



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
**Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions  
Travaux publics et Services gouvernementaux  
Canada**  
**Pacific Region**  
**401 - 1230 Government Street**  
**Victoria, B.C.**  
**V8W 3X4**  
**Bid Fax: (250) 363-3344**

## REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

**Proposal 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.

**Proposition 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 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**  
Public Works and Government Services Canada - Pacific  
Region  
401 - 1230 Government Street  
Victoria, B. C.  
V8W 3X4

<b>Title - Sujet</b> MULTIBEAM BATHYMETRIC SONAR SYSTEM	
<b>Solicitation No. - N° de l'invitation</b> EZ801-161760/A	<b>Date</b> 2015-12-22
<b>Client Reference No. - N° de référence du client</b> EZ801-161760	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$XLV-211-6884	
<b>File No. - N° de dossier</b> XLV-5-38169 (211)	<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 2016-02-01</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Standard Time PST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Buchan, Torrey	<b>Buyer Id - Id de l'acheteur</b> xlv211
<b>Telephone No. - N° de téléphone</b> (250) 216-2092 ( )	<b>FAX No. - N° de FAX</b> (250) 363-3960
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Public Works and Government Services Canada #2 Annacis Parkway, Delta, B.C. V3M 6A2 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<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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## **PART 1 - GENERAL INFORMATION**

### **1.1 Requirement**

The Department of Public Works and Government Services Canada (PWGSC) – Geomatic Services has a requirement in the Pacific Region for the supply, delivery, and training in the use of a multi-beam bathymetric sonar system. The system will be used for Hydrographic Surveying and seabed mapping in the Fraser River.

The system is to be delivered duty paid (DDP) to Delta, C-B. PWGSC requires the system to be delivered by March 31, 2016. After delivery of the system, there is a requirement for the contractor to provide on-site training, to occur at Delta, BC.

### **1.2 Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

### **1.3 Trade Agreements**

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

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## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2015-07-03) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

#### 2.1.1 SACC Manual Clauses

B3000T (2006-06-16), Equivalent Products

### 2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

#### 2.2.1 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least fifteen days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

### 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

### 2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

Solicitation No. - N° de l'invitation  
EZ801-161760/A  
Client Ref. No. - N° de réf. du client  
EZ801-161760

Amd. No. - N° de la modif.  
File No. - N° du dossier  
XLV-5-38169

Buyer ID - Id de l'acheteur  
xlV211  
CCC No./N° CCC - FMS No./N° VME

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## **2.5 Maximum Funding**

The maximum funding available for the Contract resulting from the bid solicitation is \$ 246,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

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## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid – Two (2) hard copies and a single soft copy on USB key.  
Section II: Financial Bid – One (1) hard copy and a single soft copy on USB key.  
Section III: Certifications – One (1) hard copy and a single soft copy on USB key.  
Note: Soft copies should be provided on a single USB key.

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### 3.1.1 Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

#### 3.1.2 Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

##### 3.1.2.1 Exchange Rate Fluctuation

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

#### 3.1.3 Section III: Certifications

Bidders must submit the certifications required under Part 5.

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## PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

### 4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### 4.1.1 Technical Evaluation

Refer to Annex C, Technical Evaluation Criteria

#### 4.1.2 Financial Evaluation

*SACC Manual* Clause A0220T (2014-06-26), Evaluation of Price

### 4.2 Basis of Selection – Lowest Price Per Point

1. To be declared responsive, a bid must:
  - a. comply with all the requirements of the bid solicitation;
  - b. meet all mandatory technical evaluation criteria
2. Bids not meeting (a) or (b) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract.

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## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](#), to be given further consideration in the procurement process.

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

#### 5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](#)" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list at the time of contract award.



## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1 Security Requirements

There is no security requirement applicable to this Contract.

### 6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

### 6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### 6.3.1 General Conditions

[2030](#) (2015-09-03), General Conditions – Higher Complexity - Goods, apply to and form part of the Contract.

#### 6.3.2 Supplemental General Conditions

Supplemental General Conditions [4003](#) (2010-08-16), Licensed Software, apply to and form part of the Contract.

### 6.4 Term of Contract

#### 6.4.1 Delivery Date

All the deliverables must be received as follows:

Item	Mandatory Delivery Requirements
Multibeam Bathymetric Sonar System received & accepted at PWGSC site in Delta, BC	<a href="#">March 31, 2016</a>
On-site Training	Within 60 days of system delivery

#### 6.4.2 Failure to Deliver

Delivery is an essential part of this contract. Except for excusable delays notified in accordance with Section 11 of 2030 General Conditions - Higher Complexity - Goods, failure to deliver by the date(s) specified in this Contract will prejudice the Government of Canada and will, at the Government of Canada's discretion, entail either:

- (a) Contract Termination in accordance with 2030 General Conditions Sections 10 (Time of the Essence) and 30 (Default by the Contractor); or
- (b) Consideration for Contract Amendment. Delivery date(s) will not be extended without consideration being provided by the Contractor in the form of adjustment to the price, warranty, quantity and / or service to be provided.

#### 6.4.3 Shipping Instructions – Delivered Duty Paid

Goods must be consigned and delivered to the destination specified in the contract: Incoterms 2000 "DDP Delivered Duty Paid" to Vancouver, British Columbia.

## 6.5 Authorities

### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Torrey Buchan  
Title: Supply Specialist  
Public Works and Government Services Canada  
Acquisitions Branch  
Directorate: Acquisitions, Marine – Pacific Region  
Address: Suite 401 – 1230 Government Street,  
Victoria, BC V8W 3X4 Canada  
Telephone: 250-216-2092  
E-mail address: torrey.buchan2@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

### 6.5.2 Technical Authority

The Technical Authority for the Contract is provided upon contract award.

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

### 6.5.3 Contractor's Representative

The bidder is to complete table below and submit with their bid.

Contact for:	Name	Telephone	Email
Contracting issues			
Technical issues			
Invoicing issues			

## 6.6 Payment

### 6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in Annex B for a cost of \$ \_\_\_\_\_. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

### 6.6.2 Multiple Payments

SACC Manual clause H1001C (2008-05-12), Multiple Payments

## **6.7 Invoicing Instructions**

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
  - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
  - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

## **6.8 Certifications**

### **6.8.1 Compliance**

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## **6.9 Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_.

## **6.10 Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4003 (2010-08-16), Licensed Software;
- (c) the general conditions 2030 (2015-09-03), General Conditions – Higher Complexity - Goods;
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated \_\_\_\_\_.

## **6.11 Government Site Regulations**

The Contractor must comply with all regulations, instructions and directives in force on the site where the Work is performed.

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## ANNEX A REQUIREMENT

### Multibeam Bathymetric Sonar System

To provide Public Works & Government Services Canada (PWGSC) Pacific – Geomatics/Hydrographics with a Multibeam Bathymetric Sonar System for use in Hydrographic Surveys and Seabed Mapping.

### SPECIFICATIONS

#### 1. Scope

PWGSC Pacific requires a Dual Head Multibeam Bathymetric Sonar System with a multiple or selectable operating frequency option (sonar head(s), sonar processor unit, cables, acquisition/controlling software, manuals, warranty, and training) for near shore (1 – 200m) hydrographic survey work. The sonar will be used in an operational hydrographic surveying capacity aboard the PWGSC survey vessel *Profiler II* (approximately 14 meters in length). The system must comply with the Canadian hydrographic Service standards for hydrographic surveys "Exclusive Order" requirements for depths of 1 to 20m, comply to International Hydrographic Organization Standards for Hydrographic Surveys (S-44) "special Order" requirements for depths of 20m to 40m, and "Order 1a" requirements for depths over 40m. This procurement may be used by other Regions and/or Branches within the Federal Government of Canada.

#### 2. General Terms

- a. System proposed has been commercially available for the last 1 year and at least 5 systems must be in operation in the same operational context (IHO standards).
- b. Contractors proposing 2 separate and/or distinct systems to meet these specifications will not be considered for this requirement.
- c. Contractors proposing Interferometric or Bathymetric Sidescan systems will not be considered for this requirement.
- d. All system components (hardware and software) must be under warranty and be inclusive of all required servicing and maintenance for a minimum of 1 year.

#### 3. Technical Description

##### 3.1 General System Features

- a. System must have multiple frequencies (i.e., dual frequency) or have a user selectable operating frequency to achieve a greater depth range.
- b. System must have an operating frequency range between 200 and 400 kHz.
- c. The system must provide bathymetric data across a swath, at minimum, 8 times the water depth in up to 100 meters, and do +/- 100 degrees roll stabilized swath in typical operating conditions.
- d. The system must include a bracket mounted sound velocity probe to supply sound speed at the sonar head depth to be utilized in real time.
- e. The system must do receive beam focusing.
- f. The system must ensure all components maintain a coherent sense of time with measurable latencies.

- g. The system must achieve the special order Feature Detection (1m<sup>3</sup>) of the Canadian hydrographic Service standards for hydrographic surveys in water depths of 20 meters or less inside a +/- 100 degree swath sector with vessel speeds up to 8 knots.
- h. The system must provide imagery (acoustic backscatter intensity) data of the seafloor with a minimum range resolution of 5cm. The source levels and gain settings must be recorded with the data.
- i. Both the bathymetric data and imagery must be provided in a format which can be readily imported into CARIS HIPS/SIPS software package, via a full function of the conversion wizard.
- j. The system must accept and utilize vessel motion correctors (i.e., heave, pitch, roll, and heading) from an Applanix POS/MV320 or Wavemaster IMU.
- k. The system must accept and utilize sound speed values and profile correctors from AML and Valeport sensors. Any or all of these corrections may be applied through both the manufacturer's proprietary software package in real time and in post-processing through CARIS HIPS/SIPS. Motion corrections applied in the sonar software must be flagged within the data stream to indicate what specific corrections were made within the sonar software.
- l. The system must do roll-stabilization. It must do +/- 100 degrees swath sector with up to +/- 10 degrees of roll. The system must dynamically steer all beams based on the measured roll, not eliminate beams that roll outside of the desired sector.
- m. The system should be upgradeable to log acoustic backscatter of the water column (volume backscatter), to a separate file.
- n. The system must be compatible with Hypack Hysweep and QPS QINSy data logging software.
- o. The system should have or be upgradeable to have a steerable projector/transmitter and multi-ping mode to account for the effects of vessel pitch and yaw.
- p. Contractor should provide uncertainty propagation model for horizontal and vertical errors (or alternatively range and angle of reception errors).
- q. The system should supply, within its data stream, a beam quality indicator that can be captured in Post-Processing for Quality Control.
- r. If the system consists of separate transducer elements (i.e., 1 transmit element and 2 receive elements, 2 transmit elements and 2 receive elements, or 2 distinct elements), all sonar elements (transmitters and receivers) must fit on one bracket. A calibrated bracket must be supplied with the system that complies with the system alignment requirements.

### **3.2 Size/Weight**

- a. The system must suit installation aboard vessels as small as 7 meters in length.
- b. The system must be operable in a fixed mounted configuration, (i.e., hull mounted and pole mounted).
- c. The system (sonar head(s) and processor unit combined) must weigh no more than 100 kg in air.
- d. The systems transmit and receive arrays must be 0.5 meters or less in length.
- e. The system must be a flat array configuration.

### **3.3 Electronics**

- a. The system electronics must provide beam widths smaller than 1° at Nadir in at least the along track or across track direction, in the high frequency mode/range with across-track spacing increasing proportional to the beam steering angle.
- b. The sonar ping rate must be chosen by the sonar itself based on depth and swath sector or by the set sonar operating range. The sonar must allow the manual changing of the parameter within the design operating ranges.
- c. The system must use the IEEE 1588 Precise Time Protocol (PTP) or similar to maintain a coherent sense of time for all system components.
- d. The sonar should have automated functionality (controlled within manufacturer's proprietary or third-party software) such as auto-ranging, gate tracking, slope tracking, pulse length, pulse type, power and gain, with the ability to manually override these settings if required.
- e. The system must operate in water temperatures ranging -2° C to +30°C.

### **3.4 Swath Width/Beam Spacing:**

- a. The system must provide functionality in the acquisition software to control swath width and must have, at least, equidistant beam spacing.
- b. The system must scale the beam spacing according to the set swath sector width so all beams are maintained.

### **3.5 Software/Computer**

- a. The sonar system must be supplied with software to support a computer-controlled interface for the acquisition and display of data. This software must be compatible with windows 7.
- b. The sonar system must provide means of networking with a computer subsystem and ancillary equipment via Ethernet connection and serial port.
- c. The system's time base (for synchronizing a computer subsystem and ancillary equipment) must be synchronized to Universal Time Coordinated (UTC) via Global Positioning System (GPS) 1 pulse per second (1 PPS).

## **4. Product Support**

- a. Contractor must provide technical support via telephone and/or email, within 24 hours of a request, 7 days a week, to provide responses to routine technical questions.
- b. Contractor must provide all product manuals at time of delivery. (PDF format is preferred)
- c. Replacements parts must be made available until 2025 (expected product life cycle).
- d. A Training session on operation of sonar, controlling software and sonar configurations must be provided on-site (Unit 2, 100 Annacis Parkway, Delta, B.C.), at time of deployment for up to 7 staff.
- e. Training in the operation and basic maintenance of the system for a minimum of 3 days of 8 hours in length (for a minimum required total of 24 hours) will be included.
- f. Training to occur on a mutually agreed date and time between the contractor and Canada, but no later than 60 calendar days after the system has been delivered.

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**5. Optional - Extended Service and Maintenance Programs**

An extended maintenance and service program on all associated hardware and software: licensed firmware and software updates, 7 days per week technical support available by telephone and email, and warranty coverage on sonar and processing unit.

Pricing to be provided by all bidders under Annex B for the optional 2, 3 and 5 year extended Maintenance and Service Programs. These extended maintenance and services programs are in addition to the included one-year maintenance service program to come standard with the system (see section 2.d.)

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## ANNEX B BASIS OF PAYMENT

### PART 1 – SAMPLE BASIS OF PAYMENT

Instructions to Bidders
The sample of the basis of payment herein is for example purposes only and should not be completed by the bidder.

Itm	Description	Price (CAD\$)
1.	One (1) Multibeam Bathymetric Sonar System, as detailed in Annex A, Requirement.	\$ _____
2.	Incoterms 2000 Delivered Duty Paid (DDP) to Delta, BC.	\$ _____
3.	On-site Training, in accordance with section 4.d. of Annex A. This price is inclusive of all costs of travel and accommodation for the Contractor's representative conducting the training, any applicable chargeout and hourly rates for the representative, and all associated material costs.	\$ _____
4.	Extended Service and Maintenance Program (if applicable): [ 3, 4, or 5 year]	\$ _____
5.	Additional Options (if applicable): - - -	\$ _____
Firm Total Price (CAD\$)		\$ _____

GST is extra.



## PART 2 – FINANCIAL BID PRESENTATION SHEET

Instructions to Bidders		
<p>The bidder must submit the following pricing schedule with their Financial bid. Failure to do so will result in the bid being non-responsive. The bidder should NOT include their terms and conditions of sale with their financial bid submission, at the risk of the bid being non-responsive.</p> <p>If the bid is successful, the pricing provided below will form the basis of payment of the resulting Contract.</p>		
Item	Description	Price (CAD\$)
1.	One (1) Multibeam Bathymetric Sonar System, as detailed in Annex A, Requirement. Includes the mandatory one-year service and maintenance program.	(i) \$ _____
2.	Incoterms 2000 Delivered Duty Paid (DDP) to Delta, BC.	(ii) \$ _____
3.	On-site Training, in accordance with section 4.d., 4e., and 4f. of Annex A. This price is inclusive of all costs of travel and accommodation for the Contractor's representative conducting the training, any applicable charge-out and hourly rates for the representative, and all associated material costs.	(iii) \$ _____
<p style="text-align: right;"><b>Evaluated Price</b> <b>(i) + (ii) + (iii)</b></p>		\$ _____
<p><b>OPTIONS</b></p> <p>These options will <b>NOT</b> be included in the financial bid evaluation, but Canada may exercise the option to purchase these additional components at Contract Award.</p>		
4.	<p><b>Extended Service and Maintenance Program:</b> These programs are in addition to the standard service and maintenance program included for the first one-year period.</p>	
	5.1 – 2 Year Extended Service & Maintenance Program	\$ _____
	5.2 – 3 Year Extended Service & Maintenance Program	\$ _____
	5.3 – 5 Year Extended Service & Maintenance Program	\$ _____

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5.	<i>Additional Options:</i> The bidder should provide a list of pricing of additional ancillary component options if available.	
		\$
		\$
		\$
		\$
		\$
		\$

**DELIVERY OFFERED (ARO):** \_\_\_\_\_

Note: Delivery offered is for delivery of the system, with training to occur at mutually agreed upon date after the system is delivered.

**ANNEX C**  
**TECHNICAL EVALUATION CRITERIA**

**PART 1: MANDATORY CRITERIA**

The following is the minimum Government of Canada requirements for One (1) high resolution dual head multi beam echo sounder to be utilized by Public Works & Government Services Canada Pacific – Geomatics/Hydrographics to conduct high resolution bathymetric surveys.

The Bidder must provide proof and/or verification of the Mandatory Technical Criteria herein through supporting documentation such as technical brochures, certificate of qualifications and letters of authenticity from industry associations, as applicable. When supporting documentation is unavailable, the bidder must provide supporting narrative detailing how their bid proposal meets the applicable criterion.

**NAME OF BIDDER:** \_\_\_\_\_

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
1.1	The system is a distinct dual head transducer unit.			
1.2	A proposal of two distinct systems (to meet the specifications) will be given a failing grade.			
1.3	System proposed has been commercially available for the last 1 year from the solicitation closing date, and at least 5 systems must be in operation in the same operational context (IHO standards).			
1.4	Interferometric or Bathymetric Sidescan systems will be given a failing grade.			
1.5	All system components (hardware and software) must be under warranty for a minimum of 1 year.			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
1.6	The system complies with the Canadian Hydrographic Service standards for hydrographic surveys "Exclusive Order" requirements for depths of 1 to 20m, comply to International Hydrographic Organization Standards for Hydrographic Surveys (S-44) "Special Order" requirements for depths of 20m to 40m, and "Order 1a" requirements for depths over 40m.			
1.7	System must have multiple frequencies (i.e., dual frequency) or have a user selectable operating frequency to achieve a greater depth range.			
1.8	System must have an operating frequency range between 200 and 400 kHz.			
1.9	The system must provide bathymetric data across a swath, at minimum, 8 times the water depth in up to 100 meters, and do +/- 100 degrees roll stabilized swath in typical operating conditions.			
1.10	The system must include a bracket mounted sound velocity probe to supply sound speed at the sonar head depth to be utilized in real time.			
1.11	The system must do receive beam focusing.			
1.12	The system must ensure all components maintain a coherent sense of time with measurable latencies.			
1.13	The system must achieve the special order Feature Detection (1m3) of the Canadian Hydrographic Service standards for hydrographic surveys in water depths of 20 meters or less inside a +/- 100 degree swath sector with vessel speeds up to 8 knots.			
1.14	The system must provide imagery (acoustic backscatter intensity) data of the seafloor with a minimum range resolution of 5cm. The source			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	levels and gain settings must be recorded with the data.			
1.15	Both the bathymetric data and imagery must be provided in a format which can be readily imported into CARIS HIPS/SIPS software package, via a full function of the conversion wizard.			
1.16	The system must accept and utilize vessel motion correctors (i.e., heave, pitch, roll, and heading) from an Applanix POS/MV320 or Wavemaster IMU.			
1.17	The system must accept and utilize sound speed values and profile correctors from AML and Valeport sensors. Any or all of these corrections may be applied through both the manufacturer's proprietary software package in real time and in post-processing through CARIS HIPS/SIPS. Motion corrections applied in the sonar software must be flagged within the data stream to indicate what specific corrections were made within the sonar software.			
1.18	The system must do roll-stabilization. It must do +/- 100 degrees swath sector with up to +/- 10 degrees of roll. The system must dynamically steer all beams based on the measured roll, not eliminate beams that roll outside of the desired sector.			
1.19	The system must be upgradeable to log acoustic backscatter of the water column (volume backscatter), to a separate file.			
1.20	The system must be compatible with Hypack Hysweep and QPS QINSy data logging software.			
1.21	Contractor must provide uncertainty propagation			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	model for horizontal and vertical errors (or alternatively range and angle of reception errors).			
1.22	The system must supply, within its data stream, a beam quality indicator that can be captured in Post-Processing for Quality Control.			
1.23	If the system consists of separate transducer elements (i.e., 1 transmit element and 2 receive elements, 2 transmit elements and 2 receive elements, or 2 distinct elements), all sonar elements (transmitters and receivers) must fit on one bracket. A calibrated bracket must be supplied with the system that complies with the system alignment requirements.			
1.24	The system must suit installation aboard vessels as small as 7 meters in length.			
1.25	The system must be operable in a fixed mounted configuration, (i.e., hull mounted and pole mounted).			
1.26	The system (sonar head(s) and processor unit combined) must weigh no more than 100 kg in air.			
1.27	The systems transmit and receive arrays must be 0.5 meters or less in length.			
1.28	The system must be a flat array configuration.			
1.29	The system electronics must provide beam widths smaller than 1° at Nadir in at least the along track or across track direction, in the high frequency mode/range with across-track spacing increasing proportional to the beam steering angle.			
1.30	The sonar ping rate must be chosen by the sonar itself based on depth and swath sector or by the set sonar operating range. The sonar must allow the manual changing of the			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	parameter within the design operating ranges. The system must use the IEEE 1588 Precise Time Protocol (PTP) or similar to maintain a coherent sense of time for all system components.			
1.31				
1.32	The sonar must have automated functionality (controlled within manufacturer's proprietary or third-party software) such as auto-ranging, gate tracking, slope tracking, pulse length, pulse type, power and gain, with the ability to manually override these settings if required.			
1.33	The system must operate in water temperatures ranging -2° C to +30°C.			
1.34	The system must provide functionality in the acquisition software to control swath width and must have, at least, equidistant beam spacing.			
1.35	The system must scale the beam spacing according to the set swath sector width so all beams are maintained.			
1.36	The sonar system must be supplied with software to support a computer-controlled interface for the acquisition and display of data. This software must be compatible with windows 7.			
1.37	The sonar system must provide means of networking with a computer subsystem and ancillary equipment via Ethernet connection and serial port.			
1.38	The system's time base (for synchronizing a computer subsystem and ancillary equipment) must be synchronized to Universal Time Coordinated (UTC) via Global Positioning System (GPS) 1 pulse per second (1 PPS).			
1.39	Contractor must provide technical support via			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	telephone and/or email, within 24 hours of a request, 7 days a week, to provide responses to routine technical questions.			

PART 2: POINT – RATED CRITERIA

Item	Point Rated Requirements	Scoring and Evaluation Criteria	Bid Ref Page #	Raw Score (0-10)	Weight Factor (WF)	Total Points
2.1	The system is roll & pitch compensated or upgradeable for pitch compensation.	Pitch compensated – 3 points			5	/15
		Upgradeable for pitch compensation – 2 points				
		No pitch Compensation – 0 points				
2.2	The system is roll, pitch & yaw compensated or upgradeable for yaw compensation.	Yaw compensated – 3 points			5	/15
		Upgradeable for yaw compensation – 2 points				
		No yaw Compensation – 0 points				
2.3	The system capable of FM mode operation (frequency modulation).	FM mode capable – 2 points			10	/20



Item	Point Rated Requirements	Scoring and Evaluation Criteria	Bid Ref Page #	Raw Score (0-10)	Weight Factor (WF)	Total Points
		<div>Upgradeable to FM mode – 1 point</div> <div>Not capable of FM mode operation – 0 points</div>				
2.3.1	The system is capable of end user installation of firmware updates.	<div>End user upgradeable – 2 points.</div> <div>Factory upgradeable – 1 point.</div> <div>System firmware is not upgradeable – 0 points.</div>			5	/10
2.5	Operating instruction labels are clearly identified and printed in English.	<div>2 pts for indicating labelling.</div> <div>0 pts if labelling not indicated.</div>			5	/10
2.6	Vendor should provide a warranty on all supplied components that covers all workmanship, quality, and performance defects.	<div>Warranty of 3 or more years – 2 points</div> <div>2 year warranty – 1 point</div> <div>Warranty of 1 year– 0 points</div>			5	/10

Total number of points available: **80**

Total number of points scored: \_\_\_\_\_

Technical Evaluation Team

	Print	Sign	Date
Evaluator 1			
Evaluator 2			

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**ANNEX D**  
**INTEGRITY PROVISIONS – LIST OF NAMES**

Please provide list of names of the following entities, according to the ownership nature of the company

1. For a Corporation - each current member of the Bidder's Board of Directors;

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2. For a Partnership, General Partnership or Limited Partnership - the names of all current partners;

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3. For a Sole Proprietorship or an individual doing business under a firm name - the name of the sole proprietor or individual;

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4. For a Joint Venture - the names of all current members of the Joint venture;

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5. For an individual - the full name of the person

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## ANNEX E BID PACKAGE CHECKLIST

### E1.1 Mandatory Tender Deliverable Check List

Notwithstanding deliverable requirements specified anywhere else within this bid solicitation and its associated Statement of Work (Annex A), mandatory deliverables that must be submitted with the Bidder's tender to be deemed responsive, are summarized below.

The Bidder must submit a completed Annex E – Bid Package Checklist.

The following are mandatory and the Bidder's submission will be evaluated against the requirement as defined herein. The Bidder must be determined to be compliant on each item to be considered responsive.

No	Reference to Solicitation	Description	Condition	Document provided	Reference to Bid (Section, Page no., etc.)
1	Front page	Invitation to Tender document part 1 page 1 completed and signed;	Mandatory with the bid	<input type="checkbox"/>	
2	Article 3.1.1, Annex C	Technical Bid, <b>including all documentation needed to verify the proposal meets the mandatory and point-rated criteria</b>	Mandatory with the bid	<input type="checkbox"/>	
3	Annex B, Part 1	Financial Bid Presentation Sheet, completed;	Mandatory with the bid	<input type="checkbox"/>	
4	Annex E	Annex E – Bid Package Checklist, completed	Mandatory with the bid	<input type="checkbox"/>	

### E1.2 Supporting Deliverable Requirements

If the following information which supports the bid is not submitted with the Bid; it may be requested by the Contracting Authority, and it must be provided within **24 hours** of the written request:

No	Reference to Solicitation	Description	Condition	Document provided	Reference to Bid (Section, Page no., etc.)
1	Annex D, Article 5.2.1	Integrity Provisions – List of Names, completed and signed	24 hrs of written request	<input type="checkbox"/>	
2	Article 6.5.3	Contractor's Representative Table, completed.	24 hrs of written request	<input type="checkbox"/>	
3	Articles 2.4, 6.9	Applicable Laws (if applicable)	24 hrs of written request	<input type="checkbox"/>	