

**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving  
PWGSC  
33 City Centre Drive  
Suite 480  
Mississauga  
Ontario  
L5B 2N5  
Bid Fax: (905) 615-2095**

**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**

<b>Title - Sujet</b> Utility Jon Boat	
<b>Solicitation No. - N° de l'invitation</b> F2905-120049/A	<b>Date</b> 2012-12-27
<b>Client Reference No. - N° de référence du client</b> F2905-120049	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$TOR-014-6145	
<b>File No. - N° de dossier</b> TOR-2-35255 (014)	<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 2013-02-06</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Standard Time EST	
<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> Grozdanovski, Tase	<b>Buyer Id - Id de l'acheteur</b> tor014
<b>Telephone No. - N° de téléphone</b> (905) 615-2080 ( )	<b>FAX No. - N° de FAX</b> (905) 615-2060
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF FISHERIES AND OCEANS 867 LAKESHORE BLVD P.O.BOX 5050 BURLINGTON Ontario L7R4A6 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**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  
Ontario Region  
33 City Centre Drive  
Suite 480  
Mississauga  
Ontario  
L5B 2N5

<b>Delivery Required - Livraison exigée</b> 2013-03-28	<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/ 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. Security Requirement**

There is no security requirement associated with the requirement.

### **2. Requirement**

The requirement is detailed under Article 2 of the resulting contract clauses.

### **3. Debriefings**

After contract award, 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

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## **PART 2 - BIDDER INSTRUCTIONS**

### **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 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: sixty (60) days  
Insert: ninety (90) days

### **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.

### **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 questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

### **4. Applicable Laws**

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

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.

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## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **1. Bid Preparation Instructions**

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

Section I: Technical Bid (two hard copies)

Section II: Financial Bid (one hard copy)

Section III: Certifications (one hard 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>). 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.

#### **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.

#### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

#### **Section III: Certifications**

Bidders must submit the certifications required under Part 5.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **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.

### **1.1 Technical Evaluation**

#### **1.1.1 Mandatory Technical Criteria**

Each bid will be reviewed for compliance with the mandatory requirements of the bid solicitation. Bids that do not meet each and every mandatory requirement will be considered non-compliant and will receive no further consideration.

- 1. Each bid must meet the Specifications as outlined in Annex A - Requirement.
- 2. Bidders must provide make and model and must clearly address each specification with literature for the proposed equipment.

### **1.2 Financial Evaluation**

- 1. Bidders must submit pricing in accordance with Annex "B", Basis of Payment, with their bid at bid closing.
- 2. SACC Manual Clause A0220T (2007-05-25), Evaluation of Price.

### **2. Basis of Selection**

SACC Manual Clause A0031T (2010-08-16), Basis of Selection - Mandatory Technical Criteria

## **PART 5 - CERTIFICATIONS**

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

### **1. Mandatory Certifications Required Precedent to Contract Award**

#### **1.1 Code of Conduct and Certifications - Related documentation**

1.1.1 By submitting a bid, the Bidder certifies, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Bidder certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Bidder, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Bidder and any of the Bidder's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Bidders who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Bidders bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Bidder provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

### **2. Additional Certifications Precedent to Contract Award**

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

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## 2.1 Federal Contractors Program - Certification

Suppliers who are subject to the Federal Contractors Program (FCP) and have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive federal government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

- a. ( ) is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- b. ( ) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- c. ( ) is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC, having not bid on requirements of \$200,000 or more;
- d. ( ) has not been declared an ineligible contractor by HRSDC, and has a valid certificate number as follows: \_\_\_\_\_ .

Further information on the FCP is available on the HRSDC Web site.

## **PART 6 - RESULTING CONTRACT CLAUSES**

### **1. Security Requirement**

There is no security requirement associated with the requirement.

### **2. Requirement**

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

### **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>) issued by Public Works and Government Services Canada.

#### **3.1 General Conditions**

2010A (2012-11-19), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

### **4. Term of Contract**

#### **4.1 Period of the Contract**

The period of the Contract is from date of contract award to 28 March 2015.

#### **4.2 Delivery Date of Firm Requirement**

All the deliverables must be received on or before 28 March 2013.

### **5. Authorities**

#### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Tase Grozdanovski, Supply Specialist  
Public Works and Government Services Canada  
Acquisitions Branch  
Directorate: Ontario Region  
33 City Centre Dr. Suite 480C  
Mississauga, ON L5B 2N5

Telephone: (905) 615-2080  
Facsimile: (905) 615-2060  
E-mail address: tase.grozdanovski@pwgsc.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.

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## 5.2 Project Authority

The Project Authority for the Contract is: (To be provided at time of award)

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

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

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

Telephone : \_\_\_\_\_

Facsimile: \_\_\_\_\_

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

The Project Authority 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 Project Authority, however the Project 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.

## 5.3 Contractor's Representative

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

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

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

Telephone : \_\_\_\_\_

Facsimile: \_\_\_\_\_

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

## 6. Payment

### 6.1 Basis of Payment - Firm Price, Firm Unit Price(s) or Firm Lot Price(s)

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit price(s), as specified in Annex "B", Basis of Payment for a cost of \$ \_\_\_\_\_. Customs duties are included, and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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.

### 6.2 Single Payment

SACC Manual clause H1000C (2008-05-12), Single Payment

## 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.

1. 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.

## **8. Certifications**

### **8.1 Compliance**

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation 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.

## **9. Applicable Laws**

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

## **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 general conditions 2010A (2012-11-19), General Conditions - Goods (Medium Complexity)
- (c) Annex A, Requirement;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated \_\_\_\_\_.

## **11 Insurance**

SACC Manual Clause G1005C (2008-05-12), Insurance

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**ANNEX "A"**

**REQUIREMENT**

Please see attached.

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**ANNEX "B"**

**BASIS OF PAYMENT**

Prices are firm, all inclusive in Canadian dollars, FOB destination. Transportation charges, Customs duties and Excise taxes are included, and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

**B1. Firm Requirement**

<b>Requirement</b>	<b>\$ Firm Unit Price</b>
Supply, delivery and installation of a Utility Jon Boat in accordance with all the specifications detailed in Annex "A", Requirement.  Make and model _____	\$ _____

## Annex A – Requirement

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#### WELDING CERTIFICATION:

It is a requirement that all aluminium welding must conform to the requirements of CSA Standard W47.2-M1987 (R1998) "Certification of Companies for Fusion Welding of Aluminium" and must be performed by persons currently certified by the Canadian Welding Bureau to CSA Standard W47.2-M1987 (R1988). All welding is to conform to W59.2 Welded Aluminium Construction and DFO 5782. If the Bidder is not currently certified by CWB, any subcontractor used in the performance of the welding work on this craft must be certified as above.

#### SECTION FIVE, APPENDICES:

#### APPENDIX 1, SPECIFICATION:

SVS 03-02, GENERAL SUPPORTING INFORMATION FOR DFO Utility Jon Boat:

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#### GENERAL SUPPORTING INFORMATION:

- 2.0 Role and Functions
- 3.0 Design & Construction Practices
- 4.0 Integrated Logistic Support
- 5.0 Documentation
- 6.0 Test & Trials
- 7.0 Fabrication
- 8.0 Packaging and Shipping

#### PERFORMANCE REQUIREMENTS:

- 9.0 Physical Characteristics
- 10.0 Operational Performance
- 11.0 Environmental
- 12.0 Seating and Console Configuration
- 13.0 Construction Standards
- 14.0 Construction Requirements
- 15.0 Outfitting
- 16.0 Propulsion
- 17.0 Steering & Trailer

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## **2.0 Role and Functions:**

### 2.1 Use of small craft within DFO:

2.1.1 Fisheries and Oceans Canada (DFO) buys, manages and operates numerous small craft in support of its Departmental programs and other missions, within its three Sectors: Canadian Coast Guard, Fisheries Management, and Science.

2.1.1.1 Canadian Coast Guard (CCG) is the managing owner of a fleet of ships and small craft (known as the CCG Fleet) that carries out multi-tasked missions

on behalf of all DFO Programs. CCG also operates small craft independently of the Fleet structure in support of specific programs, such as Marine Navigational Services (MNS) and Rescue, Safety and Environmental Response (RSER).

2.1.1.2 The Fisheries Management Sector manages and operates small craft in support of its Conservation and Protection (C&P) enforcement programs.

2.1.1.3 The Science Sector manages and operates small craft in support of its Hydrographic, environmental Science, Great lakes Science and Oceanographic programs.

### 2.2 Mission Statement:

2.2.1 CCG Fleet of vessels, as well as operating independently to carry out various program-related activities from shore-based facilities and trailers. Fishing craft are used to sample fish for scientific work.

2.2.2 The Primary Missions of the craft is sampling for the aims of Fisheries Conservation and Protection.

2.2.3 in carrying out its Missions, the craft will perform the following broad functions:

2.2.3.1 Perform scientific experiments using fyke nets, gill nets, trammel nets, trap nets, deploying and retrieving hydro-acoustic equipment, deploying water quality instruments.

### 2.3 Utilization:

2.3.1 Fishing/utility craft are used in all five DFO Regions: Newfoundland, Maritimes, Laurentian, Central & Arctic and Pacific.

2.3.2 The craft is used in some applications in which DFO operates: inshore and

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in sheltered waters.

2.3.3 The craft will be shore-based. The craft will be launched and recovered by trailer.

### **3.0 Design & Construction Practices:**

#### 3.1 Ergonomic Design - General:

3.1.1 Hazardous operating conditions must be prevented by arranging machinery and equipment in a safe manner; providing guards for all electrical, mechanical and thermal hazards to personnel; and providing guards or covers for any controls that might accidentally be activated by contact of personnel.

3.1.2 The craft must be designed and constructed to accommodate both male and female crew in Cold weather clothing and equipment in accordance with Human Engineering factors as per ASTM F1166-88.

3.1.3 Human engineering factors considered in design will include accessibility, visibility, readability, crew efficiency and comfort. All equipment will be accessible for use, inspection, cleaning and maintenance.

#### 3.2 Vibration:

3.2.1 The craft and all components must be free of local vibration that could endanger craft personnel, damage craft structure, machinery or systems, or interfere with the operation or maintenance of craft machinery or systems.

3.2.2 No component will rattle. Mounts for movable components, including items moved for stowage, towing or transport must be provided with resilient material as necessary to prevent rattling.

3.2.3 Loosening of fasteners under vibration must be prevented by the use of self-locking fasteners, as applicable.

### 3.3 Equipment Protection:

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3.3.1 The Contractor is responsible for the care of all equipment. All parts, especially those having working surfaces or passages intended for lubricating oil, must be kept clean and protected during manufacture, storage, assembly and after installation. Equipment must at all times be protected against dust, moisture or foreign matter and must not be subject to rapid temperature changes or extremes in temperature.

### 3.4 Site Hygiene:

3.4.1 During construction, all chips, shavings, refuse, dirt and water must be removed at the completion of the work shift or sooner. The Contractor must ensure measures are taken to avoid wear and damage incident to construction, and to prevent corrosion or other deterioration. Equipment subject to freezing must be kept drained, except during test and trials. Equipment must be kept clean and protected from the environment prior to installation.

## **4.0 Integrated Logistic Support:**

### 4.1 Components and Equipment Support:

4.1.1 All components and all mechanical, auxiliary, electronic and electrical equipment installed on the craft must be supportable by parts and service in Canada within 30 days. All components and equipment must be current production models.

### 4.2 Spare Parts:

4.2.1 To facilitate replacement and inter-changeability of parts, as well as maintenance procedures and operator training wherever practicable:

4.2.1.1 The Contractor will standardize on selection of equipment, fittings and fabrication methods within the craft supplied.

4.2.1.2 All parts, features and systems must be consistent with existing equivalents in current use within DFO.

4.2.1.3 Exceptions will only be accepted where expressly agreed by DFO and in all cases where advances in technology have rendered previous counterparts obsolete.

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#### 4.3 Parts Depot:

4.3.1 Contractor's parts depots must be capable of efficiently supplying all 10 Provinces and 3 Territories with spare parts for all components.

### **5.0 Documentation:**

#### 5.1 Technical Publications General:

5.1.1 The Contractor will provide three (3) complete hard set and one (1) auto CAD 2000 of technical publications that provide a physical and functional

description of the craft, its machinery and equipment, as well as sea-trial testing and performance documentation. The technical publications will include: a

General Information book, Technical Manuals, and a Preventive Maintenance List.

5.1.2 The Government requires clearance for use of all publication manuscripts to the following:

5.1.2.1 Translate them into French.

5.1.2.2 Reformat them into bilingual technical format.

5.1.2.3 Reproduce it in whole or in part and distribute them to users.

5.1.2.4 Use it for operations and maintenance purposes.

#### 5.2 General Information Book:

5.2.1 The General Information Book (GIB) must include a description of the arrangement and function of all structures, systems, fittings and accessories that comprise the craft, with illustrations as appropriate:

5.2.1.1 Operating procedures;

5.2.1.2 Basic operating characteristics (such as temperatures, pressures, flow rates, etc.)

5.2.1.3 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step;

5.2.1.4 Recommended planned maintenance;

5.2.1.5 Complete troubleshooting procedures.

### 5.3 Technical Manuals:

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5.3.1 The technical manuals must consist of a complete set of detailed owners/operators manuals, drawings, parts lists and supplemental data for all components of the craft (whether acquired from external sources or custom-manufactured), including:

5.3.1.1 Hull

5.3.1.3 Engines

5.3.1.4 Systems (steering, fuel, electrical, etc.)

5.3.1.5 Electronics and electronic systems

5.3.1.6 Fittings, accessories and ancillary equipment.

### 5.4 Initial Spare Parts List:

5.4.1 The Technical Manuals must also include a list of recommended initial onboard spare parts to be stocked for the craft. At a minimum this list will include the following items (as applicable):

5.4.1.1 Propulsion: Propeller, injectors, filters, water pump impeller, starting battery, belts, throttle and shift cables, any special engine tools.

5.4.1.2 Electronic equipment: Fuses, breakers, footswitches, cabling, etc.

5.4.1.3 Electrical: fuses, light bulbs, flood lights;

5.4.1.4 Boat Structures and Fittings: Miscellaneous commonly used fasteners.

## **6.0 Test & Trials:**

### 6.1 General:

6.1.1 The Contractor must inspect and test the following items, as a minimum, for adherence to the contract requirements and proper operation (proper operation means that the equipment can be started, operated, connected together and demonstrated to function in a normal fashion, as applicable). All discrepancies must be corrected prior to delivery. The required inspections and tests are minimum's and are not intended to supplant any controls, examinations,

inspections or tests normally employed by the Contractor to assure the quality of

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the boat:

6.1.1.1 Weight of craft

6.1.1.2 Construction Quality

6.1.1.3 Propulsion system

6.1.1.4 Propulsion Controls

6.1.1.5 Steering System

6.1.1.6 Fuel System

6.1.1.7 Electrical System

6.1.1.8 Starting System

6.1.1.9 Electronics

## 6.2 Sea Trials - General:

6.2.1 Sea trials will be conducted by the Contractor to demonstrate the craft and its equipment conform to the requirements as stated in the Contract and the Performance Requirements. All expenses incident to the trials will be borne by the Contractor unless otherwise specified. A crew provided by the Contractor will operate the vessel during sea trials.

6.2.2 All Sea Trial instrumentation and equipment will be furnished and operated by the Contractor. Trial instrumentation, where applicable, will not replace the craft's instruments (e.g., engine tachometer, pressure gauges, thermometers). The Contractor must furnish all necessary hardware and fittings and must install the measuring devices. After satisfactory completion of the trials, all instrumentation must be removed and all systems restored. The Contractor must provide calibration data certifying the accuracy of the instrumentation for the tests.

6.2.3 The Contractor will submit a Test & Trials Plan, including a description of all of the acceptance trials to be performed. As a minimum, the following trials must be conducted:

6.2.3.1 Speed Trials - The speed trials will be done over a certified measured course at least one nautical mile in length. Two runs will be

made over the course, one in each direction with the speeds for the two

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runs averaged.

6.2.3.2 Endurance Trial - The vessel will operate at maximum speed for a minimum of sixty minutes in the Normal Loaded Condition. During the endurance trials, it must be demonstrated that all parts of the propulsion system are in full operation. All systems must be operated to check for proper lubrication, control and alignment. Fuel consumption must be recorded for the one-hour trial. Contractor is to supply all fluids for trials such as fuel oil, engine oil etc.

6.2.3.3 Astern Propulsion - The craft must be operated and manoeuvred using astern propulsion to establish the astern performance. During the backing performance tests the throttles will be set to provide 1/3 of the rated engine horsepower. In order to demonstrate astern performance of the engines in an emergency stop and to test the strength of the engine mounting arrangements, the engine must be subjected to two stops from full power ahead at maximum speed to dead in the water using reverse thrust. Time required to perform this trial will be recorded.

6.2.3.4 Steering Gear - Tests will be conducted on the steering gear to demonstrate the adequacy of the steering system under all operations. Manoeuvring tests must be performed to ensure that the boat meets the stated requirements. Manoeuvring trials must be conducted in the Normal Operating Condition.

6.2.3.6 Public Works and Government Services Canada Marine Technical Inspection must be notified, no less than, 7 days prior to sea trials. The Inspector reserves the right to witness or decline attendance of sea trials. Absence of the Inspector at sea trials does not relieve the Contractor of its responsibility to conduct and record sea trials. Sea trial results will be forwarded to the Inspection Authority prior to delivery of the vessel.

6.2.3.7 At the conclusion of sea trials the craft must be thoroughly cleaned and inspected. Outboard engine cooling systems must be flushed through with fresh water, batteries must be disconnected and fuel tanks will be drained. The Contractor will repair any damage to the craft or ancillary equipment resulting from sea trials, to the satisfaction of the PWGSC Inspector.

### 6.3 Final Inspection:

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6.3.1 Final Inspection will not be performed until all tests have been satisfactorily completed with data available for review. The craft must be ready for delivery in all respects, except for final preparation for shipment. The Contractor will provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and installation. The Contractor will document the results of the Final inspection and furnish these results to the Contracting Officer, a copy of the trial results must be shipped with the deliverables for the craft. Where applicable, serial numbers and other identifying information must be recorded for each component fitted to the craft.

#### 6.4 Acceptance:

6.4.1 Upon delivery, DFO and PWGSC will conduct the final acceptance inspection. The Contractor will repair any damage to the boat or ancillary equipment resulting from shipping, to the satisfaction of the PWGSC Inspector.

#### 6.5 Trial Records:

6.5.1 The Contractor must maintain records of testing for the craft for a minimum of two years. The Contractor will prepare a testing check sheet that certifies that each test has been completed. The check sheet will indicate the actual weight of the boat in Light Condition. This check sheet will be included with the deliverables of the craft.

Light Condition is define as the state of the craft as stated in section 6.2.3.7 for shipping of the craft.

### **7.0 Fabrication:**

#### 7.1 General:

7.1.1 Unless stated otherwise, all components, equipment and material will be Contractor supplied.

#### 7.2 Structural Integrity:

7.2.1 All structures and components (hull, deck, console, seating, etc.) will be of sufficient strength to withstand the lateral and vertical impact-loading that equates to the conditions of the operational profile and mission requirements.

#### 7.3 Materials - General:

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### 7.3.1 Environmental Exposure

7.3.1.1 All materials must be corrosion resistant and suitable for use in a salt-water environment as detailed in the Environmental Conditions portion of the Performance Requirements. All materials normally subjected to sunlight must resist degradation caused by ultraviolet radiation.

### 7.3.2 Dissimilar Metals

7.3.2.1 Direct contact of electrolytically dissimilar metals is not allowed. Electrolytic corrosion must be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.

### 7.3.3 Aluminium

7.3.3.1 Aluminium alloy 5052-H32 must be used for plate; aluminium alloy 5086-H112 or 5456-H111 will be used for extruded shapes and welded tubing and pipe. Non structural items of trim and outfit such as hatch frames, castings, and hardware items may be of other aluminium alloys suitable for commercial saltwater marine use.

### 7.3.4 Stainless Steel

7.3.4.1 Stainless steel type 316L or 316 must be used for all stainless steel applications except as noted. Alloy 316 will not be used in any welded components.

### 7.3.5 Fasteners

7.3.5.1 All fasteners must be of corrosion resistant materials.

7.3.5.2 Cadmium plated parts and fasteners, including washers, must not be used.

7.3.5.3 Direct attachment of alloys containing copper to aluminium is not permitted except for an electrical bonding strap.

7.3.5.4 No fasteners will be directly threaded into aluminium alloys.

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Backing plates of stainless or aluminium must be used.

7.3.5.5. Where nuts will become inaccessible after assembly of the craft, nuts must be captured to allow reassembly and prevent backing off. Unless otherwise specified, self-locking nuts will be installed to prevent loosening of bolts due to shock and vibration.

7.3.5.6 Fasteners in deck traffic areas must be flush-mounted to eliminate tripping and snagging hazards.

#### 7.4 Construction Procedures:

##### 7.4.1 General

7.4.1.1 Hulls will be fabricated as per the requirements quoted in Construction standards of the Performance Requirements.

#### 7.5 Main Hull and Appendages:

##### 7.5.1 Hull Form

7.5.1.1 Hull shape must not impede water flow to the propulsion units and must direct spray and waves away from onboard personnel.

##### 7.5.2 Watertight and Tank Bulkheads

7.5.2.1 The hull design must be such that a sufficient number of watertight compartments will allow for adequate stability and positive buoyancy in a flooded condition. Reference Performance Requirements - Construction Requirements - General - Buoyancy.

##### 7.5.3 Stowage

7.5.3.1 Weather tight stowage for small items of equipment must be provided in void spaces beneath gunnels where practicable, and inside the console. Includes mission-related equipment as well as that defined in the Canada Shipping Act, Small Vessel Regulations and Annex 2 of IMO

Resolution A.656(16). All Stowage compartments must be lockable,

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secured by positive means and operable by gloved or insensitive hands.

#### 7.5.4 Painting and Preservation

7.5.4.1 The Contractor must ensure that all non-painted exposed aluminium is free of cosmetic blemishes, including construction marking, grinder marks, scratches, gouges and stains.

### 7.6 Propulsion Systems:

#### 7.6.1 Installation and alignment

7.6.1.1 The Engine must be installed in accordance with the engine manufacturer's recommendations. The use of engine manufacturer's approved accessories and equipment is required. Equipment and components must not be used on the craft that would, in any way, void the engine manufacturer's warranties.

#### 7.6.2 Warranty

7.6.2.1 All components of the propulsion system and electronic system must be warrantied by the original equipment manufacturer for a minimum of two years.

#### 7.6.3 Gasoline Outboards

7.6.3.1 Unless otherwise specified, propulsion will be one outboard that will be shipped to contractor by the customer (Fisheries and Oceans Canada).

#### 7.6.4 Propeller

7.6.4.1 The propeller will be supplied by the customer (Fisheries and Oceans Canada). Contractor will inform the Technical Authority of appropriate pitch and diameter to meet the Performance Requirements as determined by the Contractor developed design check.

### 7.7 Steering Systems:

7.7.1 Steering system will be remote hydraulic with self contained oil reservoir,

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and replaceable seals on the rams.

#### 7.7.2 Hydraulic Hoses

7.7.2.1 Hoses must be of sufficient size and length to prevent pulsing. Hoses must be suitable for use in an exposed marine environment.

### 7.8 Electrical System:

#### 7.8.1 General

7.8.1.1 The electrical system design, component selection and installation must be in accordance with TP1332 "Construction Standards for Small Vessels". All electrical equipment and hardware will be installed in

accordance with the manufacturer's specifications. All fitted electrical equipment must be capable of operating simultaneously with all fitted electronics equipment without causing interference to any electronic equipment.

#### 7.8.2 Batteries & Switch

7.8.2.1 Dual Battery switch must be installed to allow for selection of either of the Group -24 marine batteries or parallel operation of both batteries and an OFF position. The switch turns the entire boat electrical system off including the bilge pump. The switch will be rated for 230 amps.

7.8.2.2 Battery compartment will be fitted to provide space for the two Group-24 batteries. These batteries will be housed in chemical resistant enclosures.

7.8.2.3 Charging from the outboard will be incorporated in the charging system using a dual-bank onboard battery charger.

#### 7.8.3 Power Distribution

##### 7.8.3.1 Cabling Selection

7.8.3.1.1 Cables for all portions of power and lighting will be heavy duty, marine grade, tinned boat cable.

##### 7.8.3.2 Cabling Installation

7.8.3.2.1 Cables will be grouped into wiring harnesses wherever

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possible. All wiring harness must be routed below deck. All cabling and wiring will be numbered for identification purposes for doing repairs. These numbers will be reflected in the electrical drawing(s) for the craft.

7.8.3.2.2 Cabling / conductors passing through watertight boundaries, decks, bulkheads or other exposed surfaces must be installed to maintain watertight integrity of the structure. Cable entry into watertight enclosures will be through watertight marine glands of suitable size. All electrical equipment must be readily accessible for performing maintenance.

7.8.3.2.3 All below deck cabling will be through conduit pipe where possible.

7.8.3.2.4 Cabling / conductors passing through bulkheads, decks, or other structures will be protected against chafing by the use of abrasive resistant grommets.

7.8.3.2.5 Routing cables through foamed spaces will be avoided wherever possible. Cables that must be routed through foamed spaces must be run in conduit pipe. The pipe must be arranged in a matter that prevents water from becoming entrapped in the pipe.

#### 7.8.4 Navigation Lighting

7.8.4.1 Fixtures must be of such a design as to resist the effects of vibration and moisture and must be provided with adequate protection from damage.

7.8.4.2 The navigation lights must be mounted so as not to interfere with vision of the operator.

7.8.4.3 The sidelights will be permanently mounted. The aft all around light or masthead light may be on a retractable or fold down mast.

#### 7.9 Communications Systems:

##### 7.9.1 General

7.9.1.1 VHF Radio will be fitted, but supplied by the customer (Fisheries and Oceans Canada). The location will be on the operator's console. The unit that will be supplied will be as follows:

7.9.1.1.1 VHF radio will be an Icom M604B

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7.9.1.1.2 RF Cable must be RG-214/U of one continuous run from antenna to VHF radio and fitted with UHF type connectors both ends

7.9.1.1.3 Antenna will be Shakespeare style 5247A

## 7.9.2 Horn

7.9.2.1 The Contractor will supply and install an electric horn that meets the requirements of the CSA Collision Regulations. The horn must be operated by a spring-loaded switch located on the operator's console.

## 7.11.1 Gauges - Dimensions and Ergonomics

7.11.1.1 Unless otherwise specified, gauges must be analogue-style, approximately 2" diameter. Tachometer gauges will be approximately 3" diameter. Gauges must be installed so they are readily visible by the operator while operating the craft.

## 7.11.2 Gauges - Illumination

7.11.2.1 All gauges must be backlit with an adjustable dimmer.

## 7.11.3 Control Requirements

7.11.3.1 Propulsion control system installation must include single-lever engine controls located at the operator's position on the console. Controls will conform to engine manufacturer's recommendations for commercial use.

## 7.12 Piping Systems:

### 7.12.1 Flexible Connections

7.12.1.1 Where flexible connections are required for steering and fuel systems, suitable hose with detachable reusable type fittings will be used.

### 7.12.2 Fittings

7.12.2.1 Fittings, clamps and bolts must be stainless steel.

## **8.0 Packaging and Shipping:**

## 8.1 Shipping and delivery:

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8.1.1 Prior to shipping, the craft must be secured in a shipping cradle, cleaned, preserved and covered in accordance with this section.

8.1.1.1 All areas of the craft must be cleaned prior to covering for final shipping.

8.1.1.2 Bilges must be dry and free of oil and debris and the fuel tanks must be dry.

8.1.1.3 The propulsion system must be preserved in accordance with the manufacturer's recommendations for storage of up to one year in an environment that will be subjected to freezing temperatures.

8.1.1.4 The batteries will be disconnected

8.1.1.5 A durable warning plaque must be wire tied to the steering wheel indicating that the boat has been preserved for shipping and storage and should not be started until the propulsion machinery has been reactivated.

8.1.1.6 Cradles must be designed and fitted to prevent any movement of, or damage to, the craft and equipment during shipment and storage. All contact points with the craft will be padded.

8.1.1.7 An all-weather cover must be provided to protect the craft during shipping and storage.

## **PERFORMANCE REQUIREMENTS:**

### **9.0 Physical Characteristics:**

9.1.1 Length overall 22'-24'.

9.1.2 Beam 95"-105".

9.1.3 Maximum side height 28"-32".

9.1.4 Transom Height 20".

9.1.5 Payload weight 2100-3000 lbs.

9.1.8 Normal load conditions:

9.1.8.1 Crew of 6 = 1650 lbs.

9.1.8.2 Fuel = sized to meet 10.1.3

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9.1.8.3 Equipment & supplies= 450 - 750 lbs.

## **10.0 Operational Performance:**

10.1 Unless otherwise stated, performance will be for conditions of zero sea state and no wind, in salt water with Normal load condition. The craft will be designed and constructed for ease of maintenance and repair, long life, and to be easily supportable by local commercial facilities and suppliers. The craft is expected to have a service life of at least 12 years, with an expected usage of between 500 and 800 hours per year. Life cycle costing projections will be supplied by manufacturer with their proposal, particularly for hull, steering, electronic systems, other components and systems.

10.1.1 Maximum speed: 35 knots.

10.1.2 Endurance: 15 knots for 6 hours.

10.1.3 Range: 140 nautical miles with 10% reserve at 20-knot minimum speed

10.1.4 Beaching:

10.1.4.1 Capable of beaching on soft (sand, earth or clay) surfaces at a speed of up to 5 knots without damage to the hull.

10.1.4.2 Capable of beaching on hard (stone or concrete) surfaces at speeds of up to 3 knots without damage to the hull.

10.2 Depth under Keel:

10.2.1 Operate fully in depths of 1 meter with outboard motors lowered.

10.2.2 Basic manoeuvring in depths of 0.80 meters with outboard motors in the partially raised position.

## **11.0 Environmental Conditions:**

11.1 Capable of operating in day or night in the following conditions;

11.1.1 Average ambient air temperature range: 0°C to + 35°C

11.1.2 Average water temperature: 0°C to +20°C.

11.1.3 Wave heights of 1 meter to 2 meters.

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11.1.4 Wind speeds of 10 knots to 15 knots.

## **12.0 Seat and Console Configuration:**

### 12.1 General Notes:

12.1.1 Seat will be fitted aft of the console. The seat will be adjustable fore, aft, up and down. Seat will be fabricated from marine grade materials and be resistant to tearing, puncture and deterioration due to environmental exposure. A locking stern storage compartment will be installed below the driver's seat.

12.1.2 The console will be fitted in the aft of the vessel, on the starboard side. Sufficient unobstructed space must remain aft of the console to provide safe access to propulsion equipment.

12.1.4 The layout of the console will take into account ergonomic considerations, with easy viewing and access to all critical instruments and controls.

12.1.5 An Overall cover for console to include seat and controls will be provided.

### 12.2 Console:

12.2.1 The console must be fabricated from aluminium.

12.2.2 The console must be fitted so as to provide unobstructed view forward and aft to see the operation of the craft for sampling and for coming alongside. The console space must provide for the mounting of a sonar unit and VHF radio. Sufficient unobstructed space must remain aft of the console to provide safe access to propulsion equipment.

12.2.3 The engine controls must be situated on the operator's console and must be situated in such a manner that the operation of the control, or the steering wheel, will not inadvertently activate or deactivate any of the other controls.

12.2.4 The console will be fitted with a windshield. The glass must be heavy duty shatterproof glass.

12.2.5 The operator's console must be outfitted as follows:

12.2.5.1 Tachometer for engine,

12.2.5.2 Fuel gauge

12.2.5.3 Cooling water temperature gauge (if required),

12.2.5.4 Water pressure gauge for each engine (if required),

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12.2.5.5 Tilt / trim gauge for out drive,

12.2.5.6 An hour meter for engine,

12.2.5.7 A minimum 10 breaker circuit panel

12.2.5.8 Separate waterproof dimmer switch engine instruments.

12.2.5.9 Remote oil tank level gauge.

12.2.5.10 12 volt receptacle

### **13.0 Construction Standards:**

13.1 Transport Canada Marine Safety Regulation TP 1332 Construction Standards for Small Vessels: <http://www.tc.gc.ca/MarineSafety/Directorate/TP/tp1332/tp1332e.htm>

13.2 Transport Canada Marine Safety Regulation TP 9247 Emergency Boats: <http://www.tc.gc.ca/MarineSafety/Directorate/TP/TP9247/TP9247E.htm>

13.3 The latest ABYC standards.

13.4 CSA C22.2 No 183.2-M1983 (R1999) Standards for DC Electrical Installation on Boats and ABYC “e” Electrical Standards

13.5 Transport Canada Marine Safety Regulation TP 127 Ships Electrical Systems - Sections 50 to 58 for systems less than 55 volts.

13.6 Transport Canada Marine Safety Regulation TP 1324 Coated Fabrics: <http://www.tc.gc.ca/MarineSafety/Directorate/TP/tp1324/tp1324e.htm>

13.7 W59.2 Welded Aluminum Construction and DFO 5782

13.8 Canadian Welding Bureau to standard W47.2 for aluminum for construction of the vessels, W59.2 welded aluminum Construction.

13.9 Canada Labour Act for Noise Levels for work up to 12 hours without ear protection.

13.10 All components fitted to the vessels must have the attached Maintenance Data Sheet to this RFP completed before acceptance of the vessels from the Contractor. This information will be used to populate the data base for the maintenance of the vessel.

13.11 All navigation lights must display the arc and range of visibility as defined in the Canada Shipping Act, Collision Regulations. <http://www.tc.gc.ca/acts-regulations/GENERAL/C/CSA/menu.htm>

## **14.0 Construction Requirements:**

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### 14.1 General:

14.1.1 Unless stated otherwise all components, equipment and material will be Contractor supplied.

14.1.2 Structural Strength: All structural and related components (hull, deck, console, seating, etc.) must be of sufficient strength to withstand lateral and vertical impact loads associated with the operational requirements.

14.1.3 Launching: Vessel must be capable of being launched, recovered and transported by trailer.

#### 14.1.4 Deliverables:

14.1.4.1 Manuals: A detailed operator manual will be provided for all equipment, fittings and systems.

14.1.4.2 Test & Trial results.

14.1.4.3 Acceptance Certificates, ie. Life saving appliances, electronic sampling equipment, engine test reports, calibration certificates

14.1.4.4 Testing Check Sheet.

14.1.4.5 Complete electrical drawing(s)

### 14.2 Hull:

14.2.1 Material: Will be aluminium as per section 7.3.3 of this specification

14.2.1.1 The bottom plating must be a minimum of 0.187 inch

14.2.1.2 The side plating must be a minimum of 0.187 inch

14.2.1.3 The decking must be anti-skid tread matt for stable footing.

14.2.1.4 The craft will be built to section 9 of this specification

14.2.2 Platform and Compartments will be made of aluminium as per section 7.3.3.

14.2.2.1 A work raised platform (that is 2-4 inches lower than the gunnels, but aft edge with a raised lip equal to or 1-2 inches lower than gunnel, with self-draining holes added to the hull at the aft end of the platform for self-drainage of the bow platform, made of 1/8"-3/16" anti-skid tread plate aluminium, will be fitted on the foredeck of the craft.

14.2.2.2 below the platform of the foredeck will be fitted a locker for storage of equipment for sampling.

## **15.0 Outfitting**

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### 15.1 Electrical:

15.1.1 The electrical system must be completely waterproofed and easily accessible, incorporating a waterproof breaker panel with a minimum of 10 circuits fitted.

15.1.2 Twelve (12) volt DC distribution system will be provided to power the engine starting and boat service loads including:

15.1.2.1 Navigation lights

15.1.2.2 Navigational equipment

15.1.2.3 Instrumentation

15.1.2.4 Communications

### 15.2 Batteries

15.2.1. The craft must have a dual-battery system as per section 7.8.2

15.2.2 Each Battery must be marine grade with a minimum 1000 deep-cycle cranking amps.

### 15.3. Cable Installation:

15.3.1 Cables and conductors must be supported with clamps or straps at least every 18 inches on horizontal runs and every 14 inches on vertical runs.

### 15.4 Alarms

With the manufacturer's recommendations to indicate high cooling-water temperature and low lubricating oil pressure.

15.4.1 Audible alarms and visual warning lights will be installed in accordance

### 15.5 Navigation lighting

15.5.1 All navigation lights must display the arc and range of visibility as defined in the Canada Shipping Act, Collision Regulations.  
<http://www.tc.gc.ca/Actsregs/csa-lmmc/csa14.html>

15.5.2 The fixtures must be of such a design as to resist the effects of vibration

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and will be provided with adequate protection from damage, which may occur, when lying alongside a vessel or a pier.

#### 15.6 Pumping and Drainage:

15.6.1 The bilge pump will be located so that it takes suction from the lowest point of the hull. Piping will be installed which will allow the bilge pump to discharge directly overboard. An automatic control must be fitted that turns on the electric bilge pump when water is present in the bilge. The electric bilge pump control switch must be located on the operator's console, with settings for 'on', 'off' and 'automatic' operation. An indicator light will be provided at the console that lights when the bilge pump is operating.

15.6.2 Hull drainage - a non-corrosive threaded plug will be provided in the lowest point to drain the hull when out of the water

15.6.3 Valves and handles must be bronze and must be located where they are readily accessible for operation, maintenance or removal.

15.6.4 Contractor will supply and will outfit the boat with the following items of emergency equipment:

15.6.4.1 Fire extinguisher (Class 5BC, marine type)

15.6.4.2 Boat hook, 8 feet long (retractable)

15.6.4.3 Two paddles

15.6.4.4 Anchor and line with chain

15.6.4.5 Mooring lines

15.6.4.6 Fenders

### **16.0 Propulsion and Generation:**

#### 16.1 General:

16.1.1 The outboard motor package will be supplied by the customer (Fisheries and Oceans Canada, upon clarification from the contractor with regards to the appropriate engine size and specifications for propeller. The Contractor will fit and test the outboard.

#### 16.2 Fuel Systems:

16.2.1 Fuel systems (if built in tank) must meet with all requirements of TP 1332

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Construction Standards for Small Vessels. In addition, the following features will be provided:

16.2.1.1 Valves and fittings used in the fuel system must be stainless steel.

16.2.1.2 The fuel vent will be fitted with a ball check valve.

16.2.1.3 All fuel valves should be readily accessible and labelled.

16.2.1.4 Remote fuel shutoff valves will be fitted, remote from the fuel tank and engine compartment. A combination of anti-siphon valves and fuel diverter valves will meet this requirement.

16.2.1.5 The fuel tank will be fitted with a debris and water separating filter system that is accessible for ease of maintenance.

16.2.2 There will be one fuel tank fitted with an inspection hatches to allow access to the fuel pick ups and tank level indicators.

16.2.3 A pressure test of the entire fuel oil system is to be performed to 3 psig with the associated visual checks being made for any signs of leaks under this test.

16.3 Gasoline Outboards:

16.3.1 Installation and Mounting General

16.3.1.1 Outboard motor must be mounted using a minimum of 4 bolts.

16.3.2 Contractor to supply and install the following equipment: unless otherwise noted.

16.3.2.1 Tachometer (supplied by customer, installed by contractor) for the engine,

16.3.2.2 Water pressure gauge,

16.3.2.3 Trim gauge,

16.3.2.4 Controls, cables,

16.3.2.5 Ignition harness (mounted so that the key cannot collect water)

16.3.2.6 Fuel gauge for fuel tank (if built in tank),

16.3.2.7 Oil gauge for oil tank,

16.3.2.8 Hour meters for engine,

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16.3.2.9 Digital engine monitoring system,

## **17.0 Steering & Trailer:**

### 17.1 Steering systems:

17.1.1 Steering must be hydraulic.

17.1.2 All hydraulic steering hoses should be routed below deck where possible and all hoses must be routed so that there are no pinch points on the hoses.

17.1.3 The wheel / console connection will be of robust construction, to eliminate fore and aft or lateral movement of wheel / steering shaft fixture.

17.1.4 The Steering wheel will be stiff enough that during rough water operations there is no flexing of the wheel and the wheel should be padded to provide a comfortable non-slip surface for the operator to grip. (Momo Marine steering wheels meet these requirements).

### 17.2 Trailer:

17.2.1 Trailer must be hot dipped fully galvanized all welded construction capable of supporting the weight of the boat from stem to transom on bunks plus 15% reserve. Trailer must be road worthy and “street-legal” in the province of Ontario.

17.2.2 Trailer will be tandem axle with appropriately sized radial tires and wheels, c/w equivalent spare on mounting bracket.

17.2.3 Will be fitted with a two (2) inch diameter ball coupler.

17.2.4 Will be fitted with 2 galvanized safety chains, c/w shackles.

17.2.5 Will be fitted with electric/hydraulic brake system c/w battery, break-away and charger.

17.2.6 Will be fitted with a fresh water brake flushing kit.

17.2.7 Will be fitted with a submersible LED lighting system to Transport Canada Standards.

17.2.8 Will be fitted with a 1500 pound capacity high lift swivel jack, c/w wheel.

17.2.9 Will be fitted with rigid securing points for beam and transom tie-downs.

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Suitable adjustable strap tie-downs to be Contractor supplied for each securing point.

17.2.10 Will be fitted with stainless steel "Bearing Buddies".

17.2.11 Will be fitted with two aluminium step fenders.

17.2.12 Will be fitted with a heavy duty winch platform and base.

17.2.13 Will be fitted Hydraulic surge brakes, 10" drum, second axle.

17.2.14 Will be fitted with a hand operated two speed winch to be supplied and fitted c/w handle, suitable length of nylon strap (not wire), and a non-corrosive snap hook of sufficient strength for a fully loaded boat.

#### OPTIONS

The following are options that are required to fitted to the craft.

Lockable compartments throughout the craft.

#### **Appendix A, Maintenance Data Sheet:**

Item			
Description			
Cost			
Model #	Serial #		
Manufacture	Name		
	Address		
	Phone #	Fax #	
Supplier	Name		
	Address		
	Phone #	Fax #	
Date Installed		Warranty	
Date Tested		BY	