AND TRANSPORT OF SEDIMENTS**

- .1 Whenever possible, prioritize the use of a grab dredger for dredging in order to limit sediment resuspension.
- .2 Execute work in such way as to minimize sediment resuspension.



- .3 Reduce the rate of rise and descent of the dredger. Avoid sudden movements of the dredger.
- .4 Avoid overfilling the barges to prevent liquid overflow and sediment spillage during transport to the offshore disposal site.
- .5 Avoid dredging, transporting and releasing sediment during unfavourable weather conditions (strong winds, storms, etc.) in order to prevent overflow and minimize sediment dispersion.
- .6 If debris is dredged, dispose of it on land at an authorized site.
- .7 Ensure that the bottom of the barge is leak-proof during the transport of sediments.
- .8 Do not fill barges to capacity during inclement weather in order to prevent sediment overflow during transportation.
9. The Contractor must be able to demonstrate that his equipment was inspected and is free of invasive species.
- .10 The Contractor must implement an Environmental Emergency Plan (EEP) to deal with spills involving oil products or other hazardous material. The EEP must be available on site and be communicated to all employees.
- .11 Perform a preliminary inspection of equipment and regular check-ups thereafter in order to ensure that the machinery is in good working order, clean and free of leaks. In case of failure, replace the equipment or repair it in appropriate locations identified in the Contractor's EEP.
- .12 Favour floating equipment that runs on biodegradable oil specially designed for that type of equipment.
- .13 Have on hand and maintain a spill emergency kit both near the dredge and in the refuelling areas. The kit must include all the necessary materials in sufficient quantities to recover all contaminants.
- .14 Do not dispose of volatile materials or other hazardous materials by releasing them into the water.
- .15 In the case of a spill, respond immediately to contain the leak and confine the hazardous materials. The area affected by the spill should be cleaned and the contaminated material removed and disposed of at an authorized site.
- .16 In the case of a spill, immediately report the incident to Environment Canada's emergency service (1-866-283-2333), to *Urgence Environnement du Québec* (1-866-694-5454) and the Canadian Coast Guard (1-800-363-4735).
- .17 Manage used oils and other contaminated waste in accordance with applicable regulations. This includes on-site storage, transportation and disposal.

- .18 If a marine mammal or a leatherback turtle is observed within 400 metres of the barges or dredger, dredging operations or sediment release must be stopped and boats must not move until the animal is more than 400 m away or until at least 20 minutes have lapsed since the last sighting.
- .19 The use of means or devices to scare marine mammals is prohibited.

**END OF SECTION**

**Part 1            General**

**1.1            PRECEDENCE**

- .1    The sections in Division 01 have precedence over the technical sections in the other divisions of this project.

**1.2            LEGAL REQUIREMENTS**

- .1    Before starting any dredging operations on the site, the Contractor must confirm to the Departmental Representative that a Disposal at Sea Permit has been issued for the project. If necessary, the Contractor must also have copies of the dredging permit and Disposal at Sea Permit, issued by Environment Canada, on hand and onboard all floating machinery. They must comply with these permits to the letter.
- .2    The Contractor shall keep on a copy of the specific authorization for the present work under the *Navigation Protection Act* (NPA) on site.

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- .1    Do not dispose of waste materials and/or volatile materials such as mineral spirits and oil or paint thinners in waterways, storm drains or sanitary sewers. These materials must be managed and disposed of in accordance with the requirements of local authorities.

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- .1    An exotic invasive species is, by definition, a species alien to the ecosystem where it is found, but able to breed and likely to have harmful effects on the economy, the environment or human health. In addition to plants, some animals, fungi and microorganisms are also considered threats to biodiversity.
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minimized when using clean marine equipment that has been stored on land prior to work inception. Thus:

- .1 For equipment that has been cleaned and stored on land just before work starts, the Contractor must:
  - .1 Submit to the Departmental Representative, in writing, a list of the equipment with location of storage area and expected launch date. The Departmental Representative is entitled to verify if the equipment was actually cleaned and stored on land prior to the beginning of work.
- .2 For equipment that is already in the water, the Contractor must demonstrate, at their own expense, that the floating equipment is free from invasive species just before bringing them to the work site. Thus:
  - .1 The Contractor must submit a written inspection report, immediately before bringing the equipment to the work site, certifying that it is free of invasive species. The inspection report must be prepared by a qualified biologist experienced in the identification of benthic fauna. Sampling must be performed by divers. The report must include, but is not limited to, the following information and data: list of inspected equipment (tugboats, barges, etc.), date and location of inspection, summary of sampling and identification protocols, list of samples, table of results, and a certification of the presence or absence of invasive species. The report must include photographs and bear the signature of the qualified biologist before it can be submitted to the Departmental Representative along with other necessary contract documents. This report must be submitted before the equipment is mobilized.
  - .2 Should the inspection report confirm the presence of invasive species, the Contractor is required to replace the equipment or completely clean the equipment at their own expense. A description of the cleaning work performed must be included in an additional (post-cleaning) inspection report with all the relevant information mentioned above.
  - .3 The Department reserves the right to seek a second expert opinion at any time. Should an invasive species be observed, the Contractor must suspend work, completely clean the affected equipment at their own expense and follow the procedure mentioned above.

## **1.7 POLLUTION CONTROL**

- .1 Control emissions from equipment and machinery in accordance with the requirements of local authorities.
- .2 Prevent fine materials and other foreign matter from contaminating air beyond the work site.
- .3 Have absorbent materials available at all time on the construction site/workplace in order to respond promptly in the case of a hazardous material spill.
- .4 In the case of an accidental marine spill, the Contractor must immediately notify the Regional Alert and Warning Network (Canadian Coast Guard) at 1-800-363-4735 and take all actions required to correct the situation and minimize the environmental impacts.

- .5 In addition the Contractor must have available on the dredge a spill control kit. The Contractor shall make use of the kit in the event of an oil spill and comply with paragraph 1.5.4 of this section. This kit should include at least the following components:
  - .1 One (1) or several salvage drums with minimum storage capacity of 285 litres (75 US gallons)
  - .2 One hundred (100) 340 g (12 oz. CAN) absorbent pads
  - .3 Fifteen (15) flotation collars 0.07 m wide and 1.2 m long
  - .4 Four (4) flotation collars 0.1 m wide and 3 m long
  - .5 Nine (9) kg of granular absorbent
  - .6 One (1) drain cover
  - .7 One (1) shovel
  - .8 Disposal bags
  - .9 Sealing or patching (capping) compound
- .6 Regarding the transportation, handling and storage of dangerous goods on vessels, the Contractor must comply with the *Canada Shipping Act* and all regulations made under the Act.
- .7 Do not dump excavated fill, waste material or debris in waterways.
- .8 Do not store oil products or other hazardous material less than 30 metres from the shore.
- .9 Perform vehicle maintenance and refueling at a minimum distance of 30 metres from the shore.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used

## **Part 3 Execution**

### **3.1 MITIGATION MEASURES**

- .1 Throughout the work, the Contractor shall implement rigorously all the requirements listed in this section as well as those included in Appendix D.

### **3.2 DREDGING, RELEASE AND TRANSPORT OF SEDIMENTS**

- .1 Whenever possible, prioritize the use of a grab dredger for dredging in order to limit sediment resuspension.
- .2 Execute work in such way as to minimize sediment resuspension.

- .3 Reduce the rate of rise and descent of the dredger. Avoid sudden movements of the dredger.
- .4 Avoid overfilling the barges to prevent liquid overflow and sediment spillage during transport to the offshore disposal site.
- .5 Avoid dredging, transporting and releasing sediment during unfavourable weather conditions (strong winds, storms, etc.) in order to prevent overflow and minimize sediment dispersion.
- .6 If debris is dredged, dispose of it on land at an authorized site.
- .7 Ensure that the bottom of the barge is leak-proof during the transport of sediments.
- .8 Do not fill barges to capacity during inclement weather in order to prevent sediment overflow during transportation.
9. The Contractor must be able to demonstrate that his equipment was inspected and is free of invasive species.
- .10 The Contractor must implement an Environmental Emergency Plan (EEP) to deal with spills involving oil products or other hazardous material. The EEP must be available on site and be communicated to all employees.
- .11 Perform a preliminary inspection of equipment and regular check-ups thereafter in order to ensure that the machinery is in good working order, clean and free of leaks. In case of failure, replace the equipment or repair it in appropriate locations identified in the Contractor's EEP.
- .12 Favour floating equipment that runs on biodegradable oil specially designed for that type of equipment.
- .13 Have on hand and maintain a spill emergency kit both near the dredge and in the refuelling areas. The kit must include all the necessary materials in sufficient quantities to recover all contaminants.
- .14 Do not dispose of volatile materials or other hazardous materials by releasing them into the water.
- .15 In the case of a spill, respond immediately to contain the leak and confine the hazardous materials. The area affected by the spill should be cleaned and the contaminated material removed and disposed of at an authorized site.
- .16 In the case of a spill, immediately report the incident to Environment Canada's emergency service (1-866-283-2333), to *Urgence Environnement du Québec* (1-866-694-5454) and the Canadian Coast Guard (1-800-363-4735).
- .17 Manage used oils and other contaminated waste in accordance with applicable regulations. This includes on-site storage, transportation and disposal.

- .18 If a marine mammal or a leatherback turtle is observed within 400 metres of the barges or dredger, dredging operations or sediment release must be stopped and boats must not move until the animal is more than 400 m away or until at least 20 minutes have lapsed since the last sighting.
- .19 The use of means or devices to scare marine mammals is prohibited.

**END OF SECTION**

**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 35 20 24 - Dredging

**1.2            REFERENCE STANDARDS**

- .1        N/A

**1.3            INSTALLATION AND REMOVAL**

- .1        Prepare a site plan indicating the proposed location and dimensions of the area to be fenced and used by the Contractor, the number of trailers to be used, entrances and exits for the fenced area and the details of the fence installation.
- .2        Identify areas that need to be gravelled to prevent tracking of mud.
- .3        Indicate use of supplemental or other staging areas.
- .4        Provide construction facilities in order to perform work as quickly as possible.
- .5        Remove all such facilities from the site after use.

**1.4            HOISTING**

- .1        Provide, operate and maintain hoists and cranes required for moving workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2        Hoists and cranes must be operated by a qualified operator.

**1.5            SITE STORAGE/LOADS**

- .1        Ensure that the work is performed within the limits indicated in the Contract Documents. Do not store unreasonable amounts of equipment or materials in the area.
- .2        Do not overload or allow the overloading of any part of the equipment in a way that will compromise its integrity. The maximum live load for naval facilities is 19 kPa.

**1.6            PARKING**

- .1        Parking will be permitted on site provided it does not disrupt performance of the work.
- .2        Provide and maintain adequate access to the project site.
- .3        Clean runways and taxi areas where used by Contractor's equipment.

**1.7            SECURITY**

- .1        Provide and pay for reliable security personnel to guard the site and its contents after working hours and during holidays.



**1.8 OFFICES**

Not Used

**1.9 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Store materials that do not need to be sheltered in a way that causes minimal interference with work activities.

**1.10 SANITARY FACILITIES**

- .1 Provide sanitary facilities for the workforce in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep the area and premises in sanitary condition.

**1.11 SIGNAGE**

Not Used

**1.12 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Provide access roads and temporary detours as needed to maintain traffic.
- .2 Maintain and protect traffic on affected roads during the period of operations except as otherwise specifically directed by the Departmental Representative.
- .3 Provide measures for the protection and diversion of traffic, including supervisors and flag-persons, barricades, lights around and in front of equipment and operations, and adequately posted and maintained warning, danger, and direction signs
- .4 Protect travelling public from damage to people and property.
- .5 Vehicles used by the Contractor to transport material to and from the site must interfere with traffic as little as possible.
- .6 Ensure that existing roads and their load limits are sufficient for transporting equipment and materials. The Contractor is responsible for repairing roads that have been damaged by construction.
- .7 Build all necessary access and haul roads.
- .8 Haul roads must have an appropriate width and grade. Avoid sharp curves, blind corners and dangerous intersections.
- .9 Provide the necessary lighting, signs, barricades, and distinctive markings for safe traffic flow.
- .10 Control dust in order to ensure safe operation at all times.
- .11 The location, grade, width, and alignment of hauling roads are subject to approval by the Departmental Representative.
- .12 Lighting must be sufficient to ensure total visibility along the entire length of construction roads and work areas during the evening and at night.

- .13 Provide snow removal during the work period.
- .14 Upon completion of work, remove the haul roads designated by the Departmental Representative.

**1.13 CLEAN-UP**

- .1 Remove debris, waste materials, packaging material from the work site daily.
- .2 Clean dirt or mud that has been tracked onto paved or surfaced roadways.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and travel of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities.

**END OF SECTION**

**Part 1            General**

- .1        Section 35 20 24 - Dredging

**1.2                PROJECT CLEANLINESS**

- .1        Keep the work site tidy, free from accumulated waste products and debris, including silt left behind by dredging equipment.
- .2        Remove waste materials from site daily, at regularly scheduled times, or dispose of them as directed by the Departmental Representative. Do not burn waste materials on site.
- .3        Make arrangements with and obtain permits from authorities having jurisdiction over the disposal of waste and debris.

**1.3                FINAL CLEANING**

- .1        Once the work is “Substantially performed”, remove surplus products, tools, machinery and equipment not required for performance of remaining work.
- .2        Remove waste products and debris other than that generated by others, and leave the site clean and ready for occupancy.
- .3        Before the final inspection, remove excess products, tools, machinery and equipment.
- .4        Make arrangements with and obtain permits from authorities having jurisdiction over the disposal of waste and debris.

**Part 2            Products**

**2.1                NOT USED**

- .1        Not Used.

**Part 3            Execution**

**3.1                NOT USED**

- .1        Not Used.

**END OF SECTION**

**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 01 11 01 – Work related general information
- .2        Section 01 35 29.06 – Health and safety requirements
- .3        Section 01 35 43 – Environmental procedures

**1.2            LOCATION**

- .1        The work to be performed is located in the Magdalen Islands, specifically in the community of Cap-aux-Meules.
- .2        The preliminary location of materials to be dredged is indicated in drawing QU-17001-M. Appendix A gives details of the authorized disposal site and Appendix F gives details of the transshipment area, if required.

**1.3            MEASUREMENTS FOR PAYMENT**

- .1        Only material excavated above the dredge lines and within the specified or indicated side slopes will be measured.
- .2        The quantities shown on the price list are approximate amounts and may not be increased without the written authorization from the Departmental Representative. No payment will be made for additional quantities unless authorized in writing by the Departmental Representative.
- .3        Item no. 1 – Mobilization/Demobilization of floating equipment
  - .1        The Contractor agrees to provide, at the request of the Departmental Representative, the following information related to the lump sum indicated in this section within 48 hours of the time set for the closing of bids:
    - .1        Distances to be travelled in kilometres;
    - .2        Itinerary;
    - .3        Approximate dates.
  - .2        The lump sum shall represent the costs incurred by Her Majesty in connection with the placement/starting of the Contractor's equipment at the dredging site and the dismantling/demobilization of the Contractor's equipment once the work is complete.
  - .3        Site organization costs are included in this lump sum.
- .4        Item no. 2 – Dredging
  - .1        The Contractor must submit a unit price per cubic metre place measurement (CMPM) which shall be applied to the volume dredged. If the work takes longer than thirty (30) days, a request for progress payment based on the Departmental Representative's estimate may be accepted.
  - .2        The dredging area is defined by side boundaries and depth level shown on the plan; it includes 3:1 side slopes as defined in sub-paragraph 1.4.24 of this document.

- .3 Dredging shall be measured in cubic metres place measurement. The volume shall be determined based on bathymetric soundings performed before and after complete dredging of the areas identified in the plans.
- .4 Based on the pre-dredging soundings, the Department reserves the right to modify the horizontal and/or vertical boundaries at any time in order to stay as close as possible to the quantities estimated in the unit price table.
- .5 Sweeping and levelling of the dredged areas are included in the unit price for dredging, as well as all equipment, tools, labour, etc. required to do the work.
- .6 All operations related to placement of the dredging equipment shall be deemed related to the work and result in a separate payment.
- .7 Filling and sedimentation in areas where work is incomplete or areas that were previously dredged may occur prior to acceptance. The Contractor is responsible for and must remove all equipment in, and complete the dredging of, all areas indicated in the plans to the specified depth in order to obtain the Certificate of Completion. Fill or sediment removed during dredging will not be measured separately for payment.
- .8 The unit price shall also include all costs associated with dredged material below the dredge lines and outside the dredging limits.
- .5 Item no. 3 – Disposal
  - .1 The Contractor must submit a unit price per cubic metre place measurement (CMPM) to be applied to the volume determined in Item no.2 of the Unit Price Table. Subject to the provisions related to optional work described in the following paragraph (.7 – Item no. 5 of the Unit Price Table – Wharf dumping [optional]), the volume of sediment being dumped at sea will be paid for under this item. Should the work take longer than thirty (30) days, a progress payment based on the Departmental Representative's estimate may be accepted.
  - .2 Disposal of the material includes transporting the dredge spoil to the disposal site and to transshipment site (if the option is requested).
  - .3 In the event of disposal at sea, the dredged material will be disposed of in accordance with the requirements of the applicable Disposal at Sea Permits, and all other requirements set out in the contract documents.
  - .4 All operations related to the disposal of material at the dumping site, as well as transportation to the wharf (if required), will be considered related to the work and will not be the subject of a separate payment.
- .6 Item no. 4 – Mobilization/Demobilization of offloading equipment (optional)
  - .1 The lump sum shall represent the costs incurred by Her Majesty in connection with the placement/starting of the Contractor's equipment at the unloading dock and the dismantling/demobilization of the Contractor's equipment once the work is complete.
- .7 Item no. 5 – Wharf dumping (optional)
  - .1 The Contractor must submit a unit price per cubic metre place measurement (CMPM) which will be calculated from the cubic metre scow measurement (CMSM) offloaded at the wharf.
  - .2 The volume (CMPM) payable for this category will be calculated using the following formula:

Formula:  $V_f \times V_o / V_d$

where

$V_f$  = Final Volume (CMPM) determined in Item no. 2

$V_o$  = Volume (CMSM) offloaded at wharf during the entire contract period

$V_d$  = Volume (CMSM) disposed of during the entire contract period

- .3 Offloading of dredged spoil at the wharf will be carried out in accordance with this specification.
- .4 All the operations related to the offloading of material at the wharf and its handling in the storage area will be considered related to the work and will not be the subject of a separate payment.
- .5 The volume payable for this item shall not exceed the amount specified in Item no. 2 of the Unit Price Table.
- .6 Note that once this option has been exercised, all sediments to be dredged can be dumped at the wharf, except for sediments at sample locations S01, S02 and S03 due to the particle size and minor contamination of sediments in sample site S03. See location on plan QU-17001-M. The surface of sample S03 is limited (3780 m<sup>2</sup>). For S01 and S02, see the plan for the zone limits.
- .8 Miscellaneous considerations
  - .1 The lump sum and the unit prices shall include all materials, transportation, leasing, installation of equipment, equipment, tools, labour and costs to perform work not specifically described in the plans, the specifications or any other bid documents but deemed necessary to ensure that the work is performed to professional standards.
  - .2 All of the work described in these specifications, represented in the plans or needed to complete the work covered by these specifications but not defined as a separate component entitling the Contractor to a lump sum or a single payment shall be deemed directly or indirectly related to the general purpose of the contract, and no separate payment shall be made for any such work; the cost of all work related, directly or indirectly, to the purpose of this contract shall, however, be included in the unit price.
  - .3 There shall be no additional payment for temporary structures used during dredging operations.
  - .4 There shall be no additional payment for delays attributable to fishing seasons or fishing gear located at the dredging sites or disposal site.
  - .5 There shall be no additional payment for delays resulting from vessel traffic.
  - .6 There shall be no additional payment for down time.
  - .7 There shall be no additional payment for mooring and anchoring facilities for the dredge or any other floating equipment.
  - .8 There shall be no additional payment for down time resulting from operational adjustment of performance.
  - .9 There shall be no additional payment for lost time resulting from temperature conditions.

- .9 Bidders shall present their bids as follows:
  - .1 Total fixed price for mobilizing and demobilizing dredging equipment to perform the planned dredging work at Cap-aux-Meules. (ref.: Item no. 1).
  - .2 Unit price per cubic metre place measurement (CMPM) for the dredging of an estimated volume of 15,000 CMPM (ref.: Item n° 2).
  - .3 Unit price per cubic metre place measurement (CMPM) for the disposal of dredged material as directed by the Departmental Representative (ref.: Item n° 3).
  - .4 Optional: Total fixed price for mobilizing and demobilizing the equipment used for offloading at the wharf (ref.: Item no. 4)
  - .5 Optional: Unit price per cubic metre place measurement (CMPM) for the offloading of dredge spoil at the wharf (ref.: Item no. 5).
- .10 Obstructions
  - .1 The removal of debris or obstructions authorized in advance by the Departmental Representative, and the cost of such work, shall be determined based on the number of hours actually spent removing the material. The hourly cost of the dredging equipment used to do the work shall be paid at the rate previously negotiated and authorized in writing by the Departmental Representative.
- .11 Spread of payments – Her Majesty shall pay the Contractor as follows:
  - .1 Mobilization/Demobilization – Floating equipment
    - .1 When the dredge is at the dredging site, and after 3 days of dredging operations, 50% of the lump sum under the Mobilization/Demobilization item in the tender documents.
    - .2 The remaining 50% shall be included in the final contract payment after the Certificate of Completion is signed.
  - .2 Dredging
    - .1 Pursuant to clause 1.3.4 of this document (and sub-clauses thereof), through monthly progress payments based on the status of the work, or after the Certificate of Completion is signed for 100% of the amount determined by the CMPM volume dredged multiplied by the unit price for dredging, according specifically to clause 1.3.4.3.
  - .3 Disposal
    - .1 Pursuant to clause 1.3.5 of this document (and sub-clauses thereof), through monthly progress payments based on the status of the work, or after the Certificate of Completion is signed for 100% of the amount determined by the CMPM volume multiplied by the unit price for disposal, according specifically to clause 1.3.5.1.
  - .4 Mobilization/Demobilization – Equipment for wharf dumping
    - .1 At the end of work, one hundred percent (100%) of this item will be payable if the option is exercised.
  - .5 Wharf dumping
    - .1 Pursuant to sub-paragraph 1.3.7 of this document, once the work has ended one hundred percent (100%) of this item should be billed directly to the Ministère des Transports du Québec, to the attention of:

M. Rosaire-Gil Arseneau  
Director, Service Centre  
Transports Québec  
285, Chemin Principal  
Cap-aux-Meules, Québec, G4T 1R8

- .2 In order to receive a Certificate of Completion, the Contractor must send a receipt to the Departmental Representative confirming that they have received this payment..
- .3 Should this cost not be recovered by the Ministère des Transports du Québec, the Departmental Representative will issue payment according to the conditions described in this document. One hundred percent (100%) of the calculated volume, compliant with sub-paragraph 1.3.7 of this section, multiplied by the unit price for wharf dumping. This amount will be payable after the Certificate of Completion has been signed. This amount will be payable after the Certificate of Completion has been signed. Cent pourcent (100%) du volume calculé, conformément à la clause 1.3.7 de la présente section, multiplié par le prix unitaire pour le déchargement à quai. Ce montant sera payable après la signature du « Certificat d'achèvement ».
- .6 Payment will include disposal of dredge material at the specified locations.
- .7 No additional payment for delays incurred during periods when no dredging is permitted.
- .8 No additional payment for downtime or delays caused by vessel traffic.
- .9 Removal of infilling material will not be measured for payment.

#### 1.4 DEFINITIONS

- .1 Disposal: transportation and dumping of excavated materials in a dump site.
- .2 Wharf dumping: transportation of dredged spoil to transshipment areas, transshipment of dredged spoil and temporary storage at the authorized transshipment area.
- .3 “Instant Survey Average” plan: hydrographic survey plan in which only the average sounding in a chosen group of matrix blocks is recorded.
- .4 Box cut: dredging channel area with vertical side slopes that allows the slopes to collapse into a natural shape.
- .5 Class A material: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments with individual volumes of 3.0 m<sup>3</sup> or more.
- .6 Class B material: loose or shale rock, silt, sand, quicksand, mud, shingle, gravel, clay, sand, gumbo, hardpan and debris with an individual volume of less than 3.0 m<sup>3</sup>.
- .7 Chart datum: permanently established plane from which soundings or tide heights are referenced, usually Lowest Normal Tide (LNT).
- .8 Cleared area: dredging area deemed compliant with plans and specifications.
- .9 Coordinate system
  - .1 MTM projection: Modified Transverse Mercator projection.



- .2 MTM coordinates: flat rectangular coordinates used in a graph where a grid is placed over the MTM projection. The coordinates are horizontal reference parameters.
- .10 Debris: pieces of wood, wire, rope, scrap steel, pieces of concrete and other waste materials.
- .11 Dredging: excavating, transporting and disposing of underwater materials.
- .12 Estimated quantity: volume of material above the dredge line and within the specified side slopes unless otherwise specified.
- .13 Depth or dredge line: horizontal plane above which material is to be dredged.
- .14 Hydraulic dredging plant: equipment, such as cutter suction dredgers, suction dredgers or self-carrying trailing suction hopper dredgers that use moving water to excavate and transport underwater materials.
- .15 Instantaneous mode: mode of operation of hydrographic survey equipment where only soundings taken at predetermined distance intervals are recorded.
- .16 “Shallowest depths” plan: hydrographic survey plan in which the depths indicated are the shallowest depths measured in each group of cells in the matrix.
- .17 Lowest normal tide (LNT): reference level that is low enough that the tide rarely falls below it.
- .18 Matrix block: each dredge area is represented as a group of 4.0m x 4.0m blocks. Depending on the location of the soundings, each block can contain between 0 and 4 soundings.
- .19 Measurements
  - .1 CMPM: cubic metres place measurement at dredging site.
  - .2 CMSM: cubic metres scow measurement.
- .20 Mechanical dredging plant: equipment comprising the following: clamshell, dragline, dipper or backhoe dredge with dump scows.
- .21 Mechanical sweeping: clearing dredged areas to grade depth using a mechanical device suspended from a barge.
- .22 Minimum mode: mode of operation of hydrographic survey equipment where only the shallowest depth surveyed between two coordinates is recorded. Soundings taken in this mode may record shallower depths than the actual depth of the seabed due to variations in water depths caused by waves.
- .23 Obstructions: material other than class A, having individual volumes of 1.5m<sup>3</sup> or more.
- .24 Side slope: plane or surface, located at the lateral edge of the dredge area and extending to the point where the dredge area meets the natural sea bed, that is inclined relative to the dredge line.
- .25 DGPS-RTK technology: technology that provides real-time GPS positioning (X, Y, Z) that is accurate to the centimetre.
- .26 Verified area: dredging area deemed compliant with indications and instructions of the dredging plans and specifications.

- .27 Certificate of Completion of Dredging Work: letter, email or memorandum submitted to the Contractor by the Departmental Representative confirming that dredging has been completed.
- .28 Departmental Representative: the Departmental Representative acts as the technical authority. He is appointed once the contract is awarded. He performs the following tasks: he is responsible for any matter related to the technical aspects of the contract work. He is authorized to issue notices, instructions and changes within the scope of the contract work. He accepts, on behalf of Canada, any notice, order or other communication from the Contractor related to the work within a reasonable time frame. He reviews and responds to the Contractor's submittals in accordance with the contract requirements. He has no authority to authorize changes to the Contract terms and conditions.

## 1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Navigation coordination
  - .1 Perform the work in accordance with the Collision Regulations. Do not obstruct navigation during the work.
  - .2 Observe vessel movements and fishery activities, including the movements of vessels at adjacent wharves, in the area affected by dredging operations.
  - .3 Plan and execute the work in a way that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.
  - .4 The Departmental Representative is not responsible for loss of time, equipment, material or any other costs related to interference with vessels moored in the harbour or the Contractor's other operations.
  - .5 Inform the watchkeeper Operations Centre and the District Manager of the Canadian Coast Guard (CCG), Fisheries and Oceans Canada, of dredging operations so that necessary Notices to Mariners can be issued.
  - .6 When necessary, make arrangements with the CCG to relocate and replace buoys in order to allow the work to be performed. Advise the nearest Canadian Coast Guard Base of any need to relocate channel markers/buoys within the dredging area.
  - .7 Arrange operations in order to minimize interference with recreational boaters and ships using the basin and the channel.
- .2 Scheduling
  - .1 Before starting work or within two weeks of contract award, submit to the Departmental Representative for approval a detailed work schedule that includes the projected length of each phase up to completion of the work.
  - .2 In addition to the schedule required by the previous paragraph, the Contractor shall notify the Departmental Representative of the date he will be arriving at the site three (3) weeks in advance. The Departmental Representative will, during that period, take pre-dredging bathymetric soundings and inform the Contractor of the results.
  - .3 The Contractor must adhere to the established schedule and take immediate action to correct any delays by modifying the dredging work underway or

transporting and moving other equipment. The Departmental Representative must be informed of the corrective measures to be taken.

- .4 The work must be completed by the dates indicated in the contract documents.

## **1.6 REGULATORY REQUIREMENTS**

- .1 Regulatory agency approvals
- .1 Comply with municipal, provincial and national codes and regulations relating to the project.
- .2 Mark floating equipment with lights in accordance with the Collision Regulations and Notices to Mariners.
- .1 Maintain VHF marine radio (Channel 16) onboard floating equipment.

## **1.7 INTERFERENCE WITH NAVIGATION**

- .1 Be familiar with vessel movements and fishery activities in the areas affected by dredging operations.
- .2 Plan and execute the work in a manner that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.
- .3 The Department is not responsible for loss of time, equipment, material or any other costs related to interference with vessels moored in the harbour or the Contractor's other operations
- .4 At least forty-eight (48) hours in advance if possible, the Contractor must advise the Departmental Representative of any special relocation of dredging equipment (for refuelling, repair, etc.).
- .5 The Contractor must continuously and accurately report all dredge movements to the Marine Communications and Traffic Services (MCTS) of Fisheries and Oceans Canada.
- .6 Should any equipment belonging to the Contractor cause interference with navigation for any reason, the Contractor must immediately:
- .1 Notify the Departmental Representative as well as the Marine Communications and Traffic Services (MCTS) of the Canadian Coast Guard (CCG);
- .2 Comply with article 3.1.14 of this document;
- .3 Remove the equipment immediately at their own expense. Should the Contractor fail to comply with the above requirement, removal will be undertaken by the Department and all costs related thereto will be charged to the Contractor.

## **1.8 DATUM, WATER GAUGES AND TARGETS**

- .1 Depths and dredge lines used in these specifications and contract drawings are in metres relative to chart datum.
- .2 Depths (soundings) will be adjusted to chart datum using DGPS-RTK technology. The Contractor will be responsible for obtaining, by their own means and at their own expense, all relevant water level data needed for performance of the work.

**1.9 FLOATING EQUIPMENT**

- .1 The Contractor shall supply and maintain all dredging equipment with enough capacity to excavate, load, transport and dispose of all materials mentioned in the specification, taking into account settling of materials and excess dredged materials as applicable.
- .2 All equipment used to execute the dredging contract will be at all times satisfactory to the Departmental Representative.
- .3 The Contractor shall, under this contract, use barges designed to prevent dredged material from falling when the barge is being loaded or towed.

**1.10 SITE INSPECTION**

- .1 Prior to submitting his bid, the Contractor is responsible for obtaining all of the necessary information regarding the nature and scope of work and all conditions that may affect the execution of said work.
- .2 By submitting his tender, the Contractor acknowledges that he is aware of the following: the nature and location of the project, weather and climate conditions, currents, water levels, physical conditions associated with the location of the project, the nature of the seabed and riverbed, the nature of the materials to be dredged, and all other circumstances that could affect the execution of the contract and the value of the work.

**1.11 SITE INFORMATION**

- .1 Take the necessary steps to become fully familiar with potential constraints caused by inclement weather and sea conditions in the area.
- .2 The particle size of the surface materials is shown in Appendix B.
- .3 The most recent dredging of the areas covered by the work dates back to 2014. This dredging was carried out to a depth of 6.8 m.
- .4 Due to the weather in the work area, sediment will likely be transported into the work area (see paragraph 1.3.4.7 of this document).
- .5 In Cap-aux-Meules, tides can range from 0.6 to 1.0 m, and the water level can be between 0.0 and 1.0 m above chart datum. Daily tide forecasts can be obtained from the following website: [www.waterlevels.gc.ca](http://www.waterlevels.gc.ca).
- .6 The approximate location of the materials to be dredged and the grade depth are indicated on draft no. QU-17001-M (according to the November 2016 soundings). Anticipated dredging depth is 6.8 m.
- .7 It is the Contractor's responsibility to research historical temperature and wave conditions and assess any potential problems.

**1.12 SURVEYS AND ACCEPTANCE OF WORK**

- .1 Bathymetric surveys (soundings) will be conducted by the Departmental Representative prior to the start of dredging work, in order to locate as accurately as possible the material to be dredged and to determine its volume.
- .2 The pre-dredge soundings will be conducted within four (4) weeks of the start date of the work.

- .3 During the bathymetric surveys, a qualified representative of the Contractor must be present with the Departmental Representative's survey team, in order to ensure that the soundings are officially accepted by the two parties.
- .4 The Departmental Representative will provide the Contractor with the bathymetric data (depths) required for the work in ASCII format (see Appendix C). These digital files will be emailed to the Contractor.
- .5 The Contractor will submit an official request at least five (5) working days prior to the completion of work so that the post-dredge soundings can be conducted when the work is completed.
- .6 In all cases, the soundings will be conducted during daylight hours. To this end, the Departmental Representative's vessel will return to the wharf by sundown.
- .7 The timing of the soundings will depend on weather conditions.
- .8 The Departmental Representative will not perform soundings when ice is present. There will be no additional payment for delays caused by such conditions or situations.
- .9 Bathymetric survey equipment
  - .1 Positioning system
    - .1 Satellite positioning system used for real-time kinematic (RTK) surveying;
    - .2 Equipment: Trimble 5700 or equivalent.
  - .2 Survey system
    - .1 System with two (2) or more transducers or multibeam system;
    - .2 Vertical accuracy:  $\pm 0.1$  metres;
    - .3 Frequency: 200 or 400 kHz.
- .10 Processing of bathymetric data
  - .1 The bathymetric data will be processed in order to create a 3D surface using the CUBE (Combined Uncertainty and Bathymetry Estimator) algorithm.
  - .2 The Departmental Representative will use the parameters he deems suitable to process the data using the CUBE algorithm.
  - .3 The 3D surface will be created using a grid with a resolution of 50 cm x 50 cm.
  - .4 The grid will be used to create a digital file containing the depths obtained from the processed data.
- .11 Calculation of volumes
  - .1 The volume calculations will be done using the grid described in subsection 1.12.10 of this section.
- .12 Acceptance of dredging work
  - .1 Upon completion of the work, if necessary the Departmental Representative will perform two (2) bathymetric soundings: a verification sounding and a final (post-dredge) sounding. All additional soundings and waiting time will be invoiced to the Contractor on an hourly basis as follows:
    - .1 Hourly rate of \$300.00/hour.
    - .2 Any period exceeding twenty-four (24) hours between the end of

the verification sounding and the start of the final (post-dredge) sounding will be considered waiting time.

- .3 Waiting time will be calculated by the Departmental Representative on the basis of an eight (8) hour day, that is, from 8:00 a.m. to 4:00 p.m. If the Contractor requires soundings outside of this period, he will be invoiced to the Contractor as waiting time
- .2 If, following the verification sounding or subsequent soundings, the results indicate that some depths do not meet the requirements of this specification, the Contractor will be required to return to the site to complete the work to the satisfaction of the Departmental Representative.
- .3 Before the work can be accepted, a general clean-up of the areas affected by the work must be done and the site must be left in a condition satisfactory to the Departmental Representative.
- .4 To confirm that the work has been accepted, the Departmental Representative will issue a Certificate of Completion of Dredging Work to the Contractor.

#### **1.13 UNITS OF MEASUREMENT**

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

#### **1.14 SITE CONDITIONS**

- .1 Before tendering, the Contractor must be aware of all necessary information related to the nature and scope of the work, as well as any conditions that may affect said work.
- .2 Material to be dredged consists of Class B material.
- .3 Results of prior soundings are made available for tendering purposes only. Please note that this information may differ from site conditions; take this into consideration when submitting tender.
- .4 Sediment sampling locations are indicated on drawings. The table in Appendix B, which shows an analysis of the sediment grain size, is attached to the end of the specifications. The grain size analysis is limited to the depth of core samples as specified and may not be indicative of the overall soil conditions.
- .5 This area has been previously dredged to of 6.8 m below chart datum by Public Works and Government Services Canada (PWGSC).
- .6 Results of the most recent soundings are shown on the drawings. Data is available for bidding purposes. This data may differ from current site conditions; take this into consideration when tendering.
- .7 Take the necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.

#### **1.15 DREDGING PLANT**

- .1 The dredging plant to be used must have a sufficient capacity and be in good enough operating condition to satisfactorily complete the work on schedule and in accordance with the specifications.

**Part 2 Products**

**2.1 DREDGING AND POSITIONING EQUIPMENT**

- .1 Determine the equipment needed to dredge the specified material and dispose of dredged material at the locations indicated.
- .2 The work shall be done with a clamshell dredge and/or a hydraulic shovel dredge.
- .3 The dredge's dimensions, characteristics and draft must be appropriate for the work to be performed.
- .4 Equipment for disposal of dredged material at sea: see paragraph 3.5.9 of this document.
- .5 The equipment to be used for disposal on land and temporary storage shall be suitable for the work in terms of size and characteristics.

**Part 3 Execution**

**3.1 GENERAL**

- .1 Before commencing operations, the Contractor must obtain a written work schedule approval from the Departmental Representative.
- .2 The Contractor will dredge sediments to the depth level indicated on drawing no. QU-17001-M. The May 17, 2017 survey gives an idea of the sediment dispersal.
- .3 Dredge the entire area above the dredge line indicated on the plan.
- .4 The Contractor shall dredge as close as possible to the dredge line indicated by the Departmental Representative. Any additional dredging is the sole responsibility of the Contractor and will be performed at his own expense.
- .5 While dredging, the Contractor must navigate using a computerized system capable of accurately displaying on a monitor the position of the dredge and relevant bathymetric data (locations and thickness of material to be dredged) and the dredging template.
- .6 The coordinates of control points to determine the horizontal limits of the sectors to be dredged will be provided by the Departmental Representative.
- .7 The Contractor is responsible for ensuring the horizontal positioning of their dredge.
- .8 The Departmental Representative, at their discretion, can check the accuracy of any positioning systems used by the Contractor.
- .9 The Contractor shall be solely responsible for all primary, intermediate or secondary points (X, Y), (X, Y, Z) and (lat, long) used by them, whether determined by them or provided by the Departmental Representative or any other party, and will use this information at their own risk.
- .10 The dredge and the additional equipment shall be kept in good repair and maintained in proper working order while used on the contract.
- .11 Demobilization: The Contractor may demobilize their dredging equipment only after receiving the authorization to do so from the Departmental Representative. Said authorization shall be provided after final acceptance of the work.

- .12 Buoy necessary for the contract: The Contractor must supply, place, anchor and maintain at his own expense all buoys/markers required to properly execute the work. In the event that any of these buoys/markers sink or go adrift by chance or by accident, he shall be re-floated and/or recovered by the Contractor at his own expense to the satisfaction of the Departmental Representative. The Contractor shall assume responsibility for all accidents of any kind due to the buoys/markers being improperly placed or insufficiently visible during the day, improperly lit at night or for any other reason.
- .13 Navigation buoys: The Contractor may not, at any time, remove or relocate any main navigation buoys. Relocation of said buoys, where required, will be done by the Department of Fisheries and Oceans; requests for such service must be made to the Departmental Representative at least five (5) business days in advance. The Departmental Representative reserves the right to determine whether such requests by the Contractor are warranted.
- .14 Maintain in good condition all required lights and signals on all dredging equipment used for the work, in accordance with the Collision Regulations and the Navigation Safety Regulations on the St. Lawrence River. All equipment required for the work must be properly identified and/or visible at all times.
- .15 Subject to the Departmental Representative's authorization, disposal of dredged material in any other area than those indicated in the specifications is not permitted.
- .16 Mark floating equipment with lights in accordance with International Rules of the Road and maintain radio watch on board.
- .17 The Contractor must complete daily activity reports. The forms will be provided by the Departmental Representative before work begins.
- .18 Perform the work in a way that it does not damage fishing gear, and minimizes interference with fishing operations when dredging in the identified areas.
- .19 Assume liability for any damage to fishing gear in the identified areas if the damage is caused by dredging. Assume responsibility for repair costs and the cost of lost fishing opportunities.
- .20 While the contract is being executed, all machinery must be kept in good working order and adequately repaired as needed. All equipment used must be seaworthy and in good condition.
- .21 While the work is being carried out, if the equipment provided is not suitable and sufficient to perform properly in the opinion of the Departmental Representative or if the Contractor has delayed the work schedule, the Contractor shall, within 15 days of receipt of a written notice from the Departmental Representative, provide other equipment as previously approved by the Departmental Representative and comply with all contractual requirements.
- .22 Install and maintain tide gauges or water level indicators in order to determine the appropriate depth of the dredging work. Ensure that the tide gauges or water level indicators are clearly visible.
- .23 Remove any buildup of material that might occur during the work at no additional cost to the Crown.
- .24 Remove any material deposited in areas next to the work site and dispose of it as if



it were dredged material. Unless otherwise authorized by the Departmental Representative, materials shall not be deposited near the work areas.

- .25 Notify the Departmental Representative immediately upon finding any object that could be considered debris or an obstruction, including solid rock and blocks of stone 1.5 m<sup>3</sup> or larger. Move around the object after clearly indicating its location using buoys made prior to the start of work, give the Departmental Representative the MTM coordinates, then carry on with the work.
- .26 Provide and assume the cost of anchors for the dredging equipment.
- .27 Take the necessary precautions to protect existing structures located in the vicinity of the work. Any damage to such structures must be repaired at the Contractor's expense.
- .28 Unless authorized in writing by the Departmental Representative, dredging may not be carried out within 3.0 metres of any existing structure. The intersection between the side slope and the original ground line shall be 3.0 metres away from any structure. Unless otherwise indicated on the plan, side slopes against the structure must be 1:3, measured perpendicularly to the side of the structure.

### 3.2 EXAMINATION

- .1 Verification of location:
  - .1 Work comprises dredging of areas as indicated and as specified in this document.
- .2 Surveys and acceptance of work
  - .1 As soon as possible after the Contract is awarded, the Departmental Representative will complete a pre-dredge sounding of the dredge area locations. The sounding will be performed using electronic sounding equipment in instantaneous mode, plotted at 1:500 scale. This will determine the actual pre-dredging seabed levels in the areas sounded.
  - .2 No area may be dredged prior to the Departmental Representative's and the Contractor's mutual acceptance of the pre-dredge soundings for that area.
  - .3 The post-dredge soundings will be performed by the Departmental Representative once dredging has been completed. The survey will confirm if the dredging has been completed as specified and whether the area can be considered cleared. The soundings will be taken using electronic sweeping equipment and electronic sounding equipment in instantaneous mode, plotted at 1:500 scale. This will identify areas that require reworking to reach the requested dredging elevations (altitudes) using least of minimum mode.
  - .4 The Contractor must re-dredge as needed to remove all material within the dredging areas that are found to be above the elevations in "shallowest depths" mode in this document.
  - .5 One additional sounding will be taken at the Departmental Representative's expense for areas that do not meet the previously determined criteria for dredging. Additional soundings required to clear the areas will be undertaken by the Departmental Representative at the Contractor's expense.
  - .6 The Departmental Representative will establish the average depth using simultaneously two dredging modes: "Instant Survey Average" mode and "Shallowest Depths" mode.

- .7 All elevations obtained in minimum mode within the specified dredging areas must be at least 6.8 metres.

### 3.3 WORK AREA LIMITS

- .1 Upon arrival at the site for start of work, locate reference points and take the necessary steps to avoid disturbing them.
- .2 Maintain the established horizontal and vertical reference parameters and delineate the work using those references. Be responsible for the accuracy of the work relative to the established references. Provide, install and maintain electronic radiogonometry and ranging equipment used for accurate dredging control.
- .3 The Contractor's electronic positioning system must be made accessible to the Departmental Representative or his representative upon request. The system must provide continuous automatic position updates in all weather conditions. The minimum positioning accuracy is  $\pm 1$  metre. A graphic positioning display must be available online and on paper.
- .4 Install and maintain suitable means to determine the appropriate dredging depth.
- .5 Establish and maintain additional markers and buoys for locating and delineating the designated dredge area limits as required. Remove upon completion of work.

### 3.4 DREDGING

- .1 Mark floating equipment with lights in accordance with Collision Regulations and maintain VHF (Channel 16) radio watch.
- .2 If necessary, place and maintain buoys, markers and signal lights required to define work and disposal areas.
- .3 Be responsible for the work's accuracy relative to tides. Provide and maintain electronic position fixing and distance measuring equipment, laser transits and any other equipment normally required for accurate dredging control.
- .4 Remove all materials above the specified dredge lines, within the indicated limits. Material removed below the dredge line or outside the specified areas or side slopes is not considered part of this contract.
- .5 Remove spillage or shoaling which occurs as result of the work at no expense to the Departmental Representative.
- .6 Remove material that has drifted into the surrounding area and dispose of it as if it were dredged material. Unless otherwise authorized in writing by the Departmental Representative, materials shall not be deposited near the work areas.
- .7 Before the area can be accepted by the Departmental Representative, all material hauled to the area must be removed.
- .8 Immediately notify the Departmental Representative upon encountering an object that may be classified as an obstruction. Bypass the object after clearly marking its location and continue operations.
- .9 Tolerances:
  - .1 Do not dredge within 0.1 m of the required depth.

### 3.5 DISPOSAL OF DREDGED MATERIALS

- .1 Provide and install any additional markers or buoys needed to guide boats to the dumping area. Maintain markers and buoys for the duration of the contract. Remove the markers and buoys once the Departmental Representative indicates that the ocean dumping site has been sounded and meets requirements.
- .2 Ensure that the water dumping site is at least 11.3 metres deep, compliant with Transport Canada's *Navigation Protection Act*. The Departmental Representative will sound the dumping area to confirm that the required minimum depth has been reached.
- .3 Deposit dredged material evenly throughout the entire dump site. Do not concentrate it in one area.
- .4 Ensure scows are sealed and do not leak dredged material during transportation between the dredging site and the dumping area. If spillage or leakage of dredged material occurs, stop work until corrective measures are taken.
- .5 If used, truck boxes must be tightly closed to prevent spillage of material during transportation in the transfer area. Clean up spills as directed and take the necessary steps to prevent reoccurrence.
- .6 Do not permit dredged material to spill or flow into waterways during disposal of dredged materials.
- .7 Keep roadways and transfer areas clean for the duration of the contract. The Contractor must repair damages caused by his operations at his own expense. He must also restore surfaces to his original condition once the work has been completed.
- .8 The Ocean Dumping Permit issued by Environment Canada, pursuant to the provisions of Part VI of the *Canadian Environmental Protection Act*, can be found in Appendix E.
- .9 Dispose of dredged material in the indicated dump site, in a manner that meets Ocean Dumping Permit requirements and is approved by the Departmental Representative.
- .10 Mark the dump site with marker buoys that are equipped with signal lights and radar reflectors.
- .11 Buoys demarcating the dump site must be anchored within 15 metres of the theoretical position given by the Departmental Representative.
- .12 Dumping shall be done according to a dumping pattern approved by the Departmental Representative. The Contractor must have this pattern in hand before dredging begins.
- .13 Dumping shall be performed using a DGPS positioning system with  $\pm 5$  metres accuracy.
- .14 Avoid overloading the scows, particularly in rough seas
- .15 Ocean dumping must occur as quickly as possible.
- .16 All equipment used for ocean dumping must be equipped with a bottom that opens for unloading sediment.
- .17 Dredged materials from the northwest sector of the dredging zone (see drawing) shall be dumped in the authorized ocean dumping site.
- .18 After the last dumping, the depth of the ocean disposal site must be greater than 11.3 m. If this is not the case, the Contractor shall take corrective action as directed by the Departmental Representative, to their satisfaction.

### **3.6 WHARF DUMPING OF DREDGED SPOIL**

- .1 At the request of the Departmental Representative, all or part of the dredged spoil must be offloaded at the wharf, according to the options described in this document.
- .2 The Contractor will temporarily store dredged spoil in the offloading area.
- .3 The dredged spoil dumped by the Contractor will be removed from the transshipment area for disposal by Québec's Ministère des Transports as the offloading work progresses. However, this transport will be limited to the allowable periods pursuant to the regulations in effect.
- .4 The transshipment area is indicated Appendix F.
- .5 The Contractor must implement all mitigation measures in connection with the offloading and temporary storage operations that indicated in Appendix D.
- .6 Material offloaded at the wharf does not become the property of the Contractor.
- .7 If the transshipment area has reached its maximum storage capacity, the Contractor shall dispose of the dredged material at sea (while respecting the terms of use of the site).
- .8 Two (2) weeks prior to the start of work, the Contractor must submit to the Departmental Representative for approval a plan, signed and sealed by an engineer who is a member of the Ordre des ingénieurs du Québec, certifying that the Contractor's work methods, including the use of machinery and temporary storage of the dredged material at the wharf, comply with the standard maximum live load surcharge of 19 kPa or the axle loads of CL -625 trucks as per the CAN/CSA S6-00 Canadian Standard.

### **3.7 SITE QUALITY CONTROL**

- .1 Site test and inspections
  - .1 Cooperate with the Departmental Representative for work inspections and provide any requested assistance.
  - .2 At the Departmental Representative's request, the Contractor must provide boats, equipment, labour and materials that are normally part of a dredging plant that may be reasonably necessary for work inspection and supervision.
  - .3 Provide the Departmental Representative and PWGSC Inspectors with an approved duty boat for transportation purposes.
- .2 Non-compliant work
  - .1 If, as result of incomplete work, additional verification of depths by sounding or sweeping becomes necessary, any additional costs involved shall be paid by the Contractor.
  - .2 Re-dredge unsatisfactory work and verify depths with additional sounding or sweeping to the satisfaction of the Departmental Representative.

### **3.8 CLEANING**

- .1 Progress cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave the work area clean at the end of each day.
- .2 Final cleaning: upon completion, remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

CAP-AUX-MEULES (MAGDALEN ISLANDS)  
Dredging of Channel  
Project no. R.082054.002

Section 35 20 24  
DREDGING  
Page 18

**END OF SECTION**

## APPENDIX A

### Immersion Site

The disposal site to be used for disposal at sea of dredged material is MCP-1. It is 500 m. long by 300 m. large, and will have a surface area of 150,000 m<sup>2</sup> bounded by the four following geographical positions :

Point	Latitude (North)	Longitude (West)
North-West	47°22'05,3"	61°48'00,9"
North-East	47°21'58,2"	61°47'39,5"
South-West	47°21'56,5"	61°48'07,1"
South-East	47°21'49,5"	61°47'45,7"



## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

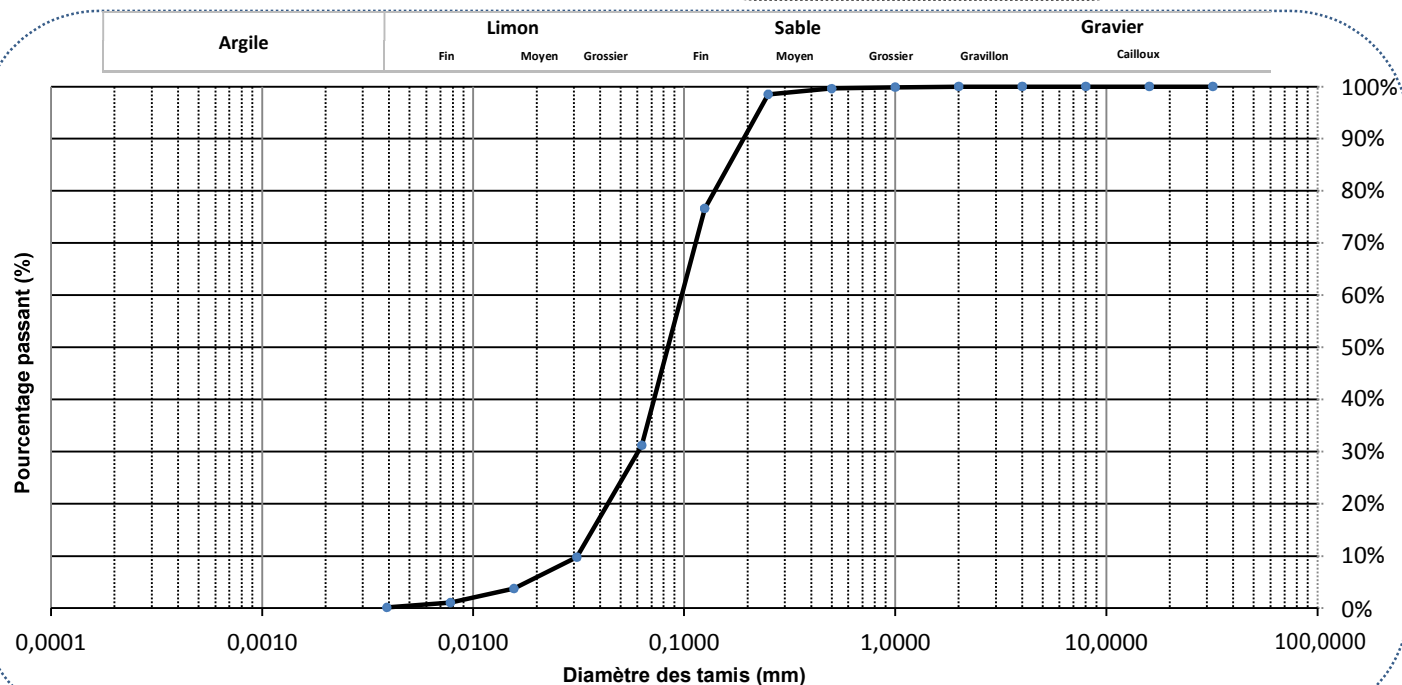
No échantillon : 7837585

Votre référence : SO1

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	100,0%
1	99,9%
0,500	99,6%
0,250	98,5%
0,125	76,6%
0,063	31,2%

Sédimentométrie Diamètre équivalent ( $\mu\text{m}$ )	Pourcentage Passant (%)
31,0	9,8%
15,6	3,7%
7,8	1,0%
3,9	0,1%



#### Commentaires :

Gravier (2-32mm) : 0,00%  
Sable (0.063-<2mm) : 68,79%

Limon (3.9-<63.0 $\mu\text{m}$ ) : 31,10%  
Argile (<3.9 $\mu\text{m}$ ) : 0,11%

Date : 2016-09-21

**GRANULOMÉTRIE - SÉDIMENTOMÉTRIE****Classification Wentworth**

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

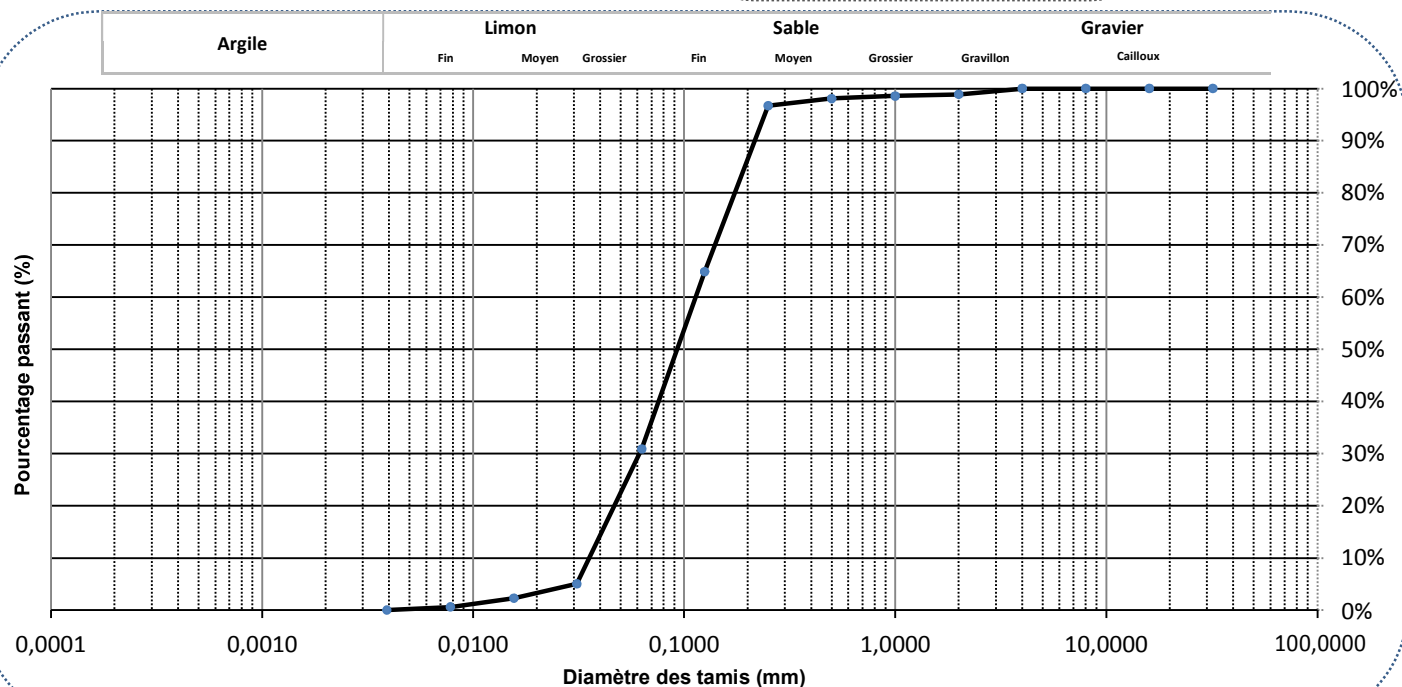
No échantillon : 7837590

Votre référence : S2

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	98,9%
1	98,6%
0,500	98,1%
0,250	96,7%
0,125	64,9%
0,063	30,9%

Sédimentométrie Diamètre équivalent ( $\mu\text{m}$ )	Pourcentage Passant (%)
31,0	5,0%
15,6	2,3%
7,8	0,6%
3,9	0,0%

**Commentaires :**Gravier (2-32mm) : 1,12%  
Sable (0.063-<2mm) : 67,99%Limon (3.9-<63.0 $\mu\text{m}$ ) : 30,89%  
Argile (<3.9 $\mu\text{m}$ ) : 0,00%

L'échantillon contient des débris de matières organiques.

**Date :** 2016-09-21





## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

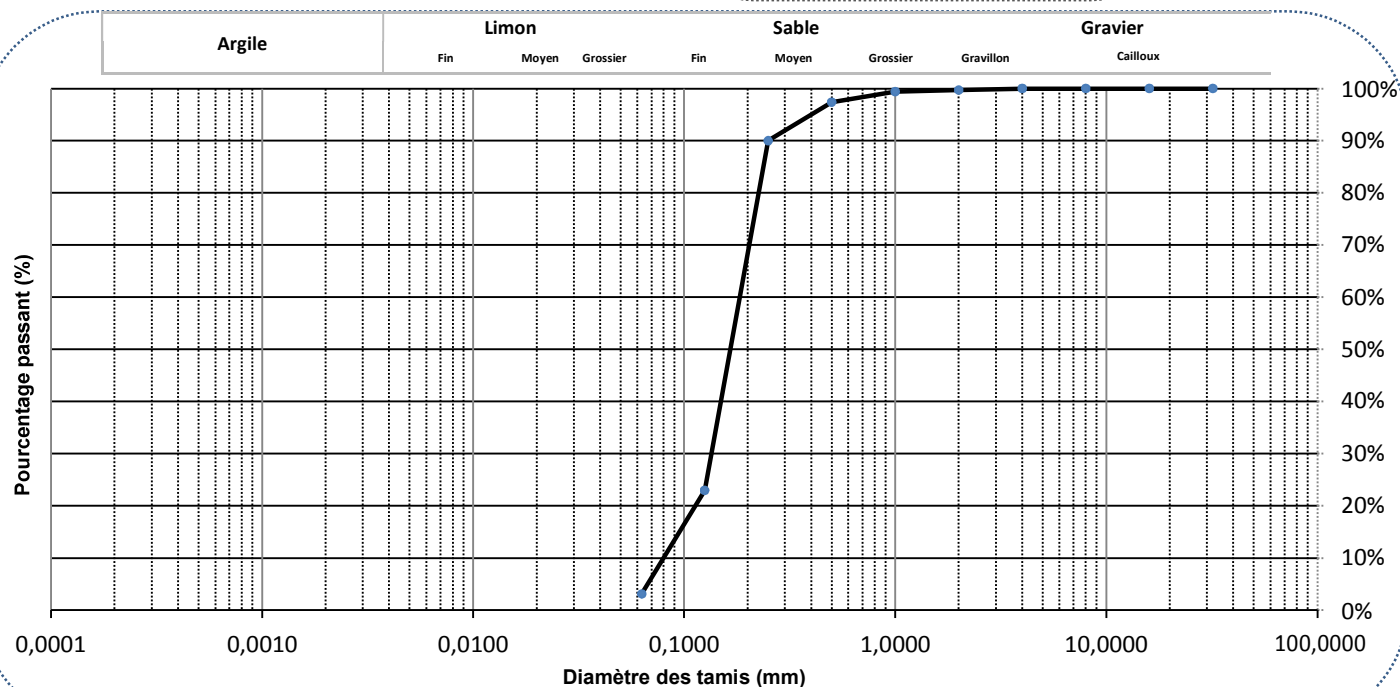
No échantillon : 7837592

Votre référence : S3

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	99,7%
1	99,4%
0,500	97,4%
0,250	90,0%
0,125	23,0%
0,063	3,1%

Sédimentométrie Diamètre équivalent ( $\mu$ m)	Pourcentage Passant (%)



#### Commentaires :

Gravier (2-32mm) : 0,30%  
Sable (0.063-2mm) : 96,60%

Limon et argile (<0.063mm) : 3,10%

Date : 2016-09-21



## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

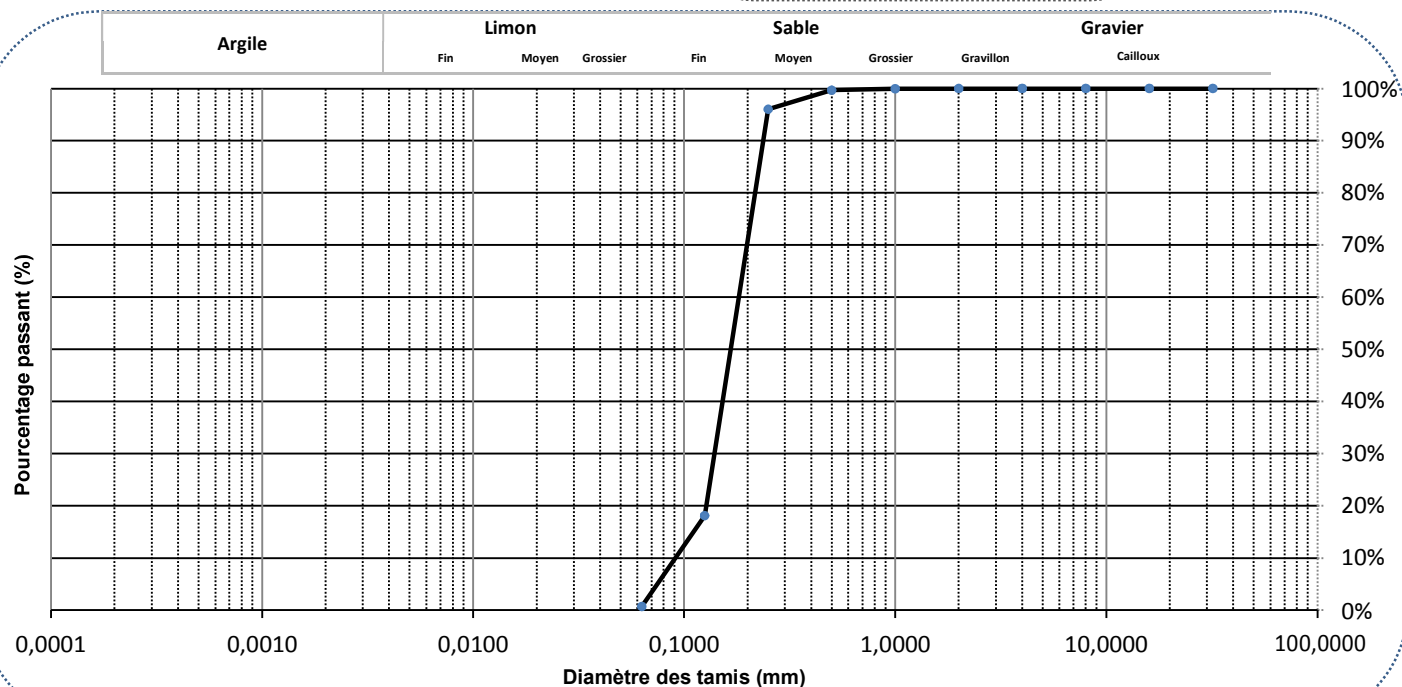
No échantillon : 7837593

Votre référence : S4

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	100,0%
1	99,9%
0,500	99,7%
0,250	96,0%
0,125	18,1%
0,063	0,7%

Sédimentométrie Diamètre équivalent ( $\mu$ m)	Pourcentage Passant (%)



#### Commentaires :

Gravier (2-32mm) : 0,01%  
Sable (0.063-2mm) : 99,31%

Limon et argile (<0.063mm) : 0,68%

Date : 2016-09-21



## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

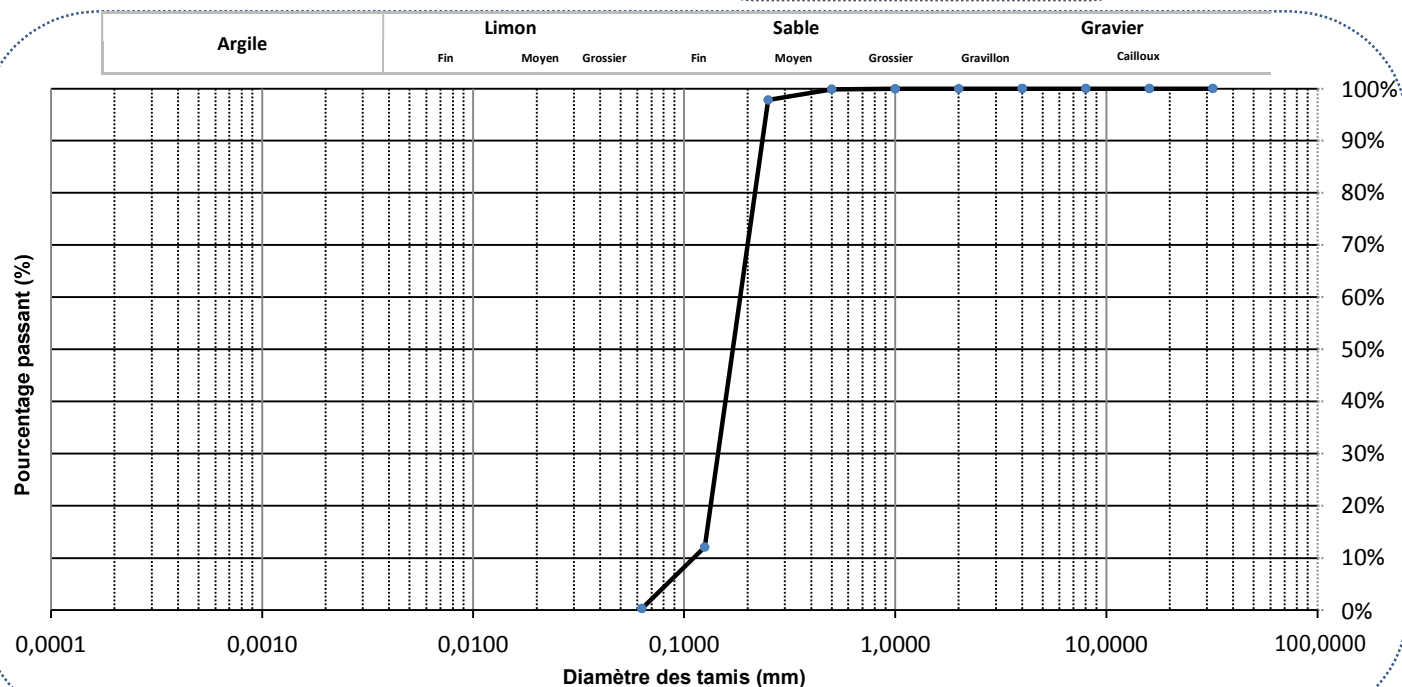
No échantillon : 7837595

Votre référence : S5

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	100,0%
1	99,9%
0,500	99,9%
0,250	97,8%
0,125	12,1%
0,063	0,3%

Sédimentométrie Diamètre équivalent ( $\mu$ m)	Pourcentage Passant (%)



#### Commentaires :

Gravier (2-32mm) : 0,02%  
Sable (0.063-2mm) : 99,67%

Limon et argile (<0.063mm) : 0,31%

Date : 2016-09-21



## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

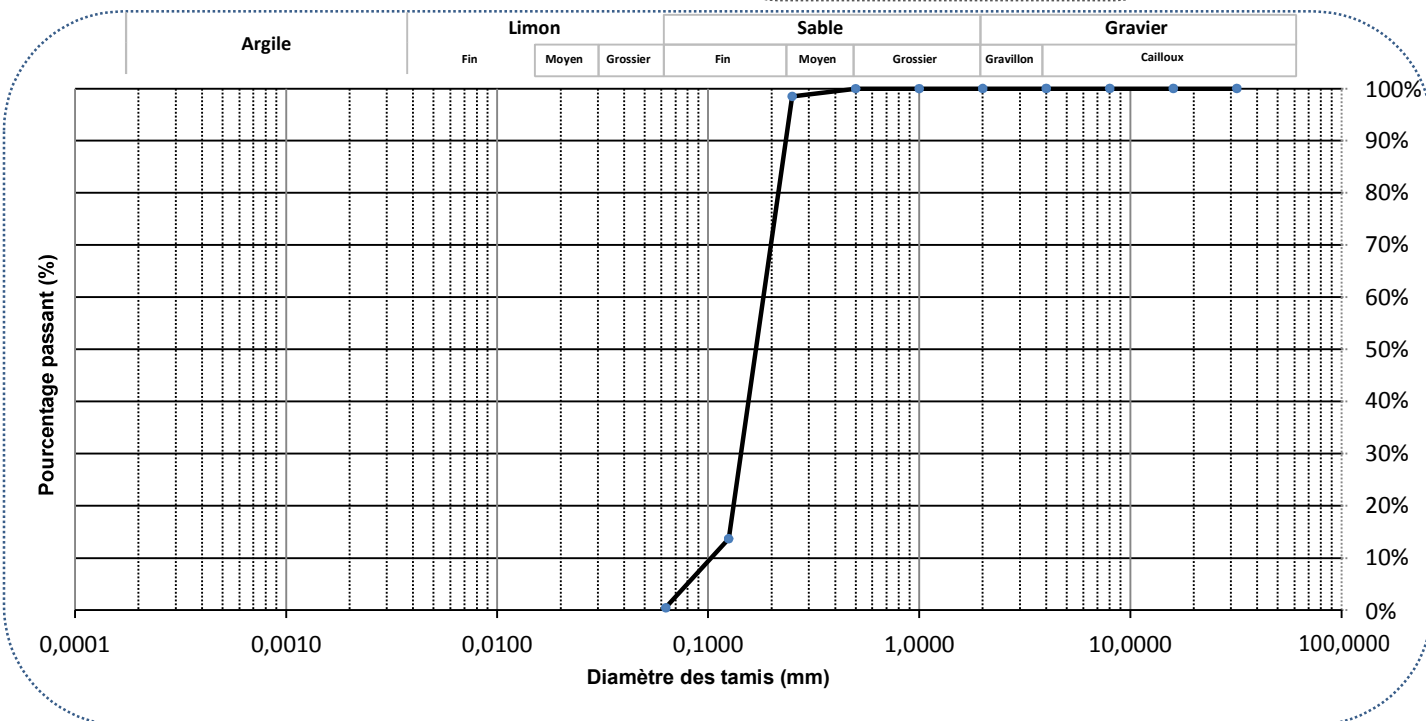
No échantillon : 7837596

Votre référence : S6

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	100,0%
1	100,0%
0,500	100,0%
0,250	98,5%
0,125	13,7%
0,063	0,4%

Sédimentométrie Diamètre équivalent ( $\mu$ m)	Pourcentage Passant (%)



#### Commentaires :

Gravier (2-32mm) : 0,00%  
Sable (0.063-<2mm) : 99,56%

Limon et argile (<0.063mm) : 0,44%

Date : 2016-09-21



## GRANULOMÉTRIE - SÉDIMENTOMÉTRIE

### Classification Wentworth

No bon de travail : 16Q136408

Client : CIMA + S.E.N.C.

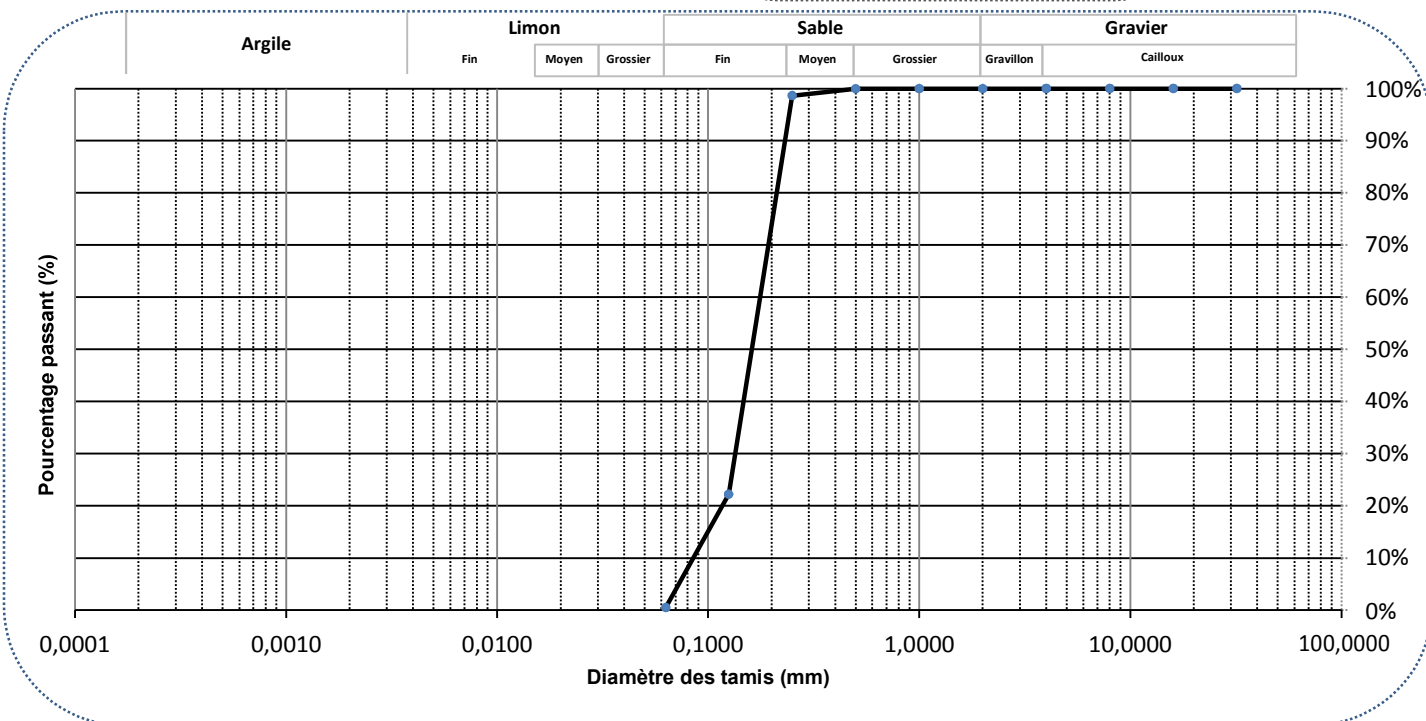
No échantillon : 7837598

Votre référence : S7

Version du certificat :

Granulométrie Tamis (mm)	Pourcentage Passant (%)
32	100,0%
16	100,0%
8	100,0%
4	100,0%
2	100,0%
1	100,0%
0,500	99,9%
0,250	98,6%
0,125	22,2%
0,063	0,5%

Sédimentométrie Diamètre équivalent ( $\mu$ m)	Pourcentage Passant (%)



#### Commentaires :

Gravier (2-32mm) : 0,01%  
Sable (0.063-<2mm) : 99,51%

Limon et argile (<0.063mm) : 0,48%

Date : 2016-09-21

## APPENDIX C

### EXAMPLE OF ASCII FILE

#### Electronic File Format (example):

- EastCoordinates(metre)<tab>NorthCoordinates(metre)<tab>Depth(metre)

288183.24 5237654.78 3.79

288181.90 5237652.29 3.80

288183.81 5237652.86 3.67

N.B.: Depth is positive below chart datum level.

# APPENDIX D – VERSION À REMPLACER Environmental Mitigation Measures

Project component	Valued environmental component	Description of potential effects on the environment	Description of mitigation measures
Mobilization/demobilization	Invasive species	Introduction of invasive species into the environment	<p>The Contractor shall demonstrate that his floating equipment is free of invasive species with respect to their origin.</p> <p>Use of clean marine equipment stored on land before work is undertaken:</p> <ul style="list-style-type: none"> <li>Contractor needs to provide TC in writing with a list of such equipment, their storage site and the proposed date of streaming. TC must be able to ascertain whether the facilities were actually clean and stored on land before work is undertaken.</li> </ul> <p>Where equipment is already in the water, the Contractor shall demonstrate that the equipment stayed along the coasts of Magdalen Islands in the last twelve (12) months or more; otherwise he must:</p> <ul style="list-style-type: none"> <li>Immediately before the equipment is mobilised to the place of work, provide a written inspection report certifying that the equipment is free of invasive species. Inspection report to be prepared by a qualified biologist experienced in the identification of benthic fauna and the sampling performed by divers. Report shall include, without limitation, the following information and data: list of inspected equipment (tugs, tow-barges, etc.), date and location of inspection, summary of sampling and identification protocols, a list of the samples, a table of results, and a certification pertaining to the occurrence or absence of invasive species. The report shall include photographs and bear the signature of the qualified biologist prior to submittal to the Project Manager along with other Contract documents needed before equipment is mobilised to the Magdalen Islands.</li> <li>Should an occurrence of invasive species be confirmed in the inspection report, the Contractor is required to replace the equipment or to proceed, at own expense, with complete cleaning of the equipment. A description of the cleaning work performed must be included in the additional (post-cleaning) inspection report with all the relevant information herein mentioned.</li> <li>TC reserves the right to seek a second expert opinion at any time. Should invasive species be observed, the Contractor shall suspend work and proceed, at own expense, with cleaning of the affected equipment and follow the above mentioned procedure.</li> </ul>
	Migratory birds	Disturbance of migratory birds by moving machinery	<ul style="list-style-type: none"> <li>Disturbing or destroying and taking the nest or eggs of migratory birds is prohibited.</li> </ul>

Project component	Valued environmental component	Description of potential effects on the environment	Description of mitigation measures
	Soil quality Noise environment Air quality	The movement of equipment could result in the contamination of soils, disturbance of the soundscape, and air quality if the machinery is in poor condition	<ul style="list-style-type: none"> <li>Machinery to be in good working order (regular maintenance) and the noise level within applicable standards.</li> <li>Turn off engine of machinery when not in use.</li> </ul>
	Surface water	The presence of workers causes the production of domestic sewage and waste that can deteriorate locally and temporarily, the quality of surface water.	<ul style="list-style-type: none"> <li>Provide on site sanitary facilities in sufficient quantity to prevent any dispersal of waste into the environment (lavatories, bins, containers, etc.).</li> </ul>
	Health, safety and environment Land use and port activities Transport and navigation	Access to the harbour could be difficult because of the work and the presence of machinery. There are risks of injuries and accidental spills.	<ul style="list-style-type: none"> <li>Maintain continuous navigable access to the harbour.</li> <li>Establish a Health &amp; Safety and Environmental plan and make presentation to all employees on site (start-up meeting). Plan to include potential environmental risks, the management of hazardous products on the site, the list and location of safety equipment and environmental emergency supplies, and the procedures in case of spill. Follow up on this plan throughout the duration of work.</li> <li>Make site safe and outline the work areas on land, if any, and of aquatic work if necessary.</li> <li>A Notice to Shipping will be issued by the promoter to inform users of the work period and zone of activity.</li> </ul>
Dredging of sediments and rocks	Surface water Quality of sediments Bathymetry Aquatic life and	Physical alteration of the marine site, transient increase in turbidity due to the resuspension of sediment and rock fragments, loss of living	<ul style="list-style-type: none"> <li>Reduce the rate of rise of the bucket during excavation of sediments.</li> <li>Stop dredging activities when weather conditions are not favourable to prevent the dispersion of dredged or resuspended material beyond operations area.</li> <li>Do not excavate sediments beyond the dredging template.</li> <li>Dredging is prohibited from April 15 to May 31 to protect herring spawning.</li> </ul>



Project component	Valued environmental component	Description of potential effects on the environment	Description of mitigation measures
Transportation of excavated material by barge or hydraulic dredge, to the sea disposal site	habitat Species at risk Use of fishery resources Soundscape	organisms.	<ul style="list-style-type: none"> <li>• When loading the barge, bring down the bucket as low as possible in the barge.</li> <li>• Avoid overloading the barge.</li> <li>• Do not use blasting to extract underwater rocks.</li> </ul>
	Surface water	If dredged material is released, transient increase in turbidity occurs due to sediment resuspension.	<ul style="list-style-type: none"> <li>• Use watertight barges to avoid the release of sediment during transport.</li> <li>• Avoid transport under unfavourable weather conditions to prevent the risk of accidents or the spillage of spoil.</li> </ul>
	Marine life and habitat Species at risk	Disturbance by noise and movement in the marine environment due to the increased traffic of tugs.	<ul style="list-style-type: none"> <li>• Use equipment in good working order (cf. Presence and use of machinery).</li> <li>• Travel by tugs to be done at low speed.</li> <li>• Optimize travel of equipment to minimize the number of round trips.</li> </ul>
Dumping at sea of dredging spoil	Land use and port activities Transport and navigation	Increased traffic in the harbour due to dredging operations.	<ul style="list-style-type: none"> <li>• Coordinate the movement of equipment between the dredging site and the disposal site or the wharf in order prevent congestion in the access channel to the harbour.</li> <li>• Travel by tugs must be done at low speed to ensure safety during work.</li> <li>• Optimize travel of equipment to minimize the number of round trips and avoid overfilling barges to prevent sediment overflow.</li> <li>• A Notice to Shipping will be issued by the promoter to inform users of the work period and zone of activity.</li> </ul>
	Surface water Quality of sediments Marine life and habitat	Physicochemical alteration of the site, transient increase in turbidity due to sediment resuspension and loss of living	<ul style="list-style-type: none"> <li>• Discharge dredged material when weather conditions are favourable.</li> <li>• Reduce the speed of the barge at the disposal site and discharge sediments quickly through a bottom-opening equipment to help minimize fine sediment resuspension and to curtail dispersal.</li> <li>• In order to protect the high concentration of American lobster larvae in the PBCM-1 site, sea</li> </ul>

Project component	Valued environmental component	Description of potential effects on the environment	Description of mitigation measures
	Species at risk Use of fishery resources	organisms	dumping is prohibited between July 1st and August 31st.
	Bathymetry Transport and navigation	Physical alteration of the site	<ul style="list-style-type: none"> <li>• A Notice to Shipping will be issued by the promoter to inform users of the work period and zone of activity.</li> <li>• Reduce the speed of the barge at the disposal site and discharge sediments quickly through a bottom-opening equipment to help minimize fine sediment resuspension and to curtail dispersal.</li> </ul>
Use of machinery	Air quality	Emission of particles in the air Machinery exhaust emissions	<ul style="list-style-type: none"> <li>• Equipment to be in good working order (regular maintenance), and clean.</li> <li>• Turn off engine of machinery when not in use.</li> </ul>
	Soundscape	Increased noise during work	<ul style="list-style-type: none"> <li>• Machinery to be in good working order (regular maintenance) and the noise level within applicable standards.</li> <li>• Turn off engine of machinery when not in use.</li> </ul>
	Port activities Transport and navigation	Encroachment of navigation or traffic areas in the port by the machinery.	<ul style="list-style-type: none"> <li>• Make site safe and outline the work areas on land, if any, and of aquatic work if necessary.</li> <li>• Maintain continuous navigable access to the harbour.</li> <li>• A Notice to Shipping will be issued by the promoter to inform users of the work period and zone of activity.</li> <li>• Close coordination should be exercised between the Contractor, the operators, the work supervisor, the port management and TC in order to avoid disrupting operations within the port, the ferry activities and that of other vessels.</li> </ul>

Project component	Valued environmental component	Description of potential effects on the environment	Description of mitigation measures
Waste management	Water quality Air quality Soil quality Quality of life Aquatic life and habitat	Environmental contamination	<ul style="list-style-type: none"> <li>• Manage waste properly in accordance with applicable rules and regulations.</li> <li>• Do not discharge hydrocarbons, solvents, thinners and any hazardous substances into waterways, and storm and sanitary sewer systems.</li> <li>• Manage hazardous substances in accordance with applicable rules and regulations.</li> <li>• All waste must be disposed of in accordance with regulations and may not be burned or buried on site.</li> </ul>
Accidents and failures	Water quality Soil and sediment quality Aquatic life and habitat Species at risk and habitat	Faulty operations or mistakes, equipment failures and tank leaks may cause the accidental spill of hazardous material into the environment.	<ul style="list-style-type: none"> <li>• The equipment must be inspected, in good working order, clean, and free of lubricant and fuel leaks.</li> <li>• Hydrocarbons will be carefully handled and stored more than 30 metres of the marine environment or provided with a secondary containment system to prevent accidental spills.</li> <li>• When refueling machinery, take all measures to minimize the risk of accidental spill.</li> <li>• A complete spill response kit must be readily accessible on the site and employees must be trained to respond to spills.</li> <li>• Make site safe and outline the work areas on land, if any, and of aquatic work if necessary.</li> <li>• Should a spill occur, the contaminated water, sediments or soils will be confined, characterized and recovered by a specialized firm and transported to a processing center approved by the MDDELCC in accordance with regulations.</li> <li>• Prefer floating equipment running on biodegradable oil specially designed for this type of operation.</li> <li>• In case of spill, immediately report the incident to the responsible authorities and respond quickly. Contact EC's emergency services (1-866-283-2333), the Canadian Coast Guard (1-800-363-4735) and the site supervisor.</li> </ul>



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada

## Department of the Environment

### *Canadian Environmental Protection Act, 1999*

Notice is hereby given that, pursuant to section 127 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999), Disposal at Sea Permit No. 4543-2-04450 authorizing the loading for disposal and the disposal of waste or other matter at sea is approved. This permit is eligible for renewal a maximum of two times. The permit is published on the CEPA Registry on Tuesday, April 11, 2017.

1. *Permittee*: Transport Canada, Québec, Quebec.

2. *Waste or other matter to be disposed of*: Dredged material.

2.1. *Nature of waste or other matter*: Dredged material consisting of gravel, sand, silt, clay and colloids.

3. *Duration of permit*: Permit is valid from April 18, 2017, to April 17, 2018.

3.1. The loading and disposal at sea activities are restricted to the following periods: from April 18 to July 15, 2017, and from August 11, 2017, to April 17, 2018. The Permittee may modify the duration of the restriction periods with the written approval of the Department of the Environment.

4. *Loading site(s)*: Cap-aux-Meules Channel, Quebec, 47.37450° N, 61.85183° W North American Datum of 1983 (NAD83), as described in the document titled "Zone de dragage pour l'immersion dans le chenal de Cap-aux-Meules, Iles-de-la-Madeleine, 2017." This document shall be available at the loading site and on all powered ships directly engaged in the loading and disposal operations.

5. *Disposal site(s)*:

(a) PBCM-1, 47.36650° N, 61.79967° W (NAD83). The disposal site is located approximately 4 km east of the loading site.

(b) Cap-aux-Meules Channel, 47.37450° N, 61.85183° W (NAD83).

6. *Method of loading*: Dredging will be carried out using a clamshell dredge, a hydraulic shovel or a suction dredge.

7. *Route to disposal site(s) and method of transport*: Most direct navigational route from the loading site to the disposal site via towed scow.

8. *Method of disposal:* Disposal will be carried out by bottom dumping, suction dredge or a towed scow.

9. *Total quantity to be disposed of:* Not to exceed 15 000 cubic metres, place measure.

10. *Fees:* The fee prescribed by the *Disposal at Sea Permit Fee Regulations* shall be paid by the Permittee in accordance with those regulations.

11. *Inspection:*

11.1. By accepting this permit, the Permittee and its contractors accept that they are subject to inspection pursuant to Part 10 of CEPA 1999.

11.2. The Permittee shall ensure that records of all loading and disposal activities are kept on site for the duration of the permit and are available for inspection by any enforcement officer or analyst, for two years following the expiry of the permit.

12. *Contractors:*

12.1. The loading or disposal at sea referred to under this permit shall not be carried out by any person without written authorization from the Permittee.

12.2. The Permittee shall ensure that all persons involved in the loading, transport or disposal activities authorized by this permit conduct these activities in accordance with the relevant permit conditions.

13. *Reporting and notification:*

13.1. The Permittee shall provide the following information at least 48 hours before loading and disposal activities commence: name or number of ship, platform or structure used to carry out the loading and/or disposal, name of the contractor including corporate and on-site contact information, and expected period of loading and disposal activities. The above-noted information shall be submitted to the Regional Director of the Environmental Protection Operations Directorate, Department of the Environment, Quebec Region, 105 McGill Street, 4th Floor, Montréal, QC H2Y 2E7, 514-496-6982 (fax), [ec.immersionenmerqc-disposalatseaqc.ec@canada.ca](mailto:ec.immersionenmerqc-disposalatseaqc.ec@canada.ca) (email).

13.2. The Permittee must complete the *Register of Disposal at Sea Operations* as provided by the Department of the Environment. This register must, at all times, be kept aboard any vessel involved with the disposal operations and be accessible to enforcement officers designated under the CEPA 1999.

13.3. The Permittee must keep a written register of the time of departure of the

vessel to the disposal site and advise the Canadian Coast Guard station once per day of the departure times entered in the register. The Permittee must record these communications in the register mentioned in the previous paragraph.

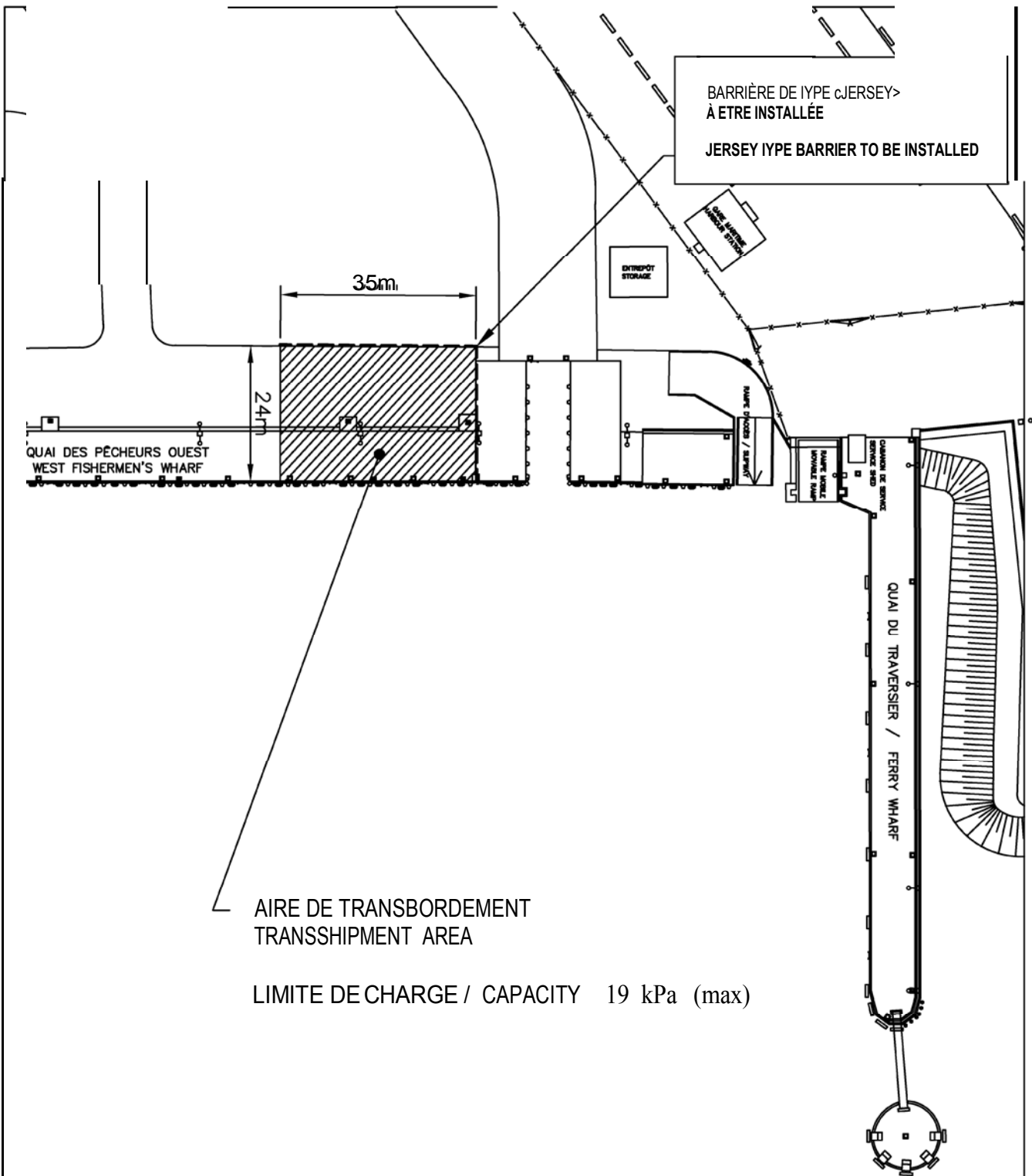
13.4. The Permittee shall submit a written report to the Minister, as represented by the Regional Director of the Environmental Protection Operations Directorate, Quebec Region, identified in paragraph 13.1, within 30 days after the expiry of the permit. This report shall contain the following information: a list of all work completed pursuant to the permit, including the names of the loading and disposal sites used, the quantity of matter disposed of at the disposal site(s), the dates on which disposal activities occurred and the *Register of Disposal at Sea Operations*.

13.5. At all times, a copy of this permit and of documents and drawings referenced in this permit shall be available at the loading site and on all powered ships directly engaged in the loading and disposal operations.

Alain Gosselin  
*Regional Director*  
*Environmental Protection Operations Directorate*  
*Quebec Region*

On behalf of the Minister of Environment and Climate Change

Signed on March 29, 2017



1.1 Travaux publics et  
Services gouvernementaux Canada

Titre du dessin: Drawing title:  
DRAGAGE D'ENTRETIEN  
2017  
MAINTENANCE DREDGING

conçu par. a e:  
designed by:

dessiné par. date:  
drawn by:

approuvé par. date:  
approved by:

CAP-AUX-MEULES

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Annexe F